GRASIM INDUSTRIES LIMITED, CHEMICAL DIVISION, BINAGA, KARWAR

ENVIRONMENTAL STATEMENT REPORT FORM-V 2022-2023

FORM -V
ENVIRONMENTAL STATEMENT

Environmental Statement for the financial year 2022-23
ending on 31st March 2023.

PART – A

i)	Name & address of the owner / occupier of the industry	Grasim Industries Limited. Chemical Division. Unit: Karwar P. O-. Binaga, 581 307, Dist.- Uttar Kannada. Karnataka.		
ii)	Industry category, Primary (STC Code) / Secondary (STC Code)	Red (Chlor Alkali)		
iii)	Production Capacity (Installed) MT/Per Annum	Sr. No	Name of the Product	Total Quantity in MT/A as per CFO
		1	Caustic soda	100000
		2	Chlorine (Generation)	88750
		3	Hydrochloric acid (100 %)	50400
		4	Liquid Chlorine	39011
		5	Sodium Hypo Chlorite	2208
		6	Compressed Hydrogen	7956000 NM3
		7	Dilute Sulphuric (78%) Acid	1029
		8	Poly Aluminum Chloride	73000
		9	Phosphoric Acid	24000
		10	Kestra Molded Equipment's	120
		11	Calcium Phosphate (Food Grade)	12000
iv)	Year of establishment.	1975		
v)	Date of the last environmental statement submitted.	**24.09.2022**		

Production Details

Product	FY 2021-22 MT/Annum.	FY 2022-23 MT/Annum.
Caustic soda Production	80391.7	79215
Chlorine (Generation)	71347.2	70303
Hydrochloric acid (100 %) Production	48002.0	45792
Liquid Chlorine Production	24491.3	25054
Sodium Hypo Chlorite Production	705.3	693
Dilute Sulphuric (78%) Acid Production	488.3	539
Phosphoric Acid Production	17658.4	17149
Kestra Molded Equipment's Production	3.8	11
Poly Aluminum Chloride Production	--	--
Compressed Hydrogen Production	--	--

PART – B

Water and Raw Material Consumption.

(i) Water Consumption in m3/day

Subject	FY 2021-22	FY 2022-23	Remarks
Process / Cooling	2256.56 M3/Day	2044.76 M3/Day	---
Domestic	239.25 M3/Day	238.93 M3/Day	STP Treated water is used for gardening.

Sr. No	Process water consumption per unit of product output.		
	Name of the product	FY 2021-22	FY 2022-23
1	Caustic Soda	5.42 M3/MT	5.32 M3/MT
2	Phosphoric Acid	15.20 M3/MT	12.08 M3/MT
3	Kestra	No water requirement.	No water requirement.

S.N.	Water Consumption	FY 2021-22 (in M3)	FY 2022-23 (in M3)
1	Total Water Consumption	910973	833547

(ii) Raw Material Consumption:

Sr. No	Name of Raw materials.	Process	Unit	Consumption of raw material per unit of output.	
				FY 2021-2022	FY 2022-2023
1	Common salt.	Caustic Soda	MT	1.641	1.590
2	Caustic soda (including Hypo)		Kg	19.556	20.317
3	Soda Ash.		Kg	5.192	5.418
4	Hydrochloric Acid (32%)/100 %		Kg	13.026	18.017
5	Sulphuric Acid (Per MT Lid. Cl2)		Kg	16.347	18.010
6	Rock Phosphate.	Phosphoric Acid	MT	2.29	2.28
7	Hydrochloric Acid (32%)		MT	4.36	4.04
8	Amyl Alcohol.		Kg	21.81	19.01
9	Lime.		Kg	242	237
10	Natural Fiber.	Kestra	MT	0.55	0.55
11	Synthetic Resin.		MT	0.45	0.45

PART – C

Pollutants discharged to environment / unit of output.

(Parameters as specified in the consent issued)

a) Water

Sr. No	Pollutants	*Quantity of pollutants discharged (Mass/day) In Kgs	Concentration of pollutants discharged (Mass / volume)		Percentage of variation from prescribed standard with reasons
			Result (mgpl) Avg. 2022-2023	Limits as per CFO (mgpl)	
1)	pH	-	7.11	5.5-9.0	We have a pool-proof treatment plant with proper control to ensure that all the pollutants are within prescribed limits all the time.
2)	Suspended solids	31.06	54.45	100	
3)	Oils and grease	Nil	Nil	20	
4)	Total Resi. chlorine (as Cl)	Nil	Nil	1.0	
5)	Ammo. Nitrogen (as N)	Nil	Nil	50	
6)	Total Kjeldhal Nitrogen (as N)	4.32	7.57	100	
7)	Free Ammonia (as NH_3)	Nil	Nil	5	
8)	BOD (3 days at 25^0 C)	32.62	57.20	100	
9)	COD	98.18	172.14	250	
10)	Mercury (as Hg)	Nil	Nil	0.01	
11)	Lead (as Pb)	Nil	Nil	2.0	
12)	Copper (as cu)	0.16	0.28	3.0	
13)	Zinc (as Zn)	0.17	0.30	15.0	
14)	Fluoride (as F)	4.33	7.59	15.0	
15)	Sulphide (as S)	Nil	Nil	5.0	
16)	Nitrate nitrogen	Nil	Nil	20	

- Total 208859 M^3 treated Effluent discharge to Sea, average volume of the treated liquid effluent is around 570 M^3 per day and the maximum is 717 M^3 per day.

b) Air (Stack Monitoring Report)

Sr. No	Chimney Attached to	Pollutants	*Quantity of pollutants discharged (Mass/day) In Kgs	Concentration of pollutants discharged (Mass / volume)		Percentage of variation from prescribed standard with reasons
				Results (mg/Nm3) Average	Limits as per CFO (mg/Nm3)	
1	Caustic soda Fusion plant.	Particulate Matter (PM)	---	---	---	Emission from all the stacks well within the statutory limits.
2	Hypo chlorite	Chlorine	0.09	0.97	15	
3	HCL Furnace	HCL	0.90	37.52	35	
4	10 TPH Boiler (Coal Fired)	Particulate Matter (PM)	10.85	36.25	150	
5	18 TPH Boiler (Coal Fired)	Particulate Matter (PM)	49.48	65.78	150	
6	Phosphoric Acid.	HCL	0.24	6.51	35	
		Fluorides	0.12	3.21	25	
7	Food Grade Calcium Phosphate Reactor	Particulate Matter (PM)	SD	SD	150	
8	Food Grade Calcium Central Collection.	Particulate Matter (PM)	SD	SD	150	
9	Food Grade Calcium Phosphate Drier.	Particulate Matter (PM)	SD	SD	150	

C) Air (Ambient Air Quality Report)

Location	PM10	PM2.5	SO2	NOx
	Micrograms/m3			
Station 1- North West of Cell House	41.94	25.01	10.14	13.93
Station 2 - South West of Cell House	41.07	24.52	10.76	13.91
Station 3- South East of Cell House	42.10	24.99	11.68	14.87
Station 4- Sr.C (Guest House)	40.72	24.28	9.72	13.26
Station 5 - D-Type Colony Area	40.62	24.52	10.10	13.77
The Ambient Air Quality values are well within the statutory limits.				

PART – D

HAZARDOUS WASTES

(As specified under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.

Hazardous waste Generated & Disposed Quantity (MT)						
S.N.	Category of waste	Type of Waste	Generation Quantity (MT)		Disposal Quantity (MT)	
			FY 21-22	FY 22-23	FY 21-22	FY 22-23
1	5.1	Used Spent Oil	1.0	0.83	1.0	0.83
2	5.2	Waste residue containing Oil	--	0.03	--	0.03
3	15.2	Discarded Asbestos	9.67	18.14	9.67	18.14
4	16.3	Brine sludge	--	599.26	--	568.68
5	33.1	Empty barrels/Containers/Liners contaminated with Hazardous chemicals/Waste	--		--	
6	33.2	Contaminated cotton rags or other cleaning materials	0.12	3.63	0.12	3.63
7	35.1	Exhaust Air of gas cleaning residue	--	0.33	--	0.33

Note-

Total 3402.06 MT accumulated brine sludge (Cat.16.3) from Lagoon number -08 disposed to KSPCB authorized TSDF in FY 2022-23. Henceforth, no brine sludge is accumulated in lagoon number 08.

PART- E

SOLID WASTES

Sr. No	Solid waste.	Total quantity (MT) dry basis	
		FY 2021-22	FY 2022-23
a)	**Process (Caustic Soda)** Sludge is generated during the brine purification. This is produced when all impurities present in the salt viz. calcium and magnesium are precipitated as $CaCO_3$ and $Mg(OH)_2$. Apart from these it contains NaCl, insoluble present in the salt. This sludge is consolidated in impervious lagoon as directed by the State Pollution Control Board.	662.61 MT	599.26 MT
b) i)	**From Pollution Control Facility of Phosphoric Acid plant** After acidulation of rock phosphate with hydrochloric acid, the insoluble and unreacted mass are separated in a clarifier. Further these solids are filtered through a vacuum drum filter. The filtrate is recycled in the plant and the solids are repulped with water and pumped to effluent treatment plant. After recovery of phosphoric acid from the mixture of phosphoric acid and calcium chloride, the calcium chloride containing non-recoverable amount of phosphoric acid and hydrochloric acid are pumped to effluent treatment plant. Both the effluents mentioned above are neutralized with milk of lime, clarified and the solids are separated using centrifuge and stored within the premises. We also have the plan to use it to manufacture the organic fertilizer based on the study conducted by the University of Agricultural Sciences, Bengaluru & the product specification will be as per FCO,1985.	9265.48 MT	10607.07 MT
Disposed- The entire sludge mentioned under b (i) is kept consolidated in our premises. We are on the way of installation of new fertilizer plant for consuming this accumulated Phosphate sludge.			
b) ii)	**Quantity recycled or reutilized within the unit-** No solid waste is recycled or reutilized. However, we recycle the entire liquid effluent (washings) from the caustic soda plant after treatment. Caustic Soda Plant (Recycle Water) Phosphoric Acid Plant (Recycle Water) Total Quantity of Recycled water.	10680 M^3 16241 M^3 159695 M^3 186616 M3	3970 M^3 17725 M^3 189117 M^3 210812 M^3
c	**Ash Generation & Disposal from 10 TPH & 18 TPH Coal fired Boiler**		
	Flyash Generation (MT)	2382.18	1873.27
	Bed Ash Generation (MT)	101.49	85.38
	Flyash Disposal (MT)	838.09	468.74
	Bed Ash Disposal (MT)	101.49	-
d.	**Disposed (E-Waste) - E-Waste Scrap sold to registered recyclers.**	1.90 MT	2.2 MT
e	**Used Batteries (Disposal through Dealer/Registered Recycler)**	-	4.60 MT (212Nos.)

PART- F

Please specify the characteristics (in terms of concentration and quantity) of hazardous as well as solid waste indicate disposal practice adopted for both these categories of wastes.

Sr. No	Name of solid waste	Characteristics	Quantity (dry basis)	Method of collection and disposal
1	**Brine sludge.**	Consists of insoluble present in the salt & precipitated impurities of the salt viz $CaCO_3$, $Mg(OH)_2$, & metal hydroxides.	1.64 MT per day	The sludge is collected in trolleys and then consolidated in impervious lagoon.
2	**Sludge from effluent treatment plant of the phosphoric acid plant.**	The liquor left after extraction of H_3PO_4, from the reaction products of rock phosphate and HCl is called spent brine. It is acidic in nature and contains small amount of phosphoric acid, hydrochloric acid, iron and other metallic impurities and fluoride. This along with rock insoluble are neutralized with milk of lime. All these impurities are precipitated as insoluble phosphates, hydroxides& fluorides.	33.78 MT per day	The sludge consists of insoluble, calcium phosphate, calcium fluoride all of which are highly insoluble. The sludge coming out from the centrifuge is stored within the premises. We also have the plan to use it to manufacture the organic fertilizer based on the study conducted by the University of Agricultural Sciences, Bengaluru & the product specification will be as per FCO,1985.
3	**Hazardous Waste (Used Oil)**	This is generated during running of air compressor, pumps etc. Per annum	0.83 MT	These are collected in barrels and then sold to authorized recyclers/reprocesses

PART – G:

Impact of the Pollution abatement measures taken on conservation of natural resources and consequently on the cost of production.

1 HCl loading area containment facility arranged for any leakage during tanker loading.

2 The Unit has state of art technology Air pollution control Equipment's (APCE) such as 02 No's Bag filters and 13 No's of Scrubbers for effective controlling and prevention of pollution from the manufacturing process.

3 09 Nos. Online Continuous Emission Monitoring Systems (OCEMS) has been installed at all major stacks like HCL vent, Hypo vent, 10 TPH & 18 TPH Coal fired boiler.

4 Plantation has been carried at plant and colony premises. Total number of trees planted during 2022-23 is 100 saplings.

5 On account of various pollution abatement measures taken, we are able to comply with all terms and conditions laid down by the Karnataka State Pollution Control Board in respect of air and water consents hazardous waste authorization and Bio medical authorization. The Pollution Control Board Officials are regularly visiting and inspecting our environmental activities.

6 We are succeeded in recycling the maximum waste water generated from our plant.

7 A separate Environment Management Department exists with well qualified personnel to ensure regular monitoring of pollution control equipment's and to meet present and future requirements as required for EMS - ISO – 14001 that includes statutory compliance and management of environment and is under the control of Senior Executive reporting to Unit Head.

PART- H.

Additional measures / investment proposal for environmental protection including abatement of pollution, prevention of pollution.

1. Periodically check-up of the submarine pipeline for any damage by a competent agency and report submitted to KSPCB.
2. Plankton- studies, Zoo Plankton and phytoplankton conducted in the Binaga Bay through a competent agency (Pre & Post monsoon)
3. MBBR technology with Ultra Filtration system will replace the existing old technology in proposed STP: Treated water will be used as makeup water for cooling tower and for gardening (**Reuse & Recycle Principle).**
4. The Environmental audit of different Environmental attributes for conservation of resources.

PART – I

Any other particulars for improving the quality of the environment.

Sustainability & World Class Manufacturing (WCM) is used as a tool for better housekeeping, good maintenance practice and assist in control of pollution. Task force for Energy conservation and Waste water utilization is also formed by the management for protection and improvement towards environment.

These task forces have been asked to prepare the report of their observation and send their comments to the management to take care of any technical deficiencies and further developments to be carried out to maintain the clean environment.
Tree plantation and Environment awareness activity were organized on World Environment Day Celebration to improve environment awareness amongst employee and workmen various events, programme and competitions has been done for better awareness towards environment. Also Conducted different environment awareness programs for all Employee & Family members.

We have received ISO certification of integrated management system (ISO -9001:2015, ISO-14001:2015, ISO 45001:2018, ISO 50001:2018, SA 8000:2014 & ISO 27001:2013) certification by TUV NORD.

Use of renewable Energy: **73%** of power came from renewable energy source **FY-22-23.**

POLLUTION MONITORING EQUIPMENTS AND FACILITIES

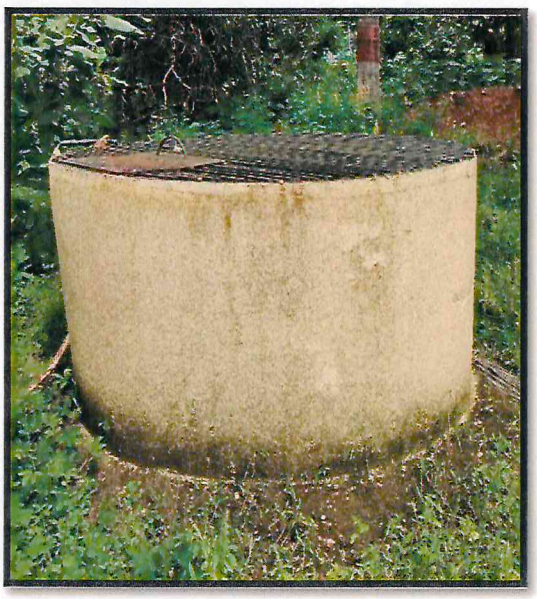
Sl no	Name of the Equipment's	Equipment Sr. No	Make/Supplier	Model	Quantity (Nos.)
1	Fine Particulate Sampler	555DTK-2010	Envirotech Instrument Pvt. Ltd	APM550	01
2	Respirable Dust Sampler	2719-DTB-2014	Envirotech Instrument Pvt. Ltd	APM-460	01
3	Gaseous Pollutant Sampler	151-DTK-2010	Envirotech Instrument Pvt. Ltd	APM433	01
4	Stack Monitoring Kit	334-DTG-2014 324-DTE-2014	Envirotech Instrument Pvt. Ltd	VSS1	02
5	High Volume Sampler	67-DTG-2019	Envirotech Instrument Pvt. Ltd	APM430	01

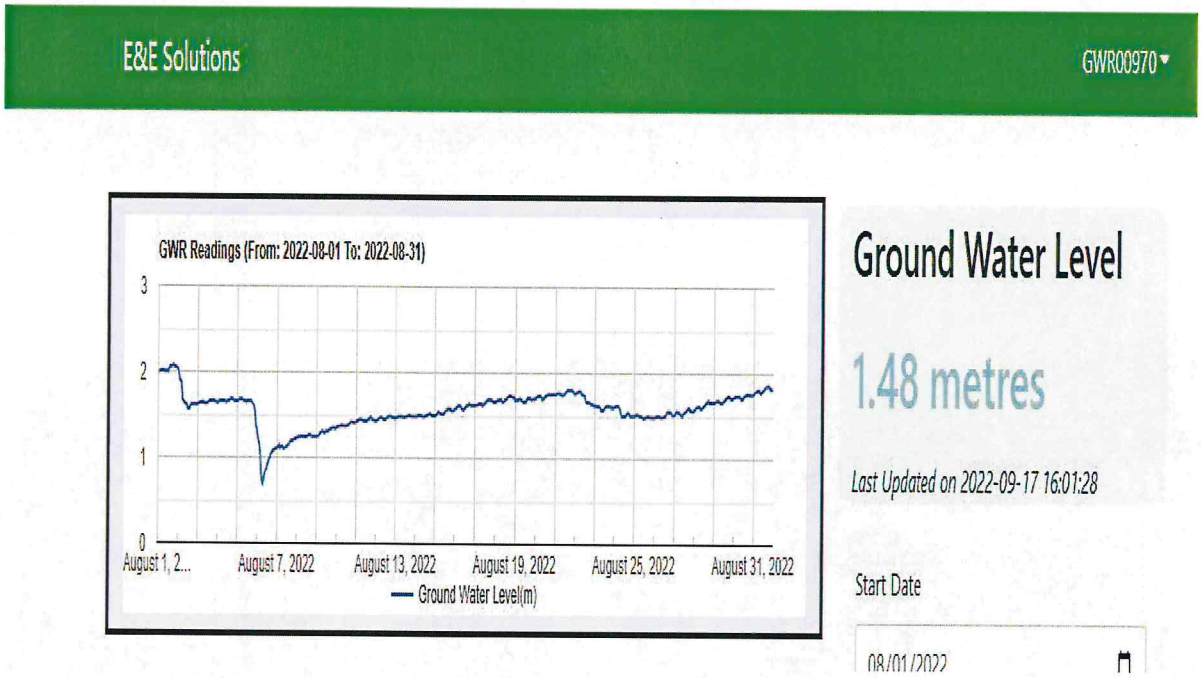
Other Initiatives:

1. **Installation of 03 number online Continuous Ambient quality monitoring system (Commissioning under Progress)**

2.Covered Shed for storage of Fly ash

3.Instalation of Piezometer with DWLR





4.Instalation of Standby Filter Press in Phosphoric Acid ETP

Green Belt

Grasim Industries Limited
Integrated Management System Policy

(ISO 9001:2015, ISO 14001:2015, ISO 45001:2018, ISO 50001:2018, SA 8000:2014 and ISO 27001 2013)

We at Grasim Industries Ltd. - Chemicals, Fashion Yarn and Insulators (CFI) Business are committed to produce and deliver desired quality of products & services to all stakeholders by adopting Aditya Birla Group Sustainable Business Framework.

We commit to adhere to all legal and statutory requirements as applicable and ensure continual improvement in all spheres of activities.

We will achieve this by:

i. Providing safe workplace, preventing work related injury & ill health by eliminating hazards/reducing OHS risks through consultation/participation of all employees.

ii. Taking initiatives towards efficient use of natural resources; promoting use of 3R Principles (reduce/reuse/recycle) to optimise water consumption, waste generation, prevention of environment pollution by adopting globally accepted technologies and best practices.

iii. Continually encourage efficient use of energy resources, with a focus on reducing its energy intensity and carbon footprint of operations and products, improve energy and carbon management; increase use of renewable energy, wherever possible

iv. Aligning our existing policies, processes and activities with our commitment to respect human rights, including those that apply to labour practices, prohibiting all forms of harmful child labour, forced / trafficked labour, discrimination and harassment

v. Adopting latest Aditya Birla Group Information Security Policy for protecting our people, information, intellectual property, assets, activities and facilities against misuse, loss, damage, disruption, interference, espionage, or unauthorized disclosure

vi. Involving all relevant stakeholders to achieve continual improvement in Integrated management System performance by regularly setting & reviewing objectives & targets.

vii. Conducting periodical audits to identify potential areas of system improvement and taking timely corrective actions, as applicable.

viii. Providing relevant training to all employees for competence enhancement & overall development.

ix. Engaging with internal/external stakeholders and communities to broaden our understanding of environmental priorities, global issues and initiate timely actions on key environmental challenges, setting and reviewing targets and monitoring, reporting and disclosing performance.

The policy is periodically reviewed, communicated, made available to all employees and to interested parties on request.

Place: Mumbai
Issue Date: 01/03/2021

Jayant V Dhobley
Business Head – CFI Sector

ADITYA BIRLA GROUP

Grasim Industries Limited

Chemical Division, Karwar, Karnataka

ADITYA BIRLA GRASIM

CSR ACTIVITIES 2022-2023

Near By adopted Village Satellite View


Near By adopted Village Satellite View
Grasim Industries Limited Company
Konkan Railway Tunnel 10
Shri Mahalsa Temple
Shri Somnath Temple
St. Anne's Church
Karidev Temple
Nagarmadi Water Falls
State Bank Of India
Arga
Ship Hull Out Fitting
Bgrp
Indian Coast Guard Station
Chendia
St. John Evangelist Church
Lord Shiva Temple
Shree Maha NAGA CHAUDESHWARI...
Churchwada
NAVAL BASE KARWAR
8. Bhajankeri
9. Devtiwada
10. Harijankeri
11. Vokkalkeri Chendia
12. Hunsemakki Amdalli

- We have 12 adopted villages near by our company.
- Total population is 6875
- We have been concentrating on the following 5 Pillars.
  - 1. Education
  - 2. Health
  - 3. Sustainability Livelihood
  - 4. Infrastructure Development
  - 5. Social Empowerment

Expenses towards CSR activities as on Mar 2023

ADITYA BIRLA
GRASIM

Total Budget for the year 2022-2023 is 8860000/-

Focus Area	Key Activities	Beneficiaries	Amount Spent (Rs.)
Health Care	1. Health Camp in Binaga Village	480	21011
Education	1. Cupboard to Anganwadis	180	78000
	2. Stationary Kit to Special Ables Children School	75	242490
Social Empowerment	1. National Flag Distribution and Beach Clean-up Day	Around 5000	47190
	2. Sports Donation to District Athletic Association	200	50000

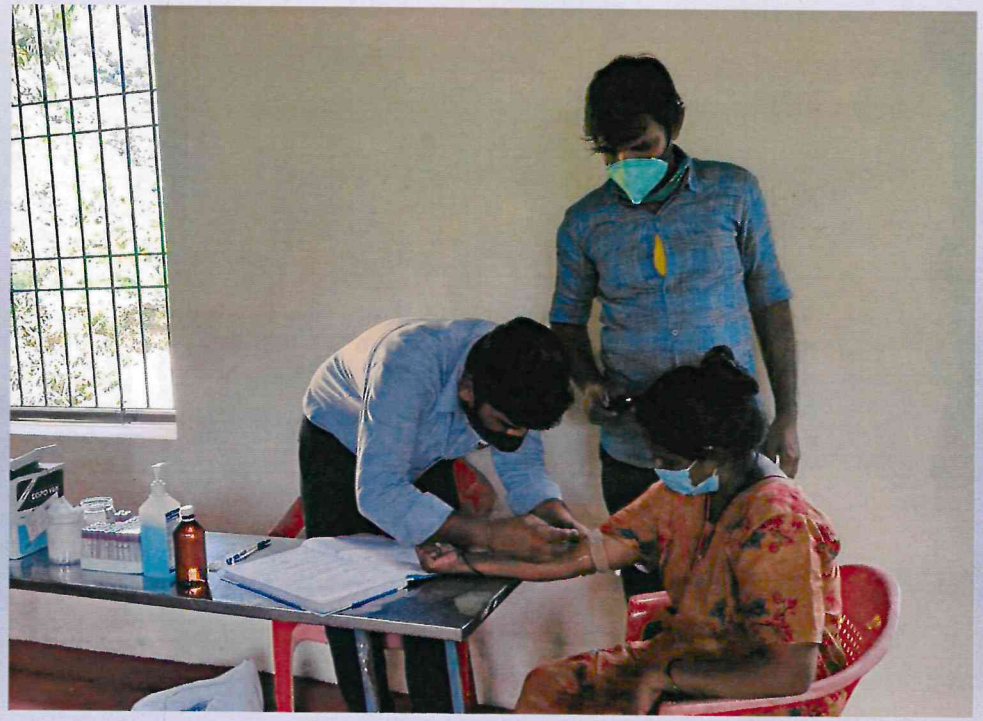
Expenses towards CSR activities as on Mar 2023

Focus Area	Key Activities	Beneficiaries	Amount Spent (Rs.)
Infrastructure Development	1. Speaker and Sound System to Patrika Bhavan Karwar	300	92776
	2. Renovation of Community Hall, Near SP Office Karwar	500	210150
	3. Construction of Shed in Mhalsa Temple, Binaga	2000	404386
	4. Fencing Work near Coast Guard Office, Karwar	100	42598
	5. Construction of Shed near Police Station, Karwar	All Public	137959
	6. Construction of Class Rooms in Mundgod Taluk	800	3256000
	7. Canopy at Naval Beach	Naval Base Public	206618
	8. Desktop to DFO Office	50	91600
	9. Garbage Vehicle to CMC	7 Villagers, Around 3000	831030
	10. Silver Idol to Temple	Villagers, Around 500	165000

Total Amount Spent for the Year is Rs. 5816048/-

GENERAL HEALTH CHECK-UP AND ANEMIA CAMP IN BINAGA VILLAGE

ADITYA BIRLA
GRASIM



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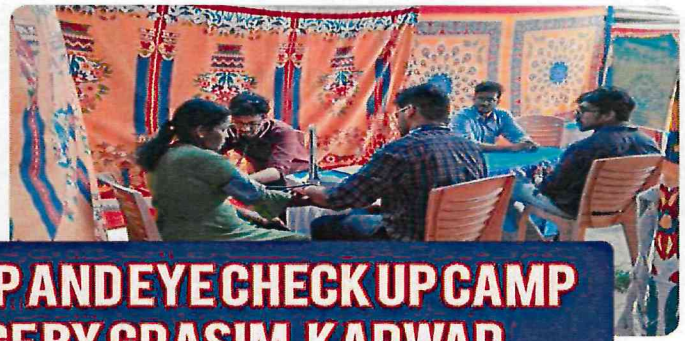

GENERAL HEALTH CHECK UP AND EYE CHECK UP CAMP HELD AT BINAGA VILLAGE BY GRASIM, KARWAR

Renovated and Painted School under Education

STATIONARY KIT TO SPECIAL ABLED CHILDREN OF ASHANIKETAN SCHOOL

INTERNATIONAL MEN'S DAY @ GRASIM, KARWAR

Constructed Shed and Inaugurated by Unit Head in Binaga Village under Infrastructure

Donated Desktop to DFO Office under Infrastructure

Donated Garbage Van to CMC under Health

Construction of Class rooms in Mundgod taluk

GENERAL HEALTH CHECK-UP AND WELLNESS CAMP FOR WOMEN OF BINAGA VILLAGE

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Construction of Shed for Old Age People Near Beach