



पर्यावरण दर्पण

बीसीसीएल की पर्यावरण समाचार पत्रिका

भारत कोकिंग कोल लिमिटेड
धनबाद



BCCL: Corporate Environment Policy

Bharat Coking Coal Limited shall endeavour to:

1. **Plan & design projects with due consideration to environmental concerns** for Sustainable Development.
2. **Conduct mining and associated operation in an environmentally responsible manner** to comply with applicable laws and other requirements related to environmental aspects.
3. **Prevent pollution of surrounding habitation** by continuous monitoring and adopting suitable measures for environment protection.
4. **Implement Environment Management Plans** in all our mines /projects/Clusters effectively to mitigate pollution, conservation of natural resources and restoration of ecology & biodiversity.
5. **Ensure compliance of all applicable Environmental Clearance& Forestry Clearance conditions and other statutory conditions** issued by regulatory agencies.
6. **Recycling of wastes** on the principle of REDUCE, REUSE and RECYCLE.
7. Put special thrusts on **efficient energy utilization / renewable energy** as a measure to reduce carbon foot-print.
8. **Strive for continual improvement in our environmental performances** by setting targets, measuring progress and taking corrective action.
9. Taking measures to render **productive post mining land use**.
10. Implementation of activities applicable to BCCL arising out of International Conventions.
11. **Create environmental awareness** among the employees and the local communities through pro-active communication and training

ENVOPEDIA

The sight of an adult Gharial, a common crocodile species, surrounded by 28 hatchlings at the Satkosia gorge in the Mahanadi river, the southernmost limit of the gharials' home range in India.



The population of dolphins in Chilika, India's largest brackish water lake, and along the Odisha coast has doubled this year compared with last year.



Assessment by two IITs and the IISc finds 24 of India's 100 districts most vulnerable to climate change are in Assam.



The number of tigers in India have increased to 2,967 in 2018 from 2,226 in 2014 as per the fourth cycle of the Tiger Census 2018, conducted in 2018-19.





MESSAGE

**“We shall overcome, We shall overcome, We shall overcome, some day
Oh, deep in my heart, I do believe, We shall overcome, some day”**

I would like to begin this message with the hope of better tomorrow with our co-ordinated efforts. We are going through one of the most challenging times in history. The second wave of Covid-19 pandemic has hit us hard but we have to remember that we are all together in this fight and we cannot afford to be lackadaisical regarding our own safety or of others.

Throughout this pandemic, the BCCL has been working relentlessly to fulfil the energy demand of the country and at the same time has committed itself to protect environment. BCCL, at this difficult time, tried to serve the people by extending its CSR provisions and making available health facilities. At the same time, large scale plantation and development of eco-parks for local people were also accomplished. The dust suppression mobile vans were also deployed for sanitization of residential areas. The augmentation of sprinkling capacity and online monitoring of ambient air will further contribute to better environment

This year the theme of World Environment day is “Ecosystem Restoration” and I feeling proud to say that BCCL is pioneer in Ecological restoration in the coal mining industry. Since Inception BCCL has ecologically restored over 1459.16 Ha degraded land. BCCL has pledged to ecologically restore all the land degraded in mining and make Jharia Coalfields an example of green mining zone.

I am feeling delighted to announce the successful roll out of sixteenth edition of BCCL’s initiative “ParyavaranDarpan” on the occasion of the world environment day on 5th June, 2021. BCCL’s environment newsletter has been successful in sharing all the environmental activities by BCCL and providing a platform to spread awareness towards environment amongst the public at large. I congratulate the team of ParyavaranDarpan and the Environment department for their sincere efforts.

**P M PRASAD
CHAIRMAN CUM MANAGING DIRECTOR
BHARAT COKING COAL LIMITED**



MESSAGE

REIMAGINE, RECREATE AND RESTORE are the key words promulgated by this year's World Environment Day. All these three words also exemplify the future of coal. Coal is presently considered our Nation's most reliable and cost-effective energy source. Development of Nation requires abundance of this energy which comes with lots of challenges especially in relation to Sustainable Environment.

As coal industry we have to look for redesigning our future vision. Some steps have been taken in this directions. Most important one being renovation of coal washeries and establishment of new coal washeries having State of Art technology to produce coal of lower ash content. This can be a game changer by realizing that lower ash content and higher efficiency can be key factors in addressing the issues of emissions from coal industry. Other steps such as stringent monitoring by installing 40 Online PM10 Analyzers and 03 CAAQMS, new pollution control technology by procurement of 16 Dust Suppression HEMM Mobile tankers and mist type sprinklers, excavation by using rippers are some pathways were Bharat Coking Coal Limited is headed. Ecological Restoration is strength of environment works carried out by BCCL and the target of 90.1 ha for FY 2021-22 sets the tone of vision adopted by BCCL. Yet, there is vast scope of improvement by looking into all nuances of coal mining operations.

This mid-year has again brought the challenge of detrimental health issues with second wave of COVID-19. Bharat Coking Coal Limited has stood up against all the challenges and is fighting a constant battle against COVID-19. In these precarious time balance between production, environment and health has been ensured by BCCL. I wish all success to the 16th issue of Paryavaran Darpan being issued by Environment Department and hope that many out of the box ideas will see implementation in the near future for sustainable growth of BCCL and the Country.

**CHANCHAL GOSWAMI
DIRECTOR (TECHNICAL), OPERATIONS
BHARAT COKING COAL LIMITED**



MESSAGE

It gives me immense pleasure to see that the Environment department of Bharat Coking Coal limited has always realized the importance of restoring our natural environment as it is our best bet to secure the future of humans and their relationship with their surrounding environment. Thus, BCCL has always remained firmly committed to coal mining in a manner that is compatible with sustainable development. This year, the Environment day celebration on 5th June 2021 has been associated with the theme “Ecosystem Restoration” and the focus on resetting our relation with nature. It will also mark the formal launch of the UN Decade on Ecosystem Restoration 2021 – 2030, a global mission for repairing billions of hectares of land so that people have access to food, clean water and jobs.

BCCL firmly believes in the mantra **“REIMAGINING, RECREATING, RESTORING”**. We are always trying our best efforts to restore the maximum mined out degraded land back to its best recoverable form. An intervention has been done in form of Ecological restoration to speed up the recovery of degraded land which has shown exemplary results in restoring the degraded lands by attracting bio-diversity, high levels of carbon sequestration within a short span of time. In BCCL, a total of 1459.16 Ha of Biological reclamation has been done which resulted in the conservation of biodiversity and the work has been appreciated at various national and international platforms. This year also, BCCL has taken up Bio-reclamation/plantation of 90.1 Ha of OB dumps, physically reclaimed land and other areas which will help in revitalizing our surrounding. A road map of 5 year for sustainable development in coal sector containing parameters like bio-reclamation, plantation & developing eco-park etc. is also under implementation which will further help in enhancing green cover in BCCL. Eco- parks over mined out degraded land like Ashok Vatika, Govardhan Vatika & Parasnath Udhyan etc. are being developed in command area of BCCL which is a forward step towards restoring land for uses of masses.

We are celebrating and commemorating 75 years of progressive India and the glorious history of its people, culture and achievements through the initiative “Azadi Ka Amrit Mahotsav” which is a seventy five week long countdown to our 75th anniversary of Independence. Since 1972, BCCL has played an imperative role and has widely contributed to progressive India not only through coal mining but also through ecological restoration.

I am delighted to know that the Environment department is releasing the 16th issue of its newsletter “Paryavaran Darpan” on the occasion of world environment day and wish that they will continue their work in improving the environmental conditions. No company can reach its greatness without ensuring that the employees are equal partners in its prosperity and success. Hence, I would also like to thank all the employees of BCCL who put in their hard work even during the second wave of pandemic (COVID-19) to render their service towards the nation.

JAI PRAKASH GUPTA
DIRECTOR (TECHNICAL), PROJECT & PLANNING
BHARAT COKING COAL LIMITED



संदेश

मुझे यह जानकारी अत्यंत हर्ष हो रहा है कि 'विश्व पर्यावरण दिवस - 2021 के अवसर पर बीसीसीएल की पर्यावरण पत्रिका पर्यावरण दर्पण' का 16वाँ अंक प्रकाशित हो रहा है। कोयला हमारे राष्ट्र के विकास के लिए अत्यंत आवश्यक संसाधन है जिसकी सतत रूप से आपूर्ति के लिए कोयला इण्डिया एवं बीसीसीएल निरंतर प्रयासरत है। बीसीसीएल कोयला खनन की प्रक्रिया में उत्खनित हुई भूमि व ओ०बी० डम्प को पारिस्थिकी पुनरुद्धार के माध्यम से प्राकृतिक वनों में पुनः स्थापित करने की दिशा में उल्लेखनीय कार्य कर रहा है।

इस वर्ष विश्व पर्यावरण दिवस का विषय 'पारिस्थिकी पुनरुद्धार' है जिसका हमारे कार्यक्षेत्र में विशेष महत्व है। बीसीसीएल ने वर्ष 2011 में इस तकनीक को अपनाया है और तब से लगातार झरिया कोयला खनन क्षेत्र की अपनी खदानों में उत्खनित भूमि व ओ०बी० डम्प पर पारिस्थिकी पुनरुद्धार के माध्यम से जैव-विविधता स्थापित करने की ओर अग्रसर है। वर्ष 2020 तक 294 हेक्टेयर उत्खनित भूमि व ओ०बी० डम्प पर पारिस्थिकी पुनरुद्धार के साथ ही यह कार्य निरंतर जारी है। इन पारिस्थिकी पुनरुद्धार स्थलों पर देश के विभिन्न अग्रणी अनुसंधान संस्थानों द्वारा अनुसंधान कराया गया है। इसके परिणाम अपेक्षित व उत्साहजनक रहे हैं और अनुमानित किया गया है कि यह तकनीक अन्य वनरोपण तकनीकों की तुलना में तीव्र गति से वनों की स्थापना करने के साथ-साथ जैव-विविधता स्थापित करने में भी कारगर है। इसने खनन क्षेत्र में वृक्षारोपण की दिशा ही बदल दी है।

बीसीसीएल पर्यावरण के साथ-साथ सामाजिक विकास के लिए भी प्रतिबद्ध है। हम अपने खनन क्षेत्रों के निवासियों की बेहतर जीवन शैली के लिए ईको-पार्कों की स्थापना भी कर रहे हैं। पिछले वर्ष वृक्षारोपण अभियान के शुभारंभ कार्यक्रम के अवसर पर बीसीसीएल के कतरास क्षेत्र में ई-माध्यम से माननीय गृह मंत्री, श्री अमित शाह जी द्वारा माननीय कोयला, खान एवं संसदीय कार्य मंत्री, श्री प्रल्हाद जोशी की गरिमामयी उपस्थिति में 'पारसनाथ उद्यान' का उद्घाटन किया गया। यह बीसीसीएल व धनबाद के लिए एक गौरव की बात है। इसी क्रम में बीसीसीएल अपने हर कार्यक्षेत्र में ईको-पार्क की स्थापना के उद्देश्य के लिए भी कार्यरत है। इस क्रम में कोयला सचिव द्वारा उनके गत दौरे पर 09 ईको-पार्कों का शिलान्यास वीडियो कॉन्फ्रेंसिंग के माध्यम से किया गया है। इसके साथ ही बेहतर पर्यावरण के लिए प्रदूषण नियंत्रण के भी अनेक उपाय किए जा रहे हैं। पिछले वर्ष की भाँति, पूरा राष्ट्र इस समय वैश्विक महामारी, कोविड-19 से जूझ रहा है। इस दौर में बीसीसीएल अपने सामाजिक दायित्व का निर्वहन करते हुए निरंतर धनबाद में जन सामान्य की विभिन्न रूप से सहायता में लगा हुआ है। पर्यावरण के प्रति जागरूकता लाने वाली बीसीसीएल की पर्यावरण पत्रिका 'पर्यावरण दर्पण' के 16वें अंक के प्रकाशन पर मैं पर्यावरण विभाग को बधाई देता हूँ। आप सभी को 'विश्व पर्यावरण दिवस- 2021' की हार्दिक शुभकामनाएँ। आइए ! इस अवसर पर हम सब मिलकर आने वाली पीढ़ियों को बेहतर पर्यावरण प्रदान करने की शपथ लेते हैं।

पी. वी. के. आर. मल्लिकार्जुन राव
निदेशक (कार्मिक)



MESSAGE

Key to conservation of nature and natural resources lie in the dictum, “Only when we protect nature it will protect us”.

We’ve long known that humanity’s exploitation of the natural world is far exceeding the planet’s ability to sustain societies. The people around the world struggle to come to terms with the systemic impact of the most dreaded pandemics, cyclones, earthquakes etc, which has shockingly demonstrated nature’s ability to hit back against over-exploitation. Under such circumstances, conservation of environment and maintenance of ecological balance have acquired enormous importance.

It has always been BCCL’s endeavour to produce coal with due regard to environment and it has never been found lacking in extending financial support to carry out the works under mine-restoration, afforestation and other activities aimed at promoting environmental health.

Environment Department of BCCL is at the forefront of these activities and I congratulate them for publication of forthcoming issue of ‘ParyavaranDarpan’ on the occasion of World Environment Day.

**SRI. SAMIRAN DUTTA
DIRECTOR (FINANCE)
BHARAT COKING COAL LIMITED**



MESSAGE

World Environment Day is one of the biggest days of recognition for encouraging people worldwide to save and protect our environment from different environmental challenges the world is facing today. It is the United Nations' flagship day for promoting worldwide awareness and action for the environment and sustainable goals. For too long, we have been exploiting and destroying our planet's ecosystems. Every three seconds, the world loses enough forest to cover a football pitch and over the last century we have destroyed half of our wetlands. As much as 50 per cent of our coral reefs have already been lost and up to 90 per cent of coral reefs could be lost by 2050, even if global warming is limited to an increase of 1.5°C.

The theme of World Environment Day 2021 is "Ecosystem Restoration" which means preventing, halting and reversing the damage, to go from exploiting nature to healing it. This World Environment Day will kick off the UN Decade on Ecosystem Restoration, a global mission to revive billions of hectares, from forests to farmlands, from the top of mountains to the depth of the sea. Only with healthy ecosystems, we can enhance people's livelihoods, counteract climate change and stop the collapse of biodiversity. BCCL has done tremendous job in restoring environment by doing ecological restoration.

I am happy to know that the 16th edition of "ParyavaranDarpan" is into publication. This will certainly add to the knowledge-base of readers and create awareness. I am hopeful that this newsletter takes us another step closer to what is happening around us and in our industry for betterment of environment. I wish the team of ParyavaranDarpan and Environment Department a grand success.

**KUMAR ANIMESH
CHIEF VIGILANCE OFFICER
BHARAT COKING COAL LIMITED**

संपादकीय

भारत आजादी का अमृत महोत्सव मना रहा है आजादी | के इन 75 वर्षों में हमने विकास के नए आयाम गढ़े हैं एवं लोगों का जीवन सुगम बनाया है विकास | की धारा सतत एवं सबके लिए लाभप्रद हो, इसके लिए देश ने विरासत एवं संभावनाओं को तकनीक के साथ जोड़कर आगे बढ़ने का प्रयास किया है इसका | प्रतिफल जन-जन तक किसी न किसी रूप में पहुंचा है |

भारत कोर्किंग कोल लिमिटेड ऊर्जा उपलब्ध कराने एवं देश के औद्योगिक विकास में अपनी भागीदारी बढ़ाने में सतत प्रयत्नशील है इस | जिम्मेवारी के निर्वहन में पर्यावरण के प्रति जिम्मेदारी में भी गंभीरता से प्रयासरत है हमारे | कार्यक्षेत्र में 19 वीं सदी से कोयला खनन हो रहा है एवं राष्ट्रीयकरण के पश्चात इसके आधुनिकीकरण के लगातार प्रयास किये गए हैं | 100 वर्ष से फैले कोयले की आग में शमन एवं लोगों के पुनर्वास की व्यवस्था की गई पर्यावरण | संरक्षण में नई तकनीकों का समावेश किया जा रहा है एवं सतत विकास की अवधारणा से जोड़ा गया है | पारिस्थितिकी पुनर्द्वार हवा, की आनलाइन निगरानी, मिस्ट स्प्रिंकलरफाग, कैनान इत्यादी इसी दिशा में कदम हैं साथ | ही क्षेत्र के आर्थिक सामाजिक पर्यावरण का भी विशेष ख्याल रखा जा रहा है जो इस सहमारी में भी लोगों को दिखा है |

वृक्षारोपण द्वारा हरियाली की पुनर्स्थापना की जा रही है एवं जगह जगह आम जनता के लिए उद्यान का निर्माण किया जा रहा है खनन | की नई तकनीकों से भी पर्यावरण संरक्षण बेहतर होगा |

इस वर्ष में विश्व पर्यावरण दिवस का विषय पारिस्थितिकी पुनर्स्थापना है जिसका खनन क्षेत्रों में विशेष महत्त्व है पिछले 10 वर्षों में हमने इसका अंगीकार किया है एवं इस दिशा में आगे बढ़ रहे हैं सभी | के सहयोग से अग्निशमन कर क्षेत्र में हरियाली की पुनर्स्थापना में भारत कोर्किंग कोल लिमिटेड प्रयासरत है |

विश्व पर्यावरण दिवस के अवसर पर पर्यावरण दर्पण का नया अंक समर्पित है एवं उम्मीद है कि यह अंक पर्यावरण के प्रति अपनी जिम्मेदारी के निर्वहन में सजगता लाने में सहायक होगा |

शुभकामनाओं सहित

प्रधान संपादक

A PEEK INSIDE....

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ENVIRONMENTAL ACTIVITIES & LAWS SINCE INDEPENDENCE

PROGRESSION OF ENVIRONMENTAL FRAMEWORK IN INDIA

India is few weeks away from celebrating 75 years of Independence. These 75 years have witnessed plethora of changes in the environment. Today the environmental laws and activities are the amalgamation of the past 75 years of work since independence along with the various traditions followed in our country. The concept of safeguarding the environment has been imbibed within the Indian culture since time immemorial. Many of the past Indian traditions and practices were related to protecting the environment

The Constitution of India came into force in the year 1950 and had a few provisions regarding the management of the environment, specifically under Part IV of the Constitution of India. The fundamental duty embedded in Article 51 A(g) of the Constitution of India, which states that it is the fundamental duty of every individual of India to safeguard and improve the natural environment including forests, lakes, rivers and wildlife, and have compassion for living beings. The other provisions with the similar intent of environment conservation are in Article 39 (b), 47, 48 and 49 where the States were granted the responsibility to own and control the resources of the community and distribute the same for the common good and a better standard of living of individuals thereby improving the public health, promoting agriculture and animal husbandry, protection of monuments and declare them to be of national importance, respectively. The Five Year Plan Report of the Planning Commission of India, most specifically the Fourth Plan (1969- 70 to 1973-74) onwards, discloses an increase in recognition by the Government of India on matters of environment, in planning, preserving and development. The Sixth Plan (1980-85) focused on appropriate environmental and ecological principles in the use of land, forestry, wildlife, water, air, marine environment, fisheries etc. The Seventh Plan (1985-90), definitely stressed sustainable development in conformity with the environment, accepting the environmental management, to be perceived as the major guiding factor for national development in India.



Prior to 1972, the environmental concerns such as sanitation, sewage disposal and public health were handled by different ministries of the Government, and the aim to pursuing these objectives were often without the presence of any appropriate coordination between federal and intergovernmental levels. On the 24 UN General Assembly, it was decided to convene a conference on Human Environment in 1972, popularly known as Stockholm Conference. In this Conference, each country had to prepare a report on the state of the Protection of the Environment. India set up a

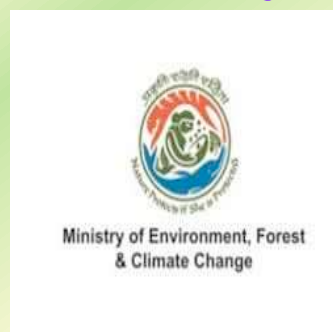


Pitambar Pant Committee, which was to indicate the need for establishing greater coordination and integration of environmental policies and programs. Based on its recommendations, a National Committee on Environmental Planning and Coordination (NCEPC) was formulated by the Government of India within the Department of Science and Technology, in order to coordinate and plan environmental policies and programmes and consult various ministries on safeguarding the environment. Later, this department was formed into the Ministry of Environment and Forest in the year 1985.

Shri Pitamber Pant was selected as the chairman of the National Committee on Environmental Planning and Coordination (NCEPC). He brought together in a short span of time, a team of young professionals, and produced a set of background papers for India's participation for the Stockholm Conference on Human Environment in 1972. The issues addressed were related to pollution control, improving the living environment of masses by providing them with proper sanitation, safeguarding water supply and proper housing, everything which was a fundamental part of economic development. In 1972, the Central Pollution Control Board was set up followed by the state boards. The department of environment came into existence on November 1, 1980 followed by state departments.

Until the fifth general election of 1977, none of the parties considered environmental problems as an issue to include them in their election platform/ manifestoes. However various environmental concerns and controversies rose public concern such as Silent Valley, Mathura Refinery, acid rain on Taj Mahal. During the 1980 elections, various political parties (Congress-I, Lok Dal, Janata, and the Congress-U) included the need for safeguarding environment and the rising concern and included the same into their manifestoes. After the January 1980 general election, when Congress I came into power, it set up a committee which was chaired by N.D Tiwari who recommended legislative measures and administrative mechanisms to establish environmental protection

In the year 1977 (during the Emergency phase), Indira Gandhi added Article 48A into the Constitution which stated that "The State shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country." This Judgement changed the wildlife and forest from the State list to the Concurrent list, thereby giving the Centre power to overrule any decision taken by the State, in such matters. This gave rise to the creation of a federal Department of Environment in the year 1980, which later was known as Ministry of Environment and Forest in 1985. Later, the prime issue of climate change was acknowledged by the department and renamed as MoEF&CC (Ministry of Environment, Forest and Climate Change) in the year 2014. The Ministry of Environment, Forest and Climate Change (MoEF&CC) is considered as a nodal agency in the Central Government for supervising the formulation of India's environment and forest policies and programmes with regards to safeguarding and conserving the natural resources of the country (inclusive of lakes and rivers, the biodiversity, forest resources and wildlife, to maintain a constant check regarding the welfare of animals and deterrence and decreasing pollution. There are various legislations and regulatory measures that are focused on conservation and safeguarding the environment. Environmental laws on water (1974), air (1981) and forest conservation (1981)



were passed, as also the umbrella act of Environment Protection (1986). An Environment Policy and Strategy Statement was issued in the year of the UN Conference on Environment and Development in 1992. Environment Impact Assessment for 32 sectors became compulsory by a notification passed in 1992. Environment approval committees were formed for each sectoral assessment and all power was vested with the Centre. In 1996, India became a nation to follow the environmental governance system with a series of further controlling notification on coastal zone management, hill development, disposal of wastes (biomedical, plastic, and hazardous). Public Interest Litigation provided justice through the Supreme Court and high courts. Apart from these measures, National Conservation Strategy and Policy Statement on Environment and Development 1992, Policy Statement on Abatement of Pollution, 1992, National Forest Policy 1988 and National Environment Policy, 2006 act as a guide to the ministries' work. The Indian Government imbibed the evolving needs of environment and incorporated the Environmental Impact Assessment. The Indian experience with Environmental Impact Assessment began over 20 years back. It started in 1976-77 when the Planning Commission asked the Department of Science and Technology to examine the river-valley projects from an environmental angle. Till 1994, environmental clearance from the Central Government was an administrative decision and lacked legislative support. On 27 January 1994, the then Union Ministry of Environment and Forests, under the Environmental (Protection) Act 1986, promulgated an EIA notification making Environmental Clearance (EC) mandatory for expansion or modernisation of any activity or for setting up new projects listed in Schedule 1 of the notification.



The Ministry of Environment, Forests and Climate Change (MoEFCC) notified new EIA legislation in September 2006. The notification makes it mandatory for various projects such as mining, thermal power plants, river valley, infrastructure (road, highway, ports, harbours and airports) and industries including very small electroplating or foundry units to get environment clearance. India has also been a party to global climate agreements, including the United Nations Framework Convention on Climate Change (UNFCCC) and Kyoto Protocol. Both these instruments emphasise on the importance and need of a strong EIA regime to minimise the adverse effects of climate change. The Convention of Biological Diversity (CBD) also stresses on the need for an effective EIA process to safeguard the biological resources. The 2006 EIA notification has been amended nearly 55 times and 230 office memorandums (OMs) have been issued on it to incorporate the changing scenario. Draft EIA notification was introduced in 2020 keeping in mind conformance to existing conventions, laws, precedents and environmental jurisprudence of the country.

Some of the important laws with respect to the environment are:

1. The Biological Diversity Act 2002 and Biological Diversity Rules

The Biological Diversity Act 2002 and Biological Diversity Rules provide for the conservation of biological diversity, sustainable use of its components, and fair and equitable sharing of the benefits arising out of the use of biological resources and knowledge associated with it.

2. The Public Liability Insurance Act and Rules 1991 and Amendment, 1992

The Public Liability Insurance Act and Rules 1991 and Amendment, 1992 were drawn up to provide for public liability insurance for the purpose of providing immediate relief to the persons affected by accident while handling any hazardous substance. For more information visit Public Liability Insurance Act

3. The National Environmental Tribunal Act, 1995, Amendment 2010

The Act has been created to award compensation for damages to persons, property, and the environment arising from any activity involving hazardous substances.

4. The National Environment Appellate Authority Act, 1997

The National Environment Appellate Authority Act has been created to hear appeals with respect to restrictions of areas in which classes of industries etc. are carried out or prescribed subject to certain safeguards under the EPA. For more information visit National Environment Appellate Authority Act

5. The Biomedical waste (Management and Handling) Rules, 1998

The Biomedical waste (Management and Handling) Rules, 1998 is a legal binding on the health care institutions to streamline the process of proper handling of hospital waste such as segregation, disposal, collection, and treatment. For more information visit Biomedical waste (Management and Handling) Rules

6. The Environment (Siting for Industrial Projects) Rules, 1999

The Environment (Siting for Industrial Projects) Rules, 1999 lay down detailed provisions relating to areas to be avoided for siting of industries, precautionary measures to be taken for site selecting as also the aspects of environmental protection which should have been incorporated during the implementation of the industrial development projects. For more information visit Environment (Siting for Industrial Projects) Rules, 1999.

7. The Municipal Solid Wastes (Management and Handling) Rules, 2000

The Rules apply to every municipal authority responsible for the collection, segregation, storage, transportation, processing, and disposal of municipal solid wastes. For more information visit the Municipal Solid Wastes (Management and Handling) Rules, 2000.

8. The Ozone Depleting Substances (Regulation and Control) Rules, 2000

The Ozone Depleting Substances (Regulation and Control) Rules, 2000 have been laid down for the regulation of production and consumption of ozone depleting substances. For more information visit ODS.

9. The Batteries (Management and Handling) Rules, 2001

These rules shall apply to every manufacturer, importer, re-conditioner, assembler, dealer, auctioneer, consumer, and bulk consumer involved in the manufacture, processing, sale, purchase, and use of batteries or components so as to regulate and ensure the environmentally safe disposal of used batteries. For more information visit Batteries Rules, 2001.

10. The Noise Pollution (Regulation and control) (Amendment) Rules, 2010

These rules lay down such terms and conditions as are necessary to reduce noise pollution, permit use of loud speakers or public address systems during night hours (between 10:00 p.m. to 12:00 midnight) on or during any cultural or religious festive occasion.

Further, even the Supreme Court of India has been a champion of environmental rights. The Supreme Court laid down that the right to life was inclusive of the right to the enjoyment of pollution-free water and air. Hence anything that impairs and endangers such basic right and

degrades the quality of living, the person can take the recourse provided under Article 32 of the Constitution for removal of such pollution detrimental to the quality of living.

Globally India has been a leader, championing Environmental health. In response to the decisions of the Conference to the Parties, India submitted its Nationally Determined Contribution for the post-2020 period to UNFCCC on 2nd October 2015, outlining the climate actions intended to be taken under the Paris Agreement. India's Cooling Action Plan— India is the first country to develop a Cooling Action Plan (ICAP), which looks into the cooling requisitions across various sectors which can help in reducing the cooling demand. The ICAP focuses on lessening both direct and indirect emission, which would bring about environmental as well as socio-economic benefits. 'India Pavilion' – The Ministry hosted an 'India Pavilion' at COP- 25 which was crucial among the visitors that included delegates of various parts of the world, UN agencies etc. The theme which revolved in the pavilion was '150 years of celebrating the Mahatma' and formed in a manner which depicted Mahatma Gandhi's life and messages around 'sustainable living.

India has taken various initiatives for creating environment awareness. National Green Corps (NGC) Programme, this initiative by the MoEF&CC has been an excellent model of creating awareness among children. Awareness on solid waste management, by creating 2 bins, Cleanliness drives etc., are some of the activities which are promoted. In the present day there are around 1,50,000 Eco-clubs across the country. Other programmes such as National Nature Camping Programme (NNCP), Capacity Building Activities (CBA), Global Learning and Observations to Benefit the Environment (GLOBE) and Green Good Deeds (GGDs) are other significant initiatives by the Ministry. The Swachh Aur Swasth Bharat Cell of the Ministry are concerned in raising awareness on Swachh Bharat Abhiyan, by Information, Education and Communication (IEC) activities. For the implementation of IEC a Swachhta Action Plan (SAP) has been formulated and is being executed in the States/ UTs through State Nodal Agencies; the SAP for the year 2019-20 has been divided into time frames from April- July, August- November and December – March

PROGRESSION OF ENVIRONMENTAL MANAGEMENT IN BCCL

The Indian mining sector is highly regulated with strong legal and regulatory mechanisms with the government introducing cum revamping several acts, policies, rules at the central and state levels. Since mining sector is a highly polluting industry causing severe environmental and social problems, India has been quite progressive in establishing institutions and regulatory framework in order to counter balance the negative externalities caused by this sector. The policy framework under the MoEF&CC is generic for the entire industrial sector -- Environment Protection Act (EPA) 1986 with the recent amendments Environment Protection (Amendment) Act (EPA 2006) and the Forest (Conservation) Act, 1980 (FCA 1980) as the two main policies that have specific clauses for monitoring mining activities for the protection of the environment.

Jharia Coalfield has a Century old history of coal mining. In 1916, First Incidence of fire at Bhowrah Colliery (XIV seam) was reported. Over the years, the fire has spread in area and numbers. At the time of Nationalisation, the number of fires were 70. Survey after nationalization revealed that the total Fire affected surface area is 17.32 Km².

Due to unscientific mining in the past, mining areas in BCCL are faced with the problems of fire, subsidence and rehabilitation. BCCL was dealing with the problems of fire and subsidence through EMSC (Environmental Measures and Subsidence Control) and RCFS (Rehabilitation and Control of Fires) schemes. During 1976-1988, 22 fire projects at outlay of Rs. 114.57 crore, covered 59 out of 70 fires including 22 Mm³ of blanketing on surface, 50 Mt of sand stowing and 3 Mm³ of Nitrogen flushing which resulted in Extinguishing of 10 fires and reducing the Affected surface area reduced to 8.90 Km².

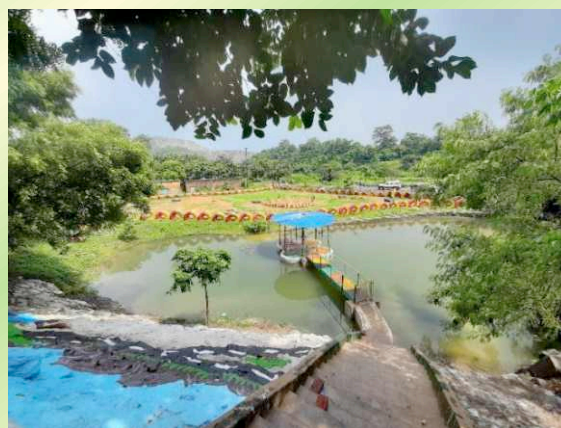
BCCL carried out Stabilisation below Kusunda Yard at Khas Kusunda, Stabilisation of Kari Jore at Kusunda/ Industry Boundary, Stabilisation below Chatkari Jore at Joyrampur, Stabilisation below Jharia Water Board Tank at East Bhagatdih Colliery, Stabilisation of Bata More of Jharia Town (On turn key basis) through CMRI for control of fire. At the same time, BCCL carried out reclamation on 403 Ha of degraded land.

A Master Plan for Jharia Coalfield dealing with fire, subsidence and rehabilitation and diversion of surface infrastructure at an estimated investment of Rs.7112.11 crores is approved by cabinet committee of Economic Affairs, Govt. of India in Aug., 2009. The funding arrangement for implementation of the plan over a period of 12 years is through internal resources of CIL and collections of stowing excise duty under CCDA act. By the time, the Master Plan for dealing of fires, subsidence and rehabilitation was approved in Aug., 2009, BCCL had spent an amount of Rs. 48 crores under the EMSC and RCFS Schemes. After the Master Plan was approved, the EMSC and RCFS schemes were merged into the Master Plan. Through Master Plan, BCCL has been striving for improving the socio-economic and environmental health of Jharia Coalfields affected by fire.

BCCL is the pioneer in coal mining Industry in obtaining Environment Clearance (EC) based on Cluster concept. All the mines of BCCL has been organized into 17 Clusters for which EC has been given by MoEFCC. Ambient air quality has been taken as primary basis for formation of cluster, as air pollutants constitute major environment pollution load in Jharia Coalfield. The cluster has been formed such that it has common transportation roads. The following Environmental rationale were considered while grouping the mines into clusters:

1. Ambient air quality in a cluster of mines
2. Conservation of Coal
3. Prominent wind direction
4. Ecological restoration
5. Socio-economic environment
6. Fire abatement measures
7. Surface hydrology
8. Environmental corridor
9. Rock/ OB waste management

Reorganizing the mines into clusters enabled better environmental management in coal mining. Environmental Monitoring of clusters has become more effective. Effective large scale Bio-reclamation strategies for abandoned and operating mine was possible. Eco-parks along with pond eco-system development is feasible.



Native species, medicinal plants, parks and block plantation with fruit and commercial trees is done which are useful to the local society. This has attracted in-migration of fauna and establishing of micro ecosystems. Designing Green belts for cluster boundaries. And Degraded land and fallow lands has been converted into vegetable farms.



Environmental Corridors like Green cover for the entire cluster is being developed.

Further till 2020-21, BCCL has done 31,55,986 nos of plantation over 1459.16Ha degraded land including 293.97 Ha Eco-restoration and 29888 gabion plantation. Cluster has been formed within common drainage system and issues relating to hydrology is being addressed in an integrated manner.

BCCL is making all efforts to mine the coal under all possible means compatible to a clean and safe environment. It has spread also its activities into the following environmental aspects.

WATER POLLUTION CONTROL:

- Closed recirculation arrangement in Washeries
- Utilisation of mine water from for drinking & domestic use after adequate treatment.
- Buttress walls and Garland drains are constructed around OB dumps near river banks to prevent soil erosion.

AIR POLLUTION CONTROL & NOISE ABATEMENT:

- Water sprinkling in all units.
- Construction of peripheral (Ring Road) of about 160 km.
- Tree plantation and creation of Green belts in mining areas and along roads

BCCL has come a long way from just mining coal to sustainably mining coal. BCCL adheres to all the laws and regulations laid by the government. From conducting EIA, public hearing to complying the conditions laid in the environment clearance of the mines and spreading greenery through plantation and ecological restoration, BCCL has adapted to being an environmentally responsible company.

BHARAT KA AMRUT MAHOTSAV

Government of India has launched ‘Bharat Ka Amrut’ initiative to mark the 75th year of Independence of India in memory of the freedom fighters of India and with an aim to boost cleanliness drives, promote personnel hygiene measures and scientific hand-washing methods, environmental conservation and making clean drinking water available for all, promote indigenous and organic farming methods etc.

Every week activities are being held to celebrate this mahotsav in BCCL.

WEEK 1

In BCCL, ‘Bharat ke Amrut Mahotsav’ Campaign was launched under the leadership of Director (Personnel) BCCL Sri PVKRM Rao through video conferencing on 12.03.21. A brief keynote speech was given by Dr.K.S Sinha, HOD (Legal) elaborating the struggles of freedom fighters of India and paid emphasis on the importance honoring their struggles even now.



WEEK 2:

Taking into account the recent emergence of COVID-19 cases, BCCL took the opportunity to elucidate the scientific method of hand washing to the school children of DAV Public School, Koyla Nagar, Dhanbad. The CSR team present in the school welcomed the school children present and informed them about “Bharat Ka Amrut Mahotsav”, lauding the efforts of Govt. of India to provide platform to showcase various events that led to the achievement of Indian independence. The CIL conceptualization of the theme “Go Green, Drink Clean” to celebrate the Mahotsav was also discussed.



The event was headed by the doctors of Koyla Nagar Hospital, Dr. Nikita and Dr. Premi Topno. Dr. Nikita communicated the importance of hand washing and demonstrated the activity to the students in a detailed manner. After the demonstration, a quick question-answer session was held where students put their concerns forward and were answered by the doctors present.

WEEK 3:

The CIL conceptualization of the theme “Go Green, Drink Clean” was celebrated in BCCL by cleaning up filtration plants in all Areas.

Govindpur Area’s Sinidih Water Filtration Plant, Block-II Area’s Jamunia Water Filtration Plant, Sijua Area’s Pressure Filter Plant near Sijua Guest House and Bastacolla Area’s Slow Sand Filter Plants were cleaned in the third week of Amrut Mahotsav. This activity will be carried out throughout the Areas periodically so that the quality of water supplied is satisfactory.



WEEK 4:

BCCL took the opportunity to create awareness on personal hygiene among women and girls in peripheral villages of BCCL. The CSR team present in the village of Karmatand welcomed the participants and informed them about “Bharat Ka Amrut Mahotsav.”

The event was headed by the doctor of Karmik Nagar Hospital, Dr. Saswati Pandit. Dr. Pandit communicated the importance of hand washing and demonstrated the activity to the participants in a detailed manner. She also provided insights to maintain hygiene in their daily life and in the monsoon season to come. After the demonstration, a quick question-answer session was held where the participants put their concerns forward and were answered by the doctor present.



WEEK 5:

BCCL employees are facing a greater challenge as we are the major source of coking coal production and have to be present even when the recent reemergence of COVID-19 cases have taken a toll on all of us. Taking this in account, a discourse was undertaken on the topic “Stress Management at Workplace” with the help of Brahma Kumari, Dhanbad Chapter. The representatives from Brahma Kumari interacted with the employees and a give-and-take session was held whereby employees voiced their concerns and the effect it has on their working environment.



WEEK 6:

The 130th birth anniversary celebrations of Bharat Ratna Baba Saheb Dr. Bhimrao Ambedkar were celebrated by Bharat Coking Coal Ltd. by organizing a meeting at the statue site in KoylaNagar



D (P), BCCL felicitating Bharat Ratna Baba Bhimrao Ambedkar



D (F), BCCL felicitating Bharat Ratna Baba Bhimrao Ambedkar



CVO, BCCL felicitating Bharat Ratna Baba Bhimrao Ambedkar



D(T) BCCL felicitating Bharat Ratna Baba Bhimrao Ambedkar

WEEK 7:

On the occasion of Labor Day, on 01.05.2021 at the Shaheed Smarak at Coal Nagar, wreaths were laid in honor of the martyrs of the martyred BCCL



D (P), BCCL felicitating the Workers of India



D (F), BCCL felicitating the Workers of India

WEEK 8

In this week, focus was put upon the sanitization of office and hospitals of BCCL so as to put some check on the increase of COVID-19 cases.



WEEK 9:

International Nurses Day 2021 is celebrated each year marking the birth anniversary of Florence Nightingale, founder of modern nursing. It was celebrated at Central Hospital Dhanbad, BCCL on 12.05.2021 under the 'Bharat Ka Amrut Mahotsav' initiative in honour of the nurses who have been in frontline in the battle against Covid-19 ever since its emergence and have conquered all challenges with compassion and care.



GREENERY OVER OB DUMPS

BCCL is the pioneer company in the mining industry for conducting ecological restoration work in its degraded and mined out lands since 2011-12. It involves three tier plantations with native species consisting of lower level as grasses, middle level as shrubs/ bushes and top level as trees. The objective is to establish a natural forest with biodiversity and to bring back original normalcy of function, structure, potential, service and process of ecosystem as existed prior to mining activity. Hence, ecological restoration of mined out areas is found to be the most appropriate ecologically and socio-economically compatible measure.



Till now, BCCL has done biological reclamation over 1459.16 Ha (including 293.97 Ha ecological restoration) consisting of 31,55,986 no. of plants. In addition, 29888 gabion plantations are also done. BCCL is implementing ecological restoration as well as plantation through State Forest Department.

Thinking a step ahead, BCCL has taken an initiative of establishing greenery over OB dumps which are likely to be re-handled or utilized for the mining operation in future since 2019-20 through grassing & broadcasting seed balls of native species of shrubs/bushes. Till now BCCL has taken up approx. 200 Ha of OB dumps in different areas for establishment of greenery. Such dumps are identified and the green cover is established by planting grasses, bamboos and native bushes plants.

Grasses are tough plants that can survive in difficult conditions. Grasses, assist in keeping the soil temperature cool against the sun, and protects the soil against the wind so improving the moisture retention quality of the soil which ultimately protects the seed bank.

Grasses play an important ecological role in nature; and they are good protectors of the soil against soil erosion. Grasses are known for being particularly effective in combating soil erosion. Grasses break the speed of runoff rainwater, also breaking the impact of raindrops.

Benefits of grassing:

- Slope stability
- Prevents soil erosion
- Increases water holding capacity
- Prevents surface run off
- Increasing porosity
- Adding organic material
- Improving the aesthetics of the mines
- Pollution Control

In this respect a **guideline vide no. 11/7/2020-FC dt 14.01.2020** was also issued by MoEFCC regarding the re-grassing of mining areas or other areas disturbed due to mining activities. In the guideline it has been stated that in reference to Hon'ble Supreme Court order dated 8.01.2020 passed in Writ Petition (Civil) No. 114/2014 - Common Cause Vs. Union of India wherein Hon'ble Supreme Court, taking cognizance of the deleterious effect of mining on vegetation, has observed that mined out areas results in complete elimination of grass which in turn denies fodder for the herbivores. Hon'ble Supreme Court further observed that restoration of such mined out areas can be achieved by imposing a suitable condition in this regard in addition to existing conditions already imposed in the relevant statutory approvals.

In view of the above direction of Hon'ble Supreme Court, following condition is hereby stipulated, in addition to standard conditions imposed in the approvals accorded by the Central Government under the Forest (Conservation) Act, 1980:

The mining lease holder shall, after ceasing mining operations, undertake re-grassing the mining area, and any other areas which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna, etc.

Methodology of establishment of green cover through grasses and native bushes:

Grass species like *Cenchrus setigerus*, *Heteropogon*, *Cenchrus ciliaris*, *Cynodon dactylon*, *Pennisetum pedicellatum*, *Saccharum bengalense*, *Stylosanthes hamata*, *Panicum nitidum* etc & Shrub species like *Dodonaea viscosa*, *Bambusa bambos*, *Adhatoda zeylanica* (Vasaka), *Calotropis procera* (Aak) *Cassia tora* (Senna), *Clerodendrum viscosum* (Bhant) *Datura stramonium* (Datura), *Hyptis suaveolens* (Gangatulsi), *Ipomoea fistulos* (Behaaak) *Pogostemon benghalense* (Phangla), *Ricinus communis* (Arandi), *Streblus asper* (mulli), *Vitex nugundo* (Nirgundi), *Woodfordia fruticosa* (Dehu), *Zizyphus num malar* (Beri) were recommended in the roadmap prepared by Forest Research Institute, Dehradun.

Seed balls preparation & broadcasting- Seed Balls are prepared by mixing Fertile Soil, Cow Dung/Manure & Grass Seed in the ratio 10:10:1 by volume, in addition 4-5 no. of native species seeds of shrubs are also added in each ball.

Results:

Mixing of fertile soil, Cow dung, grass &



Seed ball preparation



Broadcasting of Seed balls



Seed ball germination



Grasses developed from seed balls



Fully grown grasses at OB dump

NEW ENVIRONMENTAL ACTIVITIES & INITIATIVES



Fencing at SLG rly siding, Govindpur area.



Fog cannon procured at Bastacolla



Indigenous fog cannon
at Govindpur Area, BCCL

Development of indigenous fog cannon in govindpur area.



Organic Drum Composter Installed at W.J.AREA Guest house



Development of 10,000 capacity nursery in progress at Kankanee to cater to the needs of Plantation in Sijua Area in the upcoming monsoon season.




Green Shed Net installed at Central Nursery of Bastacolla Area to Protects plants from natural weather disturbances such as wind, hail, frost, snow, bird and insects



दैनिक भास्कर

बीसीसीएल में बेहतर प्रबंधन को लेकर एकीकृत प्रबंध प्रणाली पर प्रशिक्षण शुरू

धनबाद | बीसीसीएल में बेहतर प्रबंधन और कार्य प्रणाली के लिए एकीकृत प्रबंध प्रणाली (आईएमएस) लागू की जानी है। इस संबंध में डीटी पीएंडपी चंचल गोस्वामी ने मंगलवार को जगजीवन नगर स्थित कल्याण भवन में आंतरिक लेखा परीक्षक के चार-दिवसीय प्रशिक्षण कार्यक्रम का उद्घाटन किया। 16 से 19 मार्च तक चलने वाले कार्यक्रम का आयोजन पर्यावरण विभाग ने किया है। इसमें एकीकृत प्रबंध प्रणाली को बीसीसीएल में लागू कर बेहतर गुणवत्ता वाले कोयले का उत्पादन करने, पर्यावरण व व्यावसायिक स्वास्थ्य और सुरक्षा प्रदान करने पर चर्चा की जाएगी। सीएमपीडीआईएल रांची के संयोजक (प्रबंध प्रणाली योजना) संजीव कुमार मुख्य प्रशिक्षक हैं। उद्घाटन के मौके पर जीएम (मानव संसाधन) विकास कुमार, डीजीएम (पर्यावरण) कुमार रंजीव समेत विभिन्न विभागों के अधिकारी उपस्थित थे।



सत्यमेव जयते

F. No. J-11015/373/2013- IA.II(M)
 Government of India
 Ministry of Environment, Forest and Climate Change
 (Impact Assessment Division)

Indira Paryavaran Bhawan,
 Jorbagh Road, N Delhi – 3
 Email: lk.bokolia@nic.in Tel: 01124695301
Dated: 1st February, 2021

To

The General Manager
 M/s Bharat Coking Coal Limited,
 Kusunda Area, Koyla Bhawan,
 Koyla Nagar, Dhanbad - 5 (Jharkhand).
 E-mail: gmenv.bocl@coalindia.in

Sub: Cluster XVII including Kalyaneshwari Opencast Coal Mining Project of capacity 4.0 MTPA in ML area 1397.18 ha of M/s Bharat Coking Coal Limited located at District Burdwan (West Bengal) - Environmental Clearance under Ministry's Notification dated 14th March, 2017– reg.

Excerpt from the EC document of Cluster XVII

Sir,

This has reference to your online proposal no. IA/WB/CMIN/ 85880 /2018 dated 3rd December, 2018, on the above-mentioned subject submitted to this Ministry for grant of Environmental Clearance (EC) in terms of the provisions of the Environment Impact Assessment (EIA) Notification, 2006 under the Environment (Protection) Act, 1986 for Cluster XVII including Kalyaneshwari OCP Coal Mining Project of capacity 4.0 MTPA in ML area 1397.18 ha of M/s Bharat Coking Coal Limited located at District Burdwan (West Bengal).

The project/activity is covered under category 'A' of item 1(a) 'Mining of Minerals' the Schedule to the EIA Notification, 2006

On 1st February, 2021 MoEFCC has granted EC to cluster xvii. With the grant of 4.0 MTPA EC capacity to cluster xvii, total EC capacity of BCCL has become 93.04 MTPA.

DEVELOPMENT OF ECOLOGICAL PARKS BY BCCL

BCCL has pledged to develop at least one Eco Park in each area for the said purpose. Various Eco parks have already been developed by BCCL such as Gokul Eco-cultural park, Lodna area; Vrindavan Eco-park, Kusunda area; Tetulmari biodiversity park, Sijua area; Parasnath park, Katras area; Panchwati Eco-Park, Koyla Nagar etc.



**Gokul Eco
Cultural Park, Lodna**



Netaji Subhash Chandra Bose Eco Park, Kuva



Tetulmari Biodiversity Park, Sijua Area

For the next five years i.e. by year 2025-26, BCCL has planned to develop 9 Eco parks. Foundation stone of these parks, which have been named as NETAJI SUBHASH CHANDRA BOSE ECO PARK, has been laid by hon'ble Sri Anil Kumar Jain, Secretary (coal), Govt. of India in presence of Sri Pramod Agrawal, CMD (Coal India Limited) and Sri Gopal Singh, then CMD, (Bharat Coking Coal Limited) on 28th Jan 2021.



Virtual laying of foundation stone of Netaji Subhash Chandra Bose Eco Parks in various areas by hon'ble Sri Anil Kumar Jain, Secretary (coal), Govt. of India

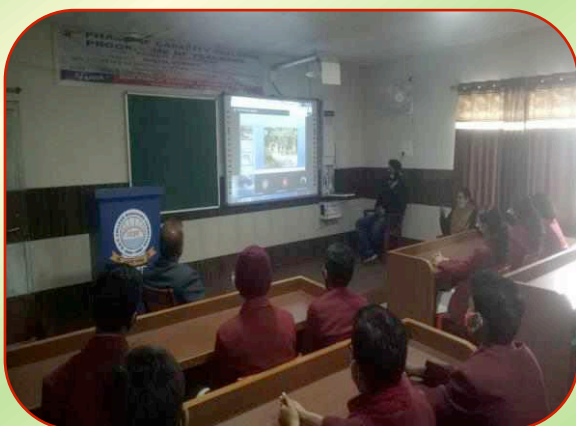
Grassing of presently inoperative dump



ECO MINING TOURISM

In 2020-21, in view of prevailing Covid 19 protocol, virtual eco-mining tour of school children arranged by BCCL to its mines and eco-restoration/eco-parks.

Under the Eco-mining tourism program students from DAV Moonidih; Dhanbad Public School, Dhanbad; Symbiosis Public School, Dhanbad & DAV, Koyla Nagar visited virtually the eco-restoration sites/eco-parks of BCCL for enhancing their knowledge about mining and reclamation works being done in BCCL.



Virtual Eco Mining Tourism arranged for students of DAV, Munidih, conducted by Environment Department, BCCL

DIVERSIFYING TO SOLAR POWER

Presently, Fossil fuels are our major source of Energy. High dependence on fossil fuels is leading to fast depletion of reserves and huge Environmental damages such as pollution, health hazards, climate change, etc to mankind. Therefore, it is essential for us to seek alternative Energy Resources for Guaranteed Energy Supply and Environment protection. Solar Power, being one of them and abundantly available is the answer.

Investment in Solar Power is a part of Coal India's diversification plan .Coal India has a mandate to become a Net Zero company by 2023-24. It aims to establish three (03) Giga Watts (GW) of Solar Energy all over India . To achieve this objective CIL has signed MOU with Solar Energy Corporation of India(SECI)-1000 MW , JV with NTPC (1000 MW), JV with NLC india Ltd.(1000 MW)

To accelerate the diversification, CIL has incorporated two wholly-owned subsidiaries for undertaking solar PV manufacturing and renewable energy (RE) projects, namely - CIL Solar PV Limited and CIL NavikarniyaUrja Limited .This shall also provide impetus to the goal of Atmanirbhar Bharat by strengthening the indigenous supply chain for ensuring availability of solar panels.

In line with the Diversification Plan, BCCL has taken several initiatives in the area of Solar Energy. The first step in this direction has been installation of Solar Powered Lighting at Koyla Nagar Nursery near KNTA. We have recently completed installation of 280 KW Rooftop Solar Plant on Central Hospital, Dhanbad and 70 KW Rooftop Solar Power Plant on Koyla Bhawan.



Solar Power Plant on Commercial Building of Koyla Bhawan

Other Solar Projects in pipeline at BCCL are – 110 KW Solar Power Plant at Magazines of BCCL to replace the existing DG Sets , 1497 KW Rooftop Solar Plants to be installed in different Areas of BCCL .One of the major upcoming Project is the installation and Commissioning of 25 MW Solar Power Plant at BhojudihWashery . The Execution of the Project will begin in FY 2022-22 in coordination with Solar Energy Corporation of India (SECI) . BCCL also aims to install a 20 MW Ground based Solar Power Plant at premises



Solar Power Plant on Central Hospital, Dhanab

Of Dugdha Coal Washery. The aforesaid Solar Power Plants will help BCCL to become a Net Zero Company , reduce the burden of huge Electricity Cost borne by BCCL (₹ 400 Cr. Annually) , and reduce environmental damage .

India aims to raise its renewable energy capacity to 175GW by 2022 and to 450GW by 2030. Solar power accounts for the bulk of the capacity addition target. CIL's move will lend some support to India's overall renewable energy push .New technological developments promise to augment solar usage by further decreasing costs and increasing solar panel efficiency. This indicates a bright future for Solar Energy and BCCL must take advantage of this trend and harness Solar Energy in multiple ways such as Solar Street lights, Solar Pumps and decentralized Rooftop and Ground Mounted Solar power Plant.



Monika Sinha
Assistant Manager
(E&M)
Koyla Bhawan, BCCL

Solar panel installed on Koyla Bhawan on 25.03.2021

MINE WATER UTILISATION IN BCCL

Mine water generation in coal mines

Mine water generation occurs during the active mining phase. Mining activity involves removal of overburden (OB) material in order to reach the coal seams. In some areas, there may be presence of aquifer above the desired coal seam. As the mining progresses towards the seam, the aquifer will get exposed and the groundwater will accumulate as a sump within the mine.

During the active mining phase, such accumulated mine water is dewatered to a separate sump within the mine lease area. This accumulated mine water is generally pollution free and can be utilized as a water source for the community apart from satisfying the water requirements for the mining activity after some primary treatments. In most cases, post the closure of mines, the accumulated mine water is retained as a pit lakes / water sumps which can be a convenient source of freshwater for the surrounding communities.

Utilization of mine water

Mine water accumulated in the pit lakes is being utilized both within and outside the companies. Within the mines, this water is utilized for mining activities – like dust suppression, washing activities, workshop, plantation activities, etc., as supply water for colony/township. Outside the mines, this water is utilized as a source of drinking water for surrounding communities, as freshwater for community supply, as irrigation water in surrounding agricultural areas and also as a source of water for industries or townships. Surplus mine water is also discharged into natural streams and allowed to recharge water regime in surrounding areas villagers are motivated to use it for pisciculture also. Mine water uses in BCCL for the year 2020-21 was 1276.41 Lakh cum., out of available discharge of 1279.24 Lakh cum. Total 204935 Nos. of people get benefited in 112 nearby villages of BCCL.

Best practices :- Mine water utilization for community use in Pootkee Balihari(PB) area of BCCL

All though all area is utilising the available mine water in effective manner but our best practices lies at Pootkee Balihari (PB) area of BCCL. Development of cost effective mine water treatment technology for providing “safe drinking water” has been undertaken by BCCL with the technological know-how of CIMFR, Dhanbad.



To demonstrate the developed treatment technology, a pilot plant of 4000 litre/hr capacity (approximately 50,000 litre per day) for mine water treatment has been designed and commissioned at Pootkee–Balihari area of BCCL. The water treatment process includes settling, flocculation, and coagulation (it is contacted with chemical(s), pH conditioner and polyelectrolyte, under optimum conditions the heavy metal ions get bonded to FEOL/ALOL and the complex gets separated from water as large flocs.), clarification, pressure filtration, R.O. membrane filtration and ozonation.

By harnessing and using mine water of this area, the water demand for Pootkee Area has been fulfilled. The commissioned pilot plant has been designed to cater about 2000 people living in the identified coal mine area. The water is supplied to P.B Area Office, P.B. Project, CISF Camp, VTC, Regional store of P.B. Area and Aralgaria village.



BCCL'S CSR ACTIVITIES IN THE YEAR 2020-21

1. Brief outline on CSR Policy of BCCL

In the world's current business scenario, business organizations make their strategies for improving their images as socially responsible business organizations inter alia various profit earning avenues because wellbeing of an organization also depends upon the wellbeing of the society in which it operates its business. BCCL, while carrying out its coal mining activities also focusses on improving the quality of life of the people residing in and around its Coal mining areas through its CSR activities with a focal point on the well-being of underprivileged en masse.

Following CIL's CSR Policy, BCCL broadly covers the following areas while executing its CSR activities, which is framed after incorporating the features of the Company Act, 2013 and as per different notifications issued by Ministry of Corporate Affairs, GoI as well as DPEs guidelines:

- i) Eradicating hunger, poverty and malnutrition; promoting health care including preventive health care and sanitation including contribution to the 'Swachh Bharat Kosh' set-up by the Central Government for the promotion of sanitation and making available safe drinking water.
- ii) Promoting education, including special education and employment enhancing vocation skills especially among children, women, elderly and the differently abled and livelihood enhancement projects.
- iii) Promoting gender equality, empowering women, setting up homes and hostels for women and orphans; setting up old age homes, day care centres and such other facilities for senior citizens and measures for reducing inequalities faced by socially and economically backward groups.
- iv) Ensuring environmental sustainability, ecological balance, protection of flora and fauna, animal welfare, agroforestry, conservation of natural resources and maintaining quality of soil, air and water including contribution to the 'Clean Ganga Fund' set up by the Central Government for rejuvenation of river Ganga.
- v) Protection of national heritage, art and culture including restoration of buildings and sites of historical importance and works of art; setting up public libraries, promotion and development of traditional arts and handicrafts.
- vi) Measures for the benefit of armed forces veterans, war widows and their dependents.
- vii) Training to promote rural sports, nationally recognized sports, Paralympic sports and Olympic sports.
- viii) Contribution to the Prime Minister's National Relief Fund or Prime Minister's Citizen Assistance and Relief in Emergency Situations Fund (PM CARES Fund) or any other fund set up by the Central Government for socio economic development and relief and welfare of the Scheduled Castes, the Scheduled Tribes, other Backward Classes, minorities and women.
- ix) Contribution to incubators funded by Central Government or State Government or any agency or Public Sector Undertaking of Central Government or State

Government and contributions to public funded Universities, Indian Institute of Technology (IITs), National Laboratories and Autonomous Bodies (established under the auspices of Indian Council of Agricultural Research (ICAR), Indian Council of Medical Research (ICMR), Council of Scientific and Industrial Research (CSIR), Department of Atomic Energy (DAE), Defence Research and Development Organisation (DRDO), Department of Biotechnology (DBT), Department of Science and Technology (DST), Ministry of Electronics and Information Technology engaged in conducting research in science, technology, engineering and medicine aimed at promoting Sustainable Development Goals (SDGs).

- x)** Rural development projects.
- xi)** Slum area development.
- xii)** Disaster Management, including relief, rehabilitation and reconstruction activities.

BCCL has been a responsible corporate striving to benefit the society through its various CSR activities. For the past many years, BCCL has invested in benefitting the society through CSR activities related to education, rural development, health, development of Aspirational District Giridih and one of the major activities, since the onslaught of COVID-19 in the world, was to combat this menace of society.

BCCL has been the major social development driver in its area of operations i.e. Dhanbad district as well as Jharkhand State as a whole. The following graph indicates the growth of social investment in Dhanbad and Jharkhand from last year:

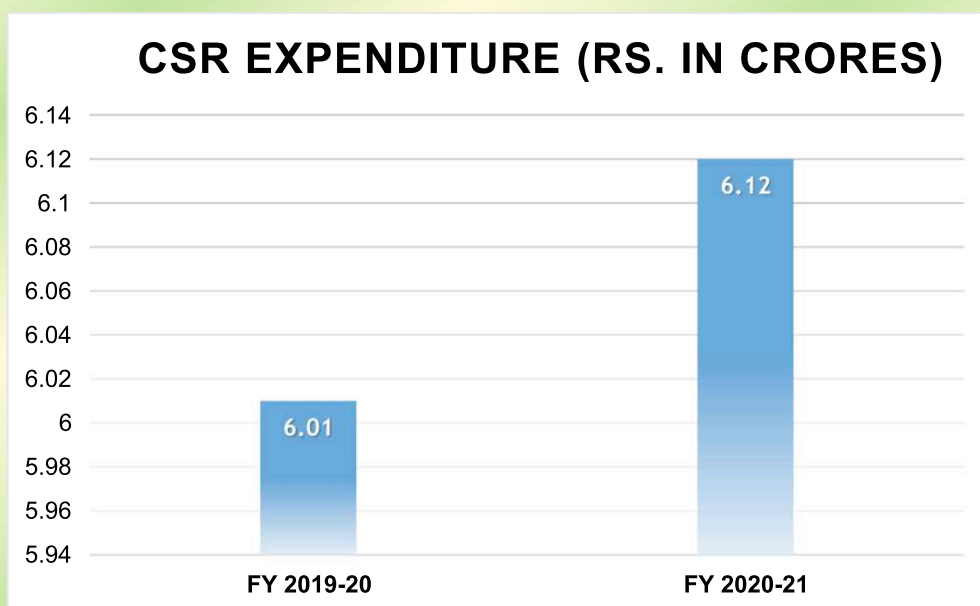


Figure 1 – CSR Expenditure in FY 2019-20 and FY 2020-21

The above figure shows that the CSR expenditure of BCCL rose from ₹ 6.01 Crores in FY 2019-20 to ₹ 6.21 Crores in FY 2020-21, which is an increase of 3.32%. Some of the major activities undertaken in FY 2020-21 by CSR of BCCL are as follows:

a. **Sanitising the Surroundings** - Out of total 20 MT of bleaching powder procured under CSR, 12.5 MT of bleaching powder was distributed to Municipal Commissioner, Dhanbad towards sanitation and the balance was distributed to Areas/ HQ for sanitation purpose of residential as well as office premises.



b. **Financial Assistance to District Administration, Dhanbad** - Deputy Commissioner, Dhanbad requested CMD, BCCL for the urgent financial assistance of ₹ 2 Crores towards tackling various issues under COVID-19 including help to poor and preventive measures. BCCL transferred the amount to DC, Dhanbad.

c. **Dry Food Packets Distribution** – In view of outbreak of COVID -19 and lockdown conditions throughout the country announced by Hon'ble Prime Minister, BCCL made provisions to distribute food packets, amongst peripheral populace.



d. **Distribution of Face Masks and Hand Sanitiser/ Hand Wash** - In order to curb the spread of global pandemic COVID-19, masks & liquid hand wash/ hand sanitisers were distributed amongst peripheral populace, through Area/ HQ.



- e. **Distribution of food packets with water/ juice** – BCCL also distributed food packets with water/ juice to migrant labourers travelling in different Shramik Special Trains through Dhanbad Station.



- f. **Installation of ICU beds in Central Hospital Dhanbad** – BCCL has dedicated a 100 bedded ward towards COVID-19 in Central Hospital Dhanbad (CHD). For this purpose, BCCL provided financial assistance of ₹ 88.05 Lakhs to District Administration Dhanbad for installing 30 Nos. of ICU beds in CHD.
- g. **Providing boarding and lodging facilities to frontline workers** – BCCL provided frontline workers i.e. doctors and paramedical staff, with boarding and lodging facilities deployed in COVID-19 Hospital.

पेड़ लगायें

आओ मिलकर पेड़ लगायें
हरा-भरा ये देश बनाएं |
वातावरण को स्वच्छ बनाकर
इस जीवन को स्वस्थ बनाएं |
पेड़ ना कोई कटने पाए
जंगल अब न घटने पाए
मिलकर हम सब कसम ये खाएं
आओ मिलकर पेड़ लगायें |
हर एक का फ़र्ज़ है बनता
कम से कम एक पेड़ लगायें
पल-पल बढ़ते प्रदूषण पर
आओ मिलकर रोक लगायें |



-सत्यम कुमार , उम्र - ९ वर्ष
(पुत्र- बिना देवी , वाशरी डिवीज़न)

ROTARY DRUM COMPOSTING-THE GREEN INITIATIVE BY WESTERN JHARIA AREA OF BCCL

Moonidih Guest house of W.J. Area feed around 30-35 person daily. Approx. 3-4 kg of vegetable peels and food waste are generated from Moonidih Guest house on daily basis. All these Biodegradable waste was thrown nearby guest house which make foul smell, attract insets and causes nuisance

Environmental team of Western Jharia Area decided to use these Kitchen Waste for Making Organic Compost though Rotary Drum composting method.

DESIGN OF ROTARY DRUM COMPSTER

A PVC rotary drum composter of 210 L capacity is used (Fig - 1(a)&(b)) for this drum was fixed on triangular stand with ball bearing on both side for smooth rotation supported by revolving handle. Drum is designed with hole to make process aerobic and discharge of the excess leachate formation.

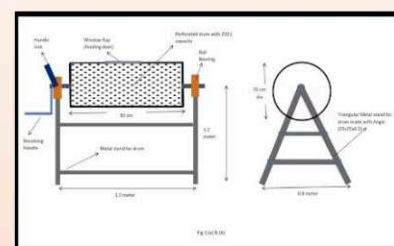
FEEDSTOCK MATERIAL AND FEEDING METHOD

Collection- Kitchen waste is being collected separately which is free from any inorganic content and plastic material.

Kitchen Waste (Food waste and Vegetable peels) are mixed with shredded dry leaves and dung in a 1:2:2 ratios (based on moisture content in kitchen waste). Drum filled up to 30-40 % of the total volume for ease of rotation and proper mixing, then feed cap is closed and lock properly to check accidental opening during rotation. Now drum is rotated 10-15 times for proper mixing of feed material. Warm and moist environment and present of oxygen in drum provide suitable condition to flourish aerobic microbes which decomposed the organic waste very fast. Drum is being rotated 10-15 times daily for 14-20 days' till final mature and nutrients enrich compost ready to use.



ROTARY DRUM COMPSTER



ROTARY DRUM DESIGN



KITCHEN WASTE : DRY LEAVES : DUNG :: 1:2:2



FEEDSTOCK LOADING



DRUM ROTATION – 10-15 TIMES DAILY



WASTE => ORGANIC COMPOST IN 23 DAYS



RESULT OF USING COMPOST AT MOONIDIH



CREDIT- TEAM ENVIRONMENT

BACK TO BASICS

The ongoing Corona Pandemic has engulfed each and every one throughout the world. Rich-poor, VVIPs-*Aamaadmi*, people across professions and geographies are under its fury. There has been lot of hue and cry for oxygen, hospital beds, medicines, doctors, etc. Poverty, inflation, migration, un-education are its peak. In these gloomy times let us dive into some basics of our natural medicine, exercises, practices that we tend to forget in this materialistic lifestyle but which proved its mettle and acted as a saviour.

Firstly, *energy drinks brands* seem to disappear from our TV sets and *Giloy, Tulsi, Neem* seems to occupy their space. The claims by these multinational companies appear hoax and corona has ripped apart their false claims of boosting immunity and delivering essential nutrients to our body.



Secondly, *cold drinks* have also lost their relevance of quenching thirst and providing might to overcome trembling situations. The most proclaimed tagline “*Darr ke aage jeet..*” fails to fascinate the masses anymore and *Warm Water with Lemon juice & Doodh Haldi* (Turmeric) entices like never before.



Thirdly, *Kaadha* has substituted *branded noodles & Pasta* in our morning breakfasts. With the ongoing lockdown Gyms and other sophisticated body building institutions have also lost their charm with *Pranayama & Yoga* being practiced in-house diligently.



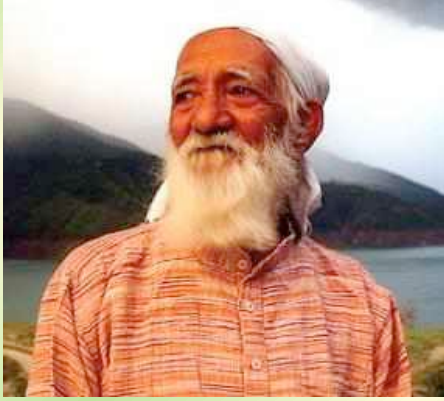
The above examples remind us how much we have forgotten our basics and how easily we get lured by the hefty-fancy advertisements. Sometime or the other we have definitely read them, heard them or came across. We know things, we ignore, we just don't practice and that makes us pay its price.

The pandemic is a strong reminder to mankind that nature is not a silent bearer but it's a harsh equaliser, it doesn't differentiate. Not only the pandemic, natural disasters & climate change in future would spare no one if we do not heed to their repeated calls. Economy & Nature must go hand in hand, if there is a misbalance anywhere we must be prepared to bear the outcomes. Remember, Ecology is the permanent Economy.

No one wishes to be reminded of the screaming Ambulances on streets, patients & their near ones wailing outside hospitals to get a bed and corpses lining up outside crematoriums just to get a dignified departure. Following simplistic-natural lifestyle, allocating ample space for exercises and consuming nutritious food has been advocated by experts to keep us safe, immune & healthy. Ultimately it is high time to be **BACK to BASICS**.

Suraj Kumar
Assistant Manager (Env)
Kusunda Area

बहुगुणी बहुगुणा



“क्या हैं जंगल के उपकार,

मिट्टी , पानी और बयार

मिट्टी , पानी और बयार

ये हैं ज़न्दगी के आधार ”

मशहूर पर्यावरणविद एवं चिपको आंदोलन के प्रणेता रहे सुंदरलाल बहुगुणा का निधन 21 मई, 2021 को एम्स, ऋषिकेश में COVID-19 से हो गया। गांधीवादी सांचे में ढले प्रख्यात पर्यावरणविद सुन्दरलाल बहुगुणा हिमालय की जंगलों की रक्षा के लिए एक समर्पित योद्धा थे।

हालांकि सुंदर लाल बहुगुणा अपने पीछे सामाजिक संघर्षों की विस्तृत सिलसिला छोड़कर गए हैं। दुनिया उन्हें **चिपको आंदोलन** के लिए जानती है। विकास के नाम पर जंगलों को काटे जाने से रोकने के लिए सत्तर के दशक में अन्य समर्पित पर्यावरण कार्यकर्ताओं के साथ बहुगुणा ने चिपको आंदोलन शुरू किया था। साथ ही देश-दुनिया को वनों के संरक्षण के लिए प्रेरित किया। परिणामस्वरूप चिपको आंदोलन की गूंज समूची दुनिया में सुनाई पड़ी। चिपको आन्दोलन के कारण वे विश्वभर में वृक्षमित्र के नाम से प्रसिद्ध हो गए।

सुन्दरलाल बहुगुणा का जन्म 9 जनवरी सन 1927 को देवों की भूमि उत्तराखंड के 'मरोडा' नामक स्थान पर हुआ। सुंदर लाल बहुगुणा का सामाजिक-राजनीतिक जीवन 1942 के स्वतंत्रता संग्राम के वक्त ही शुरू हो गया था। गांधी जी के प्रभाव में आकर वे कांग्रेस के आंदोलन में शामिल हो गए थे।

1956में उन्होंने टिहरी शहर में ठक्कर बप्पा हॉस्टल भी बनाया जिसमें युवाओं के पढ़ने की सुविधाएं जुटाई गयीं। इस आश्रम से महिलाओं के उत्थान, शिक्षा, दलितों के अधिकार, शराबबंदी के अलावा कई तरह के सर्वोदयी आंदोलन सुंदर लाल बहुगुणा और विमला (उनकी धर्मपत्नी) चलाते रहे। बहुगुणा दंपत्ति की वजह से उत्तराखंड में शराबबंदी 20 सालो तक लागू रहा।

सुंदर लाल बहुगुणा ने भूदान आंदोलन को भी उत्तराखंड के जिलों में प्रचारित किया। उत्तराखंड के जिलों में दलितों के मंदिर प्रवेश से लेकर उन्हें पढ़ाई के मौके दिलाने तक का काम उन्होंने बखबी किया 1982 में उन्होंने कश्मीर से कोहिमा तक की यात्रा शुरू की, यह एक तरह से पूरे हिमालयी इलाकों को आपस में जोड़ते हुए उनकी समस्याओं पर बात करने की मुहिम थी। इसके बाद टिहरी डैम के विरोध का लंबा संघर्ष उन्होंने किया और 84 दिन लंबा अनशन भी रखा। बहुगुणा ने हिमालय और पर्यावरण संरक्षण को लेकर जागरूकता फैलाने के लिए कई बार पदयात्राएं की जिसमें उन्होंने 4700 किलोमीटर से अधिक की दूरी पैदल तय की। सादा जीवन उच्च विचार को आत्मसात करते हुए वह जीवनपर्यंत प्रकृति, नदियों व वनों के संरक्षण की मुहिम में जुटे रहे। पर्यावरण संरक्षण के क्षेत्र में दिए गए महत्वपूर्ण योगदान के लिए उन्हें 1986 में **जमनालाल बजाज पुरस्कार** और 2009 में **पद्म विभूषण** से सम्मानित किया गया। पर्यावरण संरक्षण के मैदान में श्री सुंदरलाल बहुगुणा जी के कार्यों को इतिहास में सुनहरे अक्षरों में लिखा जाएगा।

भावपूर्ण श्रधांजलि एवं शत शत नमन ||

JUST NOW

Coal Washeries are of prime importance, both from environmental and economic point of view. India imported approximately 45.70 MT of coking coal in 2020-21 to cater the need of steel Industry. Indigenous washed coking coal supply to steel industry will save India Million of rupees. BCCL has 06 new washeries to cater to the need of the Industry for which environmental clearances are obtained and in process of installation.



Earlier, coal washeries were not brought under ambit of Environment Clearance under EIA notification 1994. However, the EIA notification of 2006 included this activity requiring prior EC. subsequent notification included the coal washeries as a part of mining Industry to be considered by Expert Appraisal Committee for Environmental Clearance. However, Circular of MoEFCC F.No.J-11013/41/2006-IA-II(I) dated November 21, 2006 clarified that older washeries will require Environmental Clearance only in case of expansion/modernization or change in product mix.

While granting EC, washeries were prescribed for utilization of rejects in FBC plant. Moving forward, Ministry of Coal has issued Policy for handling and disposal of Washery Rejects on 27th May 2021 with the objective of facilitating conservation of energy through environment friendly extraction of residue energy from coal washery rejects and to ensure stacking of rejects, dumping of rejects in mine voids/low lying areas in environment friendly manner.

Coal washery rejects are by-products of Coal washeries with Gross Calorific Value (GCV) less than 2200kcal/kg. This is further divided in High Calorific Value (HCV) coal washery rejects with GCV equal or in excess of 1500 kcal/kg and Low Calorific Value (LCV) coal washery rejects with GCV less than 1500kcal/kg.

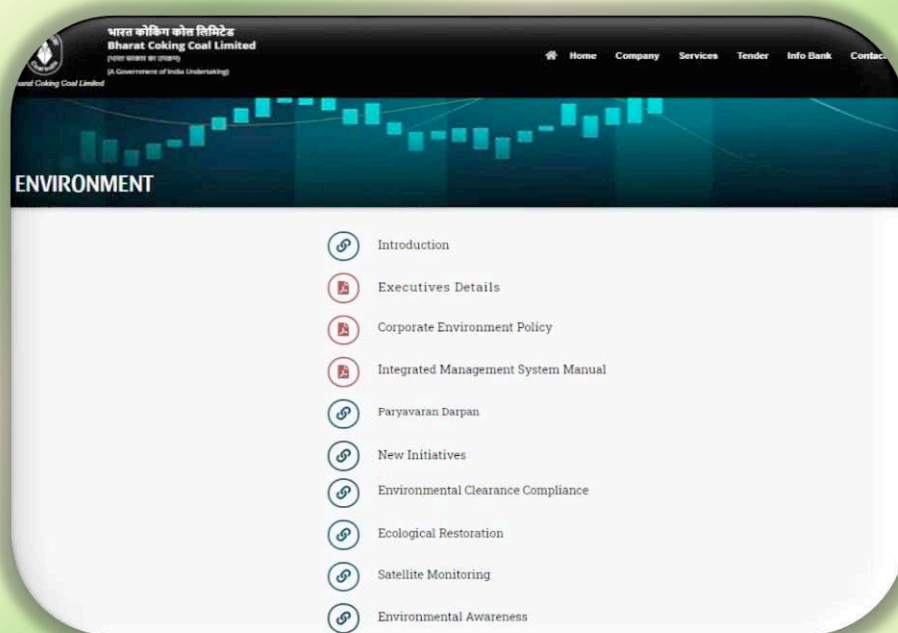
Disposal of Coal washery rejects (CWR) is aimed at prioritizing conservation. The first priority is to extract energy from the HCV rejects which will lead to gainful utilization of rejects as a source of energy in CPPs(Captive Power Plants)/TPPs(Thermal Power Plants) for generation of power and other permissible end usages. Owner/deemed owners shall take initiative to ensure extraction of energy generation from HCV as in line with rule 27 of Solid waste Management rules.

The second priority is to explore alternate use of CWRs. HCVs can be gainfully utilized as replacement of construction material (for highways, railways, dams, embankments etc.), reclamation of land, brick making etc.

This Policy for handling and disposal of Washery Rejects will enable coal mining Industry to manage the environment in a better way, paving ways for inclusion of environment friendly practice in mining activities.



BCCL ENVIRONMENT IS ACCESSIBLE AT





पर्यावरण विभाग
भारत कोकिंग कोल लिमिटेड
एक मिनी रत्न कंपनी
(कोल इंडिया लिमिटेड का एक अंग)
कोला भवन, धनबाद - 826002



Lockdown improves air in polluted coal town in state

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RANCHI: Thanks to the nationwide lockdown that brought down the pollution level below the permissible limit in India's most polluted city Jharia.

"I have never experienced such environment in Jharia, where dust and air pollution is visible all the time. Birds had almost vanished but they have returned on our rooftop," said Mausumi Roy, 42, a homemaker and resident of Indra Chowk in Jharia.

Prime Minister Narendra Modi had announced 21-day nationwide lockdown to check the spread of highly infectious Covid-19 since midnight of March 24. However, Jharkhand had imposed the lockdown since midnight of March 22.

Senior campaigner of Greenpeace India, Avinash Chanchal, claimed to have studied and compared the daily pollution data of Central Pollution Control Board (CPCB) on Jharia from March 24 to March 27 with the data of last year. "As per the CPCB data, declining trend of pollution level of PM10 and PM2.5 is visible since March 24. The PM10 and PM2.5 were at 91.8 microgram per cubic metre (ug/m3) and 82.62 ug/m3 respectively on March 24. The same declined to 68.22 ug/m3 and 45.14 ug/m3 respectively on March 27," said Chanchal.

The level PM10 and PM2.5 had been recorded at 118 ug/m3 and 108 ug/m3 respectively on March 24, 2019. Similarly, the levels of both particulate matters on March 27, 2019 were at 135 ug/m3 and 107 ug/m3 respectively.

The daily permissible limit for PM10 is 100 ug/m3, while PM2.5 is 60 ug/m3.

Jharia city had been declared as India's most polluted city in a report by Greenpeace India, released in January. The report says the city recorded highest PM10 at 322 ug/m3 in 2018 against the annual permissible limit of 60 ug/m3. "Pollution has declined here but not the way we had

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JHARIA BREATHE EASY

Pollution level has come down below the permissible limit in the city

Year ■ 2019 ■ 2020 (Figures in ug/m3)



Note: The daily permissible limit for PM10 is 100 ug/m3, while PM2.5 is 60 ug/m3

The pollution level has come down below the permissible level in few days of lockdown, while the mining activity and coal transportation are unaffected by the lockdown, as it comes under essential services

KUMAR RANJEV, general manager of environment department of Bharat Coking Coal Limited

expected. It is still higher as per the permissible level prescribed by the World Health Organization (WHO) at a time when entire country, including Jharia, is in lockdown. We can say that the current level of pollution is contributed by mining activities and mine fire only," he said.

He said WHO's daily permissible limit for PM10 is 50 ug/m3, while annual permissible limit is 20 ug/m3. Similarly, the organisation's daily permissible limit for PM2.5 is 25 ug/m3 and annual limit is 10 ug/m3. "This is high

time to find out actual source of pollution in Jharia," he said.

Underground mine fire, open cast mining, unscientific manner of coal transportation, bad roads coal-based industries, loss of greenery, blasting for opencast mining, burning of coal by illegal miners for livelihood are stated to be the main drivers of increasing pollution in Jharia.

"The pollution level has come down below the permissible level in few days of lockdown, while the mining activity and coal transportation are unaffected by the lockdown, as it comes under essential services," said Kumar Ranjev, general manager of environment department of Bharat Coking Coal Limited (BCCL).

The coal production has increased during the lockdown period. The total coal production target between March 24 and March 31 was 134,375 tonne per day. The production went to 139,524 on March 27, he said.

"Town activities such as vehicular transportation to serve population, roadside eateries, illegal coal picking and burning have come to a standstill. This is why pollution level has dropped in the city," he said.

बीसीसीएल के सिजुआ क्षेत्र में किए प्रयोग की कोल इंडिया ने की सराहना, ईको टेस्टोरेशन पर और सीडबॉल से पथरीले पहाड़ को कर दिया हरा भरा

धनबाद | कुकेरा सिंह

बीसीसीएल के सिजुआ क्षेत्र में पथरीले पहाड़ को सीडबॉल की मदद से हरा भरा बनाने की पहल को कोल इंडिया ने सराहना की है। दस हेक्टेयर में फैले ओबी डंप को सीडबॉल के सहारे हरा बना दिया गया है। यहां कई औद्योगिक रोबोट लगाए गए हैं।

कोल इंडिया ने अपने टिक्टर ट्रैक्टर पर लकड़ी भी लगी है। इस ओबी डंप को सीडबॉल के रूप में विकसित किया जा रहा है, जो कोयला कंपनियों के लिए नजर है। इससे इस बात को बल मिलता है कि



सिजुआ क्षेत्र में ओबी डंप से खड़ा पथरीला पहाड़ और बाद में आई हरियारी। खनन के बाद भी जमीन को उपयोगी बनाया जा सकता है। बीसीसीएल पथरीले पहाड़ के एक ओबी डंप को विकसित किया जा रहा है। जमीन पर पहले घास लगाए गए, फिर

23 ईकोलॉजिकल पार्क है
15 ईको पार्क टूरिज्म सर्किट से जुड़े हुए हैं

सिजुआ क्षेत्र में ओबी डंप से खड़ा पथरीला पहाड़ और बाद में आई हरियारी। खनन के बाद भी जमीन को उपयोगी बनाया जा सकता है। बीसीसीएल पथरीले पहाड़ के एक ओबी डंप को विकसित किया जा रहा है। जमीन पर पहले घास लगाए गए, फिर

5/28/2021

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BCCL to promote silk cultivation over underground mines in Jharkhand by planting Arjun and Assan trees

The objective, according to BCCL officials, is to provide self-employment to the people living in the region under the CSR fund.

Published: 28th May 2021 11:17 PM | Last Updated: 28th May 2021 11:17 PM

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Representational Image.

By Mukesh Ranjan

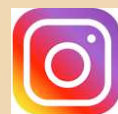
Express News Service

RANCHI: In a first-of-its-kind initiative taken by Bharat Coking Coal Limited (BCCL), Arjun and Assan trees will be planted over the underground mines in Dhanbad, under the mine reclamation project so that silk cultivation could be done on those trees once they grow.

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