



CCL

FUELLING SUSTAINABLE GROWTH



CENTRAL COALFIELDS LIMITED

**NATURE'S
VOICE** | Vol. II

TRANSFORMING VISION INTO ACTION

The Mission LiFE Programme

Mission Lifestyle for Environment acknowledges that Indian culture and ancient traditions inherently embody sustainability. Our ancient scriptures emphasize the significance of conserving precious natural resources and coexisting in harmony with nature. In the present day, it is essential to draw upon this timeless wisdom and disseminate its message widely. Mission LiFE aims to unite individual and community efforts into a global movement for positive behavioural change.

Central Coalfields Limited (CCL) is actively promoting a sustainable lifestyle in its day-to-day operations. Here are some of the initiatives taken by CCL :

- 1. Transition to LED Lighting:** CCL has upgraded its lighting system replacing conventional lamps with energy-efficient LEDs. Installation of 14,036 LED lights have not only reduced energy consumption but also a baby step towards reduction in carbon footprints. 
- 2. Reducing Single-Use Plastic:** The company discourages use of single-use plastic. Instead, CCL opt for glass or steel water bottles, minimising plastic waste. 

- 3. Stair Usage:** Employees of CCL use stairs instead of elevators. This not only promotes physical activity but also reduces electricity consumption.



- 4. Carpooling:** Within CCL, carpooling is practiced. By sharing rides, CCL contributes to reducing traffic congestion and lowering emissions.



- 5. Self-Closing Faucets:** The installation of self-closing faucets helps conserve water by automatically shutting off after use.

- 6. e-Office :** Implementation of e-Office effectively reduce consumption of papers within organisation.

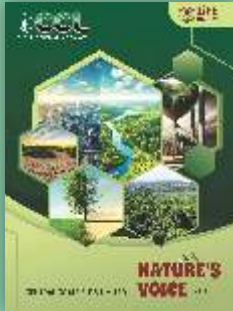


- 7. e-Vehicles:** CCL has procured 36 electric vehicles for local movement. Additionally, energy-efficient water heaters and air conditioners are also implemented.

- 8. Solar Panels :** For fuelling sustainability, CCL has installed solar panels to power the mining operations. Solar panel of 1.25 MWp (Rooftop) has been installed in CCL. Installation of 24 MW land mounted solar plant at Piparwar and Giridih area are under final stage of commissioning. 

These efforts demonstrate CCL's commitment to sustainability and environmental responsibility.

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MESSAGE



Nilendu Kumar Singh

Chairman cum Managing Director

As we celebrate World Environment Day in 2024, it's an opportune moment to reflect on the interconnectedness between humanity and nature. This year's theme, "Land restoration, desertification and drought resilience" underscores the urgency of our collective responsibility to safeguard our planet for future generations.

India is committed to achieve land degradation neutrality status by 2030. The Government has launched several schemes / programmes which include inter-alia National Afforestation Program, Green India Mission, Watershed Development Component of Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) which contribute to the target of restoration of 26 million hectares of degraded land and achievement of land degradation neutrality.

I am pleased to share with immense pride that our company has achieved prolific all-round performance in FY 2023-24 scaling record highs in all the parameters, viz. coal production, revenue, overburden removal (OBR) and offtake. CCL has planted over 95 lakhs trees over an area of more than 5300 Ha. In FY 2023-24, we planted on 231.35 Ha area surpassing our target of 220 Ha.

With the intensifying environmental crises, including climate change and biodiversity loss, the demand for immediate and decisive action is more critical than ever. At CCL, we recognize the pivotal role we play in shaping a sustainable future. Through our commitment to innovation and environmental stewardship, we strive to pioneer solutions that mitigate our ecological footprint and promote harmony with nature. From implementing renewable energy initiative to establishing adequate environmental management, every action we take is a step towards building a more resilient and equitable company.

Our company invests in reclamation efforts that go beyond mere compliance with regulations, aiming to restore ecosystems to their natural state wherever possible. We engage in afforestation, soil remediation and habitat restoration projects, working in collaboration with local communities and environmental experts to ensure the long-term health of the land we operate on.

As part of our commitment to responsible water stewardship, we strive to enhance drought resilience in areas where we operate. This includes implementing water conservation measures,

MESSAGE



mine water utilization, and supporting nearby communities aimed at improving water management practices. By prioritizing water efficiency and resilience, we aim to minimize our environmental footprint and contribute to the long-term sustainability of the regions we operate in.

The unwavering efforts of CCL's dedicated Environment Department to publish the second edition of 'Nature's Voice' Magazine are truly commendable. I am very glad to say that the dedicated CCL team has been continuing tireless efforts to make it a truly sustainable company. I appreciate the valuable insights shared in this magazine volume about the sustainable initiatives implemented.

In conclusion, we recognize that as a coal mining company, we bear a responsibility to not only minimize our environmental impact but also to actively contribute to the restoration of land, combat desertification, and enhance drought resilience. We are committed to working collaboratively with stakeholders, including local communities, Governments, and environmental organizations, to achieve these objectives. Together, we can build a more sustainable future for generations to come.

By working together, we can make a meaningful change!





MESSAGE

Harish Duhan

Director (Technical / Operation)



Coal mining is a crucial industry, providing essential material for countless products and technologies. However, we recognize the importance of balancing our operational goals with environmental stewardship. Our sustainability initiatives focus on minimizing environmental impact, promoting biodiversity, and ensuring responsible resource management. We are dedicated to reducing our carbon footprint and supporting the communities in which we operate through sustainable practices and initiatives.

This year, World Environment Day centers on the critical issues of land restoration, combating desertification, and encouraging resilience against droughts. The coal mining industry plays a crucial role in shaping our environment, and it is our responsibility to ensure that our operations contribute positively to the communities and ecosystems around us. Preventing desertification is another key priority for us. Through innovative techniques such as afforestation, soil conservation, and water management, we strive to combat desertification and preserve fertile lands for agricultural and other purposes.

As we observed that during India's leadership in the G20, a central focus is on guaranteeing universal energy access and promoting equitable, affordable, and inclusive energy transitions. This underscores the importance of maintaining a strategic equilibrium while fostering rapid, inclusive, and robust growth in the energy sector.

We are strengthening our knowledge base and internal capabilities, and re-skilling the workforce for a sustainable future. We also continue to thrust on placing adequate safety measures to ensure employee well-being at our operational and under-construction projects.

It gives me great pleasure to share the news of the release of the second edition of Nature's Voice. This milestone is a testament to the hard work, creativity, and dedication of each member of Environment Department.

Together, we form an indomitable force united in our quest to illuminate the path of sustainable progress for our beloved nation. Let us be the change we want to see in the world and cement our position as the 'Green Miner of India'.



MESSAGE



◀ Satish Jha Director (Technical / P&P)

Despite growing global awareness of the environmental issues –including climate change, biodiversity loss and desertification – progress since the Earth Summit has been snail-like. A just and equitable world can be built only if we give equal weight to all three pillars of sustainable development i.e. social, economic and environmental.

As we celebrate World Environment Day 2024, I am reminded of the profound responsibility we bear as stewards of our planet. This significant day, led by the United Nations Environment Programme (UNEP), serves as the largest global platform for environmental outreach. Millions of people across the world participate in various activities to raise awareness and take actions for the protection of our environment. The Kingdom of Saudi Arabia will host this year's World Environment Day. In 2024, we will commemorate the 30th anniversary of the UN Convention to Combat Desertification.

This year's theme "Land restoration, desertification and drought resilience" underscores the critical importance of the restoring degraded land, combating desertification, and building resilience against droughts. It serves as a poignant reminder that our actions today will shape the future for generations to come. At CCL, we recognize the urgent need for collective action to address environmental challenges and safeguard the health of our ecosystems.

Govt. (GoI) of India is committed to a sustainable coal sector, balancing environmental sustainability while acknowledging the

vital role of the coal sector in India's energy security. As part of this commitment, Ministry of Coal, GoI has integrated the principles of Mission LiFE (Lifestyle for Environment) into the coal sector to promote individual and community actions at the forefront of climate change mitigation.

At CCL, we actively orchestrate programmes in line with Mission LiFE. These initiatives aim to foster sustainable and environmentally conscious lifestyle. Our ultimate objective is to nurture a community of individuals committed to pro-planet values. Given that land degradation and desertification is the focal point of this year's environment day and a pressing concern, CIL is taking proactive measures to address it. These steps include extensive afforestation initiatives, eco-restoration of mines, biodiversity conservation, mine water utilization, adoption of the Miyawaki plantation technique, establishment of eco parks, solar power plants and top soil conservation.

I extend my heartfelt congratulations to the Environment department's team for their commendable efforts in launching the second edition of "Nature's Voice" magazine. Additionally, I wholeheartedly wish "Nature's Voice" – volume –II, a resounding success.

Thank you for taking this leap with us, and I look forward to building our future with your constant support. Together, I'm sure we can achieve a bright and sustainable future for our society at large.





MESSAGE

Pawan Kumar Mishra

Director (Finance)



Environment is the only thing that can make life sustainable. In order to sustain a growing economy, it is essential to have scientifically literate and environmentally responsible people within the business ecosystem. Preservation and care for the environment are necessary for the well-being of people and economic development throughout the world.

World Environment Day is an opportunity to encourage responsible behaviour by individuals, businesses, and communities in preserving and improving the environment. While business growth is a sign of human progress, if these activities start to threaten the sustainability of the environment, we must reassess our approach and make it more sustainable.

I am delighted to share that our company's goals involve achieving a balance between resource exploitation, sustainability, and environmental responsibility. As a mining company, we understand the significant role we play in providing essential resources that drive progress and innovation. However, we are equally committed to ensure that our operations do not harm the planet's health or the well-being of future generations. Our mining approach prioritizes responsible and sustainable resource management, aiming to maximize the value of mineral assets while minimizing environmental impact and promoting long-term sustainability.

I am pleased with the efforts we have made to improve the sustainability and equity of

our business. Future years hold so much promise for us. We sincerely thank each and every one of CCL's gifted and committed staff members. Our team's perseverance and dedications have enabled us to accomplish our goals in spite of difficult mining operational circumstances.

I further request my CCL family to significantly reduce their environmental footprint, leading the way towards a cleaner and greener future and be a pioneer company in adopting sustainable practices within coal sector.

We must all be aware about the mission LiFE, an ambitious initiative by our honourable Prime Minister Shri Narendra Modi. The mission aims to inspire individuals to contribute to India's climate goals, fostering a win-win situation for both the public and the nation. I request that we all should participate in this Bureau of Energy Efficiency (BEE)'s, nationwide rollout of Mission LiFE, to make it part of our life style.

I also take this opportunity to congratulate for the success of first edition of 'Nature's Voice' Magazine which has been widely appreciated. I wish that the second edition of 'Nature's Voice' resonate with even better and resounding success. I firmly believe that commitment and discipline that we have inculcated should form the bedrock of our work culture and inspiration for future generation.



MESSAGE



Harsh Nath Mishra

Director (Personnel)

As we all are aware, on Environment day, 2024, the spotlight is on land restoration, combating desertification, and bolstering drought resilience. This proactive stance is crucial as we confront an alarming escalation of the triple planetary crisis: climate change, nature & biodiversity loss, and pollution & waste. These crises are relentlessly exploiting the world's ecosystem. Billions of hectares of land suffer from degradation, impacting nearly half of the global population and posing a threat to half of the world's GDP. The most vulnerable—rural communities, small-scale farmers, and those living in extreme poverty—are disproportionately affected.

In the upcoming decade, there will be significant emphasis on climate action, marked by strategic planning and decisive steps to facilitate a worldwide transition towards sustainable energy. Transition to clean energy has emerged as a key driving force for sustainable development in recent years, presenting a huge economic opportunity. Countries across the globe are more determined than ever to accelerating decarbonisation of their economies and securing their future energy needs.

Recently, Govt. of India has introduced the 'Green Credit Programme' under Mission LiFE, as one of India's Nationally Determined Contributions (NDC) to the UN Framework Convention on Climate Change (UNFCCC). This programme aims to promote eco-friendly practices across various sectors, to encourage voluntary environmental positive actions.

CCL demonstrates commendable awareness regarding environmental protection. This positive trend owes much to the engaged leadership and active participation of all employees. I find it truly commendable that CCL's devoted Environment Department persists in their tireless endeavours to release the second issue of the "Nature's Voice" Magazine. The inaugural edition of the magazine received accolades both within the company and at the Ministry level.

So, let us join hands to safeguard our planet, promote sustainable practices, and ensure a greener future for generations to come!





MESSAGE



Pankaj Kumar

(I.R.T.S.)

Chief Vigilance Officer



I am delighted that Environment Department of CCL is launching its second volume of magazine "Nature's Voice", a mark of CCL's commitment to communicating their efforts and to create awareness regarding sustainable environmental development practices among the stakeholders.

As the world gears up to celebrate World Environment Day 2024, the focus has been sharply directed towards three critical environmental challenges: land restoration, desertification prevention, and drought resilience. These themes are not just topical; they are essential for the survival and prosperity of ecosystems and human societies alike.

Land restoration is a key pillar of the UN Decade on Ecosystem Restoration (2021-2030), a rallying call for the protection and revival of ecosystems all around the world, which is critical to achieve the Sustainable Development Goals.

Billions of hectares of land are currently degraded, affecting nearly half of the world's population and posing a threat to half of global GDP. The focus on land restoration aims to reverse this trend and promote sustainable land use.

I urge the CCL family to implement sustainable practices, support policies that promote environmental sustainability, and invest in innovative solutions. From reducing our carbon footprint to promoting renewable energy initiatives, we are dedicated to fostering a culture of environmental stewardship across our organization.

Our efforts extend beyond mere compliance with regulations, they are driven by a genuine desire to make a positive impact on the planet. Through strategic partnerships, innovative technologies, and employee engagement programs, we strive to lead by example and inspire others to join us in our quest for a greener, more sustainable future.

On this World Environment Day, let us reaffirm our commitment to environmental conservation and embrace the opportunity to create meaningful change. Together, we have the power to protect our planet and ensure a brighter tomorrow for all.

Remember, every small effort of every individual counts!





Embracing Change : CCL's Warm Welcome to New CMD

Shri Nilendu Kumar Singh



New Leadership New Success : CCL believes that the company will achieve greater success under the leadership of the New CMD

Earlier, Shri Nilendu Kumar Singh served as the Director (Technical) for Project & Planning at Eastern Coalfields Ltd. (ECL) from December 9, 2022, to April 28, 2024. A 1989 B. Tech (Graduate) in mining from IIT-ISM, Dhanbad, he received a 1st Class Mine Manager Certification in 1994.

Shri Singh began his career with Central Coalfields Limited (CCL) in 1989. During his tenure at CCL, he held the position of Mine Manager at various projects, including Piparwar, Ashoka, Urimari, and Kalyani. He then was relocated to South Eastern Coalfields Limited (SECL) in January 2012, where he continued to serve in different capacities. Notably, he worked as the Mine Manager at Gevra, Sub Area Manager (Agent) at Dipka & Chhal project, and Area General Manager at Dipka, Korba and Raigarh Areas of SECL.

He possesses vast experience of working in large opencast mines, handling of FMC projects, starting sidings, adoption of new mining technologies and working with the highest capacity HEMM viz. 42 m³ shovels, 240T dumpers.

He also has experience of working with White Industries of Australia Ltd. (WIAL) at Piparwar opencast mine of CCL with "In-pit Crushing & Conveying System" with integrated CHP & CPP. He visited Australia in 1997 to gain experience in advanced mining techniques. He has keen interest in sports and painting. He has represented at All India University level in volleyball.



Editorial

MESSAGE FROM THE EDITOR

World Environment Day is a significant global event, observed on June 5, every year. World Environment Day 2024 focuses on land restoration, desertification, and drought resilience. Hosted by the Kingdom of Saudi Arabia, this day is set to serve as a powerful platform for environmental outreach and awareness. Addressing Environmental issues are essential for achieving the Sustainable Development Goals and safeguarding our planet's ecosystems.

World Environment Day encourages millions of people across the globe to take action. It's a call to protect our natural surroundings, address environmental challenges head-on. As we celebrate this day, let's collectively work towards a healthier, greener planet.

Land degradation refers to the decline in biodiversity and ecosystem functioning negatively affecting the services provided by ecosystems. This impact hinders sustainable development. Human activities and natural processes contribute to land degradation, which is closely tied to climate change and biodiversity loss. Unsustainable agricultural practices, along with other sectoral activities, worsen land degradation, reducing socio-ecological resilience and compromising food and water security. When this degradation happens in arid or semi-arid regions with limited water availability, it is termed desertification.

Droughts are among the greatest threats to sustainable development, especially in developing countries, but increasingly so in

developed nations too. In fact, forecasts estimate that by 2050 droughts may affect over three-quarters of the world's population.

The number and duration of droughts has increased by 29 percent since 2000, as compared to the previous two decades. 2.3 billion people facing water stress is already a huge problem.

But land restoration can reverse the process of land degradation, drought and desertification. Restoration boosts livelihoods, lowers poverty and builds resilience to extreme weather, increases carbon storage and slows climate change. Restoring just 15 percent of land and halting further conversion could avoid up to 60 per cent of expected species extinctions.

The theme for World Environment Day on 5 June 2023 was on solutions to plastic pollution under the campaign #BeatPlasticPollution. In this direction, United Nations is actively mapping an agenda to reduce global plastic excess. By the end of 2024, we can expect a stringent plastic policy with legal teeth, aimed at restoring our planet and curbing plastic pollution.

CCL maintains a strong focus on sustainable development with conservation of natural resources being integrated into all activities. CCL believes in "every small step counts - be it planting trees, conserving water, or advocating for sustainable practices. Let's contribute to a more resilient and thriving environment". Thrust areas include environment improvement initiatives such as eco restoration of mines, massive afforestation programmes, rainwater harvesting, mine water utilisation, conservation of biodiversity, effective water and air quality management, carbon sequestration and green credit programme.



Accomplishments of Environment Department, CCL at a Glance

- At present, the environmental clearances capacity of mines of CCL is 137.03 MTPA. In FY 23-24, CCL has increased its EC capacity by 12.30 MTPA for mines and 3 MTPA for coking coal washery.
- In CCL, till date, more than 95 lakhs saplings over an area of more than 5,300 Ha in and around command area of CCL have been planted. The target vis-à-vis achievement of Plantation in Year 2023-24 is:

Target of Plantation	Achievement	% Achievement
220 HA	231.35 Ha	105%

- As a new initiative, CCL also undertook Miyawaki plantation (Japanese technique in which more than 25,000 native plants per Ha is planted) at Rajrappa area over 2 Ha in collaboration with ICFRE (Institute of Forest Productivity, Ranchi) in 2023.
- 141 numbers of Mobile water sprinklers are provided for projects of CCL which includes mist type water sprinklers
- 27 numbers of trolley mounted fog cannons are procured and installed for units of CCL.
- Plantation over overburdens, near infrastructure and green belt development. Transportation of coal through covered trucks only.
- Blacktopping & repairing of coal transportation roads and strengthen-

ing of haul roads. Development of Wind Break System & water sprinkling arrangements at Railway siding.

- Surplus mine water utilization of around 174 Lakh KL to approximately 140 nearby villages, benefiting around 2 lakh individuals, for community and irrigation purposes.
- Construction of Catch drains and garland drains for channelizing the surface runoff to mine sump.
- CCL (22 units) are certified for Integrated Management System (ISO 9001:2015, ISO 14001:2015 and ISO 45001 (OH&S).
- Water stored in abandoned mine voids is also being utilized for cage fish farming in CCL. At present, around 135 such cages are installed.
- Routine Environmental Monitoring of air, water and noise was carried out for all units of CCL during the year 2023-24 through NABL accredited laboratory of CMPDI.
- 14 numbers of Continuous Ambient Air Quality Monitoring System (CAAQMS) & 41 numbers of Continuous PM10 Analyzers in command area of CCL.
- Land Reclamation Monitoring of 22 numbers of Opencast Coal Mines of CCL was undertaken based on satellite data & remote sensing through CMPDI during FY 2023-24.



Achievements Unveiled : Landmarks of Success

First Mile Connectivity (FMC) Projects : A System to Unlock Coal Transportation Constraints

FMC is a mechanized intervention aimed at removing bottlenecks in coal conveyance from mine to rail siding. Truck/Tipper mode of transport adversely impacts population and ecology along the route from mines to siding. FMC aims to eliminate the ferries of trippers. FMC is a covered mechanised mode of continuous bulk transportation of coal from mine to the nearest rail connectivity and storage, and automatic loading of coal in the railway wagons.

The initiative thus unlocks constraints of transport of coal by road from mine to rail

rake.

Overall, FMC initiative shall:

1. Eliminate coal movement by road
2. Reduce traffic congestion and accidents
3. Reduce CO₂ emission per annum
4. Reduce air pollution through enclosed conveyance and loading

Details of Phase wise implementation of FMC projects is given below:

Phase-wise implementation of FMC projects			
Phase – I	Phase – II	Phase – III	Phase – IV
North Urimari CHP (7.5 MTY)	KDH – Purnadih CHP (7.5 MTY)	Amrapali CHP (25 MTY)	Rohini Kerkatta CHP (10 MTY)
Konar CHP (5 MTY)	Karo CHP (7 MTY)	Magadh CHP (51 MTY)	Pundi Expn. CHP (5 MTY)
---	---	Ashok – Piparwar CHP (20 MTY)	Swang Pipradih CHP (2 MTY)
---	---	Sanghmitra CHP (20 MTY)	Jarangdih CHP (1.5 MTY)
---	---	Chandragupta CHP (15 MTY)	---
---	---	Kotre – Basantpur CHP (5 MTY)	---

First Mile Connectivity (FMC) Projects : North Urimari CHP

North Urimari CHP, inaugurated by Hon'ble Prime Minister Shri Narendra Modi on 02.03.2024 would ensure sustainable mining and offtake while reducing environmental pollution.

With a handling capacity of 7.5 MTPA and a cost of Rs.292 cr investment, the North Urimari Coal Handling Plant is set to transform operations with a fully-mechanized system. This demonstrates CCL's dedication to a greener future.

This cutting-edge technology streamlines operations, enhancing speed & enabling more efficient coal handling while prioritizing environmental protection.



View of CHP, North Urimari

Tori-Shivpur Third Rail Line

Dedication of Tori-Shivpur 3rd rail line boosts coal evacuation by 100 MT annually from North Karanpura coalfields in Jharkhand, marking a significant step forward for sustainable energy infrastructure.

Hon'ble Prime Minister Shri Narendra Modi inaugurated the Tori Shivpur 3rd Rail Line on 02.03.2024, giving a thrust to sustainable mining and assuring uninterrupted coal supplies to the power sector.



View of Tori-Shivpur 3rd rail line

Mission Amrit Sarovar : Aimed at Developing / Rejuvenating 75 Amrit Sarovar (Pond) in Each District

With a view to conserve water for future, Hon'ble Prime Minister of India has launched a new initiative named Mission Amrit Sarovar on 24th April 2022. This is a part of the celebration of Azadi ka Amrit Mahotsav.

As per the Amrit Sarovar Guidelines by Gol, measures to be implemented are:

1. An information board with a common signage (Board) of standard size (5 feet height, 4 feet width) and common logo to be put up at every Amrit Sarovar site in which all information related to the work will be available to public.
2. Commemorative plantation of trees such as Neem, Peepal etc. to be done



View of Amritsarovar pond at Magadh

at Amrit Sarovar work site by freedom fighter or her/his family member or by the family of martyr or a local Padma awardee.

3. Beautification works on the sarovar site such as construction of seating benches, approach road to sarovar site, plantation works, development of Chhath Ghats etc.
4. It can also boost the rural livelihood as completed Sarovars can be identified for purpose of different activities such as irrigation, fisheries, duckery, cultivation of water chestnut and animal husbandry etc.



View of Amritsarovar pond at Dhori

Solar Panels : Inexhaustible and Renewable Source of Energy

- Solar technologies can harness this energy for a variety of uses, including generating electricity, providing light or a comfortable interior environment, and heating water for domestic, commercial, or industrial use.
- In a green push, CCL has installed solar panels to power the mining operations.
- The existing installed capacity of CCL is 1.25 MWp (Rooftop). However, installation of 24 MW land mounted solar plant at Piparwar and Giridih area are under final stage of commissioning.



View of Solar panel at Piparwar Area



View of 4MW solar panel at Giridih Area

Solar Projects of Central Coalfields Limited (CCL)

Sl. No.	Location	Capacity in (MW)	Estimated Commissioning Date
1	Giridih Area	4.00	Installed
2	Piparwar Area	20.00	Installed
3	Rooftop of different areas (Ramgarh, Barkakana, BS)	1.02	June '24
4	Rooftop different Area	1.03	August '24
5	B&K Area	8.50	March '25
6	Kathara Area	6.25	June '25
7	Barkasayal (OB Dump)	5.00	January '25
8	NK Area	Purnadih - 10.00 Churi UG - 3.00	January '25
9	Piparwar Area	10.00	June '25
10	Kedla, Hazaribagh Area	3.00	June '25
11	Kuju Area	5.00	June '25
12	Giridih Area	10.00	June '25
Total		87.83	

Sustainability in Coal Mines

India is navigating a delicate path toward reducing its dependence on coal. The journey toward a low-carbon economy is intricate and gradual. While coal remains a crucial component of India's energy strategy for bolstering security, concerted

efforts are underway to mitigate its environmental footprint. Sustainable coal mining practices are pivotal, and the nation is gradually transitioning towards cleaner energy alternatives.

Mitigating Impacts on Land and Biodiversity

Ensuring the ecological recovery of land affected by mining is a crucial aspect of responsible environmental management. It involves a harmonious blend of practices such as reclaiming mined-out areas, reforesting overburden dumps, planting trees around mining sites, and reviving native ecosystem and enhancement of biodiversity. These efforts run parallel to mining operations, with the ultimate goal of minimizing the environmental impact even after mining activities cease.

So far, around 5300 hectares of land in CCL have undergone biological reclamation, which includes restoration of mined-out areas, OB dumps, and establishing avenue and block plantations. Additionally, more than 95 lakh saplings have been planted in the command area of CCL with the assistance of the State Forest Department, Govt. of Jharkhand.



Plantation at Amrapali Area



Plantation at NK Area



Avenue Plantation at Amrapali Area

Eco Park : Embrace Nature, Experience Tranquility

Most of the Mining activities are associated with impact on environment, despite utmost regard and employing best technology available in mining. CCL is in the process of converting its abandoned mines into ecoparks which have become popular as eco-tourism destinations. CCL has signed an MoU with WAPCOS Limited to develop nine eco parks in the command areas of the company. These eco parks will cover an area of more than 100 Ha and are strategically located at 9 locations i.e. B&K, Dhori, Kathara,

Barkakana, Barka-Sayal, Hazaribagh, NK, Piparwar, and Amrapali. The estimated cost for developing these eco parks is around Rs 60 crore. It will primarily be developed on the thesis of creating environmentally friendly place which will restore the site green cover and ensure a sustainable ecosystem in long run. The proposed amenities include water harvesting, fish farming, herbal garden and fountain etc. This will also ensure enrichment of biodiversity in the region. The current status of the ecoparks are mentioned below:

Sl. No.	Name of Sites	Area (Ha)	Budget Rs. in Crs
1	Eco Park at Dhori	23.88	12.33
2	Eco Park at Hazaribagh	25.0	11.96
3	Eco park at Amrapali & Chandragupta	To be taken up during FY 2024-25	
4	Eco park at Barka-Sayal	15.18	7.37
5	Eco park at Kathara	5.60	4.09
6	Eco park at Barkakana	1.59	1.40
7	Eco park at NK area	5.25	2.87
8	Eco park at Bokaro & Kargali	2.36	2.52
9	Eco park at Piparwar	25.5	9.09



View of Eco Park at Piparwar Area



Miyawaki Plantation : Cultivating Green Futures

In FY 2023-24, CCL has adopted Miyawaki plantation method in Rajrappa area. The Miyawaki plantation, named after Japanese botanist Akira Miyawaki, is a remarkable approach to afforestation. It focuses on dense plantation of 2 to 4 native species within every square meter.

As the species grow, they engage in competition, leading to growth that occurs ten times faster. In CCL, Miyawaki Plantation (~25000 saplings per Ha) has been carried out by IFP (ICFRE), Ranchi over 2 Ha at Rajrappa Area in 2023.



Soil Conservation : Protecting our Earth, Securing our Future

CCL has undertaken a scientific study by IFP which will add to the knowledge of top soil management and ecosystem restoration in coal mining areas. Plantation done by State Forest Deptt. is generally different from original ecosystem of the mines. To restore pre-mining ecosystem, Institute of Forest Productivity, Ranchi (a research institute of Indian Council of Forestry Research and Education) has undertaken scientific study for a duration of 5 years.

IFP, Ranchi has expertise in ecological reclamation of overburden dumps, eco restoration and rehabilitation of mined out areas & other stressed/ degraded / difficult sites.

The sites selected for the study are Rajrappa, Amrapali and Ashok OCP in districts of Ramgarh and Chatra in Phase-I.



Nursery developed by IFP

Mitigating Impacts on Air Quality

CCL has taken several steps to mitigate air pollution both at the point of emission and during the transportation of coal. Here are some of the measures implemented:

- All opencast mines have large-capacity mobile water sprinklers including mist type. A total of 141 mobile water sprinklers are in operation in different units. In addition, Wind Breaking System, Avenue Plantation, Dust screen along with fixed water sprinklers are also operational along the transportation roads,

haul roads and railway sidings for protection of receptors.

- As on 31.03.24, 27 numbers of trolley mounted fog cannons are operational for control of fugitive dust emissions.



View of Mist Type Water Sprinkler



View of fixed sprinkler at North Urimari

Monitoring of Air Quality

- Besides, 6000 samples of PM_{2.5} and PM₁₀ on fortnightly basis as part of routine air quality monitoring by NABL accredited lab of CMPDI, proactive steps have been taken to monitor air quality in real time.
- Presently, 41 PM 10 analyzers have been installed at different Railway

Sidings and units. Also, 14 Continuous Ambient Air Quality Monitoring Stations (CAAQMS) have been deployed. These monitoring stations provide real-time data for air quality parameters and are connected to the Jharkhand State Pollution Control Board Server.



Mitigating Impacts on Water Environment

Major sources of water pollutants in coal mines are mine & workshop discharge, runoff from OB dump & Coal stockyard and Water table disruption. The major mitigation and conservation measures are:

- Routine monitoring of water quality on fortnightly basis and ground water level by NABL accredited lab of CMPDI and through a network of Piezometers respectively.
- Regular monitoring of surface water and effluent water quality.
- Catch drains and garland drains are in place to channelize the surface runoff to a series of settling ponds & treated before it is finally discharged into natural streams.
- Rain water harvesting over building, through check-dams & mine voids.
- Wheel washing system and Zero discharge Effluent Treatment Plant at workshops.
- Approximately, 170 Lakh Kilo Litre water is being utilized by the villagers for drinking, domestic, irrigation & community purpose from voids and mine discharge of CCL. Surplus Mine water is supplied to villages through pipelines and water tankers after suitable treatment. It caters to about 2 Lakh population of 140 nearby villages in and around command areas of CCL.

Pisciculture : Utilisation of Mine Water

Surplus mine water is also being used for Pisciculture. Cage fish farming with about 135 cages in some of the abandoned mine voids of CCL. Details are :

Name of Pisciculture Project / mine	District	Quantity of water Stored (Lakh Kilo Litre)	Yield (Kg)	Beneficiaries
Religara Quarry 3	Hazaribagh	180.0	1400 kg (6cages)	30
Gidi A	Hazaribagh	100.0	3000 Kg (8Cages)	35
KDH OCP (Karkatta Quarry No. A)	Ranchi	4.5	2300000 kg (15 cages)	30
Rohini (Karkatta C)	Ranchi	6.0	770000 kg (50 Cages)	30
Ara Qry No. 2	Ramgarh	9.5	50000 Kg (50 Cages)	50
Topa	Ramgarh	5.0	1000 Kg (5 caged)	10
Total		305.0	135 Cages approx.	185



View of Pisciculture at NK Area



View of Pisciculture at Kuju Area



Ramsar Convention : Wetlands for a Sustainable Future

- The 'Convention on Wetlands' called the Ramsar Convention, signed in Ramsar, Iran, in 1971, is an intergovernmental treaty which provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.
- Wetlands are the only ecosystem to have a dedicated multilateral environmental agreement of their own, the Ramsar Convention. Currently, there are 172 Contracting Parties to the Convention, with 2513 wetland sites, totaling over 257,254,185 ha, designated as Wetlands of International Importance.
- India became a party to Ramsar Convention on 01.02.82 and so far, 80 wetlands covering 23 States & UTs have been designated as Ramsar sites.
- CCL has identified a promising pit site at Giddi 'A' Colliery Pit Lake, located near the Argada Area in Ranchi, Jharkhand. Wetlands International South Asia (WISA) undertook evaluation of the ecological character of Giddi-A Colliery Pit Lake for potential designation as a Wetland of International Importance under the Ramsar Convention during FY 2023-2024.
- One of the nine criteria if fulfilled, can be designated as the Ramsar Site. The nine criteria are:

Criterion 1: contains a representative, rare, or unique example of a natural or near-natural wetland type found within the appropriate biogeographic region.

Criterion 2: supports vulnerable, endangered, or critically endangered species or threatened ecological communities.

Criterion 3: supports populations of plant and/or animal species important for maintaining the biological diversity of a particular biogeographic region.

Criterion 4: supports plant and/or animal species at a critical stage in their life cycles, or provides refuge during adverse conditions.

Criterion 5: regularly supports 20,000 or more waterbirds.

Criterion 6: regularly supports 1% of the individuals in a population of one species or subspecies of waterbird.

Criterion 7: supports a significant proportion of indigenous fish subspecies, species or families, life-history stages, species interactions and/or populations that are representative of wetland benefits and/or values and thereby contributes to global biological diversity.

Criterion 8: is an important source of food for fishes, spawning ground, nursery and/or migration path on which fish stocks, either within the wetland or elsewhere, depend.

Criterion 9: regularly supports 1% of the individuals in a population of one species or subspecies of wetland-dependent non avian animal species.

Mitigating Impacts on Water Environment

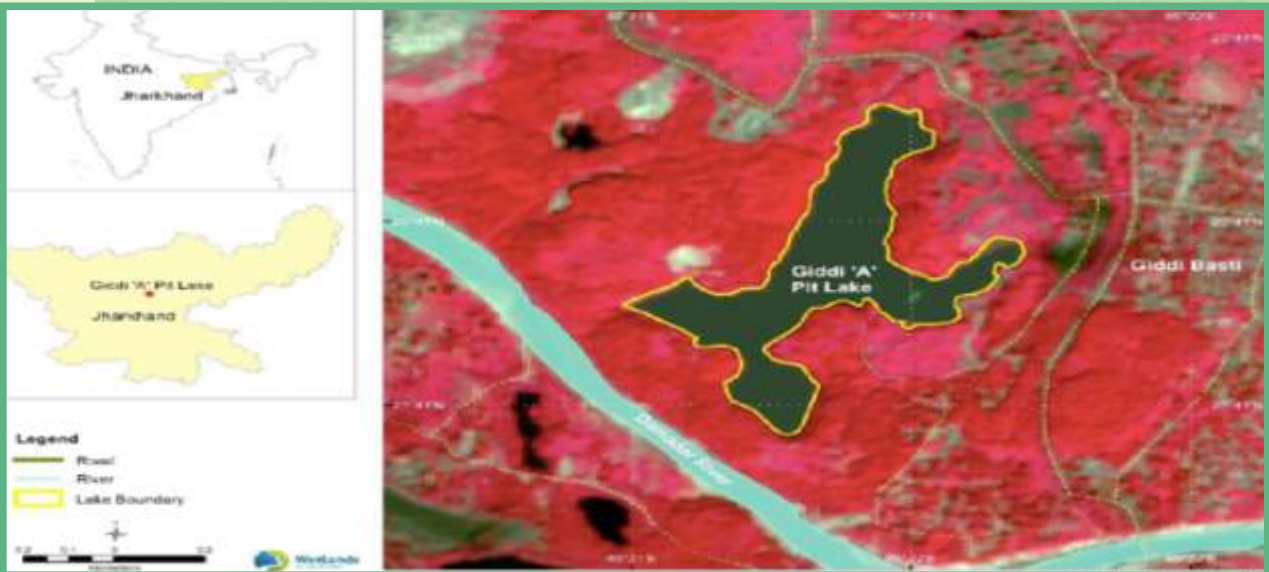
The details of proposed Giddi A Pitlake as Ramsar site in CCL are :

- 1. **Area** : 29.97 Ha
- 2. **Depth** : Average 83 m. Maximum 94 m.

This meets 2 of 9 criterion (criteria no 2 and 3) required for Ramsar Site inclusion in the list of Ramsar Convention on Wetlands of International importance. Recommendation by WISA has been submitted to DFO, Ramgarh to consider for inclusion in Ramsar list of wetland Convention.



View of Giddi Pit Lake



Satellite View



Green Credit Program : To Incentivise Eco-Friendly Actions

"I feel it is the time to talk about Green Credit through which we can initiate climate positive actions"

- Hon'ble PM at the G20 Summit

Understanding Green Credit

- The primary objective of the Green Credit program is to encourage environmental conservation and sustainability through market-based mechanisms. These rules put in place a mechanism to encourage voluntary environmental positive actions resulting in issuance of green credits.
- The GCP aims to promote industries, companies, and other entities to purchase green credits to meet their obligations under other existing laws. The Green Credit Rules carry the following key objectives: incentivising environmentally positive actions, promoting sustainable practices, and increasing the green cover of the country.
- The programme is independent of the carbon credit programme under the Carbon Credit Trading Scheme, 2023, established under the Energy Conservation Act, 2001.
- Green Credits are certificates that are awarded to individuals and entities for undertaking environment-friendly activity of afforestation which provides multiple benefits to the environment.

Governance and Administration

- Indian Council of Forestry Research and Education (ICFRE) is designated as GCP administrator and is responsible for implementation and management of GCP.

Amendment in Rules :

- On April 12, 2024, Ministry of Environment Forest and Climate Change (MoEF&CC) has issued further guidelines and clarified that under the GCP, primacy must be accorded to restoring ecosystems over merely tree planting.

Methodology of earning Green Credit

1. The Forest Department of every state and UT shall identify degraded land parcels, including open forest and scrub land, wasteland and catchment areas, under their administrative control and management, which shall be made available for tree plantation to proof activities for increasing the green cover across country for purposes of generation of green credit.
2. The land parcel identified for plantation under paragraph 1 must be free from encumbrances and must have size of 5 HA or above.
3. Any person or entity desirous of undertaking tree plantation for the purposes of generation of green credit may apply to the administrator.

4. On receipt of application under para 3, the administrator shall identify any land referred to in para 1 and assign the same to the applicant and require him to submit a proposal for undertaking tree plantation for generation of green credit in lieu thereof.
5. On receipt of the proposal under para 4, the administrator shall prepare and issue a demand note to the applicant which shall include the cost of tree plantation and administrative expenses, to be paid to the administrator within specified time.
6. The applicant shall pay the amount in the form of bank draft or such other means of payment as decided by administrator.
7. On the payment of amount under para 6, administrator shall direct the Forest Department to carry out tree plantation in line with management plan or working plan and shall be completed within 2 years of payment.
8. On completion of tree plantation the Forest Department shall submit a report in this regard to the administrator and issue a certificate of completion to applicant.
9. On receipt of report under para 8, after evaluation and verification of the tree

plantation activity, the administrator may generate and issue green credit to the applicant under the said rules.

10. The green credit shall be calculated @ 1 green credit per tree grown through the tree plantation on such land parcel, subject to minimum density of 1100 trees per hectare based on local silvi-climatic and soil conditions, on the certification of completion of plantation by forest department concerned.
11. The green credit generated under the said rules may be exchanged for meeting the compliance of the compensatory afforestation in case of direction of forest land for non forestry purposes under the Van (Sanrakshan evum Samvardhan) Adhiniyam, 1980 as applicable.
12. The green credit generated in the lieu of tree plantation may be used for reporting under environmental, social and governance leadership indicator or under CSR under the applicable rules made under any law for the time being in force.

CCL has registered in the Green Credit portal and is committed to take up 170 Ha plantation during 2024 monsoon.





Van (Sanrakshan Evam Samvardhan) Rules, 2023

(Salient Points)

The Central Government has introduced the "Van (Sanrakshan Evam Samvardhan) Rules, 2023." These rules outline a framework for the approval and management of proposals related to the use and dereservation of forest land. The rules have come into force on December 1, 2023.

Advisory Committees and Empowered Committees

- The Central Government has been granted the authority to constitute an Advisory Committee to provide counsel on grant approvals under specific sections. Additionally, Regional Empowered Committees will be formed at each Regional Office to examine proposals and either approve or reject them.

Project Screening Committees and Approval Process

- To streamline forest proposals, Project Screening Committees are established by State Governments and Union Territory Administrations. Proposals for consideration by Central Government will undergo a two-stage approval process: 'In-Principle' approval and 'Final' approval.
- On the PARIVESH 2.0 web portal of the Central Government, with unique identity number generation after registration of proposal, copies are sent to relevant authorities for preliminary examinations.

Scrutiny and Field Verification

- Proposals are scrutinized by Project Screening Committees to ensure completeness and correctness. Additional information or clarification may be sought from the user agency and are required to be resubmitted within a specified time frame.
- Field verification, including joint verification by officers of the Revenue Department and Forest Department are to be carried out. Divisional Forest Officer, Conservator of Forests, and Nodal Officer have distinct roles for size and nature of proposal.
- In-Principle Approval and Final Approval are subject to specified conditions and restrictions. Regional Empowered Committees and Advisory Committees will play pivotal roles in assessing the adverse environmental impact and recommending measures for mitigation.
- The final approval process involves communication from the Nodal Officer to relevant authorities, preparing a demand note for compensatory levies, and ensuring compliance with stipulated conditions before granting 'Final' approval.

Ensuring Accountability

- It specifies a stringent process to handle incomplete or incorrect information, including the possibility of rejection within the specified period with special emphasis on the importance of compensatory afforestation and compliances.



Closing Chapters, Opening Futures : The Journey to Just Transition

- As the world grapples with the pressing challenges of climate change, there's an increasing emphasis on transitioning from fossil fuels to sustainable energy sources. India being one of the largest producers of coal - and fossil fuels being significant contributor to global carbon emissions - stands at the forefront of this transition.
- India, with its vast coal reserves and a significant portion of its energy derived from coal, faces a unique set of challenges and opportunities.
- The transition is not just about reducing emissions but also about ensuring the socio-economic wellbeing of communities dependent on coal. A mere shift from coal to cleaner energy sources isn't sufficient. The transition must be 'just,' ensuring that it is equitable, inclusive, and considers the multifaceted impacts on workers, communities, and the environment.
- Ministry of Coal has taken various steps to mitigate adverse impacts of coal mining and has aligned itself to the sustainable environment friendly practices for the areas affected by various coal mining activities. One such aspect is dealing with the mine closure of abandoned/closed mines or mines to be closed in near future based on the principle of Just Transition (JT) for All.
- With passage of time, old mines will shut down due to exhaustion of reserves, viability issues, safety reasons etc. which will require proper closure addressing the social, physical & environmental aspects of closure to ensure sustenance of livelihood of people and communities dependent on the mines.
- Due to the closing of mines, a vast amount of land will become available, which has a huge potential for regional transformation and economic diversification. Therefore, Indian Coal Sector has initiated efforts for developing a comprehensive mine closure framework on JT principles.
- Global expert agencies such as World Bank and GIZ (a German Development Agency) have approached Ministry of Coal to offer their expertise for developing a Coal Mine Closure Framework based on JT Principles. These aim for mine closure framework on a pilot basis for mines in Jharkhand/ Chattisgarh which are closed, abandoned, or are about to close due to resource exhaustion.
- The Framework will provide support to livelihood of impacted local people and community on Just Transition Principles along with repurposing of the reclaimed land & infrastructure assets for economic diversification of



coal regions. The framework will be backed by a strong policy support, strong institutional arrangement, sustainable funding mechanism and stakeholder consultations.

- PAPs are being re-skilled under CSR programs and are being provided medical and education facilities. Further, basic infrastructure being enhanced and accessible to nearby areas.
- Planned Repurposing of land & assets under JT principle can bring economic diversification in the region resulting

in employment generation, revenue generation by establishment of Solar parks, Eco-parks, Business hubs, Residential Complexes in line with PM Awaas Yojna, Fish-farming, Agro-business, Ware-houses, Resorts, Museum, Picnic spots, Golf courses etc.

- Handling mine closure (MC) on JT principles under new MC framework will result in gradual capacity building and creation of a robust structure for managing coal transition – to happen in long term due to shift in energy mix.

Empowering Growth : Unleashing Potential through Trainings and Workshops

Training Program at ICFRE, Dehradun

- Training on "**Ecology and Biodiversity**" was conducted at Indian Council of Forestry Research and Education (ICFRE), Dehradun (a premier and apex autonomous body of MoEF&CC) for 40 environmental executives and other executives engaged in environmental works in CCL for duration of 5 days.
- The training extensively covered several crucial topics related to coal mining and environmental restoration. These topics included examining the ecological and biodiversity aspects of

coal mining, implementing effective soil reclamation methods in previously mined areas, adopting afforestation techniques for these regions, ensuring plant protection in nurseries, understanding carbon capture mechanisms, and navigating the carbon market.

- The practical experience was further enriched by field visits to the ICFRE-FRI central nursery, stone quarry and nearby protected area.

ICFRE holds training prog on 'Ecology & Biodiversity' for Executives of CCL



By OUR STAFF REPORTER DEHRADUN, 25 Feb: A five-day training programme for the executives of Central Coalfields Limited (CCL), Ranchi, Jharkhand, related to the Ecology and Biodiversity is under way at the Indian Council of Forestry, Research & Education (ICFRE), here.

CCL is a subsidiary of Coal India Limited, Union Ministry of Coal. The training programme is

Environment Management Division, Directorate of Extension, ICFRE.

The event was inaugurated by Dr. Sumit Chakravorti, Assistant Director General (M&E), ICFRE. In his inaugural address, he emphasised the importance of ecology and biodiversity in relation to coal mining activities and role of different local and faunal communities in restoration of degraded mined out areas.

session. Dr Rajesh Sharma, Assistant Director General (BCC), ICFRE, spoke about the need for adoption of scientific methodologies for eco-restoration of mined out areas so that the environment is protected, and ecosystem benefits are insured.

On the occasion, Dr AN Singh, ADG (EM), ICFRE, and course coordinator introduced the 5-day training programme. The vote of thanks was

Senior Scientist from Environment Management Division of ICFRE.

Other Assistant Director Generals and Scientists of ICFRE were also present. During the training programme from 26 February to 1 March, eminent experts are scheduled to deliver lectures on various topics covering ecology and biodiversity, Nursery and Plantation Techniques for De-

GIS tools in Biodiversity Assessment, Eco-restoration of Coal Mined Out Areas, Environmental Clearance and Forest Clearance Process in India, Ecosystem Services Valuation of Restored Mined Out Areas, Carbon Capture and Carbon Market. Apart from technical sessions, field visits/demonstrations related to the topics and eco-exhibition sites, FFG Museum, Botanical Garden, etc. are also scheduled.



Awareness Training Programme on IMS and ISO 50001 - Energy Management System (EnMs) :

- A Two day awareness training programme on **"IMS and ISO 50001 - Energy Management System (EnMs)"** was organized from 8th to 9th November, 2023 for Executives of CCL



Workshop on NoC Application Process of CGWA

- One day workshop titled **"NoC Application Process of CGWA"** was conducted in the month of May 2023 for Environmental Executives of CCL.

Workshop on Understanding the Nuances of Forest Clearance



- CCL organised a workshop titled **"Understanding the Nuances of Forest Clearance"** on 22nd June 2023.
- Dr. Sanjay Srivastava, IFS (PCCF-HOFF), GoJ chaired the session highlighting the difficulties in forest clearances and the potential solutions. Sri Shashi Shankar, AID (Forest), Integrated Regional Office, MoEF&CC, also shared insights on FC.
- Workshop was attended by the environmental executives of CCL, BCCL, and ECL.



World Environment Day : A Catalyst for Global Action

Manoj Kumar Agarwal
(General Manager, Dhori Area)

World Environment Day, held annually on June 5th, is a pivotal platform for environmental awareness and action on a global scale. Established by the United Nations Environment Programme (UNEP) in 1973, it has evolved into the largest global platform for environmental outreach, uniting communities worldwide.

Each year, World Environment Day focuses on a specific critical environmental issue. The theme for 2024, "Land restoration, desertification, and drought resilience," underscores the urgency of addressing degraded land and its far-reaching impacts on billions of people globally.

World Environment Day serves as a springboard for individual and collective environmental action. It inspires individuals from all walks of life to get involved in protecting our planet. Through a multitude of events, campaigns, and educational awareness, the day empowers individuals to make a paradigm shift for a pragmatic impact to society.

Furthermore, World Environment Day plays a vital role in environmental education and advocacy. By raising awareness of environmental challenges and disseminating information about practical solutions, the day empowers individuals to make

informed decisions and adopt sustainable practices in their daily lives.

The global reach of World Environment Day is another significant aspect. By uniting people from all corners of the world around environmental issues, the day fosters a sense of shared responsibility and solidarity. This collective consciousness is crucial for addressing environmental threats that transcend geographical boundaries.

World Environment Day serves as a powerful reminder that environmental protection is not just a government or international organization's responsibility; it's a collective duty. By encouraging individual actions with integrated approach, the day inspires to build a more sustainable future for ourselves and generations to come.

World Environment Day emphasises the importance of individual contribution, no matter the scale. "Not every one can do everything, but everyone can do something". It raises awareness of environmental challenges, inspires individual and collective action, and nurture international cooperation. By promoting environmental education outreach, lets make the world a better place to live.

Eco Park - A Step Towards Fuelling Sustainability

Gaurav Kumar, Achyutanand Kumar & Aniruddha Roy
Environment and Forest Department, Dhori Area, CCL

An eco park is a haven for both nature and humanity. It's a thoughtfully designed space that balances recreation with ecological conservation. Here, visitors can explore nature trails, learn about environmental sustainability, and participate in educational programs. Eco parks also play a crucial role in preserving biodiversity by providing habitats for wildlife and promoting native plant growth.

One of the key features of an eco-park is its focus on sustainable practices. This can include using recycled materials for construction, implementing rainwater harvesting systems, and promoting renew-

able energy sources. By showcasing these practices, eco parks serve as models for sustainable living and inspire visitors to adopt eco-friendly habits in their daily lives.

Eco parks offer a variety of recreational activities for people of all ages. Whether it's picnicking on a grassy lawn, taking a boat ride on a lake, or exploring a butterfly garden, there's something for everyone. These activities provide opportunities for families to bond, for children to connect with nature, and for people to relax and unwind in a serene environment.



Figure 18: Schematic Plan of Dhori Eco-Park Site

Schematic Map for Eco Park Site, CCL Dhori

The site for Development of Eco park is located in Phurso City in district of Bokaro, Jharkhand, situated between north latitude 23.7944° and 23.7912° and east longitude 85.8425° and 85.8499°. Sprawling over an area of 23.88 ha, it costs over ₹ 11.43 crore for the complete construction.

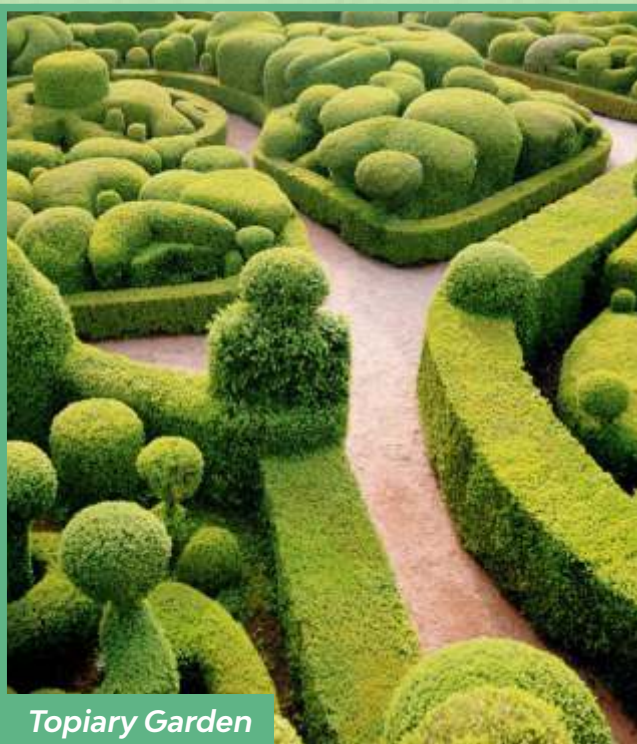
Benefits of the Project are as follows :

- Improve quality of existing soil
- Act as oxygen production hubs
- Reduction of dust/ particulate matter in the air particularly at mine areas
- Raise awareness in people about the importance of preserving the environment
- Act as tourist attraction and aid in improvement of tourism in the proposed area.

The vision for Eco Park is to represent the history by utilizing the resources of the site that will aspire a spiritual journey as well as establish goals.

Conceptual Master Plan

The various components proposed on the site include gateway with gabion wall, parking, rest rooms, food court, commercial shops. Also, includes the development of a park complex as per the existing contour, circulation connecting different amenities with the park complex, gardens for different age groups, an open amphitheatre with light & sound show, different type of gardens and picnic spots.



Topiary Garden



Open Area Theatre



Children's Play Area

#Images used here are for the representation purpose only & are not actual images.



Restoring Coal Mining Areas : A Path to Environmental Recovery

Amarjeet Kumar

(Management Trainee (ENV) Magadh-Sanghmitra Area)

Coal mining activities often leave lasting impacts on the landscape, leading to deforestation, soil erosion, and disruption of natural habitats. The process of land restoration in these areas is critical for rehabilitating degraded land and restoring ecological balance. Land rehabilitation involves improving soil quality, re-establishing vegetation, enhancing water resources, and promoting wildlife habitat restoration.

The first step in land restoration is selecting a suitable approach based on the surrounding landscape and environmental conditions. This includes assessing whether the restoration focus should be on cultivated land, forest land, or urban development planning. The restoration method is guided by the principle of "suitable for cultivation, suitable for forest, and suitable for scenery," ensuring that the chosen approach aligns harmoniously with the natural surroundings.

Land rehabilitation is a multifaceted and long-term process that begins with comprehensive pre-mining assessments. These assessments gather essential data on soil characteristics, hydrology, climate, vegetation, and wildlife, forming the basis for designing a rehabilitation plan. Progressive rehabilitation during mining operations minimizes land disturbance and lowers rehabilitation costs.

Post-mining rehabilitation activities include reshaping landforms, stabilizing soils, revegetating areas with native

species, managing drainage, water management and monitoring outcomes. The goal is to achieve a safe, sustainable, and aesthetically pleasing landscape suitable for future use. Proper landform design minimizes erosion and optimizes drainage, while revegetation enhances biodiversity and ecological functions.

Creating a robust policy framework to support the restoration and sustainable management of lands impacted by coal mining is essential for ensuring long-term benefits.

Overall, thoughtful rehabilitation of mining-impacted lands represents a crucial step towards sustainable development. It illustrates a commitment to repairing past damages and investing in a more sustainable and equitable future for all stakeholders involved. By adopting comprehensive rehabilitation strategies and engaging stakeholders, we can transform degraded mining sites into thriving landscapes that benefit ecosystems, communities, and future generations. Land restoration not only heals the land but also contributes to mitigating climate change and fostering biodiversity. Through collective efforts and commitment, we can pave the way for a more sustainable and equitable model of resources management.

"Each seed sown in mined-out lands will turn a legacy of extraction to legacy of rejuvenation."

Green Washing : Do You Know What You're Buying?

Shrinishtha Mishra

(Deputy Manager (Environment), CCL HQ)

Environmental concerns are at the forefront of public consciousness, leading many companies to emphasize the eco-friendly nature of their products and services. However, a concerning trend has emerged – the deceptive marketing practice known as GREENWASHING.

Deceptive Tactics: Greenwashing in Action

Vague Claims: Companies throw around terms like "natural" or "eco-friendly" without clear definitions. This ambiguity allows for misinterpretations and creates a false sense of sustainability.

Partial Truths: Highlighting a single eco-friendly aspect (e.g., recycled packaging) while ignoring the product's overall environmental impact (e.g., high carbon footprint of production) is a deceptive tactic.

Misleading Imagery: Images of nature or recycling symbols on products can create a facade of sustainability, even if the product itself is not environmentally sound.

Case Studies

1. A classic instance of greenwashing involves plastic pods labeled as "recyclable," which, in reality, are not suitable for most recycling programs.
2. An area rug is labeled "50% more recycled content than before." In fact, the manufacturer only increased the recycled content from 2% to 3%.



This message creates a misleading impression of substantial recycled fiber in the rug.

3. The label on a trash bag claims it is "recyclable." However, since trash bags are typically not separated from other waste at landfills or incinerators, the likelihood of them being reused for any purpose is minimal. This deceptive claim suggests an environmental benefit where none truly exists.
4. Automobile industries promote their production and development of fuel-efficient vehicles through the "Gas-Friendly to Gas-Free" campaign, attempting to reframe themselves as environmentally progressive. Despite this, they continue to be the leading producers of gas-guzzling automobiles.
5. Many cosmetic brands are greenwashing their products and profiting from climate change and



other environmental issues. They use terms like “sustainable” and “eco-friendly” without providing any evidence to support these claims. Additionally, they lack transparency about their ingredients and manufacturing processes. Consequently,

The term “Greenwashing” was coined by environmentalist Jay Westerveld in a 1986 essay titled “The Greening of Corporate America.” In the essay, Westerveld criticized hotels for encouraging guests to reuse their towels to “save the environment.”

consumers are being misled and unknowingly supporting these brands.

Identification of Greenwashing

1. Look Beyond Marketing Claims
2. Assess the Entire Product Lifecycle
3. Look for Independent Certifications
4. Consider the Company's Track Record

A New Dawn: Regulations Take Aim - Where India Stands

Central Consumer Protection Authority (CCPA), has released the draft Guidelines for the Prevention and Regulation of Greenwashing, 2024 (the'Guidelines') for public comments.

In addition, the Advertising Standards Council of India (ASCI) has released guidelines for green marketing and advertising. These guidelines prohibit claims that are false, misleading, or likely to deceive consumers, and require that all environmental claims be substantiated by reliable scientific evidence.





Identification of Equivalent Non-Forest Land for Compensatory Afforestation and Challenges Ahead

Rabeya Nawaz

(Deputy Manager (Forest Department) CCL HQ)

Van Sanrakshan Evam Samvardhan Adhinyam Rules that came into effect from 01.12.2023 and implementation of PARIVESH 2.0 (since 28.06.2022), include provisions for identification of equivalent non-forest land for Compensatory Afforestation i.e. land which is neither notified as forest nor managed as forest.

Sub rule (1) of Rule 13 of the Van Sanrakshan Evam Samvardhan Adhinyam Rules states that: "The user agency shall provide land which is neither notified as forest under the Indian Forest Act, 1927 (16 of 1927) or any other law nor managed as forest by the Forest Department and it shall also bear the cost of raising compensatory afforestation over such land."

Under the rule, if the non-forest land or a portion thereof provided by the user agency is deemed unsuitable for raising compensatory afforestation of the specified density, there are specific steps that must be followed:

Additional Compensatory Afforestation: Additional afforestation must be carried out on degraded notified or unclassed forest land under the management control of the Forest Department. The area used for this additional afforestation should be twice the size of the shortfall in the compensatory afforestation land originally provided.

Financial Responsibility: The user agency is responsible for bearing the additional costs associated with this compensatory afforestation on the alternative land.

Certification Requirement: In exceptional circumstances, a certificate from the relevant State or Union Territory is required, confirming the non-availability of suitable non-forest land for compensatory afforestation.

Also, if the non-forest land provided for this purpose already has existing vegetation with a canopy density of 0.4 or higher, there is no requirement for additional tree planting on this land. Instead, the focus shifts to enhancing the quality and health of the existing forest crop in a time bound manner.

Under the provisions of the Accredited Compensatory Afforestation scheme, certain criteria are set for non-forest lands to qualify as compensatory afforestation (CA) sites in lieu of the diversion of forest land for development or other non-forest uses. These include: **Minimum Area:** The patch of non-forest land must involve a minimum area of 10 hectares. **Vegetation Density:** The existing vegetation on the non-forest land must have a canopy density of at least 0.4.



Age of Afforestation: The afforestation on the non-forest land must be at least five years old. The land bank will consist of non-forest lands with each parcel having a minimum size of 25 hectares.

When it comes to diversion of forest land for the purpose of establishing a safety zone along the boundary of a mine, the rules governing compensatory afforestation (CA) are applied uniformly. This means that the same compensatory afforestation requirements that apply to the entire area of forest land proposed for diversion also apply to the forest land that is designated as a safety zone (that are left undeveloped to act as buffers). Non-forest mined outlands which have been reclaimed technically and restored biologically shall be accepted for raising CA. Once accepted for CA, such lands need to be notified under the Indian Forest Act, 1927. An undertaking to this effect shall be submitted by the User Agency along with their respective diversion proposal, in lieu of which restored lands will be used for raising CA.

Minimum Area for Non-Forest Land: Non-forest land being considered for compensatory afforestation must have an area of at least 10 hectares.

Handling Smaller Forest Diversions: If the area of forest land being diverted is less than 5 hectares, efforts should be made to identify non-forest land that is contiguous to some existing Reserve Forest (RF) or Protected Forest (PF) so as to help create

/enhance buffer zones around protected areas.

Preparation and Transfer of Land:

Fencing: The user agency responsible for the diversion of forest land is required to properly fence all such non-forest land parcels to protect the area from encroachments and other disturbances that could hinder the growth and maintenance of newly planted or existing vegetation.

Mutation: Before the non-forest land is handed over to the Forest Department, it must be legally mutated in the name of the Forest Department.

Handover: Completing the above steps, before final approval, the land must be formally handed over to the Forest Department, and shall be legally notified as a protected forest. This notification should be made under Section 29 of the Indian Forest Act, 1927 (allows the state government to declare any land covered with trees or reforestation as a protected forest), or under any other relevant environmental or forest law currently in force.

The non-forest land identified for compensatory afforestation must be clearly demarcated. The land identified and earmarked for compensatory afforestation shall be treated and afforested by the State Government or Union territory Administration or user agency as per the compensatory afforestation plan approved as part of the said forest diversion proposal.

प्रकृति की देन

हम कोल इंडिया के है श्रमिक तन मन में एक
प्रण लिए हैं
अभिमान हमें अपने कर्म का राष्ट्र को अपना
सर्वस्व दिया।
अक्षय ऊर्जा का शान दिया कितने कोल कर्मियों
ने प्राण दिया
“कालिख काया के गर्भ को चीर कर अंधियारा
को हटा प्रकाश दिया”
उधम संसाधन का उपहार दिया
पर जब हमने गर्व से इठला कर
ये बात प्रकृति को बतलाई
तब प्यार से श्रृष्टि के कण कण
ने ये बात हमें है समझाई कि
मैंने पेड़ दिए, उपवन दिए
नदी तालाब झरने सागर व समुद्र दिए
जीने के लिए कितने रंग दिए
वन दिए कानन दिए
फल-फूल और जीवन दिए
स्वच्छ वायु का उपहार दिया
मनुष्य को जीवन दान दिया
हिम ओढा हिमगिरी पर्वत दिए
कल-कल करती नदियाँ दिए
द्विप दिए समतल दिए
रहने को हमें घर दिए
अपनी शितल छाया दिए
मनुष्य को भिन्न भिन्न माया दिए
प्राकृति ने हमें कई रंग दिए

अनुप कुमार सोनिया

(डेटा एंटी ऑपरेटर, धोरी क्षेत्र)

तब हमें यह एहसास हुआ
हम तो मानव है बन बैठे दानव हैं
इर्ष्या जलन अहं हमारा स्वभाव है
इतना ही हित सोचना यही शायद हमारा
प्रादुर्भाव है।
हम कितने महान हैं
शायद यही साबित करना हमारा स्वभाव है।
जिसने जीवन दान दिया
जिस प्रकृति ने हमें सब कुछ दिया
अन्न धन वस्त्र दिया उसी का
शोषण हमने किया। शायद जितना दिया प्रकृति ने
वह हमें कम ही लगा।
निस्वार्थ भाव से जिसने हमारी सेवा की
उस प्रकृति को हमने क्या दिया
जो भी दिया प्रकृति ने हमें दिया
हम कुछ देने के काबिल नहीं
लेकिन एक कसम खा सकते हैं
स्वच्छ रखे प्रकृति को अपनी
साफ रखे जननी को अपनी।
आओ मिलकर खाए कसम
प्रकृति को स्वच्छ रखेंगे।
जिसने हमें सब कुछ दिया
उसका हम सम्मान करेंगे
कोल इंडिया के श्रमिक हैं हम
पर्यावरण के अनुकूल योजनबद्ध
परिणाम में कोयला उत्पादन
एवं विपणन करेंगे हम।



Navigating the Waters : A Guide to CGWA's NoC for Mining Projects

G. Vidyasagar

(Deputy Manager (ENV). CCL HQ)

In September 2020, the Central Ground Water Authority (CGWA) issued a significant notification. This notification, which came into effect on the 24th of September, 2020, introduced revised guidelines for the regulation and control of groundwater extraction in India. The notification was issued in response to the directions of the Hon'ble Supreme Court and the National Green Tribunal. The new guidelines superseded the previous ones issued in December 2018. They outlined the conditions for obtaining a No Objection Certificate (NOC) from the CGWA, the documents required, and the penalties for

non-compliance. Importantly, the system of notifying areas by CGWA was dispensed with, and NOCs were to be issued based on the assessment units viz. safe, semi-critical, critical, and over-exploited. This notification marked a significant step towards sustainable groundwater management in India.

For mining projects, obtaining a No Objection Certificate (NOC) from CGWA is a crucial step. This article will guide you through the process of obtaining and renewing an NOC, including the necessary documents.

Documents Required for Obtaining Fresh NoC and Renewal NoC

Sl. No.	DOCUMENTS	MINING	
		Fresh	Renew
1	Ground Water quality report of mine seepage and existing borewells/tubewell by NABL/Govt. approved lab	Yes	Yes
2	Approved Mine Plan as per approving authority	Yes	-
3	Self-Compliance Report	-	Yes
4	Comprehensive hydrogeological report with Impact Assessment Report (100 to 500 kld) by Accredited consultants	Yes	Yes
5	Comprehensive hydrogeological report, Impact Assessment report and GW Modeling (>500 kld) by Accredited consultants	Yes	Yes
6	Bharatkosh Reciept	Yes	Yes
7	Approval from Wetland Authority (in case of Project area falling within 500 meter of Wetland zone)	Yes	-

Assessment Unit	Aquifer Type	Quantum of Ground water (m3/day)	Report
Over-Exploited, Semi Critical and Critical (OCS)	Hard Rock	>500	Impact Assessment Report along with modelling study by accredited consultants
Safe	Soft Rock/Alluvium	>1000	
	Hard Rock	>500	
	Soft Rock/Alluvium	>2000	



All the project proponents (drawing ground water more than 10 cum/d) have to mandatorily construct Piezometers (observation wells) within their premises for

monitoring of the ground water levels. The following are the criteria for installation of piezometers along with Digital Water Level Recorder (DWLR) and telemetry.

Piezometers to be constructed & Type of Water Level Monitoring Mechanism					
Sl. No.	Quantum of Ground water withdrawal (cum/d)	No. of piezometer required	Monitoring mechanism		
			Manual	DWLR	DWLR with Telemetry
1	51-500	1	0	1	0
2	>500	2	0	1	1

Penalty Provisions for Non-Compliance of NOC Conditions

Sl. No.	Condition of NOC	Penalty (Rs.)
1	Non Installation/Defunct Digital water Flow meter with telemetry	2,00,000
2	Non-disclosure/ construction of additional groundwater abstraction structuresa) Functional (per structure)	2,00,000
	b) Defunct/Abandoned (per structure)	1,00,000
3	Reporting of fresh water zones as Brackish / Saline zones in application	2,00,000
4	Non-Installation of Piezometer	2,00,000
5	Non-Installation /faulty DWLR/Telemetry	1,00,000
6	Non-Construction /Inadequate Recharge Structure	5,00,000
7	Non maintenance of Recharge structure	2,00,000
8	Injection of contaminated water into the aquifer. In addition to penalty, the proponent shall have to bear the cost of aquifer remediation as per provisions under EPA.	10,00,000
9	Non-Submission of Water level/Water quality Data	50,000
10	Not maintaining of log book of daily withdrawal/non submission of Groundwater abstraction data	50,000
11	Non submission of photograph of recharge structure	50,000
12	Non-Submission of Self Compliance report	1,00,000
13	Construction of groundwater abstraction structures by un authorized/unregistered Drilling Rigs (per structures)	1,00,000
14	Non-registration of Tankers	5,00,000
15	Submission of False information/ undertaking	1,00,000

Coal India Marathon 2024 : A Grand Celebration of Fitness and Sportsmanship

CC & PR Department, HQ

The second edition of the Coal India Marathon 2024, organized by Central Coalfields Limited (CCL) under the aegis of Coal India Limited, concluded with resounding success on February 11, 2024. This mega event, which was the second officially registered marathon in Jharkhand, witnessed the participation of over 7,500 athletes across the country, including bureaucrats, defense force personnel, athletes and individuals from all walks of life.

The marathon was conducted in four categories: 42.198 km (full marathon), 21.098 km (half marathon), 10 km run, and a 5 km run, with separate categories for men and women. The route was from Birsa Munda stadium, Morabadi, to Ambedkar Chowk, Pithoria via Kanke Road. The total

prize money for the event was Rs 33.12 Lakhs. This grand event was organized to infuse of sportsmanship and camaraderie among the people and employees of the CCL.

Everest Summit

CCL organized the 'Everest Summit' on August 20, 2023, marking the 70th anniversary of the first successful ascent of Mount Everest. This event brought together 13 accomplished Mount Everest summiteers from across India, who shared inspiring memories and experiences of their Himalayan ascents. This special event aimed to motivate employees by showcasing the mountaineers' spirit of overcoming seemingly insurmountable challenges.



Honors and Triumphs : Celebrating Excellence



CCL was awarded 3rd Prize in Sustainability Category at "Coal Minister's Award 2022-23 ceremony held in New Delhi



During the 49th Coal India Limited Foundation Day celebration, CCL received the First Prize for its exemplary work in Environment Management for the year 2022-23



Nature's Voice magazine's debut earned acclaim from the Ministry of Coal, filling us with the pride.

CCL IN NEWS

Central Coalfields Limited reposted Ministry of Coal @CoalMini... 01/10/24
As part of the #SwacchtaHiSeva Campaign, today, Ministry of Coal and Coal PSUs have successfully cleaned over 150 sites through one-hour of Shramdaan.

#SwachhBharat



CCL surpasses annual coal production target of 84 MT in fiscal 2023-24

PC JHA
RANCHI: Central Coalfields Limited (CCL), Jharkhand-based subsidiary of Coal India Limited (CIL), has once again surpassed the annual coal production target of 84 Million Tonnes (MT) in fiscal 2023-24.

the able leadership PM Prasad, Chairman, CIL and also under kind guidance of De B Veera Reddy, CMD, CCL and pro-active support of Jharkhand Govt and stakeholders...

from CCL, Darbhanga House, Ranchi visited operational mining areas and motivated the workforce to give their best. Every Tuesday and Friday was observed as production day in the mining areas to maintain upward trend of coal production. CC mining areas are spread over eight districts in Jharkhand i.e., Ranchi, Hazaribagh, Jharkhand, Palamu and Latehar. CCL is undertaking environmental conservation reservation 20 MW power plant in Piparwa and 4 MW plant in have been set up to generate electricity from on renewable sources. Thirty-three acres have been allocated to the company to develop vehicular Eco parks. A sloped economic of 127 Hectare of taxon of are in an are was in company in

भुरकुंडा में बन रही है राज्य की सबसे बड़ी सखुआ नर्सरी



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RANCHI: Central Coalfields Limited (CCL), Jharkhand-based subsidiary of Coal India Limited (CIL), has once again surpassed the annual coal production target of 84 Million Tonnes (MT) in fiscal 2023-24. Similarly, the company has registered positive growth in coal dispatch and Over Burden removal (OBR) also registered double digit growth and rose to 82.8 MT and 82.4 MT in FY 2023-24.

The Company's dispatch and Over Burden removal (OBR) also registered double digit growth and rose to 82.8 MT and 82.4 MT in FY 2023-24.

the able leadership PM Prasad, Chairman, CIL and also under kind guidance of Dr B Veera Reddy, CMD, CCL and pro-active support of Jharkhand Govt and stakeholders particularly villagers and representatives of trade unions, the company left no stone unturned in fulfilling the energy demands of the nation.

All Functional Directors- Barash Nath Mishra, Pawan Mishra, Hrishabh Dahan and Satish Jha- and CVO CCL Pankaj Kumar congratulated CMD CCL for this remarkable

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Coexistence with nature has been an integral part of all ancient cultures, including India.

TO PRESERVE THE EARTH, WE MUST RECONNECT WITH OUR ANCIENT TRADITIONS AND PRACTICES.

REMEMBER, THERE IS NO PLANET B !!

LET'S REVIVE OUR TRUE INDIA

