



THE SINGARENI COLLIERIES COMPANY LIMITED (A Govt. Company)

Sustainable Developmental Activities-2022-23 Corporate Environment Department



**Reclamation of
OB Dumps**



**Utilisation of Mine
Water for Agriculture fields**



Development of Eco-Park



**Creation of
Summer Storage Tank**



**Adoption of
In pit crusher Technology**



**Adoption of
Surface Miner Technology**



**Establishment of
Processed Overburden Plant**



**Establishment of
Solar Power Plants**

Date:10.04.2023



THE SINGARENI COLLIERIES COMPANY LIMITED (A Govt. Company)

Sustainable Development Cell-SCCL

SCCL is operating coal mines for more than 133 years and the **Environmental Management** in coal mining areas is embedded as an **integral part** of **mine planning and development**. SCCL has established a separate **Environment Department** for continuous monitoring of **compliance of environmental norms** in coal mines and developed suitable mechanisms for implementation of **environment protection measures** and **promotion of sustainability**.

SCCL has developed an Environmental policy, which states that ***“To be a role model in protection of environment for sustainable development, SCCL is committed to implement the best global practices in all its operations through prevention / mitigation of pollution, proper disposal / recycling of wastes and bringing awareness among all the stake holders for continual improvement in environmental performance”***.

[SDC at SCCL](#)

In compliance of the guidelines issued by **Ministry of Coal (MOC)**, a **“Sustainable Development Cell (SDC)”** has been formed in SCCL under the Chairmanship of **Director (Planning & Projects)**, and **General Manager (Environment)** as Secretary.

[The following activities have been monitored under SDC:](#)

1. Bio-Reclamation/plantation
2. Mine water supply to community
3. Development of Eco-Park
4. Energy Efficiency Measures
5. Promoting Renewable Energy-Solar
6. Utilisation of processed overburden in UG mines
7. Extraction of commercial sand from POB etc.,



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Bio-Reclamation/Plantation

- SCCL is carrying out extensive plantation on the **OB dumps, vacant lands** etc., in the mines as per the approved **Environment Management Plans (EMPs)**. Apart from the plantation to be taken up under EMP, SCCL is taking plantation
 - in **degraded forest lands** of surrounding area with concurrence of State Forest department.
 - plantation in the surrounding villages with **free distribution of saplings to public**.
 - **avenue plantation** along the **approach roads/routes** leading to the connecting **surrounding villages**.
- Plantation on large scale in the vacant lands under “**Harita Haram Programme**” launched by **State Govt. of Telangana** in the year 2015 to increase the Green Cover in the state.
- The required seedlings for all the afforestation works in SCCL are being developed in SCCL **own nurseries**. These nurseries are located in about **11 locations**, which will provide **native forest species** of healthy and 2 year old tall plants.
- At any given point of time, SCCL nurseries are provided with about **40 to 50 lakh seedlings** of native forest species which are meant for SCCL plantations as well as distribution to public (**about 5%**).
- Fruit bearing plants like **Custard apple, Jamun, Guava (seed origin)** etc., are being raised in SCCL nurseries. Apart from these, about **one lakh nos.** of different high quality grafts of **Mango, Sapota, Mosambi, Pomegranate, Guava, Lemon** and good varieties of **Jackfruit and Coconut** are also being procured every year from private nurseries for **distribution purpose under CSR**.
- Every year about **20 to 25 tons** of different **legume seeds** are being sown on the OB dumps in order to **improve nutrient status** of the soil as well as to develop good greenery.

Bio-Reclamation/Plantation

Plantation details of SCCL from 1984 to 2022

Year	OB dump plantation		Block plantation		Avenue plantation		Grand Total	
	Area Ha.	No. of Seedlings	Area Ha.	No. of Seedlings	Area Km.	No. of Seedlings	Area Ha/ Kms.	No. of Seedlings
Up to 2020	5376.5	25540934	7058.5	11699015	546	236505	12981	37476454
2021	378.5	3076791	177.62	1313660	24	23833	580.12	4414284
2022	399.5	2851298	128.5	840469	29.5	321732	557.5	4013499
Sub Total	6154.5	31469023	7364.62	13853144	599.5	582070	14118.62	45904237
Free distribution of plants								
Up to 2020								2,00,52,472
2021								10,29,830
2022								6,06,739
Sub Total								2,16,89,041
Grand Total	6,154.5	3,14,69,023	7,364.62	1,38,53,144	599.5	5,82,070	14,118.62	6,75,93,278

Bio-Reclamation/Plantation

RG OC-I- External Dump Plantation



JVR OC-I- External Dump Plantation



Plantation over stabilized Internal dumps



Avenue Plantation
Sathupalli-Kothagudem Highway



Vriksharopan Abhiyan

- Massive plantation and free distribution of saplings to the surrounding people was taken up in all the areas of SCCL during the Vriksharopan Abhiyan 2020 & 2021, a nationwide plantation programme organised by Ministry of Coal held in all coal/lignite PSUs.
- In SCCL, the programme was launched by Sri. N.Sridhar, I.A.S., C&MD of SCCL by planting saplings in the C&MD office premises at Hyderabad during the years 2020 & 2021.
- Prominent people from society such as MPs, MLAs, MLCs, MPTCs, ZPTCs, District Collectors, RDOs, DFOs, MROs and other Officials from Police, Revenue, Municipal departments etc., were invited as chief guests for the programme in all the areas.
- All Directors, Area General Managers, General Manager (Environment), AGM (Forestry), and other officials of SCCL participated in the programme. The programme was arranged in a on a large scale by taking COVID-19 precautions such as social distancing, wearing of marks etc.,



Details of Vriksharopan Abhiyan

Year	No.of species planted	No.of saplings distributed
2020	2,00,000	56,000
2021	2,051,00	53,500

Vriksharopan Abhiyan



Plantation at Hyderabad Office by Sri N.Sridhar, C&MD on 23.07.2020 in connection with Vriksharopan Abhiyan-2020



Plantation at Hyderabad Office by Sri N.Sridhar, C&MD on 19.08.2021 in connection with Vriksharopan Abhiyan-2021



Plantation at Manuguru by Sri N.Balram, Director (Finance) on 23.07.2020 in connection with Vriksharopan Abhiyan-2020



Plantation at Kothagudem by Sri S.Chandrasekhar, Director (Operations) on 23.07.2020 in connection with Vriksharopan Abhiyan-2020



Plantation at STPP by Sri D.Sathyanaryana Rao, Director (E&M) on 19.08.2021 in connection with Vriksharopan Abhiyan-2021

Vriksharopan Abhiyan



Creation of Eco-parks

Eco-parks are green areas for **public use**. These are areas where there is usually an abundance of **trees and plants**, with lawn and various facilities (such as benches, playgrounds, fountains and other equipment) that allow you to enjoy leisure and rest.

It is utilized as an **amusement park** without hampering its **natural environment** by ensuring that **bio-diversity** remains unaffected.

The purpose of an ecological park is to **protect the ecosystem** in which it develops, although these regions also **serve as recreation** and allow the population to know the nature of a particular place.

Creation of Eco-parks

SCCL developed [Eco-Park](#) in the reclaimed mining areas of [GauthamKhani Opencast Project](#). The Project is an operating project near Gouthampur Village, Chunchupalli Mandal (Erstwhile Kothagudem), Bhadradi Kothagudem District of Telangana State.

The mine was commenced in the [year 1993](#). The mine is going to be closed within a period of [3 to 4 months](#). The mine is having [well reclaimed and ecologically restored external dumps](#) with [thick plantation, water reservoirs](#), and nursery etc., The park is developed in an area of [20 Ha \(approx\)](#) with an expenditure of [Rs.4.76 Crores](#).

Foundation stone was laid on [23.07.2020](#) by Hon'ble MLA, Kothagudem Constituency and Director (Operations) & (PA&W) in connection with [Vriksharopan Abhiyan-2020](#).

It is [also](#) proposed to [integrate](#) the eco-park with [Telangana State Tourism Department](#) as advised by Ministry of Coal and develop it as one of the [eco-tourism spots](#) in the state.



Highlights of the Eco-park

- Development of **Lawns and gardens** along with **theme plantation**
- Development of **Cacti and Succulent garden**
- **Butterfly** garden
- **Palmatum**
- **Boating arrangement** in the water reservoir with life guard arrangement
- **Trekking arrangement** on OB dumps
- **Bird watching** arrangement on OB dumps
- **Vinayaka Vanam**
- **Water fountains**
- **Park for children**
- **Canteen and Rest Rooms.**

Key Beneficiaries- Residents of Rudrampur, Gouthampur, nearby villagers and other visitors.

Highlights of the Eco-park-GK OC



Foundation stone laying.....



Entrance...



Water bodies surrounded by greenery.....



Reclaimed dumps.....



Vinayaka Vanam.....



View of OC Mine.....

Highlights of the Eco-park-GK OC



Water bodies for boating....



Life Guard Room.....



Butterfly garden....



Palmatum.....



Nursery.....



Toilets....



View Point.....



Highlights of the Eco-park-Rudrampur



Lake for boating...



Open Gym.....



Yoga Centre.....



View Point.....



Life Guard Room under construction...



Cafeteria.....

Mine water Utilization

- The mine discharge water is being utilized for **industrial & domestic** purposes such as dust suppression, stowing, washing of machinery, fire fighting, plantation, and drinking.
- After meeting the industrial requirement, part of the excess mine discharge water is being supplied to **SCCL colonies and surrounding villagers** for drinking purpose after **treatment in filter beds**.
- The remaining excess mine discharge water is channeled through **settling tanks** before discharging in to nearby **agriculture tanks** for community use such as **irrigation and for ground water recharge**.
- **Summer water storage tanks** have been created near most of the opencast mines to store excess mine discharge water.
- About **100 surrounding villages** are being benefitted by excess mine water discharge.

Supply of drinking water to surrounding villagers



Mine Water Utilization

Year		Water pumped out from mines	Own Use (Industrial)	Community Use				
				Domestic water		Irrigation water		Total
				Volume (A)	Beneficiaries (@15 LPCD) (per day)	Volume (B)	Irrigation	Volume (A+B)
		LKL		LKL	Nos.	LKL	Acres	LKL
2020-21	Target	992.17	525.95	13.16	2,40,000	453.06	4,500	466.21
	Actual	992.30	524.57	13.17	2,42,000	454.56	4,500	467.73
2021-22	Target	995.33	495.33	15.00	2,73,973	485.00	4,900	500.00
	Actual	1036.28	484.76	16.70	3,05,023	534.82	4,900	551.52
2022-23	Target	1085.00	485.00	20.00	3,00,000	580.00	5,000	600.00
	Actual	1090.03	453.00	20.03	3,70,926	617.00	5,080	637.03

Mine Water Utilization

Agricultural Fields near by OB dumps of JVR Open Cast Mine



Agricultural Fields near by OB dumps of RG Open Cast Mine-III



Summer Storage Tank near RG OC-II project



Summer Storage Tank near RG OC-III project



Mine water Utilization

List of benefitted villages

1	Strut-pit Basthi	27	Peddampaet & Mangalpalli	53	Dhanbad	79	Beddalonipalli
2	Stalin Nagar	28	Medapalli Village	54	Kistaram	80	Kashimpalli
3	Thilak Nagar	29	Dubbagudem	55	Rejerla	81	Reddy colony
4	Kummar Basthi	30	Bhagatsingh Nagar	56	Barlipet	82	Gandhinagar
5	Seshagiri Basthi	31	Muthyalampalli Village	57	Main Hospital Area	83	Shanthinagar
6	Bolli Nagar	32	Orregadda	58	Budidagadda	84	Madina Nagar
7	Cheuvu Katta	33	Kasipeta	59	Old Rama Talkies area	85	LB nagar
8	Bupesh Nagar	34	Amarwadi, Sarangapalli	60	Babu Camp	86	Krishna colony Plots area
9	Vijayalaxmi Nagar	35	BPA Muncipal Area	61	Writer Basthi	87	Subhash colony plots area
10	JK-5 Hutment	36	Rachapalli Village	62	CMPF Office area	88	Bhaskara gadda village
11	Vengalrao Nagar	37	Akkapalli Village	63	Coolie line	89	Veshyalapalli
12	Indira Nagar	38	Kannala Village	64	Ganesh Basthi	90	Basavarajupalli
13	No.15 Basthi	39	Vempadu Village	65	Superbazar area	91	Parashurampalli
14	Kakatiya Nagar	40	Huts area-KK Nagar	66	Sanyasi Bhasthi	92	Peddapur
15	Subash Nagar	41	Huts area-Lamadi Thanda	67	Nehru Basthi	93	Ravinagar
16	Sanjay Nagar	42	SingireddyPalli&Chandanapur	68	Durgam Basthi	94	Arunakka nagar
17	Balaji Nagari	43	Alluru village	69	Ram nagar	95	Sundarayya Colony
18	Lalithapuram	44	Penchikalpet	70	N.K.Nagar	96	Singapur
19	Usirikayalapalli	45	Penagadapa	71	Bhajanamandir	97	Thallapalli
20	Seetaramapuram	46	Sitampeta	72	Gajularam Basthi	98	Guttedar Palli
21	Bhagyanagar Thanda	47	Rudrampur	73	Gouthamnagar	99	Ramarao Peta
22	Lachagudem	48	Garibpeta	74	Patha Kothagudem	100	Jangeti Village
23	Venkateshwarlapalli	49	Ramavaram	75	Ganga Hussain Basthi	101	Bhupalapalli village
24	Huts area(Sector 1&2)	50	3 Incline colony	76	A-Power House Basthi	102	Vippala Singaram
25	Janagama Village	51	Seetampeta	77	Main Bazar	103	Annaram village
26	Private Area	52	Gouthampur	78	Mathura Basthi	104	Kommugudem village

Processed Overburden and Bottom Ash Utilisation

Processed Overburden (POB) and Bottom Ash from TPPs are being used in place of river sand for stowing in underground mines of SCCL.

Sources of Bottom Ash:

1. NTPC located at Ramagundam
2. STPP located at Jaipur, Mancherial

Processed Overburden Plant at Sri Rampur-SRP OC-II(9 LCM/annum)



Processed Overburden Plant at Ramagundam-MOCP (15 LCM/annum)



Processed Overburden Plant at Bhupalpalli-KTK OC-II(9 LCM/annum)



POB, Bottom Ash and Sand Utilisation

POB, Bottom Ash and Sand Utilisation (All fig. in L.Cu.m)-2022-23

S. No	Item	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	TOTAL
1	POB	0.97	0.89	1.10	1.05	2.35	6.70	5.64	4.25	3.56	4.73	5.12	6.00	42.37
2	Bottom Ash	0.00	0.93	5.09	9.09	8.12	11.62	17.27	12.30	12.56	7.16	9.01	10.46	103.61
3	Sand	28.90	25.52	22.82	20.07	20.51	12.44	10.43	13.40	11.04	5.55	4.47	3.37	178.52
Total		29.87	27.34	29.01	30.21	30.98	30.75	33.35	29.96	27.16	17.44	18.60	19.84	324.50

Utilisation pattern of stowing material (in %)

S. No	Item	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Overall Utilization
1	POB	3.25	3.27	3.78	3.46	7.57	21.78	16.93	14.20	13.12	27.10	27.54	30.25	13.06
2	Bottom Ash	0.00	3.40	17.54	30.08	26.21	37.78	51.78	41.07	46.23	41.07	48.45	52.74	31.93
3	Sand	96.75	93.33	78.68	66.45	66.21	40.44	31.29	44.73	40.64	31.83	24.01	17.01	55.02
Total		100	100	100	100	100	100	100	100	100	100	100	100	100.00

* It is observed that, utilisation of sand has reduced and utilisation of bottom ash & processed overburden increased over the years.

Promoting Renewable Energy

SCCL has planned to set up 300 MW capacity Solar Power Plants with an outlay Rs.1361.50 Crores. Accordingly, 224 MW capacity Solar Power Plants were up to 2022-23. The balance 76 MW capacity Solar Power Plants will be commissioned during 2023-24.

Details of Solar Power plants established during 2020-21, 2021-22 & 2022-23

S.No	Area	Capacity (MW)	Date of Synchronisation
1	STPP	10	Synchronized on 10.02.2020.
2	Manuguru	30	Synchronized on 30.07.2020.
3	Ramagundam -3	50	1) 15 MW Synchronized on 27.11.2020 2) 15 MW synchronized on 20.01.2021. 3) 10 MW synchronized on 10.11.2021. 4) 10 MW synchronized on 31.12.2021.
4	Yellandu	39	15 MW synchronized on 09.01.2021 24 MW synchronized on 05.03.2021
5	Mandamarri stage - 2	15	Synchronized on 08.04.2021
6	Mandamarri stage - 1	28	Synchronized on 17.04.2021
7	Bhupalapalli	10	Synchronized on 05.06.2021
8	Kothagudem stage -1	37	Synchronized on 22.09.2021
9	STPP Reservoir (Floating type)	05	Synchronized on 28.01.2023
	Sub-Total	224	

Promoting Renewable Energy

Targets for the FY-2023-24

Sl.No	Location	MW	Ground/Dump/ Rooftop/ Floating
1	Kothagudem Area	33	Ground mount
2	RG-3 Area	22	OB Dump
3	Chennur, SRP Area	11	Ground mount
4	STPP Reservoir	10	Floating type
	Sub-Total	76	
5	Mallanna Sagar	250	Floating type
	Grand Total	326	

Promoting Renewable Energy

Office Buildings/Guest Houses -Present Installed Capacity

S.No.	Location of the solar plant	Capacity of the plant	Type
1	Guest House, MMR	4 kWp	Roof Top
2	GMO, RG3	10 kWp	Roof Top
3	Singareni Bhavan, Hyderabad	60 kWp	Roof Top
4	SC Polytechnic, SRP	100 kWp	Ground Mounted

Proposed Units

S.No	Location of the solar plant	Capacity of the plant	Type	Remarks
1	New Head office building, Corp.	80 kWp	Roof Top	To be commissioned
2	EPI centre building, Corp.	80 kWp	Roof Top	

Promoting Renewable Energy



Synchronization of 15 MW Solar Power Plant at Yellandu on 09.01.2021



Promoting Renewable Energy

Solar Power Plant at STPP (10 MW)



Solar Power Plant at Manuguru (30 MW)



Promoting Renewable Energy



Synchronization of 15 MW Solar Power Plant at RG 3 on 27.11.2020



Energy Efficiency Measures

Energy efficiency measures – Achievement for the FY 2022-23

	Use of LED Lights	Energy Efficient AC	Super Fan	E-Vehicle	Efficient Water Heaters	Energy Efficient Motors for Pumps	Auto-timer in street lights	Capacitor Bank
	Nos.	Nos.	Nos.	Nos.	Nos.	Nos.	Nos.	Nos.
Target	15000	150	12000	2	450	nil	nil	nil
Achievement	6243	163	9039	nil	375	nil	nil	nil
% of Achievement	41.62	108.67	75.33	-	83.33	-	-	-
Energy saving in KWH	2075421	206100	1581825	-	56250	-	-	-
Total Expenditure	Rs.3.26 Crores.							

Dust Suppression Technologies

Status of Dust Suppression Technologies for the FY 2022-23

SCCL	Target & Achievement for FY 2022-23						
	FMC Projects	Mist Sprayer	Fog Canon (Truck)	Fog Canon (Trolley)	Wheel washing	Mechanical Road sweeper	Surface Miner
	Nos.	Nos.	Nos.	Nos.	Nos.	Nos.	Nos.
Target	1	5	0	12	0	3	2
Achievement	1	2	-	26	-	4	1

FMC Project (1)- JVR OC I & II Expansion Project- Coal transportation from Sathupalli Town to Kothagudem Town by Rail (54.10 Km) commenced from 28.05.2022.

Mist Sprayers (2)– JVR OC CHP-1 (May,2022), SRP OCP-1 (Aug'2022), Surface Miner-1 (PK OC-IV)

Fog Canons (26):

Sl. No	Location	No.s	Sl. No	Location	No.s	Sl. No	Location	No.s
1	RG OC3 CHP	02	6	Khairagura OC	01	11	GDK 1 CHP	01
2	RG OC-V	06	7	Kistaram OC	02	12	KTK OC-2	02
3	SRP CHP	01	8	Koyagudem OC	01	13	JVR OC	03
4	IK OC	01	9	JK 5 OC	01	14	RCHP	02
5	KK OC	01	10	RG OC1 CHP	02			
	Total				26			

Mechanical Road sweepers (4) –SRP OC II Project, RG OC I Project, MNG OC Project and STPP

THANK YOU

