Ref: MPL/ENV/MoEF&CC/2024 –May/06 **Date: 24th May, 2024**

To,
Shri Subrat Mohapatra, IFS (I/C)
Deputy Director General of Forests (C)
Ministry of Environment, Forest and Climate Change,
Integrated Regional Office, Gandhinagar,
A-Wing–407 & 409, Aranya Bhawan, Near CH-3 Circle,
Sector-10A, Gandhinagar – 382010
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Subject: Six monthly compliance report (October, 2023 to March, 2024) of Environment Clearance (EC) for the project activities "VCM–2002 KTPA, PVC–2000 KTPA, Ethylene Glycol– 400 KTPA near village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat" by M/s Mundra Petrochem Limited.

Reference : 1). EC Identification No. - EC22A020GJ133762, File No. IA-J-11011/149/2021-IA II(I) dated 31/08/2022.
2). F.No.J-11011/149/2021 – IA – II(I) Dated 27/12/2022.
3). MPL/ENV/MoEF&CC/2023 – Nov/02 Dated 24/11/2023.

Respected Sir,

With reference to above subject, MoEF&CC vide above refer letter dated 31/08/2022 has granted environment clearance for the project activities "VCM–2002 KTPA, PVC–2000 KTPA, Ethylene Glycol– 400 KTPA near village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat by M/s Adani Enterprises Limited". Followed by, MoEF&CC vide above refer letter dated 27/12/2022 has transferred the Environment Clearance on the name of M/s Mundra Petrochem Limited from M/s Adani Enterprises Limited.

Presently, the PVC project is under final design & detail engineering stage, however, soil sampling & stabilization, boundary fencing, earth preparation & piling for foundation / construction activities are in progress at site. We are hereby submitting a soft copy of the six-monthly EC compliance report for the period October, 2023 to March, 2024.

We hope you will find the above in order.

Thanking you,
Yours faithfully,

Vinay Kumar Singh
Head – Environment & Sustainability

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2. Member Secretory, GPCB : ms-gpcb@gujarat.gov.in
3. Regional Office, GPCB (Kutch East): ro-gpcb-kute@gujarat.gov.in

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Mundra Petrochem Limited

Introduction:

Mundra Petrochem Limited, wholly owned stepdown subsidiary of Adani Enterprises Limited (AEL) intends to setup a PVC Project at Mundra, Kachchh, Gujarat. The PVC Production capacity of the proposed project is 2000 KTPA (Kilo Tons Per Annum). PVC grades such as Suspension PVC (Resin), Chlorinated PVC (C-PVC), Mass PVC (bulk) and Emulsion PVC (paste) would be produced at the proposed PVC Project.

For implementation of this project, various plants such as Semi-Coke Plant, Calcium Carbide Plant, Acetylene Plant, Caustic Soda (Chlor-Alkali process) Plant, VCM Plant, PVC Plant, Ethylene Glycol Plant and Cement Plant are proposed to be established.

PVC Produced from the facility will cater to the domestic market and replace imports in the domestic market. By- Products from the plant would be marketed in either in domestic market or export market depending upon market conditions.

Ministry of Environment Forest and Climate Change has granted Environment Clearance for proposed project "Poly-Vinyl Chloride (PVC) comprising of IND-I projects i.e. Semi Coke– 2030 KTPA, Cement–6 MTPA; Clinker–4 MTPA, IND-II projects i.e. VCM– 2002 KTPA, PVC– 2000 KTPA, Ethylene Glycol–400 KTPA and IND-III projects i.e. Acetylene–860 KTPA & Caustic Soda–1310 KTPA) and Calcium Carbide–2900 KTPA (Not Specified in EIA Notification)) in land notified as Industrial area of APSEZ, Ta-Mundra, Dist-Kachchh, Gujarat." vide –

Industry – I activity: EC identification no. EC22A009GJ154137 and file no. IA-J-11011/423/2021-IA-II(IND-I) dated 26/09/2022.

Industry – II activity: EC Identification No. - EC22A020GJ133762, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022.

Industry – III activity: EC Identification No. - EC22A013GJ127411, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022.

Considering the company's long term business strategy, the proposed project is transferred from M/s Adani Enterprises Limited (AEL) to M/s Mundra Petrochem Limited (MPL). MPL is a wholly owned stepdown subsidiary company of M/s Adani Enterprises Limited (AEL), incorporated under the provision of Company Act, 2013 for carrying out various business activities for Semi-Coke, Calcium

Carbide, Cement & Clinker, VCM, PVC, Ethylene Glycol, Chlor-alkali and acetylene plants and associated products in phased manner. Further above granted Environment Clearances have been transferred in the name of M/s Mundra Petrochem Limited (MPL) by Ministry of Environment Forest and Climate Change (MOEFCC) vide their letter no.

1. **Industry – I activity: - File no. IA-J-11011/423/2021-IA-II(IND-I) Dated 23/12/2022.**
2. **Industry – II activity: - File no. J-11011/149/2021-IA-II(I) Dated 27/12/2022.**
3. **Industry – III activity: - File no. IA-J-11011/149/2021-IA-II(I) Dated 28/11/2022.**

Further, the Consent to Establish (CTE) is granted by the Gujarat Pollution Control Board (GPCB) vide order CTE-59301 dated 13/12/2022 and same was transferred in the name of Mundra Petrochem Limited on dated 12/04/2023.**Presently, the PVC project is under final design & detail engineering stage, however, soil sampling & stabilization, boundary fencing, earth preparation & piling for foundation/construction activities are progress at site. Financial Closure is yet to be achieved.**

Point wise Compliance of Environmental Clearance for Industrial activity-II- Proposed VCM–2002 KTPA, PVC–2000 KTPA, Ethylene Glycol– 400 KTPA vide EC Identification No: EC22A020GJ133762 File No: IA-J-11011/149/2021-IA-II(I) Date: 31/08/2022 & subsequent EC Transfer vide File no. J-11011/149/2021-IA-II(I) Dated 27/12/2022.

S. No	Conditions	Status
A	**Specific Condition**	
(i)	The project proponent shall abide by all orders and judicial pronouncements made from time to time in the case related to public hearing and land which is pending with Gujarat High court	Agreed with requirements
(ii)	3D studies of risk assessment shall be carried out for all hazardous chemicals and submitted to MoEF&CC within three (03) months. Recommendations of mitigation measures from possible accident shall be implemented based on advanced risk Assessment studies conducted for worst case scenarios using latest techniques.	Noted and shall be complied with. Remark: Presently, project is under detail design and engineering stage. HAZOP review for the process plants is being carried out for all process units under project PVC complex for identifying all potential hazard and operability. Presently, various process units of PVC project under development of basic & detail design and engineering stage. HAZOP review for the process plants is being carried out for all process units under PVC project for identifying all potential hazard and operability problems and access the associated risks and safeguards along with risk reduction measures with help of guide words by structured review. Moreover, Quantitative Risk Assessment & 3D (Three-dimensional) Risk Assessment study for entire Green PVC Complex will also be carried out considering all scenarios for all hazardous chemicals using latest advance risk assessment techniques/tools to access the risk and associated mitigation measures and report will be submitted to MoEF&CC. Third party safety consultant have already been appointed to carryout Quantitative Risk Assessment & 3D (Three-dimensional) Risk Assessment study for entire complex.

S. No	Conditions	Status
(iii)	PP shall conduct monitoring of site specific meteorological data & air quality modelling for winter season after commissioning of plant and submit the report to the Regional Office of MoEF&CC.	Noted and shall be complied with the requirements. Remark: The project is under detailed design and engineering stage. Site specific meteorological data & air quality modelling for winter season will be conducted after commissioning of plant and same will be submitted to regional office of MoEF&CC.
(iv)	SO_2 emission standard from coal fired steam boilers within the projects is proposed to be within 100 mg/Nm3 that shall be achieved by installing suitable APCD such as Flue Gas Desulphurization for reduction of SOx emissions. The National Emission Standards for Petrochemical (Basic & Intermediates) issued by the Ministry vide G.S.R. 820 (E) dated 9th November 2012 as amended time to time shall be followed.	Noted and shall be complied with the requirements. Remark: Presently, project is under final detail design and engineering stage. However, suitable APCD will be installed to control the SOx emission level within the stipulated norms.
(v)	Incinerator of VCM Plant shall be constructed as per regulatory requirements under The Environment (Protection) Rules, 1986 for incinerator facility. VCM monitoring in ambient air shall be conducted online at 4-5 locations within plant and at AAQM monitoring locations within the study area also. Dioxins and furan emissions shall be controlled by providing proper control systems including chillers, carbon and lime dosing and running the process as per the CPCB guidelines. Monthly VOC monitoring shall be done at vulnerable points.	Noted and shall be complied with the requirements. Remark: Presently, project is under final detail design and engineering stage. However, Necessary arrangement will be done as per stipulated norms to construct the incinerator of VCM and controlling the Dioxins and furan emissions. The engineering design of VCM incinerator will be carried out in compliance with the applicable rules as amended in the Environment (Protection) Rules, 2010 (G.S.R.608 (E), dated 21st July 2010). Further, During operations, monitoring of VCM and Volatile organic compounds (VOCs) i.e. benzene and benzo(a)pyrene (BaP) will also be carried out on monthly basis as per requirement.

S. No	Conditions	Status
(vi)	Properly designed and appropriate air pollution control equipment shall be attached to flue gas stacks of PVC plant, VCM plant and Ethylene Glycol Unit and flare stacks as mentioned in the environment management plan. Emission control measures shall be taken to ensure air emission standards and norms as prescribed by CPCB and SPCB are strictly followed.	Noted and shall be complied with. Remark: Presently, project is under final detail design and engineering stage. Necessary APC equipment will be installed to flue gas stacks of PVC plant, VCM plant and Ethylene Glycol Unit and flare stacks as mentioned in the environment management plan for ensuring the emission level within the stipulated norms.
(vii)	The company/PP shall ensure that there will be no impact on mangroves plantation present in study area due to the construction and operation phase of the project activities.	Noted and shall be complied with. Remark: The project is under final detailed design and engineering stage. However, It will be ensure that there will be no impact on mangroves plantations due to the construction and operation phase of the project activities.
(viii)	Conservation plan as submitted and approved by Chief Wildlife Warden, Gandhinagar vide letter no. WLP/32/C/297-298/2022-2023 dated 18/06/2022 shall be followed and budget earmarked shall be invested within the given time frame.	Noted and shall be complied with. Remark: Presently, project is under final detail design and engineering stage. Activities as proposed in the wildlife conservation plan have been initiated in consultation of the Forest Department, Kachchh, Bhuj. Earmarked budget investment shall be aligned with project progress. Details of the activities performed as part of "Wildlife Conservation Plan" is attached as **Annexure – I**.
(ix)	10% of total power requirement with respect to PVC, VCM, & Ethylene glycol process in overall PVC project will be met by purchasing renewable energy through DISCOM from suitable renewable energy generator or alternate sources.	Noted and shall be complied with. Remark: The project is under detailed design and engineering stage. However, requisite arrangement shall be executed by purchasing renewable energy through DISCOM from suitable renewable energy generator or alternate sources.

S. No	Conditions	Status
(x)	There will be no groundwater extraction for this project. The total water requirement for PVC, VCM, Ethylene Glycol process will be 29,040 m3/day and for other common utilities will be 65,948 m3/day and will be met from APSEZL Seawater Desalination plant. Necessary permission in this regard shall be obtained from the concerned regulatory authority. The project proponent will treat and reuse the treated water within the factory and no waste or treated water shall be discharged outside the premises. Also, company shall explore possibility of optimizing and reducing the water consumption during detailed engineering and operational stage to reduce the OPEX for De-saline water.	Noted and shall be complied with the requirements. Remark: Water requirement for the construction activities is being met through DESAL plant of APSEZL Further, this project is based on "Zero Liquid (Effluent) Discharge" concept. So, there will be no untreated water discharge outside the premises. Further, possibilities are being explored for optimizing and reducing the water consumption in detailed engineering based on technical feasibilities. Also, water conservation initiatives will further be explored during operational stage to reduce the OPEX for De-saline water.
(xi)	Comprehensive water audit to be conducted on annual basis and report to the concerned Regional Office of MOEF&CC. Outcome from the report to be implemented for conservation scheme. Performance assessment of pollution control systems/ devices shall be done annually.	Noted and shall be complied with. Remark: Comprehensive water audit will be conducted on annual basis during the plant operation phase and report for the same will be furnished to Regional Office, MoEF&CC. Further, outcomes of the water audit will be implemented for conservation scheme and also performance assessment of pollution control systems/ devices will be done annually during operation phase.
(xii)	Industrial waste water shall be treated in ETP followed by RO and MEE. Treated water shall be reused back as cooling tower make up water and boiler feed water. Domestic sewage shall be treated in STP, and treated water shall be reused in gardening. No any untreated water shall be disposed of outside the plant area to avoid impact on surface water quality and Zero effluent Discharge concept shall be followed. Online flow meters shall be installed at inlet and outlet of the ETPs. Use of PPE's shall be mandatory while handling the chemicals in ETP to avoid spillage	Noted and shall be complied with. Remark: This project is based on "Zero Liquid (Effluent) Discharge" Concept and there will be no untreated water discharge outside the plant premises. Further, adequate capacity of waste water treatment system will be installed to achieve the Zero Liquid (Effluent) Discharge". Treated water will be reuse for cooling tower make up water and/or for other suitable activities inside the plant premises. Moreover, required online flow meters will be installed to measure the ETPs flow and adequate measures will be ensured while handling the chemicals and to avoid spillages.

S. No	Conditions	Status
		In addition to this, STP has been set up for necessary treatment of domestic wastewater during construction activities. Environment Monitoring Report is enclosed as **Annexure - II**.
(xiii)	Company shall provide extended aeration system in the ETP scheme for removal of total Ammonical nitrogen. The existing ammonia tower in ETP scheme shall be used only for removal of free ammonia from incoming effluent.	Noted and shall be complied with. Remark: requisite arrangement will be done in the ETP to control the Ammonical Nitrogen as well as free Ammonia in the effluent.
(xiv)	Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond. Oil catchers/oil traps shall be provided at all possible locations in rain/ storm water drainage system inside the factory premises	Noted and shall be complied with. Remark: Project is under final detailed designing and engineering stage. However, separate storm water drainage system will be provided to ensure the no mixing of wastewater with storm water. Adequate guard pond shall be provided for initial storm passing during rains. Further, Oil catchers / Oil traps will be provided at all possible locations in rain/ storm water drainage system inside the factory premises.
(xv)	For safety and control of risk of any leakage from Anhydrous HCl pipeline, the pipeline shall be built using a seamless pipe with no flanges in between. Periodic Leak check with ammonia torch shall be carried out to detect the leak point along the pipeline. Toxic Leak detectors shall be installed and regularly tested at appropriate detection levels as per industry norms. Regular pipeline thickness measurements and maintenance shall be ensured. Continuous monitoring of pressure of HCl pipeline with high priority alarms, Pressure drop detection shall be monitored for promptly addressing of any leak. SCADA system shall be installed for the pipelines and interlocking shall be done. Chlorine storage tank shall be provided with safety measures such as level indicators with alarm, chlorine gas detector, chlorine sensors and emergency blower suction hoods with storage tank, rupture disc and remotely operated auto valves.	Noted and shall be complied with. Remark: Project is under final detailed designing and engineering stage. All mandatory sensors / leak detectors will be installed as per stipulated norms for safety and control of risk of leakages from anhydrous HCl Pipeline. Further, Continuous monitoring of pressure of HCl pipeline with high priority alarms, Pressure drop detection shall be installed and monitored for promptly addressing of any leak. SCADA system shall be installed for the pipelines and interlocking shall be done. Moreover, Chlorine storage tank will be provided with adequate safety measures including level indicators with alarm, chlorine gas detector, chlorine sensors and emergency blower suction hoods with storage tank, rupture disc and remotely operated auto valves.

S. No	Conditions	Status
(xvi)	The total ash generated from the coal fired boilers shall be utilized in proposed inhouse cement manufacturing unit.	Noted and shall be complied with. Remark: Project is under final designing and detail engineering stage.
(xvii)	Public Hearing issues raised by the local people shall be addressed as per the budget and timeline submitted.	Noted and being complied with the requirements. Remarks – Presently, PVC project is under final detail design and engineering stage. Action plan proposed to address the issues raised during public hearing and socio-economic issues in the study area are being implemented as project progresses at site. However, MPL has already initiated CER activities in all villages surrounding to project area and total CER expenditure incurred in various community welfare & eco-development activities is approx. Rs.829 Lakhs in line with project progress. The details of CER activities with expenditures till FY 2023 - 2024 and third party impact assessment are summarized in **Annexure – III**.
(xviii)	The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.	Noted and shall be complied with. Remark: Presently, PVC project is under final detail design and engineering stage. and environmental protection measures & safeguards in line with the applicable regulatory requirements and best available technologies are being considered in the detailed project engineering design.
(xix)	Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer to be done through pumps.	Noted and shall be complied with. Remark: Project is under final detailed designing and engineering stage. Safe storage practices will be adopted to store the Hazardous chemicals. Further, considering risk management, flame arresters shall be provided on tank farm, and solvent transfer will be done through adequate equipment's/pumps.

S. No	Conditions	Status
(xx)	Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.	Noted and shall be complied with. Remark: Project is under final detailed designing and engineering stage. Disposal of hazardous waste /organic residue and spent carbon etc. will be done through co-processing in cement industries after obtaining necessary authorization. Further, evaporation salt will be disposed off to the TSDF during operation phase.
(xxi)	The oily sludge shall be subjected to melting pit for oil recovery and the residue shall be bio – remediated. The sludge shall be stored in HDPE lined pit with proper leachate collection system	Noted and shall be complied with. Remark: adequate arrangement shall be provided for collection, oil recovery and storage of oily sludge.
(xxii)	The company shall undertake waste minimization measures as below: (a) Metering and control of quantities of active ingredients to minimize waste. (b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. (c) Use of automated filling to minimize spillage. (d) Use of Close Feed system into batch reactors. (e) Venting equipment through vapor recovery system. (f) Use of high-pressure hoses for equipment cleaning etc. to reduce wastewater generation.	Noted and shall be complied with the requirements. Remarks- Best available practices including suggested measures will be adopted for waste minimization.
(xxiii)	The green belt of 5-10 m width shall be developed in at least 33% of the total project area of Pocket 1, mainly along the plant periphery, in downward wind direction, and along roadsides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department. Total 33% of the greenbelt shall be design so that thickness of the greenbelt is increased on downwind side of the project in comparison to other sides. Additionally, 20-meter wide shall be developed in the plant side adjacent to the Mangrove Forest.	Noted and shall be complied with the requirements. Remark: Project is under final detailed designing and engineering stage. However, Green belt having requisite width will be developed in phased manner, mainly along the plant periphery, in downward wind direction, and along roadsides etc. Selection of plant species will be done in consultation with the State Forest Department. Further, adequate width of greenbelt will be developed in the plant side adjacent to the Mangrove Forest.

S. No	Conditions	Status
		Moreover, community tree plantation activities of selected plant species in consultation with the Forest department have been started at near by villages. Report of the same is enclosed as **Annexure – IV**.
(xxiv)	As per the Ministry's OM dated 30.09.2020 superseding the OM dated 01.05.2018 regarding the Corporate Environmental Responsibility, and as per the action plan proposed by the project proponent to address the socio-economic and environmental issues in the study area, the project proponent, as committed, shall provide education funds in technical training centers/ support in nearby village's schools, support in health care facilities, drinking water supply and funds for miscellaneous activities like solar street lights, battery, solar panel etc., in the nearby villages. The action plan shall to be completed within time as proposed.	Noted and being complied with the requirements. Remarks – Presently, project is under final detail design and engineering stage. Action plan proposed to address the issues raised during public hearing and socio-economic issues in the study area are being implemented as project progresses at site. However, MPL has already initiated CER activities in all villages surrounding to project area and total CER expenditure incurred in various community welfare & eco-development activities is approx. Rs. 829 Lakhs in line with project progress. The details of CER activities with expenditures till FY 2023 – 2024 and third party impact assessment are summarized in **Annexure – III**.
(xxv)	The project proponent shall ensure 70% of the employment to the local people, as per the applicable law. The project proponent shall set up a skill development center/provide skill development training to village people	Noted and shall be complied with the requirements. Remark: priority will be given to local people on skill basis as per the applicable law for employment. Skill development activities have already been started to impart necessary trainings to village people as part of Corporate Environmental Responsibility.
(xxvi)	A separate Environmental Management Cell (having qualified person with Environmental Science / Environmental Engineering / specialization in the project area) equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions. EMC head shall report directly to Head of	A separate Environmental Management Cell having qualified persons with specialization in Environmental Science / Engineering has been developed in which EMC head is directly reporting to Head of Organization / CEO as per company hierarchy. Further, full-fledged environment laboratory will be developed at site to carryout

S. No	Conditions	Status
	Organization / Managing Director / CEO as per company hierarchy	environmental monitoring activities during operational phase.
(xxvii)	The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Firefighting system shall be as per the norms.	Noted and shall be complied with the requirements. Remark: adequate Firefighting system / arrangement for protection of possible fire hazards during manufacturing process in material handling will be done as per the norms.
(xxviii)	Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. In case of the treated effluent to be utilized for irrigation/gardening, real time monitoring system shall be installed at the ETP outlet	Noted and shall be complied with the requirements. Remark: Continuous online (24x7) monitoring system for stack emissions will be installed for measurement of flue gas discharge and the pollutants concentration as per CPCB Guideline and necessary arrangements will be made for transmission of data to the CPCB / SPCB server during operation phase. Further, as this project is on "Zero Liquide Discharge" Concept, real time monitoring system will be installed at the ETP outlet as per CPCB Guideline.
(xxix)	PP to set up occupational health Centre for surveillance of the worker's health within and outside the plant on a regular basis. The health data shall be used in deploying the duties of the workers. All workers & employees shall be provided with required safety kits/mask for personal protection.	Noted and shall be complied with the requirements. Remark: mandatory Occupational Health Center will be set up for surveillance of the worker's health within plant premises. Further, it will be ensured that workmen are equipped with all necessary PPEs for Personal protection during construction as well as operation phase.
(xxx)	PP shall sensitize and create awareness among the people working within the project area as well as its surrounding area on the ban of Single Use Plastic in order to ensure the compliance of Notification published by MOEFCC on 12th August 2021. A report along with photographs on the measures taken shall also be included in the six-monthly	Noted and being complied with the requirements. Remarks: Awareness program on "Ban on Single use plastic" among the people working within the project area as well as its surrounding villages are being organized in a regular interval. A

S. No	Conditions	Status
	compliance report being submitted to concerned authority.	Summery report along with photographs is enclosed as **Annexure - V**.
B	**General Conditions**	
(i)	No further expansion or modifications in the plant, other than mentioned in the EIA Notification, 2006 and its amendments, shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change/SEIAA, as applicable. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Noted and agreed with requirements.
(ii)	The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.	Noted and shall be complied with the requirements. Remark: best available practices will be adopted for energy conservation and environment betterment.
(iii)	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (Day time) and 70 dBA (Nighttime).	Noted and shall be complied with the requirements. Remark: Adequate noise control measures including acoustic hoods, silencers, enclosures etc. as applicable will be provided on all sources of noise generation for maintaining the ambient noise levels within the prescribed norms. Necessary monitoring of ambient noise level (ANQM) at selected locations in project area and nearby villages also being carried out through third party NABL approved laboratory and Environment Monitoring report is enclosed as **Annexure – II.**
(iv)	The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. CER activities shall be undertaken by involving local villages and administration and shall be implemented. The company shall undertake eco-developmental measures including community welfare measures in the project	Noted and being complied with the requirements. Remark: To improve the socio-economic conditions of the study area, various eco-developmental measures including community welfare activities are initiated in phased manner under

S. No	Conditions	Status
	area for the overall improvement of the environment.	Corporate Environmental Responsibility in consultation with local villages and administration. In order to know the present social status and needs of the local community, a "Baseline & Need Assessment Study" is also carried out through third party professional agency involving various stakeholders - local villagers, administration etc. and the recommendation of the study is further included in the CER plan for implementation in phased manner. MPL has already initiated CER activities in all villages surrounding project area and total CER expenditure approx incurred in various community welfare & eco-development activities is approx. Rs.829 Lakhs in line with project progress. The details of CER activities with expenditures till FY 2023 -2024 and third party impact assessment are summarized in **Annexure – III**.
(v)	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.	Noted and shall be complied with the requirements. adequate EMP / environment management / pollution control measures funds toward CAPEX & OPEX have been kept to implement and / OR complying the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the state Government.
(vi)	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad / Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions / representations, if any, were received while processing the proposal.	Environmental Clearance letter has been submitted to concerned panchayats (all 15 villages) & The Taluka Development Officer (Rural Local Body), The District Development Officer, District Industries Center, and the local NGO / trust from whom suggestions / representations received during public hearing. Letters no. are as under and reference Ack. copy

S. No	Conditions	Status
		of submission is enclosed as **Annexure - VI.** 1). AEL/MPL/ENV/EC/2022-September/01 Dated 02/09/2022. 2). AEL/MPL/ENV/EC/2022-September/03 Dated 02/09/2022. 3). AEL/MPL/ENV/EC/2022-September/06/01 to 15 Dated 02/09/2022.
(vii)	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e- mail) to the respective Regional Office of MoEF&CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.	As per MoEF&CC Office Memorandum dated 14th June, 2022, Six monthly compliance report of stipulated environment clearance conditions including results of monitored data being uploaded on PARIVESH Portal & company's website i.e https://www.adanienterprises.com.
(viii)	The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of MoEF&CC by e-mail.	Presently, Project is under construction phase including final design and detail engineering of different processes. However, Environmental Statement for the year 2023 – 2024 have been Submitted to the Gujarat Pollution Control Board through vide our letter no. MPL/ENV/GPCB – Form – V/ 2024 – May/02 dated 18/05/2024 i.e within stipulated time period and same is also available on Companay's Website i.e https://www.adanienterprises.com. Copy of the submission is enclosed as **Annexure – VII**.

S. No	Conditions	Status
(ix)	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB / Committee and may also be seen at Website of the Ministry and at https://parivesh.nic.in/. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.	The advertisement stating "the project has been accorded environmental clearance by MoEF&CC and also displayed on company website" have been published on following news papers on 5th September, 2022. (i.e within 7 days of grant of Environmental Clearance). 1. Kutch Mitra (Gujarati Language) 2. Gujarat Samachar (Gujarati Language) 3. The Times of India (English Language). Copies of the same have already been submitted to concerned authorities through vide our letter no. AEL/MPL/ENV/MoEF&CC/2022 – September/05 dated 06/09/2022. Copy enclosed as **Annexure – VIII**."
(x)	The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	Noted and shall be complied with the requirements. Remarks: Presently, PVC project is under final detailed design & engineering stage and initial preparatory activities have been started at the project site & Financial Closure of the project is yet to achieved. Status of project and financial closure of the same once attained, will be submitted to the regional office as well as to the MoEF&CC along with Six monthly Compliance report.
(xi)	This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.	Agreed with requirement.

Annexures

Annexure No.	Name
I	Activities as per approved Wild Life Conservation Plan.
II	Environment Monitoring Report
III	CER Activities
IV	Tree Plantation Activities
V	Awareness Program on "Ban on Single use Plastic"
VI	Letter for submission of EC to Local Authorities.
VII	Copy of submission of Environment Statement – Form – V.
VIII	Letter for submission of EC and News Paper to concern authorities.

Annexure – I

Activities for Wildlife Conservation Plan

Awareness program for "Wildlife conservation" for surrounding area has been conducted at near by village. These awareness program comprises the need of wild life conservation, definition, importance, methods of wildlife conservations and actions taken by Adani foundations for at near by villages.

Wild life awarness program have been conducted at Primary School, Village Tunda.

About 60 students were participated and realised the important of nearby area, baran land as well as coastal area.

Students were also enlighten for the sanctury and reserve forest area located in the district and how they protect the wild life.

On July 26th, Mundra Petrochemical Limited has celebrated Mangrove Day with spreading awareness over 9th & 10th Grade students and fisherfolk. The session ended with Mangrove plantation. Approximately more than 150 participants participated.

Photo: Mangrove species awareness and plantation program.

M/S. MUNDRA PETROCHEMICAL LIMITED (MPL)

Six Monthly Environmental Monitoring Report
Mundra Petrochemicals Limited (MPL) Located at near Village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat

Month: October - 2023 to March - 2024

Submitted By

UniStar Environment & Research Labs Pvt. Ltd.
White House, Near GIDC Office, Char Rasta, Vapi,
Gujarat, India – 396195

M/S. MUNDRA PETROCHEM LIMITED (MPL)

Six Monthly Environment Monitoring Report for Green PVC Project near Village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat

QUALITY CONTROL							
Name of Publication	Six Monthly Environmental Monitoring Report for Green PVC Project near Village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat						
SO No.	Service Order	**Issue No.**	1	**Revision No.**	01	**Released**	April , 2024
Prepared & Managed By	Mr. Nikunj Patel		**Approved by**		Mr. Jaivik Tandel		
Released By	Unistar Environment and Research Labs Pvt. Ltd.						

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LIST OF ANNEXURES

ABBREVIATIONS AND ACRONYMS

MPL	:	Mundra Petrochemicals Limited
APL	:	Adani Power Limited.
APSEZL	:	Adani Ports & Special Economic Zone Limited
UERL	:	UniStar Environment and Research Labs Private Limited
CPCB	:	Central Pollution Control Board
EIA	:	Environment Impact Assessment
EMP	:	Environmental Management Plan
ETP	:	Effluent Treatment Plant
KLD	:	Kilo Liter Day
MOEFCC	:	Ministry of Environment, Forest & Climate Change
C_2H_2	:	Acetylene
CaC_2	:	Calcium Carbide
C_2H_3Cl	:	Vinyl chloride
GoI	:	Government of India
GPCB	:	Gujarat Pollution Control Board
PVC	:	Polyvinyl chloride
VCM	:	Vinyl Chloride Monomer

1 EXECUTIVE SUMMARY

1.1 Introduction

1.1.1 About ADANI Group

Adani Group is India's fastest growing corporate catering to a billion aspirations. Adani Group is a diversified organization comprising of 7 publicly traded companies in India. Adani Group has headquartered in Ahmedabad, in the state of Gujarat, India. Over the years, Adani Group has positioned itself to be the market leader in its transport logistics and energy utility portfolio businesses focusing on large scale infrastructure development in India with O & M practices benchmarked to global standards, with key businesses across Resources - mining & trading, Logistics – shipping, rail and airport terminals, Energy – Gas (LNG, City Gas), Thermal power generation, Renewables (Solar & Wind) and transmission energy infrastructure, Agro commodities, Ancillary industries and Real estate etc. Adani Group is the largest private power producer in India.

Adani owes its success and leadership position to its core philosophy of 'Nation Building' driven by ***'Growth with Goodness'*** - a guiding principle for sustainable growth. Adani is committed to improve its ESG footprint by re-aligning its businesses with emphasis on climate protection and increasing community outreach through its CSR programme based on the principles of sustainability, diversity and shared values.

Adani group is now executing green PVC project (Green PVC) at near Village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat

1.1.2 About UniStar Environment and Research Labs Private Limited (UERL)

UniStar Environment and Research Labs Private Limited is a company which provide efficient and economical services in the areas of environmental pollution control/monitoring and chemical analysis & research activities to various industries and institutions. UniStar provides technical consultancy backed by well-established sophisticated analytical laboratories, to comply with Statutory requirements and directives of the Pollution Control Board/ Committees under various Environment Pollution Control Acts. and Rules. We also carry out post Environmental Clearance monitoring and assist our valued customers in preparation of Half-yearly Environmental Clearance Compliance report.

- Ministry of Environment, Forest and Climate Change (MOEFCC), GOI recognized the Laboratory under the Environment Protection Act-1986 which is valid up to – 22/09/2024.
- ISO/IEC 17025 Accredited Laboratory by National Accreditation Board for Testing and Calibration Laboratories (NABL) which is valid up to – 22/09/2024.
- Recognized Environmental Auditor Laboratory by Gujarat Pollution Control Board, Gandhinagar, Gujarat, India which is valid up to 31/12/2025.

  Copy of relevant certificates are attached as Annexure I.

1.2 Brief Description of Project

The proposed Green PVC Project is having various major units such as, Semi-coke Plant, Calcium Carbide Plant, Acetylene Plant, VCM Plant, PVC Plant, Caustic Soda Plant, Ethylene Glycol Plant & Cement Plant. The associated infrastructure facilities such as boiler, final/intermediate product storages etc, utilities, pipelines, ancillary facilities for interconnecting /transferring of materials between pockets, loading/unloading, roads, drainages, pipe racks, trenches, cable trays, non-plant buildings, laboratories, fabrication yards, batching Plant, dispatch section, general stores/ warehouse, fire & safety department, maintenance workshop, occupational health centre etc. will also be established.

2 ENVIRONMENTAL MONITORING

2.1 General Philosophy & Scope of Work

The environmental monitoring encompassed various disciplines and environmental attributes, including air quality, water quality, noise levels, and soil conditions. As per the given scope of work for environmental monitoring by MPL, we have prepared Environmental Monitoring Plan as per below.

Sr. No	Discipline	Location	Parameter	Frequency
1.	Ambient Air Quality Monitoring	Seven Locations	As per NAAQMS, 2009	Monthly
2.	Ambient Noise Monitoring	Seven Locations	Day Time & Nighttime - Noise Levels in Leq dB(A)	Monthly
3.	Treated Sewage water	One Location	pH, Bio-Chemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Total Suspended Solids (TSS), Faecal Coliform (FC) (Most Probable Number per 100 millilitre, MPN/100ml, Nitrogen-Total, Phosphorus-Total	Monthly
4.	Ground water	Two Location	pH, Temperature, Turbidity, conductivity, Total Dissolved Solids, Bio-Chemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Salinity, Ammonical Nitrogen, Total Alkalinity, Total Hardness, Calcium, Magnesium, Chloride, Sulphate, Nitrate, Fluoride, Phenolic Compound, Sodium, Potassium, Calcium Hardness, Magnesium Hardness, Lead, Iron, Cadmium, Manganese, Copper, Arsenic, Chromium, Mercury, Nickel, Zinc, Total Nitrogen, Cyanide, Total Phosphorous, Sodium Absorption Ratio (SAR)	Pre & Post Monsoon
5.	Surface Water	Two Location	pH, Colour, Conductivity, Total Dissolved Solids, Bio-Chemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Dissolved Oxygen, Total Hardness, Calcium Hardness, Magnesium Hardness, Chloride, Sulphate, Nitrate, Fluoride, Phenolic Compound, Ammonical Nitrogen, Lead, Iron, Cadmium, Manganese, Copper, Arsenic, Chromium, Boron, Mercury, Zinc, Cyanide, Sodium Absorption Ratio (SAR)	Pre & Post Monsoon
6.	Surface Water (Marine)	Two Location	pH, Colour, Odour, turbidity, Total Suspended Solids, Total Dissolved Solids, Bio-Chemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Dissolved Oxygen, Oil & Grease, Lead, Iron, Cadmium, Manganese,	Pre & Post Monsoon

2.2 Sampling & Analysis

The selection of methods for sampling, preservation, and analysis holds significant importance in environmental monitoring. To ensure the highest quality in environmental sampling and analysis, the Central Pollution Control Board (CPCB) has established guidelines for these processes. Adhering to these guidelines, specific methods for sampling and analysis of environmental samples have been chosen and implemented. Instrument used in sampling are calibrated from NABL accredited Laboratory. Details are as follows:

Sr. No	Name of Instrument Used	ID No./Sr. No	Make/Model	Calibration Date	Cal. Valid up to
1.	Respirable Dust Sampler PM 10	UERL/AIR/RDS/47/ 1816-DTJ-2013	Envirotech/ APM 460-BL	27/06/2023	26/06/2024
2.	Fine Particulate Sampler PM 2.5	UERL/AIR/FPS/22/ 44-DTC-2012	Envirotech/ APM 550-MINI	27/06/2023	26/06/2024
3.	Respirable Dust Sampler PM 10	UERL/AIR/RDS/34/ 1768-DTB-2013	Envirotech/ APM 460-BL	02/08/2023	01/08/2024
4.	Fine Particulate Sampler PM 2.5	UERL/AIR/FPS/21/ 20-DTC-2012	Envirotech/ APM 550-MINI	02/08/2023	01/08/2024
5.	Respirable Dust Sampler PM 10	UERL/AIR/RDS/027/1 751-DTA-2013	Envirotech/ APM 460-BL	02/08/2023	01/08/2024
6.	Fine Particulate Sampler PM 2.5	UERL/AIR/FPS/050/ 129-DTL-2012	Envirotech/ APM 550-MINI	03/08/2023	02/08/2024
7.	Sound Level Meter	UERL/AIR/SLM/09A	Envirotech - SLM 100 /24 DTE 2008	15/07/2023	14/07/2024
8.	Sound Level Meter	UERL/AIR/SLM/09B	Envirotech - SLM 100 /310 DTK 2015	15/07/2023	14/07/2024
9.	Sound Level Meter	UERL/AIR/SLM/09C	Extech / SDL 600	26/06/2023	25/06/2024

***Calibration certificates are attached in Annexure II**

2.2.1 Ambient Air Quality Sampling and Analytical Techniques

The techniques used for ambient air quality monitoring and its permissible limit are given in following table.

Sr. No.	Parameter	Technique	Technical protocol	Permissible Limit (As per NAAQS)
1.	Particulate Matter as PM10	Respirable Dust Sampler (Gravimetric method)	IS - 5182, Part - 23	100
2.	Particulate Matter as PM2.5	fine particular Sampler (Gravimetric method)	IS - 5182, Part - 24	60
3.	Sulphur Dioxide as SO2	Modified West and Gaeke	IS - 5182, Part - 2	80
4.	Nitrogen Dioxide as NO2	Jacob &Hochheiser	IS - 5182, Part - 6	80
5.	Carbon Monoxide as CO	Gas Analyser (CO)	IS - 5182, Part - 10	4.0
6.	Ozone as O3	UV Spectrophotometer	IS - 5182, Part - 9	180
7.	Ammonia as NH3	Titrimetric Method	IS - 5182, Part - 25	400
8.	Lead as Pb	AAS Method	IS - 5182, Part - 22	1.0
9.	Nickel as Ni	AAS Method	IS - 5182, Part - 26	20
10.	Arsenic as As	AAS Method	IS - 5182, Part - 22	6.0
11.	Benzene as C6H6	GC Method	IS - 5182, Part - 11	5.0
12.	Benzo (a) Pyrene (BaP)	GC Method	IS - 5182, Part - 12	1.0

2.2.2 Ambient Noise Level Sampling Techniques

The techniques used for ambient air quality monitoring and its permissible limit are given in following table.

Sr. No.	Parameter	Technique	Technical protocol	Permissible Limit (As per CPCB)
1.	Ambient Noise Level Monitoring at Industrial Area	Noise Meter (Leq)	IS : 9989 : 1981	Day Time – 75 dB Night Time – 70 dB
2	Ambient Noise Level Monitoring at Residential Area	Noise Meter (Leq)	IS : 9989 : 1981	Day Time – 55 dB Night Time – 45 dB

2.2.3 Ground Water Sampling & Analysis Techniques

Sr. No.	Parameter	Technical protocol	IS 10500 Standard Limits for drinking water	
			Desirable limit	Per. Limit in the Abs. of Alt. Source
1	pH	IS 3025(Part 11):2022	6.5-8.5	NR
2	Temp	IS 3025(Part 9):1984	NS	NS
3	Turbidity	IS 3025(Part 10):1984	1	5
4	TDS	IS 3025(Part 14):1984	500	2000
5	Electrical Conductivity	IS 3025(Part 16):2023	NS	NS
6	COD	IS 3025(Part 58): 2006	NS	NS
7	BOD	IS 3025(Part 44): 1993	NS	NS
8	Phenol	IS 3025(Part 43): 2020	0.001	0.002
9	Chlorides	IS 3025(Part 32): 1988	250	1000
10	Sulphate	IS 3025(Part 24): 2022	200	400
11	Total Hardness	IS 3025(Part 21): 2009	200	600
12	Ca++ Hardness	APHA 23rd Ed,2017,3500 Ca. B	NS	NS
13	Mg++ Hardness	APHA 23rd Ed,2017,3500 Mg. B	NS	NS
14	Total Alkalinity	IS 3025(Part 23): 1986	200	600
15	Nitrate	APHA 23rd Ed,2017,4500 NO3-B	45	NR
16	Fluoride	IS 3025(Part 60): 2008	1	1.5
17	Sodium	APHA 23rd Ed,2017,3500 Na. B	NS	NS
18	Potassium	APHA 23rd Ed,2017,3500 Mg. B	NS	NS
19	Calcium	APHA 23rd Ed,2017,3500 Ca. B	75	200
20	Magnesium	APHA 23rd Ed,2017,3500 Mg. B	30	100
21	Salinity	APHA 23rd Ed,2017,2520-B, 2-60	NS	NS
22	Total Nitrogen	APHA 23rd Ed,2017,4500 NH3 - B	0.5	NR
23	Total Phosphorous	APHA 23rd Ed,2017,4500-P, D	NS	NS
24	Dissolved Oxygen	APHA 23rd Ed,2017,4500-O, B	NS	NS
25	Ammonical Nitrogen	IS 3025(Part 34) (ISE Method):1988	NS	NS
26	SAR	By Calculation	NS	NS
	Heavy Metals			
27	Arsenic (as As)	APHA 23rd Ed,2017,3114-C	0.01	0.05
28	Cadmium (as Cd)	IS 3025(Part 41): 1992	0.003	NR
29	Chromium (as Cr)	APHA 23rd Ed,2017,3111-B	0.05	NR
30	Copper (as Cu)	APHA 23rd Ed,2017,3111-B	0.05	1.5
31	Cyanide (as CN)	IS 3025(Part 27): 1986	0.05	NR
32	Iron (as Fe)	IS 3025(Part 53): 2003	0.3	NR
33	Lead (as Pb)	IS 3025(Part 47): 1994	0.01	NR
34	Mercury (as Hg)	APHA 23rd Ed,2017,3112-B	0.001	NR

Sr. No.	Parameter	Technical protocol	IS 10500 Standard Limits for drinking water	
			Desirable limit	Per. Limit in the Abs. of Alt. Source
35	Manganese (as Mn)	APHA 23rd Ed,2017,3500 Mn. B	0.1	0.3
36	Nickel (as Ni)	IS 3025(Part 54): 1994	0.02	NR
37	Zinc (as Zn)	IS 3025(Part 49): 1994	5	15
38	Total Coliform	IS 1622:1981	Shall not be detectable	
39	Faecal Coliforms	IS 1622:1981	Shall not be detectable	

2.2.4 Surface Water Sampling & Analysis Techniques

Sr. No.	Parameter	Technical protocol	Classification for Inland Surface Water (CPCB)
			Class E
1	pH	IS 3025(Part 11):2022	6.5 to 8.5
2	Dissolved Oxygen	APHA 23rd Ed,2017,4500-O, B	NA
3	TDS	IS 3025(Part 14):1984	2100
4	Electrical Conductivity	IS 3025(Part 16):2023	2250
5	BOD	IS 3025(Part 44): 1993	NA
6	Colour	IS 3025(Part 4):2021	-
7	Total Hardness	IS 3025(Part 21): 2009	NA
8	Ca++ Hardness	APHA 23rd Ed,2017,3500 Ca. B	NA
9	Mg++ Hardness	APHA 23rd Ed,2017,3500 Mg. B	NA
10	Chlorides	IS 3025(Part 32): 1988	600
11	Sulphate	IS 3025(Part 24): 2022	1000
12	Nitrate	APHA 23rd Ed,2017,4500 NO3-B	NA
13	Fluoride	IS 3025(Part 60): 2008	-
14	Phenol	IS 3025(Part 43): 2020	NA
15	Ammonical Nitrogen	IS 3025(Part 34) (ISE Method):1988	NA
16	SAR	By Calculation	26
17	Copper (as Cu)	APHA 23rd Ed,2017,3111-B	NA
18	Iron (as Fe)	IS 3025(Part 53): 2003	NA
19	Manganese (as Mn)	APHA 23rd Ed,2017,3500 Mn. B	NA
20	Mercury	APHA 23rd Ed,2017,3112-B	NA
21	Cadmium (as Cd)	IS 3025(Part 41): 1992	NA
22	Arsenic (as As)	APHA 23rd Ed,2017,3114-C	NA
23	Cyanide	IS 3025(Part 27): 1986	NA
24	Lead (as Pb)	IS 3025(Part 47): 1994	NA
25	Zinc	IS 3025(Part 49): 1994	NA
26	Chromium (as Cr)	APHA 23rd Ed,2017,3111-B	NA
27	Boron	IS 3025(Part 49): 1994	2
28	Total Coliform	IS 1622:1981	-
29	COD	IS 3025(Part 57): RA 2021	-

2.2.5 Surface Water (Marine) Sampling & Analysis Techniques

Sr. No.	Parameter	Technical protocol	Classification for Coastal marine water (CPCB)
			SW-I
1	pH	IS 3025(Part 11):2022	6.5 to 8.5
2	Dissolved Oxygen	APHA 23rd Ed,2017,4500-O, B	5
3	Colour & Odour	IS 3025(Part 4):2021 & IS 3025(Part 5):1983	No Colour No Odour
4	Floating Matters	-	None
5	Total Suspended Solid	APHA 23rd Ed,2017,2540-D	None from Sewage or Industrial waste Origin
6	Turbidity	IS 3025(Part 10):1984	-
7	BOD	IS 3025(Part 44): 1993	-
8	Oil & Grease	IS 3025(Part 39): 1991	0.1
9	Mercury as Hg	APHA 23rd Ed,2017,3112-B	0.01
10	Lead (as Pb)	IS 3025(Part 47): 1994	0.01
11	Cadmium (as Cd)	IS 3025(Part 41): 1992	0.01
12	Iron (as Fe)	IS 3025(Part 53): 2003	-
13	Manganese (as Mn)	APHA 23rd Ed,2017,3500 Mn. B	-
14	Total Coliform	IS 1622:1981	-
15	Sludge Deposits, Solid refuse floating Solids, Oil Grease and Scum	-	-
16	COD	IS 3025(Part 57): RA 2021	-

2.2.6 Treated Water Sampling & Analysis Techniques

The techniques used for waste water Sampling and analysis its permissible limit is given in following table.

Sr. No.	Parameter	Technical protocol	Permissible Limit (As per MOEFCC notification no. GSR 1265(E) dt. 13 Oct. 2017)
1.	Treated Effluent from STP		
	pH	IS 3025(Part 11):2022	6.5 to 9.0
	BOD	APHA 23rd Ed,2017,5210-B	<30
	COD	IS 3025(Part 58): 2006	-
	TSS	APHA 23rd Ed.,2017, 2540 – D	<50
	Nitrogen Total	APHA 23rd Ed,2017,4500-B, C	--
	Phosphorous Total	APHA 23rd Ed,2017,4500-P, D	--
	Faecal Coliform	IS 1622:1981	<1000

2.3 Location (map showing general location, Monitoring location and project boundary) with coordinates & Monitoring details.

The general location of the project is shown in ***Map 2-1*** shows the study area of 10 Km radius around the project site on Google Earth downloaded image.

The sampling location used for monitoring purpose is taken after due consideration with baseline monitoring location, availability of power & weather condition etc. Also In order to evaluate the quality of sewage water, samples were acquired from the sewage water treatment plant for comprehensive analysis. These analyses encompassed physico-chemical, general-chemical, and microbiological parameters.

Sr. No.	Sampling Type	Sampling Location	Type of Area	Coordinates
1.	Ambient Air & Noise	Project Site (Pocket – 1)	Industrial Area	22.785943° N, 69.566645° E
2.	Ambient Air & Noise	Project Site (Pocket – 2)	Industrial Area	22.78221° N, 69.559541° E
3.	Ambient Air & Noise	Project Site (Pocket – 3)	Industrial Area	22.802171° N, 69.552084° E
4.	Ambient Air & Noise	Near Fabrication & Batching Plant	Industrial Area	22.807563° N, 69.704170° E
5	Ambient Air & Noise	Village - Navinal	Rural Area	22.829246° N, 69.598332° E
6.	Ambient Air & Noise	Village - Zarpara	Rural Area	22.837942° N, 69.646225° E
7.	Ambient Air & Noise	Village - Vandh	Rural Area	22.809106° N, 69.53562° E
8.	Trade Effluent – STP Outlet	Project Site (Pocket – 1)	Industrial Area	22.784881° N, 69.566798°E

Photograph 2-1: Proposed Project Site (Current Status of Land)

Pocket – 1

Pocket – 2

Pocket 3

Photograph 2-2: Photographs of monitoring

	
Pocket – 1	**Pocket – 2**
	
Pocket – 4 Fabrication & Batching Plant	**Pocket – 1**

Pocket – 2

Pocket 3

Pocket – 4 Fabrication & Batching Plant

Pocket – 1 STP Sample Collection

Navinal Village

Zarpara Village

Village - Vandh

Map 2-1: Images Project General Location Map

Project General Location Map.

Source: Google Earth

Client: M/s. Mundra Petrochem Limited

Prepared by:

M/s. Unistar Environment and Research labs Pvt. Ltd., Vapi.

Map 2-1: Project site and Study Area of 10 Km radius on Google Earth Downloaded

3 CLIMATIC CONDITON

3.1 Climatic data from secondary sources

For the Green PVC project secondary data for weather conditions in the region is available for the period of October 2023 to March 2024. This table gives useful information about a region's weather condition. Meteorological data was analysed/reviewed for important parameters like Temperature, Humidity, BP, Wind speed, Wind direction, Solar radiation and Rainfall.

Average meteorological condition recorded at is as given in below table.

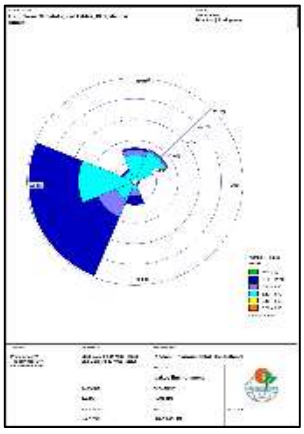
Table 3-1: Average meteorological condition

Weather Monitoring Data							
Month	**Scale**	**Temp. (°C)**	**RH (%)**	**BP (mmHg)**	**Wind Direction**	**Wind speed (Km/ Hr.)**	**Total Rainfall (mm)**
October 2023 to March 2024	Max.	37.5	97.5	763.2	360.0	38.5	36.5
	Min	12.1	9.2	752.6	0.0	0.1	
	Average/ Total	24.4	53.0	757.1	192.2	7.1	

Total Rainfall for FY 2023-24 at the end of Mar 2024 is 724 MM.

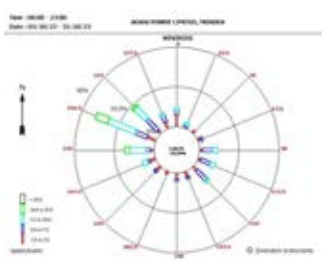
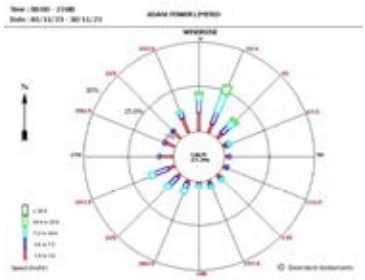
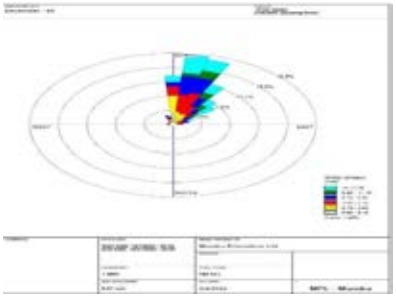
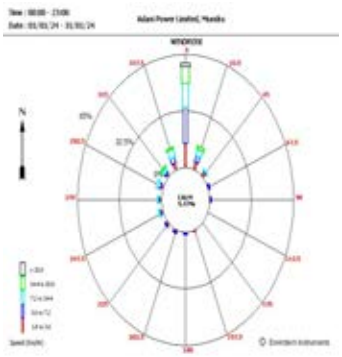
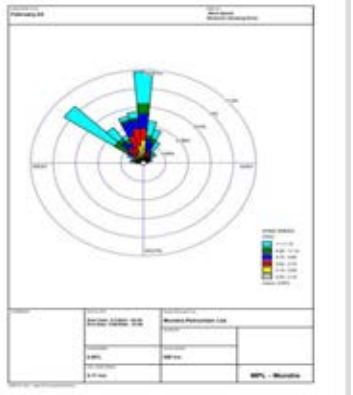
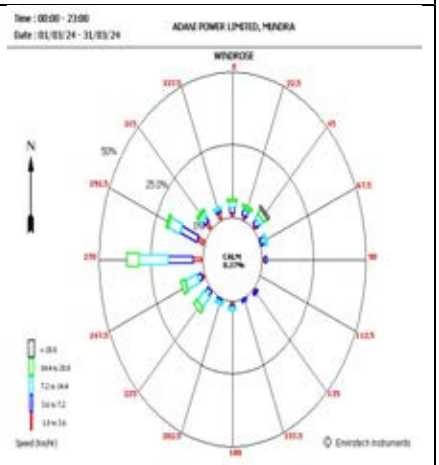
Based on wind patterns data, monthly wind-rose diagrams are presented in below Figure along with historical windrose of area.

Figure 3-1: Season wise wind-rose diagrams.



Annual

Wind Rose 2023 APL Mundra

		
Wind Rose Oct-23	Wind Rose Nov-23	Wind Rose Dec-23
		
Wind Rose Jan-24	Wind Rose Feb-24	Wind Rose March-24

4 ANALYSIS & INTERPRETATION

4.1 Ambient Air

Sr. No.	Month	Parameter with Results											
		PM10	PM2.5	SO2	NO2	CO	O3	NH3	Pb	Ni	As	Benzene	Benzo (a) Pyrene
		µg/m3	µg/m3	µg/m3	µg/m3	mg/m3	µg/m3	µg/m3	µg/m3	ng/m3	ng/m3	µg/m3	ng/m3
		Permissible Limit As per NAAQS – 2009 Notification.											
		100	60	80	80	2	400	100	1	6	20	5	1
Location : Project Site (Near to Pocket -1)													
1	Oct-23	75.8	29.4	22.8	26.8	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
2	Nov-23	68.4	18.2	14.3	16.8	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
3	Dec-23	55.9	16.4	11.3	13.7	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
4	Jan-24	50.4	13.5	14.7	16.5	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
5	Feb-24	64.5	18.3	16.5	20.4	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
6	Mar-24	61.3	17.7	15.1	18.8	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
Report Ref. No. - URA/ID/A-23/10/081 dt. 03/11/2023, URA/23/11/MPLA-049 dt. 04/12/2023, URA/23/12/A-083 dt.30/12/2024 URA/24/01/A-058 dt. 31/01/2024, URA/24/02/A-058 dt. 29/02/2024, URA/24/03/A-048 dt. 30/03/2024													
Location: Project Site (Near to Pocket -2)													
1	Feb-24	56.5	17.9	15.1	19.3	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
2	Mar-24	59.7	19.2	13.2	18.6	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
Report Ref. No. - URA/24/02/A-074 dt. 29/02/2024, URA/24/03/A-054 dt. 30/03/2024													
Location: Project Site (Near to Pocket -3)													
1	Feb-24	60.4	15.8	14.8	18.2	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
2	Mar-24	62.1	19.6	12.6	16.7	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
Report Ref. No. - URA/24/02/A-075 dt. 29/02/2024, URA/24/03/A-058 dt. 30/03/2024													
Location: Near Fabrication and Batching Plant													
1	Oct-23	71.4	25.2	16.5	20.3	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
2	Nov-23	58.9	16.7	10.4	12.8	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
3	Dec-23	50.7	14.3	9.6	13.5	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
4	Jan-24	61.8	17.5	14.5	17.1	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
5	Feb-24	58.9	17.6	15.3	20.5	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
6	Mar-24	60.1	18.3	12.9	16.4	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
Report Ref. No.- URA/24/01/A-059 dt. 31/01/2024, URA/24/02/A-050 dt. 29/02/2024, URA/24/03/A-047 dt. 30/03/2024 URA/23/10/A-MPL081 dt. 03/11/2023, URA/23/11/MPLA-046 dt. 04/12/2023, URA/23/12/A-082 dt.30/12/2024													

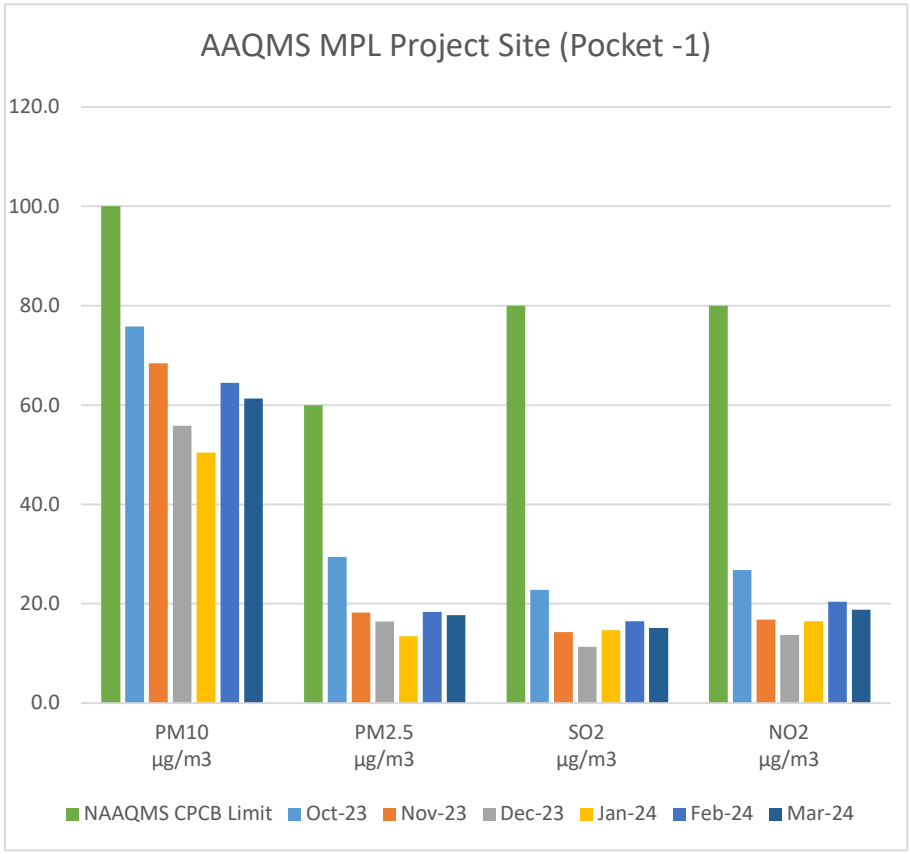
Location : Village Navinal													
1	Oct-23	62	26	15.4	21.2	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
2	Nov-23	49	15	8.2	10.5	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
3	Dec-23	46	14.1	9.5	11.2	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
4	Jan-24	53	13.5	8.7	12.5	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
5	Feb-24	50.4	14.5	10.6	15.4	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
6	Mar-24	51.4	15.8	12.4	16.8	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
Report Ref. No. - URA/24/01/A-076 dt. 31/01/2024, URA/24/02/A-051 dt. 29/02/2024, URA/24/03/A-028 dt. 30/03/2024 URA/23/10/A-MPL089 dt. 03/11/2023, URA/23/11/MPLA-083 dt. 04/12/2023, URA/23/12/A-077 dt.30/12/2024													
Location : Village Zarpara													
1	Oct-23	51.4	19.2	9.8	13.3	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
2	Nov-23	46.2	16.1	7.3	10.4	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
3	Dec-23	42.9	13.5	6.5	11.7	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
4	Jan-24	45.8	12.6	7.1	10.5	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
5	Feb-24	47.2	12.9	11.7	16.7	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
6	Mar-24	45.6	13.2	10.9	15.3	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
Report Ref. No. - URA/23/10/A-070 dt. 03/11/2023, URA/23/11/MPLA-036 dt. 04/12/2023, URA/23/12/A-069 dt.30/12/2024 URA/24/01/A-075 dt. 31/01/2024, URA/24/02/A-052 dt. 29/02/2024, URA/24/03/A-036 dt. 30/03/2024													
Location : Village Vandh													
1	Oct-23	67.4	22.3	12.1	16.2	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
2	Nov-23	55.7	17.2	10.4	13.3	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
3	Dec-23	48.2	13.7	9.5	12.4	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
4	Jan-24	56.5	15.1	10.2	13.7	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
5	Feb-24	55.7	16.5	13.5	18.2	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
6	Mar-24	53.8	16.7	14.3	9.5	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
Report Ref. No.- URA/23/10/A-MPL066 dt. 03/11/2023, URA/23/11/MPLA-063 dt. 04/12/2023, URA/23/12/A-064 dt.30/12/2024, URA/24/01/A-077 dt. 31/01/2024, URA/24/02/A-073 dt. 29/02/2024, URA/24/03/A-068 dt. 30/03/2024													

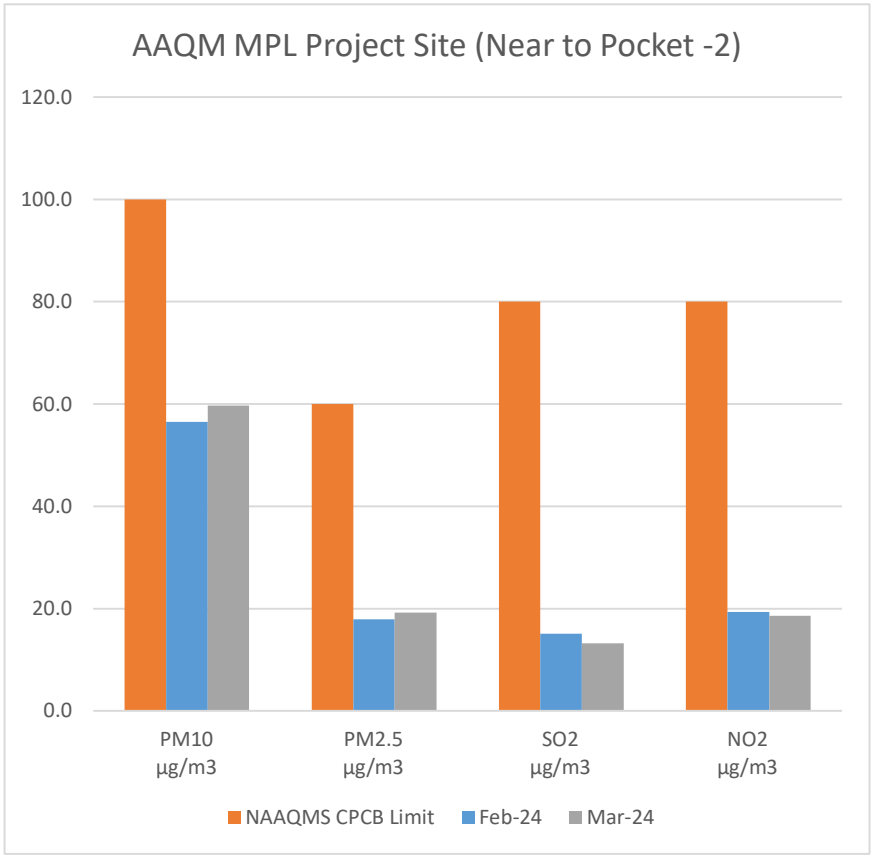
Observations

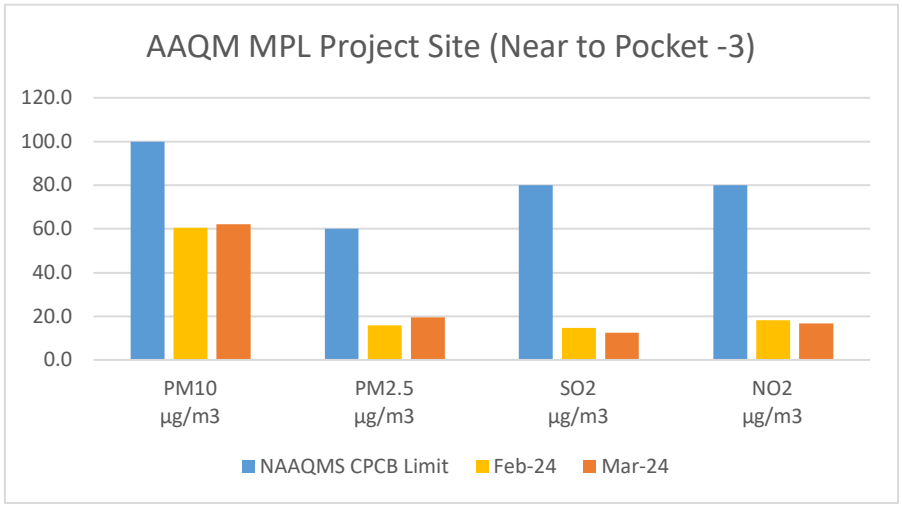
- The concentration of PM10 ranged from 75.8 µg/m3 at the Project Site (Pocket -1) to 42.9 µg/m3 in the Village of Zarpara, with an average concentration of 56.0 µg/m3.
- The concentration of PM2.5 ranged from 29.4 µg/m3 at the Project Site - Pocket 1 to 12.6 µg/m3 in the Village of Zarpara, with an average concentration of 17.2 µg/m3.
- The concentration of SO2 ranged from 22.8 µg/m3 at the Project Site - Pocket 1 to 6.5 µg/m3 in the Village of Zarpara, with an average concentration of 12.3 µg/m3.
- The concentration of NO2 ranged from 26.8 µg/m3 at the Project Site - Pocket 1 to 9.5 µg/m3 in the Village of Vandh, with an average concentration of 15.7 µg/m3.
- The concentrations of CO were below <0.01 mg/m3, & NH3 were below <5.0 µg/m3, O3 were below <5.0 µg/m3 at all the locations.

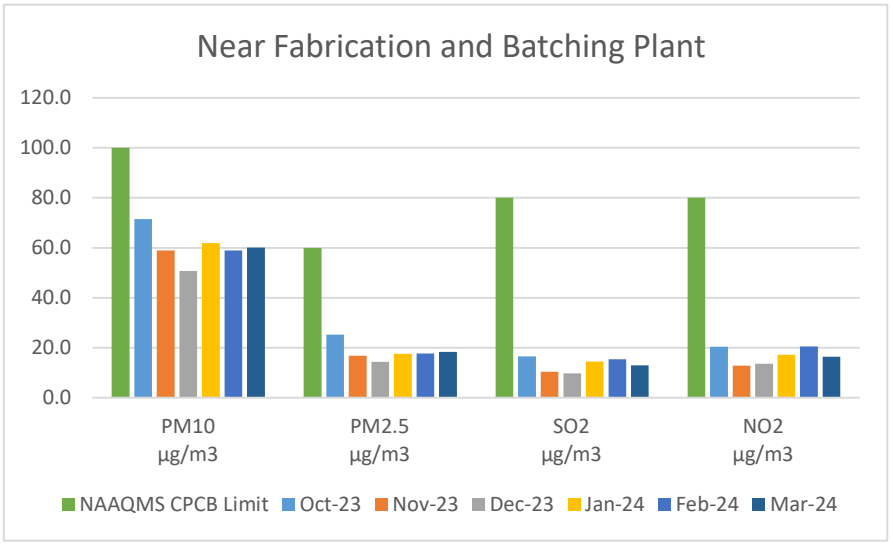
- The concentrations of Lead (Pb) were below <0.5 µg/m3, Arsenic (As) were below <1.0 ng/m3 & Nickel (Ni) were all below <1.0 ng/m3 at all the locations.
- The concentrations of Benzene were below <1.0 µg/m3 & BaP were all below <0.1 ng/m3 at all the locations.

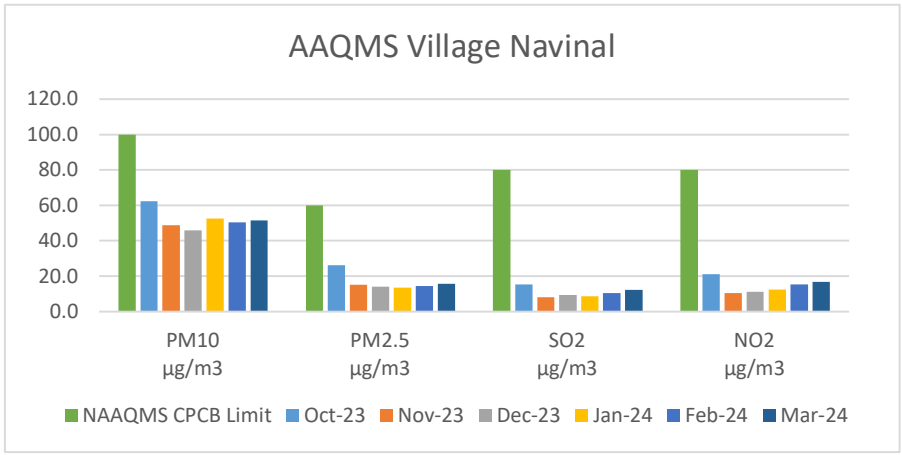
The concentrations of all monitored air quality parameters were found to be within the permissible limits as defined by the National Ambient Air Quality (NAAQ) Standards set by the Ministry of Environment, Forest and Climate Change (MoEF&CC).

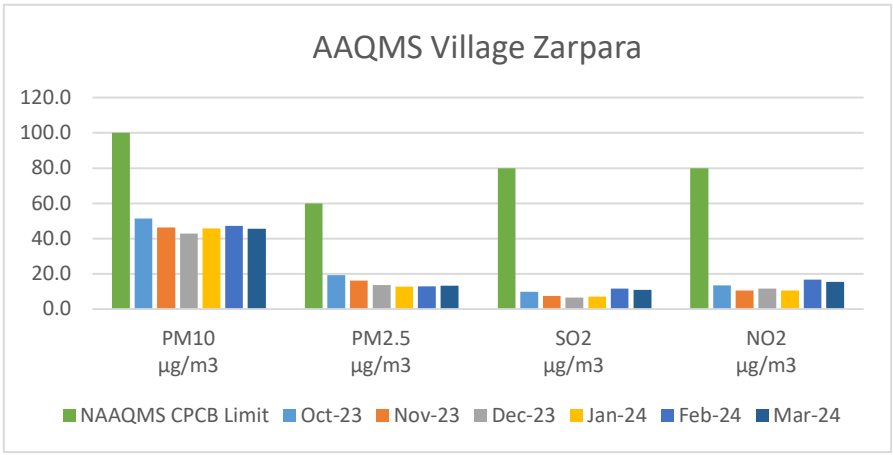

AAQMS MPL Project Site (Pocket -1)
120.0
100.0
80.0
60.0
40.0
20.0
0.0
PM10 µg/m3
PM2.5 µg/m3
SO2 µg/m3
NO2 µg/m3
NAAQMS CPCB Limit
Oct-23
Nov-23
Dec-23
Jan-24
Feb-24
Mar-24

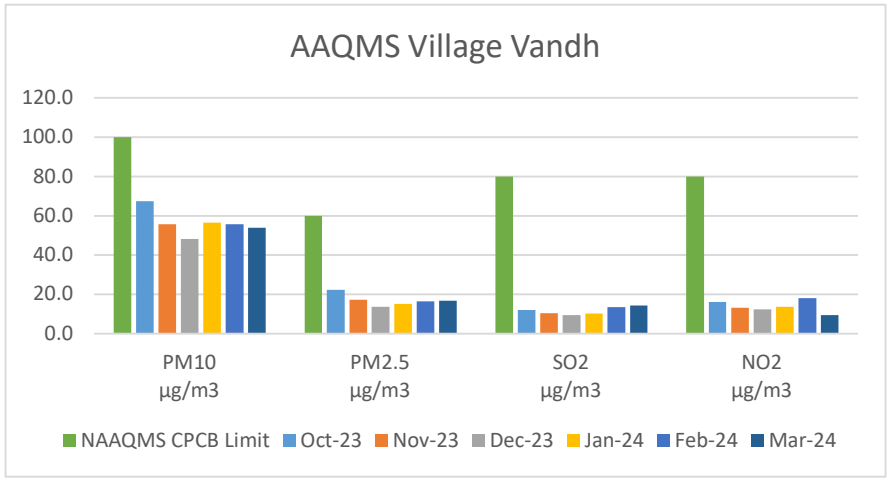

AAQM MPL Project Site (Near to Pocket -2)
120.0
100.0
80.0
60.0
40.0
20.0
0.0
PM10 µg/m3
PM2.5 µg/m3
SO2 µg/m3
NO2 µg/m3
NAAQMS CPCB Limit
Feb-24
Mar-24


AAQM MPL Project Site (Near to Pocket -3)
120.0
100.0
80.0
60.0
40.0
20.0
0.0
PM10 µg/m3
PM2.5 µg/m3
SO2 µg/m3
NO2 µg/m3
NAAQMS CPCB Limit
Feb-24
Mar-24


Near Fabrication and Batching Plant
120.0
100.0
80.0
60.0
40.0
20.0
0.0
PM10 µg/m3
PM2.5 µg/m3
SO2 µg/m3
NO2 µg/m3
NAAQMS CPCB Limit
Oct-23
Nov-23
Dec-23
Jan-24
Feb-24
Mar-24


AAQMS Village Navinal
120.0
100.0
80.0
60.0
40.0
20.0
0.0
PM10 µg/m3
PM2.5 µg/m3
SO2 µg/m3
NO2 µg/m3
NAAQMS CPCB Limit
Oct-23
Nov-23
Dec-23
Jan-24
Feb-24
Mar-24


AAQMS Village Zarpara
120.0
100.0
80.0
60.0
40.0
20.0
0.0
PM10 µg/m3
PM2.5 µg/m3
SO2 µg/m3
NO2 µg/m3
NAAQMS CPCB Limit
Oct-23
Nov-23
Dec-23
Jan-24
Feb-24
Mar-24



4.2 Ambient Noise

The ambient noise levels measured and analysed for equivalent noise levels viz. Leq (24hrly), Leq day, Leq night at all the noise monitoring locations.

Ambient Noise Level in Leq																	
Sr. No.	Location	Day Time Noise Level in Leq								Night Time Noise Level in Leq							
		CPCB Limits	Baseline Noise level	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	CPCB Limits	Baseline Noise level	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24
1	Project Site (Pocket – 1)	75	60.8	55.6	56.5	56.6	57.1	56.2	57.8	70	57.9	49.4	48.1	48.7	49.3	48.5	47.9
2	Project Site (Pocket – 2)	75	58.2	-	-	-	-	58.7	58.9	70	52.5	-	-	-	-	48.8	48.1
3	Project Site (Pocket – 3)	75	64.3	-	-	-	-	58.8	57.9	70	55.5	-	-	-	-	49.4	48.6
4	Near Fabrication & Batching Plant	75	66.9	54.8	57.6	55.9	58.7	60.5	61.7	70	58.3	46.2	48.2	48.6	48.8	48.9	48.2
5	Village - Navinal	55	49.6	50.7	51.6	52	52.2	53.8	55.2	45	37.5	39.4	40.5	41.1	42.7	43.9	44.2
6	Village - Zarpara	55	49	54.1	51.2	51.8	50.7	51.3	51.8	45	40	42.2	44.2	43.5	43.0	43.5	43.9
7	Village - Vandh	55	54.4	51.9	52.7	52.2	51.4	52.9	53	45	44.8	40.3	41.4	41.5	40.9	43.6	43.8

Report Ref. No.-
URA/23/10/AN-038, URA/23/10/AN-041, URA/23/10/AN-046, URA/23/10/AN-047, URA/23/10/AN-054 dt. 03/11/2023
URA/23/11/AN-020, URA/23/11/AN-029, URA/23/11/AN-032, URA/23/11/AN-042, URA/23/11/AN-052 dt. 04/12/2023
URA/23/12/AN-032, URA/23/12/AN-036, URA/23/12/AN-037, URA/23/12/AN-043, URA/23/12/AN-044 dt. 30/12/2023
URA/24/01/AN-042, URA/24/01/AN-043, URA/24/01/AN-044, URA/24/01/AN-045, URA/24/01/AN-046 dt. 31/01/2024
URA/24/02/AN-029, URA/24/02/AN-030, URA/24/02/AN-031, URA/24/02/AN-033, URA/24/02/AN-044, URA/24/02/AN-045, URA/24/02/AN-046 dt. 29/02/2024
URA/24/03/AN-027, URA/24/03/AN-015, URA/24/03/AN-020, URA/24/03/AN-029, URA/24/03/AN-039, URA/24/03/AN-032, URA/24/02/AN-035 dt. 30/03/2024

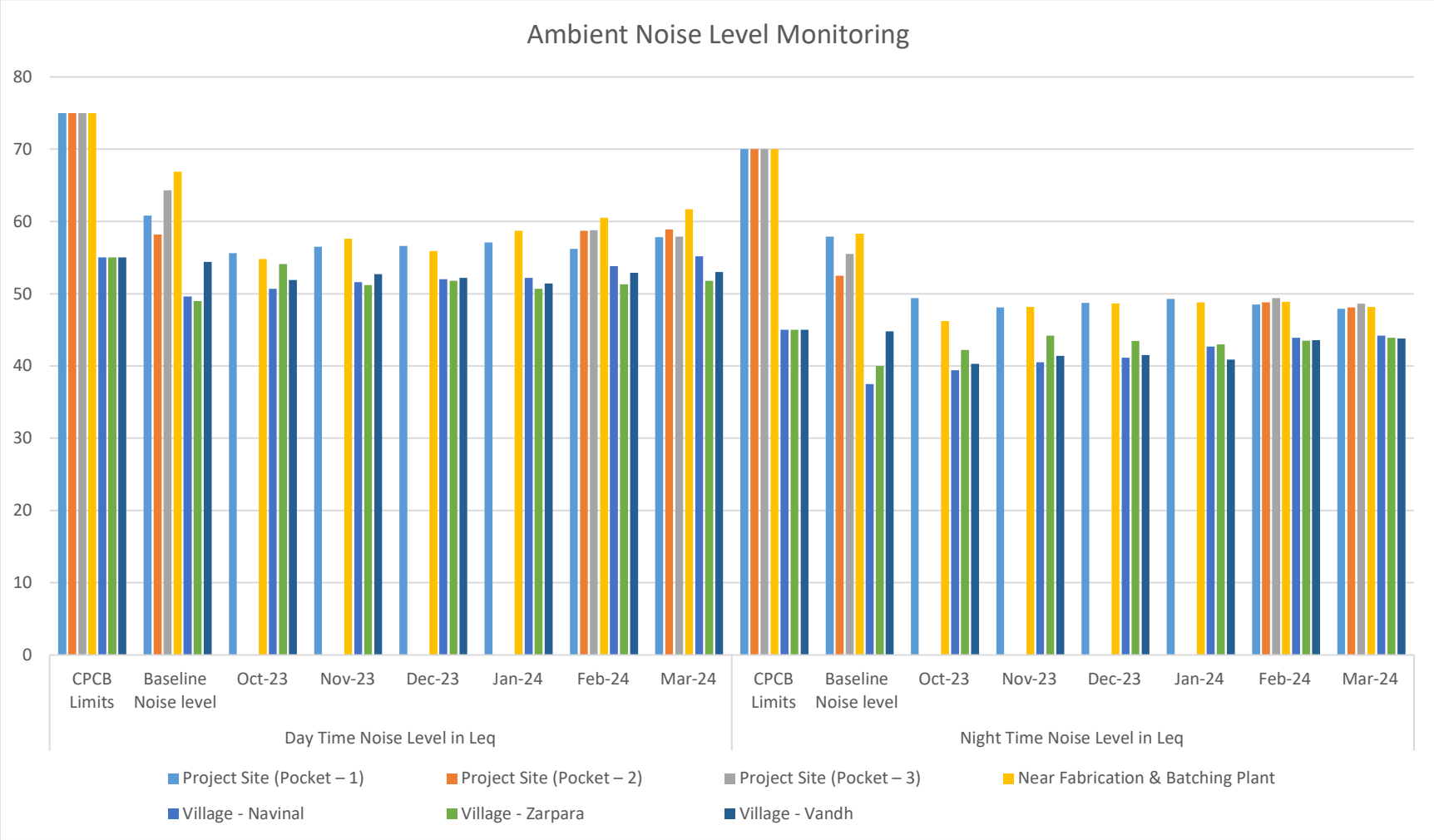
Observations

Industrial Zone

The Average Leq (equivalent continuous sound level) during the day for the industrial zone ranged from 61.7 dB(A) at Near Fabrication & Batching Plant to 54.8 dB(A) at Near Fabrication & Batching Plant. Similarly, the Leq during the night ranged from 49.4 dB(A) at Project Site - Pocket 1 & 3 to 46.2 dB(A) at Near Fabrication & Batching Plant. Importantly, all these values remained within the CPCB (Central Pollution Control Board) limits specified for the industrial zone, both during daytime and night time.

Residential Zone

The Average Leq (equivalent continuous sound level) during the day in the residential zone varied from 55.2 dB(A) in Village Navinal to 50.7 dB(A) in the village Vandh. Meanwhile, the Leq during the night ranged from 44.2 dB(A) in Village Navinal to 39.4 dB(A) in Village Navinal. It's worth noting that the ambient noise levels in these villages are affected by the local environment, and all the Leq values are compliant with permissible limits across all the villages.


Ambient Noise Level Monitoring
80
70
60
50
40
30
20
10
0
CPCB Limits
Baseline Noise level
Oct-23
Nov-23
Dec-23
Jan-24
Feb-24
Mar-24
Day Time Noise Level in Leq
Night Time Noise Level in Leq
Project Site (Pocket – 1)
Project Site (Pocket – 2)
Project Site (Pocket – 3)
Near Fabrication & Batching Plant
Village - Navinal
Village - Zarpara
Village - Vandh

4.3 Water Quality

4.3.1 Ground Water Quality

Ground water was collected as grab samples from two location Navinal & Nana Bhadiya & sent to laboratory for analysis for various parameters.

The water quality findings from the ground water samples are outlined in the following table:

Sr. No.	Parameter	Unit	IS 10500 Standard Limits for drinking water		GW 05 Navinal	GW 07- Nana Bhadiya
			Desirable limit	Permissible Limit in the Absence of Alternate Source	Aug-23	Aug-23
1	pH	pH scale	6.5-8.5	NR	7.96	8.4
2	Temp	o C	NS	NS	29.5	29.5
3	Turbidity	NTU	1	5	BDL (MDL: 0.1)	BDL (MDL: 0.1)
4	TDS	mg/l	500	2000	1820	604
5	Electrical Conductivity	µmhos/ cm	NS	NS	2750	990
6	COD	mg/l	NS	NS	20.4	<2
7	BOD	mg/l	NS	NS	2.5	<1
8	Phenol	mg/l	0.001	0.002	BDL (MDL: 0.001)	BDL (MDL: 0.001)
9	Chlorides	mg/l	250	1000	667.8	96.3
10	Sulphate	mg/l	200	400	38	73.3
11	Total Hardness	mg/l	200	600	236.1	118.9
12	Ca++ Hardness	mg/l	NS	NS	138.6	75.3
13	Mg++ Hardness	mg/l	NS	NS	97.5	43.6
14	Total Alkalinity	mg/l	200	600	289	242.2
15	Nitrate	mg/l	45	NR	1.1	0.6
16	Fluoride	mg/l	1	1.5	0.98	1.39
17	Sodium	mg/l	NS	NS	410	45.5
18	Potassium	mg/l	NS	NS	34	2.1
19	Calcium	mg/l	75	200	55.6	30.2
20	Magnesium	mg/l	30	100	23.7	10.6
21	Salinity	mg/l	NS	NS	1.206	0.174
22	Total Nitrogen	mg/l	0.5	NR	BDL (MDL: 2.0)	BDL (MDL: 2.0)
23	Total Phosphorous	mg/l	NS	NS	0.38	0.29
24	Dissolved Oxygen	mg/l	NS	NS	4.1	2.9
25	Ammonical Nitrogen	mg/l	NS	NS	BDL (MDL: 0.2)	BDL (MDL: 0.2)
26	SAR	-	NS	NS	11.6	1.4
	Heavy Metals					
27	Arsenic (as As)	mg/l	0.01	0.05	BDL (MDL: 0.01)	BDL (MDL: 0.01)
28	Cadmium (as Cd)	mg/l	0.003	NR	BDL (MDL: 0.003)	BDL (MDL: 0.003)
29	Chromium (as Cr)	mg/l	0.05	NR	BDL (MDL: 0.05)	BDL (MDL: 0.05)
30	Copper (as Cu)	mg/l	0.05	1.5	BDL (MDL: 0.05)	BDL (MDL: 0.05)

Sr. No.	Parameter	Unit	IS 10500 Standard Limits for drinking water		GW 05 Navinal	GW 07- Nana Bhadiya
			Desirable limit	Permissible Limit in the Absence of Alternate Source	Aug-23	Aug-23
31	Cyanide (as CN)	mg/l	0.05	NR	BDL (MDL: 0.05)	BDL (MDL: 0.05)
32	Iron (as Fe)	mg/l	0.3	NR	BDL (MDL: 0.1)	BDL (MDL: 0.1)
33	Lead (as Pb)	mg/l	0.01	NR	BDL (MDL: 0.01)	BDL (MDL: 0.01)
34	Mercury (as Hg)	mg/l	0.001	NR	BDL (MDL: 0.001)	BDL (MDL: 0.001)
35	Manganese (as Mn)	mg/l	0.1	0.3	BDL (MDL: 0.1)	BDL (MDL: 0.1)
36	Nickel (as Ni)	mg/l	0.02	NR	BDL (MDL: 0.02)	BDL (MDL: 0.02)
37	Zinc (as Zn)	mg/l	5	15	BDL (MDL: 0.05)	BDL (MDL: 0.05)
38	Total Coliform	MPN	Shall not be detectable		Absent	Absent
39	Faecal Coliforms	MPN	Shall not be detectable		Absent	Absent
Report Ref. No.					URC/23/08/0551 URB/23/08/0531	URC/23/08/0552 URB/23/08/0529

Observations :

These analysed results were subsequently compared against the IS:10500 Standard Limits for drinking water & are found well within Limits.

4.3.2 Surface Water Quality

Surface water was collected as grab samples from two location Nagavanti Nadi & Siracha village pond. Same has been sent to laboratory for analysis for various parameters.

The water quality findings from the surface water samples are outlined in the following table:

Sr. No.	Parameter	Unit	Classification for Inland Surface Water (CPCB)	SW 04 Nagavanti Nadi	SW 07 Siracha village pond
			Class E	Aug-23	Aug-23
1	pH	pH Scale	6.5 to 8.5	7.62	7.7
2	Dissolved Oxygen	mg/l	NA	6.1	5.9
3	TDS	mg/l	2100	410	198
4	Electrical Conductivity	µmohs/cm	2250	661	305.3
5	BOD	mg/l	NA	2.3	2
6	Colour	Pt.co	-	BDL (MDL: 5.0)	BDL (MDL: 5.0)
7	Total Hardness	mg/l	NA	73.3	59.4
8	Ca++ Hardness	mg/l	NA	39.6	33.7
9	Mg++ Hardness	mg/l	NA	33.7	25.7
10	Chlorides	mg/l	600	19	15.4
11	Sulphate	mg/l	1000	10.4	8.9
12	Nitrate	mg/l	NA	0.5	BDL (MDL: 0.1)
13	Fluoride	mg/l	-	BDL (MDL: 0.2)	BDL (MDL: 0.2)
14	Phenol	mg/l	NA	BDL (MDL: 0.001)	BDL (MDL: 0.001)
15	Ammonical Nitrogen	mg/l	NA	BDL (MDL: 0.2)	BDL (MDL: 0.2)

Sr. No.	Parameter	Unit	Classification for Inland Surface Water (CPCB)	SW 04 Nagavanti Nadi	SW 07 Siracha village pond
			Class E	Aug-23	Aug-23
16	SAR		26	1.52	1.89
17	Copper (as Cu)	mg/l	NA	BDL (MDL: 0.05)	BDL (MDL: 0.05)
18	Iron (as Fe)	mg/l	NA	BDL (MDL: 0.1)	BDL (MDL: 0.1)
19	Manganese (as Mn)	mg/l	NA	BDL (MDL: 0.1)	BDL (MDL: 0.1)
20	Mercury	mg/l	NA	BDL (MDL: 0.001)	BDL (MDL: 0.001)
21	Cadmium (as Cd)	mg/l	NA	BDL (MDL: 0.003)	BDL (MDL: 0.003)
22	Arsenic (as As)	mg/l	NA	BDL (MDL: 0.01)	BDL (MDL: 0.01)
23	Cyanide	mg/l	NA	BDL (MDL: 0.05)	BDL (MDL: 0.05)
24	Lead (as Pb)	mg/l	NA	BDL (MDL: 0.01)	BDL (MDL: 0.01)
25	Zinc	mg/l	NA	BDL (MDL: 0.05)	BDL (MDL: 0.05)
26	Chromium (as Cr)	mg/l	NA	BDL (MDL: 0.05)	BDL (MDL: 0.05)
27	Boron	mg/l	2	BDL (MDL: 0.5)	BDL (MDL: 0.5)
28	Total Coliform	MPN/100ml	-	Absent	Absent
29	COD	mg/l	-	16.4	12.1
			Report Ref. No.	URC/23/08/0553 URB/23/08/0533	URC/23/08/0554 URB/23/08/0535

Observations :

These analysed results were subsequently compared against the **Classification for Inland Surface Water (CPCB)** Class E & are found well within Limits.

4.3.3 Surface Water (Marine) Quality

Surface water (Marine) was collected as grab samples from two location Kotadi Creek & Baradi mata creek. Same has been sent to laboratory for analysis for various parameters.

The water quality findings from the surface water (marine) samples are outlined in the following table:

Sr. No.	Parameter	Unit	Classification for Coastal Marine Water (CPCB)	SW 2- Kotadi Creek water	SW 3- Baradi Mata Creek
			SW-I	Aug-23	Aug-23
1	pH	pH scale	6.5 to 8.5	7.2	8.07
2	Dissolved Oxygen	mg/l	5	6.22	6.02
3	Colour & Odour	-	No Colour No Odour	10	10
4	Floating Matters	-	None	None	None
5	Total Suspended Solid	mg/l	None from Sewage or Industrial waste Origin	14	18
6	Turbidity	mg/l	-	0.1(3.9)	0.1(5.4)
7	BOD	NTU	-	3.1	3.2
8	Oil & Grease	mg/l	0.1	BDL	BDL
9	Mercury as Hg	mg/l	0.01	BDL	BDL
10	Lead (as Pb)	mg/l	0.01	BDL	BDL
11	Cadmium (as Cd)	mg/l	0.01	BDL	BDL
12	Iron (as Fe)	mg/l	-	0.14	0.15

Sr. No.	Parameter	Unit	Classification for Coastal Marine Water (CPCB)	SW 2- Kotadi Creek water	SW 3- Baradi Mata Creek
			SW-I	Aug-23	Aug-23
13	Manganese (as Mn)	mg/l	-	BDL (MDL : 0.1)	BDL (MDL : 0.1)
14	Total Coliform	ml (MPN)	-	<2 Absent	<2 Absent
15	Sludge Deposits, Solid refuse floating Solids, Oil Grease and Scum	-	-	None	None
16	COD	mg/l	-	24.2	36.2
			Report Ref. No.	URC/23/08/0577 URB/23/08/0580	URC/23/08/0578 URB/23/08/0581

Observations :

These analysed results were subsequently compared against the Classification for Coastal marine water (CPCB)Class SW I & are found well within Limits.

4.3.4 Sewage Water Quality

Sewage water samples was collected as grab samples from STP outlet and sent to laboratory for analysis for various parameters.

The water quality findings from the sewage water sampling locations are outlined in the following table:

Sr. No.	Location	MOEFCC Limits	STP Outlet					
			Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24
1	pH @25°C	6.5 – 9.0	7.18	7.26	7.31	7.42	7.36	7.41
2	Total Suspended Solid	<50	28	34	26	18	26	18
3	Chemical Oxygen Demand (COD)	-	44.7	36.4	44.2	49	46.2	52.4
4	Biochemical Oxygen Demand (BOD) (5 days at 20 ^{0}C)	<30	20	17	22	24	8	24
5	Total Nitrogen	-	3.4	3.1	4	3.6	4.1	4.6
6	Total Phosphorus	-	2.2	1.4	1.7	1.1	1.4	1.8
7	Faecal Coliform	<1000	26	40	33	40	37	50
Report Ref. No. : URC/23/10/0606 dt. 02/11/2023, URC/23/11/0412 dt. 28/11/2023, URC/23/12/0616 dt. 02/01/2024, URC/24/01/0358 dt. 30/01/2024, URC /24/02/0468 dt. 27/02/2024, URA/24/03/AN-027 dt. 30/03/2024								

Observations :

These analysed results were subsequently compared against the standards set by the Central Pollution Control Board (CPCB) are found well within Limits.

ANNEXURE

Annexure 1: Laboratory Recognition by MOEFCC, NABL, GPCB Sch.II Auditor & NABET Certification

Signature valid

Laboratory Recognition by MOEFCC

National Accreditation Board for Testing and Calibration Laboratories

CERTIFICATE OF ACCREDITATION

UNISTAR ENVIRONMENT AND RESEARCH LABS PVT. LTD. (LABORATORY DIVISION)

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

WHITE HOUSE, 1ST & 2ND FLOOR, PLOT NOS. C-5/24, CHAR RASTA, VAPI, VALSAD, GUJARAT, INDIA

in the field of

TESTING

Certificate Number: TC-7753

Issue Date: 23/09/2022 Valid Until: 22/09/2024

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.

Name of Legal Identity : UNISTAR ENVIRONMENT AND RESEARCH LABS PVT. LTD.

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer

Laboratory Recognition by NABL

GUJARAT POLLUTION CONTROL BOARD
Paryavaran Bhavan
Sector - 10 A, Gandhinagar - 382 010.
Environment Audit Cell

R.P.A.D

No. GPCB/EA-219(23)/

13 DEC 2021

To,
Unistar Environment and Research Labs Pvt. Ltd.
White House, Plot No. C/5-24,
Nr. New GIDC Office, Char Rasta,
Vapi-396195

Sub: - Renewal of Recognition as Schedule- II Environmental Auditor with team member change.

Sir,

This refers to your application for renewal of the recognition as Schedule- II Environmental Auditor along with team member change and subsequent interview by Environment Audit Committee members. It is recommended by the Environment Audit Committee members, to renew the recognition of your firm as Schedule-II Environmental Auditor along with team member change for carrying out the Environmental Audit under Environment Audit Scheme with following conditions.

1) Recognition is valid upto 31/12/2023.
2) You shall have maximum Two teams for the Environment Audit.
3) You shall carry out maximum 30 nos. of Environment Audit in a year.
4) Team members shall be as under :

Team-1 Sr. No.	Name	Designation
1	Mr. G. G. Thomas	Environment Engineer
2	Mr. Devang B. Patel	Chemical Engineer
3	Mr. Jaivik S. Tandel	Chemist
4	Mr. Ranjan Maharaj	Microbiologist
Team-2		
1	Ms. Divya K. Patel	Environment Engineer
2	Mr. Mayur R. Patel	Chemical Engineer
3	Mr. Nitin B. Tandel	Chemist
4	Ms. Shweta A. Rana	Microbiologist

Clean Gujarat Green Gujarat
An ISO 9001: 2008 & ISO 14001: 2004 Certified Organization

P.T.O

Laboratory Recognition by GPCB

QUALITY COUNCIL OF INDIA

National Accreditation Board for Education and Training

Certificate of Accreditation

UniStar Environment and Research Labs Pvt. Ltd.

C-5/24, White House, Near GIDC Office, Char Rasta, Vapi Gujarat

The organization is accredited as Category-A under the QCI-NABET Scheme for Accreditation of EIA Consultant Organization, Version 5 for preparing EIA-EMP reports in the following Sectors :-

S. No	Sector Description	Sector (as per) NABET	Sector (as per) MoEFCC	Cat.
1	Mining of minerals including opencast	1	1 (a) (i)	B
2	Metallurgical industries (ferrous & non-ferrous)	4	3 (a)	A
3	Manmade fibers manufacturing	19	5(f)	A
4	Petrochemical based processing (processes other than cracking & reformation and not covered under the complexes)	20	5 (e)	A
5	Synthetic organic chemicals industry	21	5 (f)	A
6	Integrated paint industry	23	5 (h)	B
7	Building and construction projects	38	8 (a)	B

Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in BAAC minutes dated April 28, 2023 posted on QCI-NABET website.

The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no. QCI/NABET/ENV/ACO/23/2780 dated June 14, 2023. The accreditation needs to be renewed before the expiry date by Unistar Environment and Research Labs Pvt. Ltd., Vapi following due process of assessment.

Sr. Director, NABET
Dated: June 14, 2023

Certificate No.
NABET/EIA/2326/RA 0288

Valid up to
Feb 15, 2026

For the updated List of Accredited EIA Consultant Organizations with approved Sectors please refer to QCI-NABET website.

NABET Certification

Annexure 2: Calibration Certificates


ENPRO Enviro Tech and Engineers Pvt. Ltd.
Calibration and Validation Laboratory
CALIBRATION CERTIFICATE

Calibration Certificate for RDS


ENPRO Enviro Tech and Engineers Pvt. Ltd.
Calibration and Validation Laboratory
CALIBRATION CERTIFICATE

Calibration Certificate for PM 2.5


UniStar
Calibration Certificate

Calibration Certificate for RDS


UniStar
Calibration Certificate

Calibration Certificate for PM 2.5

Calibration Certificate for Sound Level Meter

UniStar Environment & Research Labs Pvt. Ltd.

White House, Near GIDC Office, Char Rasta, Vapi,

Gujarat, India – 396195

Cultivating a Sustainable Tomorrow

Impact Assessment of CER Initiatives

Prepared tor:
Mundra Petrochem Limited

Prepared by:
Civitas Sustainability Foundation

CONTENTS

EXECUTIVE SUMMARY

This report highlights the impactful achievements of Mundra Petrochem Limited (MPL)'s Corporate Environmental Responsibility (CER) initiatives till fiscal year 2023-24. MPL is steadfast in its commitment to driving positive change in the communities surrounding its project activity, with a focus on environmental sustainability, community empowerment, and fostering a healthier society.

Water Conservation

Water conservation has been a cornerstone of MPL's efforts. The company increased water storage capacity by 78,000 cubic meters (CUM), empowering 2,150 farmers to irrigate an additional 870 acres of land. This enhanced water access benefited crops and provided water security for over 18,750 cattle. Additionally, water quality improved significantly, with a 5-10% decrease in Total Dissolved Solids (TDS) levels. MPL's commitment extends beyond infrastructure; the organization facilitated rooftop rainwater harvesting programs for 130 households, promoting water self-sufficiency at the domestic level. These combined efforts have rendered four villages water-positive, exemplifying potential replicable success stories.

Soil Conservation and Agricultural Productivity

Recognizing the importance of healthy soil for long-term agricultural productivity, MPL embarked on extensive soil conservation initiatives. Over 2,200 farmers received training in natural farming practices, equipping them with techniques that reduce reliance on chemical fertilizers. Furthermore, MPL provided biogas support to 240 farmers, fostering waste management solutions while generating renewable energy sources. The cumulative impact of these programs is significant: a 32% reduction in chemical fertilizer use and the monthly production of 1,735 cubic meters of bio-fertilizer, a sustainable alternative.

Reforestation and Carbon Sequestration

MPL believes in the power of reforestation. Through targeted planting efforts, the organization established approx. 64,000 new trees, having potential of annual CO_2 sequestration of approx. 1,783 metric tons. Recognizing the importance of long-term food security and income generation, MPL distributed fruit-bearing saplings to over 200 farmers, offering the potential for sustainable income growth in the coming years.

Social Progress and Community Empowerment

MPL understands that environmental sustainability is intricately linked to social progress. Their data entry operator training program equipped 45 students with critical employable skills, with 8 securing placements in the first batch and the potential for an average annual income of ₹1.83 lakh. This program empowers individuals with the skills and confidence to achieve financial independence. Furthermore, recognizing the

importance of women's economic empowerment, MPL provided training in traditional crafts to 380 women, equipping them with valuable income-generating skills.

Health and Well-being Initiatives

Investing in a healthier community is vital for long-term success. MPL conducted training programs on mental hygiene and nutrition for 449 women. This initiative aims to promote better family planning practices and potentially reduce the incidence of urinary tract infections and addiction, contributing to overall community well-being.

The achievements outlined in this report are a testament to MPL's steadfast commitment to environmental sustainability, community empowerment, and fostering a healthy society. The organization remains dedicated to continuous improvement, collaborating with stakeholders, and creating a lasting positive impact on the communities and environment where it operates. Additionally, “Community Health Programs” are being implemented directly by Adani Foundation in the region.

An overview of CER Expenditure by MPL for FY 2023-24

Sr. No.	Sectors	Spending in Rs.
1	Education Initiatives	38,28,197
2	Community Health Initiatives*	1,77,55,000/-
3	Sustainable Livelihood and Women Empowerment	1,86,49,391
4	Community Rural Infrastructure Development	5,45,52,231
5	Monitoring & Reporting	58,43,180/-

* Ongoing Community Health Programs in all 16 villages surrounding the PVC project by Adani Foundation under CSR program of Adani Group.

As per CER initiative detailed presented by Mundra Petrochem Limited (MPL), total CER expenditure by MPL in all villages surrounding their project area in various community welfare & eco-development activities was approx. 829 Lakhs till FY 2023-24. Additionally, “Community Health Programs” are being implemented directly by Adani Foundation in the region with budgetary provision of approx. 1,77,55,000 INR in FY 2023-24.

CORPORATE ENVIRONMENTAL RESPONSIBILITY IN INDIA

A Paradigm Shift for Sustainable Growth

In the contemporary Indian business landscape, Corporate Environmental Responsibility (CER) has evolved from a peripheral consideration to a strategic imperative. This transformation is driven by a confluence of factors, including growing public environmental consciousness, stricter regulations, and the increasing influence of environmental, social, and governance (ESG) investing. This executive summary delves into the key aspects of CER in India, highlighting its focus areas and the potential benefits for responsible corporations.

Companies that embrace Corporate Environmental Responsibility (CER) take a proactive stance on sustainability. CER goes beyond simply complying with regulations, it involves actively contributing to social well-being by creating infrastructure for essential services like clean drinking water, sanitation, healthcare, education, and skill development. Additionally, CER can support local communities through initiatives like,

- Building roads and drainage systems
- Electrification, including solar power
- Solid waste management facilities
- Providing scientific support and awareness programs to increase agricultural yields
- Rainwater harvesting and soil conservation projects
- Planting trees along roads and in community areas

A corporation's success in Corporate Environmental Responsibility (CER) is measured by the tangible impact it creates.

The more a company's CER initiatives address the needs and challenges of affected communities, fostering positive change, the greater its success. Impact assessment

provides a systematic way for companies to evaluate this real-world difference and refine their CER practices for even better results.

Mundra Petrochem Limited (MPL)'s CER governance is under the purview Memorandum F. No. 22-65/2017-IA III issued on 30th Sept. 2020 by the Ministry of Environment, Forest & Climate Change (MoEF&CC) Office and accordingly, an action plan have been approved by the MoEF&CC as part of Environmental Clearance (EC) for the PVC project activities.

This study included an evaluation of the interventions that were launched by MPL as a part of their CER initiative. This report briefly brings the project details - input, output, outcome, and impact (where applicable). The projects or programs or activities undertaken by MPL were in adherence with the provisions of action plan as approved by the MoEF&CC to address the issues raised during the public hearing process of the project activity.. Civitas has followed the evaluation criteria as per OECD framework for CER impact assessment study. Based on this framework, the assessment was designed to evaluate the impact of various activities carried out by the MPL in the project area. The current CER impact assessment has been developed based on guidelines available in,

- CER Mandate by MoEF&CC – Government of India,
- Evaluation Criteria as per OECD,
- UN Sustainable Development Goals.

ABOUT MUNDRA PETROCHEM LTD

Mundra Petrochem Limited (MPL), a stepdown subsidiary of the Adani Enterprises Limited, is a young company with a big vision. Established in 2021, MPL is poised to become a key player in India's petrochemical sector. Its focus lies on the development of a greenfield PVC complex located strategically within the Adani Ports and Special Economic Zone (APSEZ) at Mundra, Gujarat.

MPL's mission extends beyond mere production and is committed to pioneering sustainable practices in the industry. Its state-of-the-art facility is under engineering design with cutting-edge technologies to minimize environmental impact. This commitment is further reflected in their focus on community development through various Corporate Environmental Responsibility (CER) initiatives.

With operations expected to commence in 2026, MPL is poised to create significant economic opportunities within the region. By fostering sustainable practices and empowering local communities, MPL aims to become a model for responsible industrial development in India.

MPL's Corporate Environmental Responsibility (CER) program transcends mere carbon reduction efforts. It embodies a holistic approach grounded in robust scientific methodologies. This multifaceted initiative extends beyond environmental concerns, encompassing actions that enhance ecological resilience and empower local communities. The subsequent sections of this report will delve into the impactful outcomes achieved through MPL's comprehensive CER program.

ABOUT CIVITAS SUSTAINABILITY FOUNDATION

Civitas Sustainability Foundation, a non-profit entity headquartered in India since 2019, specializes in offering strategic advisory services and solutions to governments, institutions, and businesses in sustainability, CSR, and community resilience. Renowned for its research-driven approach and cross-sectoral collaborations, Civitas aims to drive positive change across economic, social, and environmental spheres. Its impact advisory services, led by a diverse team of professionals, focus on strategic planning, CSR strategy development, needs assessment, and impact evaluation. By conducting thorough stakeholder analyses, Civitas ensures alignment between community needs and organizational objectives, delivering tailored CSR programs. Moreover, Civitas excels in assessing CSR impact on business goals, community welfare, and SDGs, employing various evaluation methodologies. With a meticulous approach encompassing baseline studies, implementation, and monitoring, Civitas emphasizes inclusiveness, collaboration, and efficiency. Through its advisory services, Civitas strives to foster transformative change, promoting sustainable outcomes for its clients and communities alike.

OBJECTIVE OF THE STUDY

Evaluate the Efficacy of Corporate Environmental Responsibility (CER) Programs.

This study seeks to assess the effectiveness of previously implemented CER projects undertaken by MPL. The evaluation focuses on two key aspects:

- Achievement of predetermined project objectives, and
- Impact generated on program stakeholders.

Leveraging Stakeholder Insights to Inform Future CER Initiatives.

The study captures the perceptions of beneficiaries and stakeholders regarding the perceived benefits of past CER programs and observed behaviour changes attributable to these initiatives. This data will be instrumental in suggesting improvements to existing program management and monitoring systems. The goal was to develop adaptable systems that can be effectively applied to a diverse range of interventions and encompass the multifaceted nature of development and humanitarian activities.

Data-Driven Investment and Program Delivery Optimization.

Through rigorous data analysis, the study generated recommendations for enhancing the effectiveness of future CER programs. This included identifying areas for improvement in program delivery mechanisms and fostering a deeper understanding of the current state of asset upkeep resulting from past CER activities. Ultimately, the study aimed at guiding more strategic investments in future CER endeavours.

Needs Assessment for Upcoming CER Programs in Fisherfolk Communities.

Recognizing the predominantly fisherfolk population within the impacted regions of Mundra, Kutch, and others, the study will conduct a comprehensive needs assessment. This assessment will serve as the foundation for designing future CER programs specifically tailored to the identified requirements of these communities. A multi-pronged approach will be employed, encompassing village profiling, community profiling, and stakeholder profiling to ensure that upcoming CER initiatives offer the most relevant solutions and impactful interventions.

ADOPTED METHODOLOGY

Civitas adopted a mixed method approach for this assessment as it ensures that all the processes, outcomes, and impact associated with initiatives undertaken are captured comprehensively. This framework outlined a comprehensive methodology for assessing the impact of CER activities undertaken by MPL at Mundra and Mandavi regions. The approach centres on evaluating the relevance of these activities to the CER commitments and their impact based on environmental, social, and economic indicators. This holistic evaluation aims to provide a clear understanding of the developmental impact of the initiatives.

Developmental projects are subject to local conditions and needs, based on which the project activities are decided. Hence the proposed impact assessment needed a specially designed approach which was most suitable for assessing the impact of CER activities carried out by the MPL. We began by developing a thorough research plan (methodology) to guide our comprehensive investigation. This involved reviewing existing literature and analysing secondary data to build a strong foundation for the methodology. We then identified relevant indicators and specific locations to assess the impact of our study. These indicators were evaluated through a primary survey that gathered baseline data. The following chart outlines the overall study framework and the detailed methodology.

SECTOR IDENTIFICATION BASED ON THE CER MANDATE

The activities mentioned in the MPL Action Plan proposed to MoEFCC formed the base of the evaluation of the CER activities. As per the action plan, the activities were divided into four impact sectors.

1. Educational Support
2. Community Health Initiatives
3. Sustainable Livelihood & Women Empowerment
4. Community Rural Infrastructure Support

Evaluation Criteria Based on OECD-DAC Framework

The proposed methodology leveraged the OECD-DAC (Development Assistance Committee) framework, which offers a well-established approach for evaluating

international development projects. This framework employs five core criteria to ensure a holistic assessment:

1. **Relevance**: This criterion assesses the extent to which the CER activities align with the needs, policies, and priorities of the beneficiary communities. It also considers the adaptability of these activities to evolving circumstances.
2. **Effectiveness**: This criterion evaluates the degree to which the interventions have achieved, or are on track to achieve, their intended objectives. It also examines the results across different beneficiary groups, identifying any potential disparities.
3. **Efficiency**: This criterion analyses the economic efficiency and timeliness of the interventions in delivering the desired results. It assesses whether the resources are being utilized optimally to achieve the set objectives.
4. **Impact**: This criterion examines the broader, long-term effects (positive or negative, intended, or unintended) generated by the CER activities. It goes beyond immediate outcomes to assess the project's lasting influence on the communities.
5. **Sustainability**: This criterion evaluates the likelihood of the positive outcomes achieved by the CER activities being sustained in the long run. It assesses factors that may influence the continuation of these benefits beyond the project's lifespan.

CER INITIATIVES & INTERLINKAGE WITH SDGS

Goals	Actions
	Ensuring water availability for better agricultural productivity and promoting natural farming for good quality food.
	Promoting natural farming for a healthy lifestyle and conducting health camps to address the health issues.
	Providing study kits to the students and transportation facility to the students from distant villages and teacher support to Government school etc.
	Creating an inclusive environment for women in the community through participation in the decision-making process and other activities.
	Restoring water bodies and encouraging water harvesting through participatory actions

Goals	Actions
	Promoting use of biogas for clean and affordable energy solution
	Creating livelihood opportunities for women and youth through skilling programs
	Adopting an inclusive framework for interventions where all the members of the community are served without any discrimination.
	Providing holistic solutions through water management, sustainable agriculture, green energy, and resilience building through health and disaster management.
	Promoting green areas through plantation, preserving, and restoring mangrove ecosystems, and commencing IEC based awareness activities for building environmental stewardship.
	Dedicated efforts are made to restore the mangrove ecosystem which supports many marine life forms.
	Conservation of the local ecosystem through restoration action and mobilizing communities to minimize plastic consumption.

MAPPING THE IMPACT INDICATOR

The impact indicators were identified based on the secondary data provided by the MPL team. Based on activities that were carried out under CER activities, various impact sectors were identified and their respective indicators for impact were enlisted for the assessment (given in the table below). This impact sector and indicators will form the base of overall impact assessment for the CER activities.

Sector	Data Indicators
 **Water Conservation**	**Environmental Impact:** • Increase in water storage capacity of check dams in litres • TDS of ground water levels (increase or decrease) **Social Impact:** • Increase in availability of water of irrigation, cattle owner, and drinking water (Number of farmers benefited and area under irrigation) • Ease in fetching water for domestic use. **Economic Impact:** • Financial benefits due to water availability • Increase in productivity agriculture and milk from cattle and change in cropping pattern
 **Biodiversity**	**Environmental Impact:** • Increase in vegetation cover • Increase in floral diversity • Increase in faunal diversity. • Impact on soil health • Carbon Sequestration • Building climate change resilience (Biporjoy) **Social Impact:** • Building environmental awareness about local species and the importance of ecosystems. • Empowers students to become environmental stewards. • Developmental of recreational facility for the people. • Enhanced cultural value by restoring a traditional ecosystem. • Educational tool for students and the public about coastal ecosystems. **Economic Benefits:** • Economic benefits for farmers affected by BIPORJOY cyclone • Increased livelihood opportunities for local communities

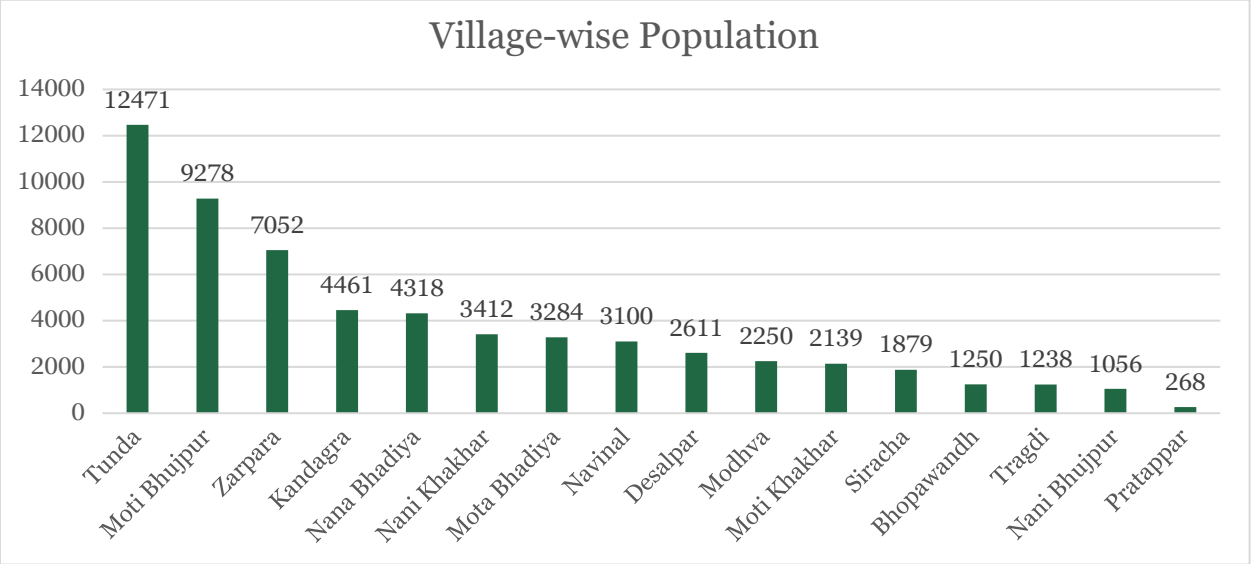
Sector	Data Indicators
 **Soil Conservation**	**Environmental Benefits:** • Carbon emission reduction through green fuel adoption • Improvement in soil health, reduced use of fertiliser and productivity • Reduced reliance on traditional fuels like firewood and dung cakes, leading to improved air quality and reduced deforestation. • Generation of biogas for cooking and lighting, potentially improving energy independence for beneficiary farmers. • Increased plantation of fruit trees, leading to a more diverse and sustainable agricultural landscape. **Social Impact:** • Adoption of Natural Farming Practices in number of farmers • Reduced reliance on traditional fuels like firewood and dung cakes, leading to improved air quality and reduced deforestation. • Generation of biogas for cooking and lighting, potentially improving energy independence for beneficiary farmers. • Increased awareness about plastic waste and its negative impacts on the environment among young students. • Potential for behavioural change towards reduced plastic consumption and improved waste management practices. • Improved food security through horticulture **Economic Benefits:** • Cost Saving through energy usage • Income generation opportunities for beneficiary farmers of horticulture support
 **Education**	**Social Impacts:** • Improved menstrual hygiene management. • Reduced absenteeism, decrease in absentness of girl students due to menstrual problem • Enhanced dignity and privacy, in percentage of students feeling positive about schools • Creation of a more girl-friendly learning environment in percentage of students • Potential for improved health outcomes

Sector		Data Indicators
		• Increased enrolment and retention
	**Improving Health & Hygiene**	**Social Impacts** • Health improvement • Ease of access to health treatment
	**Skill Upgradation**	**Social Impacts:** • Job security • Reduced migration **Economic Impacts:** • Number of jobs created • Number of people got self employed • Income in ₹.

ABOUT IMPACT REGION

Mundra, a historic port town in Gujarat's Kutch district, boasts a hot, arid climate with rich biodiversity despite limited rainfall. Located on the Gulf of Kutch at around 46 feet elevation, this census town reflects the cultural diversity of the district. The ecology is surprisingly vibrant with mangroves and birdlife, but water scarcity necessitates conservation efforts. Mundra's industrial growth, including the Adani Port & SEZ, requires sustainable development practices.

Demographic details of the 16 study villages of Mundra:[1]

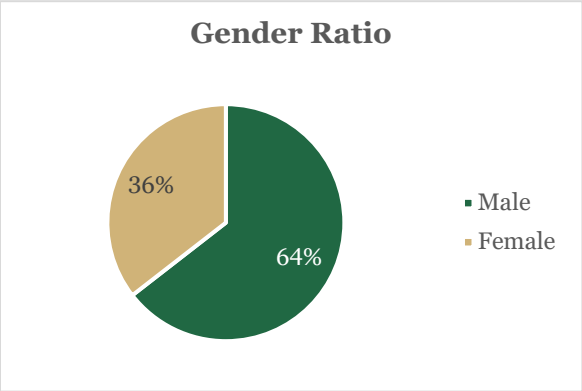


The chart presents the population data across different villages. Tunda, Moti Bhujpur has the highest population at 12,471, significantly larger than most other villages. Zarpara and Kandagra also have relatively high populations. Several villages like Nari Khakhar and Desalpar have populations of around 3,000-4,000.

The chart highlights the variation in population sizes across rural areas, with some villages being quite populous while others have very small populations like Pratappar with just 268 residents. This data provides insights into the demographic distribution and density patterns in the region.

[1] The data is sourced from Census 2011

GENDER RATIO



In the collective populace of 16 villages, males significantly surpass females at a ratio of 9 to 1. Tunda village exhibits the most pronounced gender disparity, with males constituting 90% of its inhabitants. Across these villages, there are a total of 13,182 households, with Tunda boasting the highest count and Pratappar the lowest.

This disparity highlights a notable trend in gender distribution within rural communities, underscoring the need for further examination of socio-cultural dynamics and their implications on population demographics and societal structure.

BACKGROUND OF THE STUDY:

In order to develop a comprehensive understanding of the environmental and socioeconomic needs of the 18 target villages in Mundra and Mandvi talukas, MPL has undertaken comprehensive baseline study and need assessment by involving third party profession agency in year 2022-23. This initiative involved the creation of a database documenting the existing conditions within the villages. These efforts aimed to inform strategic directions for future Corporate Social Responsibility (CSR) and CER initiatives. The ultimate objective was to establish a "shelf" of project ideas designed to address the identified needs, improve the well-being of the region and its people, and contribute to an enhanced ESG rating for the company. The study covered the following aspects:

In an effort to champion women's empowerment within 18 villages, a comprehensive development plan proposes significant infrastructural improvements. The plan prioritizes essential areas such as school renovations, water management (through ponds, check dams, and drainage systems), sanitation (including toilets and waste management), the creation of public spaces (gardens, sports grounds, and reading rooms), and community facilities (halls and crematoria). Notably, the plan prioritizes women's safety and well-being by incorporating their specific requests for enhanced lighting, waste disposal systems, and sanitation facilities. This demonstrates a commendable recognition of the importance of women's empowerment within the proposed development strategy.

WOMEN'S EMPOWERMENT AND SUSTAINABLE LIVING

"Building a Brighter Future"

This chapter dives into the impact of MPL's comprehensive program on women empowerment and skilling. Civitas explored how this program empowers women, fosters sustainable livelihoods, and cultivates environmental awareness within the community. Civitas' observations highlighted MPL's focus on building a better future and emphasizing the program's multifaceted approach.

Total Outreach
12984

Direct Beneficiaries
1008 Men | 540 Women

Nos of Cattles Benefited
2500

KEY INTERVENTIONS

Skill Development

Skill development initiatives were carried out with the aim of building capacity for the local community members and help them become more employable through skill enhancement.

	Handicraft Training	Technical training sessions for women in the local communities were organised focused on Mud Work, Dori work and Hand Embroidery. The training sessions provided theoretical and practical learning sessions along with special classes for specific artform. The participants received a certificate of completion after finishing the course and started receiving orders online. 

	Vocational Training (Data Entry Operator)	A two-month training was organised for the students with an aim to build capacity of the beneficiaries in the field of computer operator and data entry. It was a 2-month training with theoretical and practical sessions focusing on creating a pathway for employability. 25 students participated in the first batch organised from October – 2023 to December – 2023. 

Support for Farming Communities

The main aim of this program was to strengthen livelihood options for the local farming communities by providing necessary support which can act as a catalyst to enhance their income.

	Fodder Support to Cattle Owners	Local cattle owners faced scarcity of quality fodder for their cattle especially during the summer season. To address this issue, a fodder support program was initiated by MPL where cattle owner received support in the form of quality fodder and regular health checkups for their cattle. 

	Financial Assistance to Farmers	This initiative focused on providing financial assistance to farmers for cultivating horticultural saplings. The focus of horticulture saplings distribution was to provide a support through financial assistance, as a   symbolic step towards fostering a cleaner and sustainable environment. By facilitating the distribution of horticultural saplings, MPL not only aided 200 farmers in diversifying their agricultural practices but also contributes to enhancing green cover and biodiversity.
	Home Biogas Plant Support	Financial support for Biogas units were provided through PPP model under the Gobardhan Yojana by DRDA. The aim of promoting biogas for the farming community was to replace the use of firewood for cooking and domestic purpose by biogas. The byproduct of biogas is a slurry made of cow dung which is nutrition dense for soil and can be used to supplement soil. 
	Natural Farming Training	Natural farming provided solutions to the majority of problems faced by the local farmers. And considering the current need, interested farmers were given 

		training on how to practice natural farming. The session focused on understanding the core philosophy behind natural farming, which often emphasizes minimal intervention, fostering healthy soil ecosystems, and promoting biodiversity.

IEC Based Awareness Program

According to the MPL's mandate to create awareness and understanding regarding a sustainable society, multiple awareness sessions were conducted with the local communities on diverse topics to build knowledge and mobilize the community towards sustainable lifestyle.

	Mangrove Awareness Program	Building stewardship towards protecting environment to ensure that local community not only benefits from the mangrove ecosystem but also take an active part in its conservation. An awareness session was organized on the importance of mangroves to combat climate change, fostering ecosystems, and supporting the livelihoods of Fisherfolk. 
	Education Awareness Sessions	Education awareness sessions were conducted in four fisherfolk settlements from nearby villages to highlight the importance of education, particularly girl–child education. Approximate 500 students were beneficiated from this awareness sessions. 
	Plastic Free Mundra	Single use plastic is a major cause of pollution and is contributing to land degradation as weathering of plastic results in generation of microplastics which

		 assimilate with the local water bodies and soil. Plastic free village awareness drive covered students from primary school and high school under Utthan Project. The awareness drive focused on reducing the consumption of plastic, reusing the plastic through craft making and exploring the option for recycling the plastic.
	Natural Farming	Mundra Petrochem Limited through Adani Foundation and Shri Rajshakti Natural Farming Cooperative Society Ltd. hosted an event in Kutch with Gujarat Governor Shri Acharya Devvrat to promote natural farming.  Addressing 2,000 farmers, Shri Devvrat emphasized the benefits of natural farming for both health and land, highlighting the role of soil microorganisms in crop nourishment and warning against the harms of chemical fertilizers and pesticides. He urged farmers to adopt natural farming for healthier food production.
	Women Farmers Day Celebration	The event was organised on the theme of *"Annadata Sukhi Bhava"* (means those who are providing me with this food, let them be happy) and honoured 150 women farmers who proved themselves as farmer entrepreneur from Mundra and Mandavi Taluka. Additionally, 12 

		women farmers were awarded for their outstanding contribution as a farmer in the society. Information's provided on various schemes / initiatives by Government and other organizations. Technical solutions provided on various problem faced by farming communities.

Tree Plantation & Biodiversity Conservation

Various interventions were taken to preserve and promote a healthy ecosystem in the impact areas by the MPL team through their CER initiative like plantation of local and ecologically important tree species and enhancing mangrove covers in the coastal areas.

	Roadside Plantation	MPL have initiated the tree plantation program at community land of village:  Navinal, Ta: Mundra, where about 1100 numbers of healthy tree having height of 6 – 7 ft are being planted. Further, necessary care i.e watering, protecting / covering area, removing of unwanted weeds etc will be taken up on regular basis. This green initiative adds beauty and promotes environmental wellbeing.
	Community Plantation	With the aim of creating a dense sanctuary for local floral and faunal species and creating a carbon sink,  sapling distribution was organised inviting people to join the cause of green the surroundings. The site was developed using ecologically important endemic floral species and it will help sequester carbon and addressing climate change mitigation. About 10,000 numbers of trees have been planted at village Deshalpar through community tree plantation

activities. These tree plantations have included the maintenance of plants i.e water supplying through irrigation, cleaning of unwanted materials / weeds, fencing or barricading of area to protect from outer side animals, regular application of fertilizers, manure, pesticides / insecticides, labor, hoeing etc.

RESULTS & OUTCOMES OF THE CER ACTIVITIES

This section highlights the transformative impacts of CER initiatives in women's empowerment and sustainable living, showcasing significant improvements in livelihoods and environmental sustainability.

Intervention	Output	Outcome
Skill Development Initiatives		
Handicraft Training	350 Students enrolled in program till date and 25 students have finished their training.	 Participants have acquired new skills in making Mud Work and Dori Work after training. 5 Participants have started making decorative pieces and were able to sell it locally and One of the participants started getting regular orders for her mud work decorative pieces.

Intervention	Output	Outcome
Vocational Training	Total 45 students participated in two batches of data entry training program organised till date.	8 students from Data Entry Training Program  have been able to secure jobs in nearby by companies. The detail of employment is given in the table below

Sr. No.	Student Name	Company Name	Post Name	Salary/Month
1	Kalyan Gopal Gogar	Adani Ports & SEZ Ltd	Gate Operator	15,750/-
2	Gopal Jivraj Ramani	Adani Ports & SEZ Ltd	Gate Operator	15,750/-
3	Maheshwari Manoj Nagshi	Adani Ports & SEZ Ltd	Gate Operator	15,750/-
4	Prakash Kumar Manji Vinzoda	Adani Ports & SEZ Ltd	Gate Operator	15,750/-
5	Bhumesh Vasani	DBC Sons Pvt. Ltd, Gujarat	Data Entry Operator	18,008/-
6	Banshree	Perl School, Mundra	Teacher	14,000/-
7	Mandhana Mubarak	Courier Service	Computer Operator	14,000/-
8	Naran Gadhvi	HVL Pest Control	Computer Operator	13,000/-

Intervention/s	Output	Outcome
Support for Farming Communities		
Fodder Support for Cattle Owners	MPL provided support for approximately 1200 tonnes of green fodder which helped in feeding more than 2500 cattle in the impact villages.	 Increase in daily milk production by 6580 litres, resulting in ₹ 2,63,000/- daily income for the cattle owners
Financial Support to Farmers	200 Farmers Received Support under Horticulture Sapling Distribution.	 Approximately 250 saplings per famer of mango and date plants have been planted.

Intervention/s	Output	Outcome
Natural Farming Training	2200+ Farmers received training on Natural Farming Practices.	 Farmers have dedicated portion of land from their farms and started implementing natural farming techniques as pilot.
Home Biogas Support	MPL provided financial support to 240 farmers through Farmer's Producer Organization (FPO) for installation of home biogas system in their house and provided training on general operation & maintenance of home biogas system.	 It reduced consumption of fuel wood by 150 Kg per month per family.
IEC Based Awareness Program		
Mangrove Awareness Program	500 students from standard 9th and 10th participated in the program.	 Created a better understanding about the importance of mangrove ecosystem

Intervention/s	Output	Outcome
		amongst the students and local community members.
Education Awareness Sessions	500 students from fisherfolk communities participated in the session.	 There was an increase in the attendance and willingness of parents to send their children to school.
Plastic Free Mundra	10,000+ students in primary school and 900+ Students in high school under Utthan Project.	 Provided education to students about the environmental impact of plastics and offered strategies to minimize plastic consumption. Demonstrations of crafting plastic pots, wall hangings, and compass boxes was plastic reuse was also taught to the students.

Intervention/s	Output	Outcome
Tree Plantation		
Community Plantation Through Sapling Distribution	10000 plants of 37+ species have been planted.	 Overall increase in biodiversity and resulted in a diverse habitat on land.

RELEVANCE

The CER activities were strategically designed and implemented considering the needs of the communities in this region. As per the baseline assessment various sectors were covered including employment, skill development, placement opportunities, strengthening local farming communities and use of IEC as an instrument to spread awareness and enhance the knowledge pool of local communities towards pressing subjects.

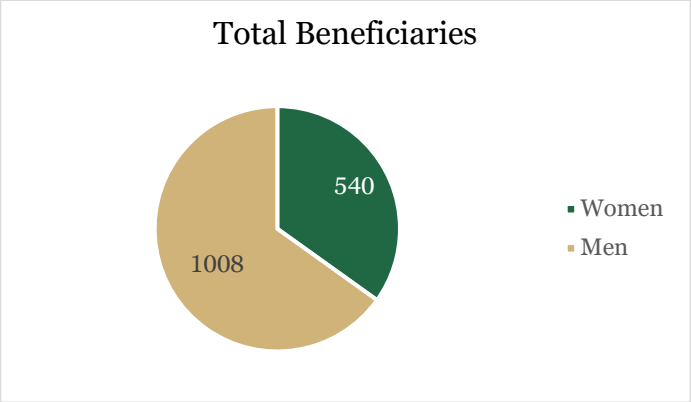


Figure 1 Total Number of Beneficiaries

A special focus on women empowerment: One of the core objectives of CER activities was to empower women through imparting income generating skills and making the financially capable. As seen from (Figure 1) half of the beneficiaries were women. As seen from figure there were targeted training sessions specifically designed and aimed towards the upliftment of women.

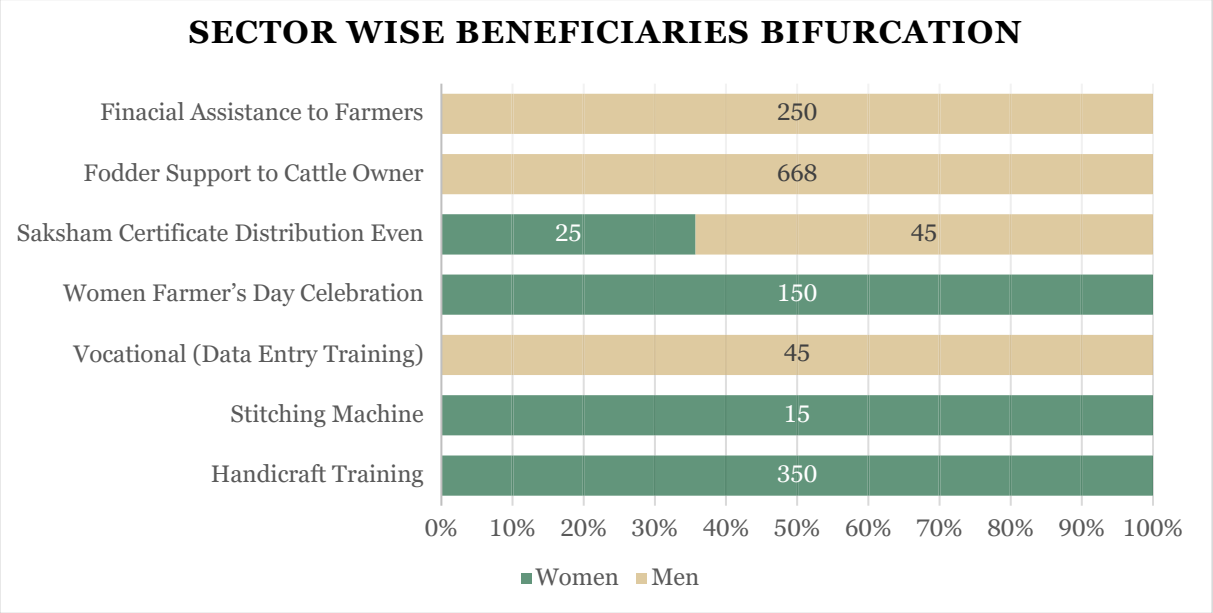


Figure 2 Number of Beneficiaries

Besides creating a healthy and equitable environment for the financial growth of the local communities, a special focus was given to enhancing the ecological condition of the region through plantation activities.

Improving Farms Productivity with Natural Farming & Biogas Unit: Interaction with local farmers has revealed that there was an increasing cost of agriculture and a need for alterative and sustainable farming system. Discussion with the local farmers gives evidence for the need of sustainable farming practice. 10 farmers were interviewed to understand their experience when practicing natural farming and major outcomes are discussed as follows.

- **7 out of 10** farmers agreed that there was a rapid deterioration of soil due to prolonged usage of Urea and DAP.
- **8 out of 10** farmers agreed, there was a significant increase in the cost of agriculture in the recent years.
- **6 out of 10** farmers agreed that application of Jeevamrut and organic manure has increased the productivity and improved the health of soil.
- **8 out of 10** farmers agreed that biogas system integrated very well with the need of farmers by providing alternative energy source and soil enriching slurry.

EFFECTIVENESS

Most relevant aspect of the interventions was to create an income generating opportunities for the local communities. From the preliminary assessment, it was found that students of vocational training were able to secure job placement in the local companies and were able to fetch an average salary of ₹ 15,000/-. The cattle owner observed a boost in milk production due to steady fodder supply which resulted in an increase of daily income of ₹ 390/- resulting in a monthly income of ₹ 11,000/-. The beneficiaries who received financial support for horticulture development mentioned

that it will take around 3 years for the plants to mature and start bearing fruits. Hence the actual financial impact has to be calculated one the production starts.

Table 1 Financial Benefits for the Beneficiaries

Average Salary for Vocational Training Students	Increase in Monthly Income Generation through Fodder Support	New Horticulture Plantation Carried out
₹ 15,000/-	**₹ 11,000/-**	**250 Plants per Farmer by 200 Farmers**

EFFICIENCY

A comprehensive mobilization strategy was employed by Training Partners, utilizing offline methods such as door-to-door visits and pamphlets, resulting in increased candidate participation. Trainee feedback indicated that their social circles were well-informed about the program's quality, motivating them to apply. The candidate selection process post-mobilization was thorough, involving individual screenings to assess eligibility based on age, family income, and commitment. MPL teams collaborated closely with Training Partners throughout the selection and follow-up process. Analysis of Training Partner data revealed high attendance rates (>80%) among trainees, indicating strong engagement and effective utilization of training resources.

IMPACT

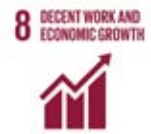
Parameters	Impacts
Environmental Impact	
Carbon Sequestration	Created a carbon sink of 318.00 MT of CO_2 in 4 acres of land.
Damage Mitigation	The damage mitigation support from our team has resulted in avoiding ₹ 1.5+ crore worth of damages for farmers.
Improved Soil Quality	A significant increase in the humus (soil organic content) has been reported by the farmers practicing natural farming techniques resulting in soil with high water holding capacity, better porosity, and softer texture.
Phasing Out Chemical Fertilizers:	From using 1 Bag Urea was and 2 bags of DAP per acre it was recorded that farmers have reduced using urea and DAP in their farm. 4 farmers have reported that they have stopped using any kind of synthetic fertiliser, pesticides, or hormones.
Reduction in use of Chemical Growth Inhibitor	Farmers have reported that they have stopped using synthetic hormones and chemical to induce flowering and growth in horticulture plants.
Improved Indoor Air Quality	Installation of Biogas unit has reduced the use of firewood and dung for cooking resulting in emission reduction. It is estimated that 48g of Volatile Organic Carbons (VOC) is emitted per kg of dung or fuel wood and 2.5g of Alkynes and benzene is emitted per kg of fuel wood[2] which can cause health hazard.
Increase in the Numbers of Earthworms	By adopting natural farming practices farmers have noticed that the numbers of earthworms have increased after they stopped using chemicals.
Economic Impact	
Employment Generation	8 students from Data Entry Training Program were able to secure jobs in nearby by companies. The detail of employment is already given earlier in report.

[2] https://acp.copernicus.org/articles/18/15169/2018/acp-18-15169-2018.pdf

Parameters	Impacts
Income Generation Opportunities Through Handicraft Works	Since the completion of training, 2 participants received several orders for handicraft products. 7 participants reported that they were making the handicraft and were selling locally through their relatives and friends.
Enhanced Income for Cattle Owner through Fodder Support	Due to sustained fodder availability, cattle owners witnessed an increase in milk production resulting in household livelihood enhancement of Rs 11,000/- per month.
Increase in Farm Yield	Farmers reported 25% increase in overall production post adoption of natural farming techniques.
Cost Saving from Alternative Clean Energy	The biogas unit generates 2 CuM biogas/day which is sufficient to cook 3 meals for the family of 5 people. This also resulted in annual savings of ₹ 6000/- by replacing LPG cylinder to biogas.
Decreasing Cost of Agriculture	Farmers are saving up to ₹ 10,000/- as they don't need to apply fertiliser and other chemicals.
Higher Returns of Produce	Farmers reporting 40% to 50% increase in returns when they sell special farmers market under the label of organic produce.
Social Impact	
Adoption of Natural Lifestyle	After receiving training and other support, it was recorded that 220 farmers have started practicing Natural Farming.
Reduced Health Risk	Use of biogas has reduced the use of fuel wood which resulted in emissions responsible for various respiratory diseases.

LINKAGE WITH SDGS

SDGs Addressed	Inference
	MPLs initiative focused on livelihood generation and providing additional support to farmers works towards eliminating poverty

	Enhanced income generation opportunities provided to the local community and sustainable job creation will enable the local to fulfil basic needs like food and nutrition
	Dedicated efforts through handicraft workshop and promoting women farmers have created more equitable society.
	Major interventions were focused on building employability in the local community and creating a sustainable source of income
	A non-discriminatory approach in beneficiary identification has reduced inequality.
	By integrating IEC based interventions on awareness and community building will work towards building sustainable society.
	A significant effort has been put in promoting natural farming, and conservation of local ecosystem through plantation and mangrove forest development.

Case Study 1: Mud Work byKamla and Neha; Deshalpar

Kamla, a resident of Deshalpar village, recently completed a handicraft training program with her sister, Neha Ahir. The training, organized by MPL, came to Kamla's attention through a team member's outreach. Motivated by the rich tradition of Bharat Work handicrafts in their society—typically crafted by women for auspicious events like marriages—Kamla saw the training as an opportunity to enhance her skills and generate income by selling her creations.

Together, Kamla and Neha produce a variety of handicrafts including Toran, Jhumar, Teddy Bears, keychains, napkin stands, and wall pieces. Although they currently do not have direct orders from clients, they are actively showcasing their products through WhatsApp, reaching out to relatives and friends. This method has resulted in a few sales, but it remains insufficient to meet their ambitions.

The intricate Dori work they specialize in can take between one to three days to complete, depending on the level of detail required. Raw materials are sourced from Bhuj due to the lack of local suppliers in their village. While there is an option to buy materials from a shop in Mundra, it is prohibitively expensive. The cost of creating a single piece of Dori work ranges from ₹ 150 to ₹ 500, based on the product's size. Currently, they sell their products with a profit margin of ₹ 150 to ₹ 300 per day of labour invested.

Kamla and Neha are determined to transform their initiative into a sustainable business for their family. They plan to collaborate with other women in the village, increasing their collective capacity to handle larger orders and build inventory for handicraft fairs.

This community-driven approach not only aims to boost their own income but also to empower other women in Deshalpar village, fostering economic growth and preserving their cultural heritage.

Case Study 2: Devalben Ramji Dhedha – Transforming Sketches into Mud Work Art

Devalben Ramji Dhedha, a resident of Nani Bhujpur and a dedicated ASHA worker, has a passion for sketching and painting in her free time. Recently, she participated in a mud work training program, discovering that the techniques taught could transform her sketches into beautiful mud and clay frameworks.

The training inspired Devalben to create various wall pieces featuring geometrical patterns and portraits of deities and religious figures. Her talent and hard work quickly paid off, as she became one of the trainees to secure orders independently and with support from the MPL. In just one month since completing the training, she has received 10 orders for different mud work designs.

Devalben's art focuses on intricate designs using chalk powder and sand, crafted with a blend of chalk powder, gum, and newspaper. Depending on the size and detail, each piece takes between 2 to 5 days to complete. Her creations range in price from ₹ 500 to ₹ 3000, with material costs between ₹ 150 and ₹ 500. This allows her to earn approximately ₹ 350 to ₹ 2500 per piece, depending on the complexity and size of the design.

Through this training, Devalben has not only enhanced her artistic skills but also found a viable source of income, contributing to her personal growth and economic independence. Her success story serves as an inspiring example of how traditional skills can be revitalized and monetized, benefiting both individuals and the community.

Case Study 3: Sustainable Farming with Home Biogas System by Punjabhai Harji – Bhujpur

In the heart of Bhujpur village, Punjabhai Harji, a dedicated farmer, stands as a beacon of sustainable agriculture. On his 8 acres of land, he grows mangoes, chickoos, dates, and sweet limes. His journey towards sustainable farming took a significant leap when he became one of the earliest recipients of a home biogas system in his village.

Punjabhai's biogas system, with a capacity of 7 cubic meters, produces 2 cubic meters of biogas daily. To keep the system running efficiently, he requires 40-50 kg of cow dung

each day. This system meets his household's energy needs and transforms his approach to farming.

Before the biogas system, Punjabhai's family relied heavily on fuel wood for cooking and heating. Each month, they consumed about 150 kg of wood and needed five gas cylinders annually. Collecting wood took a lot of time and exposed them to smoke, making cooking hazardous and time-consuming. The biogas system brought a welcomed change. Now, Punjabhai's family uses biogas exclusively for cooking, drastically reducing their reliance on fuel wood. This transition saved them time and effort, eliminating the need to gather wood and sparing them from health risks associated with smoke. Cooking became safer, more convenient, and efficient.

The benefits didn't stop there. The biogas system produces 50 kg of nutrient-rich slurry daily, which Punjabhai uses as fertilizer for his farm. Over time, he reduced his dependence on chemical fertilizers. Today, Punjabhai's farm is entirely organic, benefiting from the natural nutrients provided by the slurry. His crops are healthier, and his farming practices are more sustainable than ever.

Punjabhai Harji's story is a testament to the transformative power of sustainable technology. His successful integration of a home biogas system into his farming routine showcases the environmental and economic benefits of such innovations. Punjabhai's experience improved his family's quality of life and set an inspiring example for other farmers. Through his commitment to sustainable practices, Punjabhai is contributing to a greener, more sustainable future for his community.

Case Study 4: Natural Farming by Devdas Nansingh Sheda

Devdas Nansingh Sheda is a prime example of successful natural farming, having embraced this method after receiving training and support from the MPL team. He manages an 8-acre horticulture farm where he practices intercropping, primarily growing dates and mangoes. Between the rows of trees, he also cultivates grains and fodder crops for personal use and for his cattle.

Devdas was among the first to participate in the natural farming initiative, receiving technical training on Subhas Palekar's natural farming techniques. He also received support for making jivamrut, including barrels for its preparation, which he uses diligently.

Since he began using jivamrut, Devdas has observed a significant increase in productivity, particularly in his date crops. According to him, the dates have become bigger, juicier, and shinier. Beyond the boost in productivity, he has also noted a substantial reduction in agricultural costs since adopting natural practices.

The primary reason for the lower input costs is the use of jivamrut. Previously, Devdas spent Rs. 60,000 annually on urea and DAP. Now, his land has become so fertile that chemical fertilizers are no longer necessary. Additionally, he reports reduced labor costs for land preparation, as the soil is now much softer and easier to plough. Where it once took 4 hours of tractor work to plough 1 acre, it now takes just 2 hours, significantly reducing costs.

Devdas Nansingh Sheda's experience demonstrates the benefits of natural farming, including increased productivity, reduced input costs, and improved soil health. His story is an inspiring example of how sustainable practices can transform agriculture, benefiting both the farmer and the environment. Through the support of the MPL team, Devdas has not only enhanced his farm's productivity but also contributed to a more sustainable future for his community.

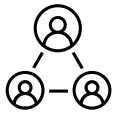
COMMUNITY RURAL INFRASTRUCTURE DEVELOPMENT

"Building Foundations for Sustainable Growth"

The Community Rural Infrastructure Development program by MPL encompasses a wide array of initiatives aimed at enhancing rural areas. It focuses on water conservation through measures like check dam restoration, desiltation, and borewell recharge structures. Infrastructure support includes sports facilities in Zarpara, renovation of educational and training centres, and repair works in schools and fishing sheds across various villages. Additionally, the program addresses essential amenities like wood storage areas and water tanks, catering to diverse community needs. MPL's efforts extend to providing electrical items for training centres and renovating fish landing sheds, showcasing a comprehensive approach to rural development. Through these initiatives, MPL contributes to improving the quality of life and fostering sustainable growth in rural communities. The key beneficiary statistics are as follow.

18,750 Cattle Benefitted from

Enhanced Water Availability



6335 People Benefiting from

Water Conservation Initiatives

1650 Acres of Land will be Irrigated through

Water Conservation Structures

KEY INTERVENTIONS

Water Conservation Structures

The aim of building water conservation structure is to addressed local water issues through systematic interventions for water resource management by building, restoring, and maintaining the local bodies. Water conservation focused on enhancing surface and groundwater reserves through preserving water bodies and installing recharge structures.

	Check dam Restoration and Desiltation	A two-pronged approach was adopted in Nana Bhadiya for improved surface water management, check dam restoration and desiltation. Check dams, acting like weirs, slow down flowing water, allowing it to collect in the reservoir behind. Restored check

		dams ensure better water storage capacity. Desiltation, the removal of built-up sediment from the reservoir bed, increases the dam's storage potential and lifespan. This combination helps conserve surface water, recharge groundwater, and improve irrigation efficiency.
	Installation of Pipe Culvert	 Pipe culverts are buried pipes that channel water under roads, driveways, or paths that were installed at Bhujpur with an aim to direct the rainwater towards check dams. The culverts were made of concrete and were installed to direct stormwater runoff, preventing flooding and erosion.
	River Cleaning	 There are many minor rivers that pass through the project villages, but they are blocked due to excessive sedimentation and invasive Prosopis Juliflora vegetation. These rivers were cleaned through excavators with the objective of recharge water during monsoon. Increase productivity of soil which affected by Prosopis Juliflora.

	Installation of Borewell Recharge Structure	 21 nos. of Recharge/percolation Borewell structures were installed around Nagmati river's river basin to address salinity ingress, prevent runoff water, and increase ground water recharge.
	Installation of Rooftop Rainwater Harvesting System	 135 nos. of RRWH systems were installed at the houses of local community with an aim of providing water through harvesting rainwater and storing in underground storage tank of 10000 liters.
	Building Infrastructure at Local Level	 • Infrastructure for Sport activities at Zarpara • Renovation of "Bal Mandir" and training center at fisherfolk residential area of village Luni Bandar. • Wood storage area (crematorium) at village Kandagara • Renovation of closed fishing sheds at village Juna Bandar.

- Construction of Water tanks for villagers of Vira Bandar
- Provided electrical items for training centre at Juni Bandar

- Renovation of fish landing sheds at Luni Bandar
- Renovation of open fish landing sheds at Juna Bandar
- ARC Road Restoration
- ARC civil maintenance contract
- Construction of Community Structure
- Shore protection Works Road development
- Road for Dargah (Approx. 1 KM as per current drawing)

RESULTS & OUTCOMES OF INFRASTRUCTURE DEVELOPMENT

This section highlights the transformative impacts of CER initiatives in water resilience and sustainable living, showcasing significant improvements in livelihoods and environmental sustainability.

Intervention	Output	Outcome
Check dam Restoration and Desiltation	2 Check Dam Renovated & Desiltation was Carried out.	Increase surface water storage by 78,000 CuM.
Installation of Pipe Culvert	One Pipe culvert installed.	Prevent water runoff into seaside and additional water is diverted to the check dam.
River Cleaning & Deepening	3 Rivers Cleaned and blockades removed.	Increased flow of water through the rivers and

Intervention	Output	Outcome
		increased water availability in the river basin.
Borewell Recharge Structure Installation	21 Borewell recharge structure installed.	It will lead to increase in underground water levels and improve the water quality.
Rooftop Rainwater Harvesting Structure	135 Rooftop rainwater harvesting structures installed.	A potential storage for 13,50,000 litres of rainwater during the monsoon created.

RELEVANCE

As per the CER action plan and need assessment carried out by the MPL,the major focus was to build capacity of local communities by providing necessary infrastructure support. Based upon the primary assessment and ground verification carried out by our team, two major area of infrastructure support were provided by the team of MPL in form of building water conservation structures and improving existing infrastructure which were defunct or not utilized at optimal level.

Besides providing support for renovation, repair, and installation of various water conservation structures there was a need for upgradation of local infrastructure, roads, community water storage, fishing sheds, and storage rooms. MPL team efforts in providing a comprehensive infrastructure support has been appreciated by the local community members.

EFFECTIVENESS

Local community members have been facing a significant water constraint for domestic and irrigation purposes. The interventions carried out by the team of MPL were observed to have created a significant impact on the availability of local water, as explained in the impact section. This proves that the impact will be highly effective in addressing the local water issues based on following parameters.

- Enhanced surface and subsurface storage through checkdam rework and borewell installation.
- Improved water quality by reducing the salinity of water.
- Ease of water availability for domestic water use due to installation of RRWH system.

EFFICIENCY

The installation of structures was done with precision and good quality of materials were used, ensuring that highest quality of results can be achieved. The efficiency of water structures can be accurately estimated after 3 to 4 years of rain, as it takes time to recharge the aquifers. Hence it is suggested that regular monitoring of the recharge structures be carried out to generate data on the performance of the water structures.

IMPACT

Parameters	Impacts
Environmental Impact	
Increased Catchment Area of the Check Dam and ponds	Through desiltation and deepening, an estimated 78,000 CuM. of water storage capacity has been increased.
More Land Can be Covered Through Irrigation	Increased water storage capacity has provided irrigation to 1650 acres of land.
Secured New Source of Potable Water Through RRWH Systems	135 RRWH systems installed could potentially store 13,50,000 litres of rainwater during the monsoon.
Improvement in Water Quality	Through the current interventions it is expected the TDS levels of water should drop by 10%.
Increase in Water Table	The water table has increased by 8 Ft.
Soil Organic Cabon % improved	Soil moisture conservation activities like building check dams have positively impacted SOC. Research indicates that SMC activities can increase the SOC by 11% to 20%. The increase in SOC is a gradual process which takes 5 to 10 years as multiple lifecycles of grasses are passed each year.
Economic Impact	
Increased Saving for Household	A family have to spend Rs. 100/- for securing clean drinking water from vendors. With the installation of RRWH systems a household can save up to Rs. 10,000/- annually.

Parameters	Impacts
Social Impact	
Increased Access of Water of All	2150 farmers and over 18750 cattle will benefit from increased water availability. 3500 people will benefit from RRWH system.
Reduced Burden on Women	Currently women have to travel to secure water for domestic use. With the installation of RRWH system they will not have to travel for water.
Health Benefits	Clean potable water will reduce the burden on health due to consumption of high TDS waters.

LINKAGE WITH SDGS

SDGs Addressed	Inference
	Increased water availability and quality will boost the agricultural production.
	Dedicated efforts for enhancing rainwater storage will improve clean and safe drinking water option for households.
	Improved recharge and harvesting options will make local communities reliant against water stress.
	The water conservation initiative significantly increased storage capacity, supporting SDG 13 by enhancing climate resilience and promoting sustainable water management.

Case Study 1: Addressing Water Scarcity in Modhva Village

Rahimabai, a resident of Modhva village in the Mandvi taluka, exemplifies the struggles communities face along the Gulf of Kachchh coastline. The village endures significant water scarcity due to harsh environmental conditions. The water available through the

village's household taps is highly alkaline, rendering it unsuitable for consumption and domestic use.

In response to this challenge, most families in Modhva, including Rahimabai's, rely on purchasing bottled mineral water for their daily needs. Rahimabai's household, comprising 15 members, has a substantial water demand, necessitating the purchase of mineral water twice a week. At a cost of Rs. 20 per 20-litre bottle, they buy 5 bottles per purchase, translating into a considerable financial burden.

Although a nearby well provides water for non-potable purposes, the quality remains inadequate for drinking. The economic strain of consistently purchasing drinking water underscores the urgent need for a sustainable solution.

In an encouraging development, Rahimabai's household recently received a Rainwater Harvesting (RRWH) system with a storage capacity of 10,000 litres. Installed a few months ago, this system offers a beacon of hope. Rahimabai anticipates that with the upcoming monsoon, the RRWH system will significantly alleviate their dependence on purchased water, thereby reducing their financial burden and ensuring a more reliable water supply for their household needs.

This initiative promises to resolve the immediate challenge of water sourcing and highlights the potential for scalable solutions to address water scarcity in similar regions.

COMMUNITY HEALTH INITIATIVES

"Promoting Wellness and Resilience"

MPL's primary assessment of the project revealed that the local fisherman community is one of the most vulnerable communities. The project aimed to empower Navinal, Tragadi, Modhva, and Zarpara fishing communities by providing vital health education. Through preventive disease awareness drives, family planning workshops, menstrual hygiene and nutrition workshops, and general health sessions, the project reached over 600 families. This holistic approach led to a lasting impact: women gained knowledge to plan their families and stay healthy, while adolescents and women received support for menstrual hygiene and proper nutrition. Most importantly, the project fostered a sense of community by forming a Self-Help Group, ensuring this newfound knowledge continues to empower future generations. The key intervention details are as follow.

KEY INTERVENTIONS

	Family Planning Sessions	 Family planning sessions were organised for the local families focusing upon ensuring healthy pregnancies for both mom and baby, ideal family size, and reproductive health. The participants were also provided access to family planning resources and education.
	Menstrual Hygiene Workshops	 The workshop aimed to address the gap in knowledge and access to proper menstrual hygiene management (MHM) resources faced by women and girls in the area. During the workshop Adolescent and women are

		supported for Menstrual hygiene awareness and capacity building trainings..
	Nutrition Workshop	 Workshops focused on promoting healthy eating habits and tackling malnutrition in the project villages. Local residents participated in interactive sessions led by nutrition experts. Participants learned practical tips on food preparation, storage, and techniques to maximise nutrient intake.
	Health Awareness Workshop	 Awareness sessions were organised by the MPL team with a special focus on the importance of vaccination, clean water, sanitation, and mental health.
	Mobile Van	 A mobile health checkup unit is operational by Adani Foundation (under CSR) for the villages which have necessary general medical check-up facilities.

	Dialysis Mobile Van	A specialised mobile dialysis van is being operated by Adani Foundation (under CSR) to provide dialysis support in villages where primary health centre doesn't have dialysis support.
	Medical Support	 Medical support in the form of medicine, vaccine, testing and blood testing facilities are provided by Adani Foundation (under CSR) to the local community members.
	Ayushman Card Support	 Assistance in obtaining medical insurance under Ayushman Card initiative by the Government of India is provided.
	Blood Donation Camp	To create a local blood bank, blood donation camps are organised at regular interval.

"Community Health Programs" are being implemented directly by Adani Foundation in the region with budgetary provision of approx. 1,77,55,000 INR in FY 2023-24.

RESULTS & OUTCOMES OF THE COMMUNITY HEALTH INITIATIVE

This chapter outlines the significant achievements of the Community Health Initiatives being implemented by Adani Foundation (under CSR), detailing improvements in health outcomes, increased awareness, and enhanced well-being within the community.

PROJECT OUTPUT

Table 2 List of Beneficiaries of Health Initiatives

Major Interventions	Beneficiaries
Family Planning Sessions	449
Menstrual Hygiene Workshops	400
Health Awareness Workshop	893
Mobile Van	10477
Dialysis	124
Medical Support	2214
Ayushman Card	3871
Blood Donation Camp	1715
Total	**17152**

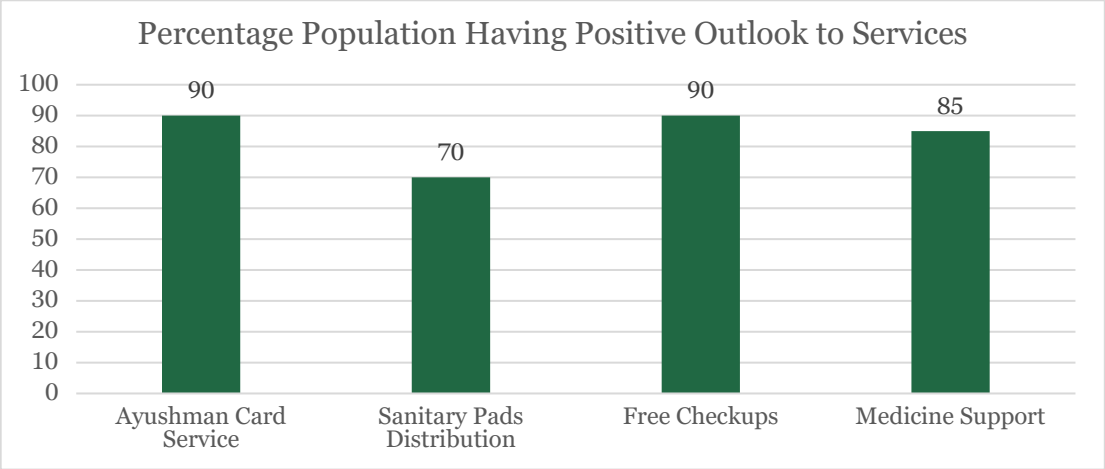
RELEVANCE

The identified villages for the CER activities are highly remote and lack major medical facilities. It was observed that only basic medical facilities and health centres were present in some of the villages with irregular availability of medical professionals. Hence, considering the region's need and the CER action plan, the proposed activities provided diverse and holistic medical facilities to the local communities.

EFFECTIVENESS

The Adani Foundation (CSR wing of Adani Group) ensured that all the major medical and health related support are provided to the local communities. The respondents had a very positive outlook towards the health services arranged by them, resulting in a better turn around. People regularly attend various awareness sessions as well as health camps for treatments and other services. During the discussion, some of the major services that received positive feedback are described in the figure below.

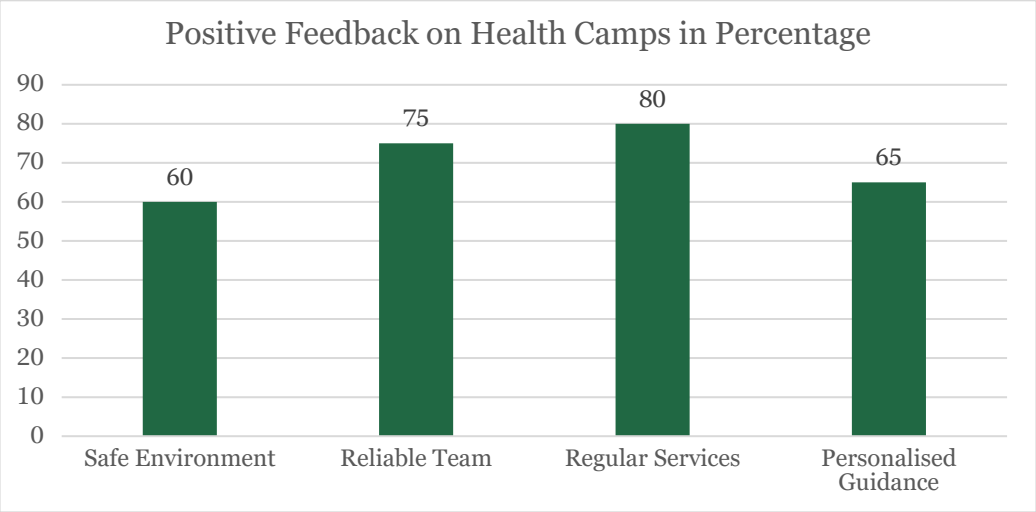
It was noted that there was a lack of awareness about the Ayushman Card, which is linked to government medical insurance services. Through systematic awareness sessions and assistance in paperwork for application, Ayushman Card support system was highly



sought after by the local community members. It was also mentioned by the respondents that there is a huge increase in the usage of sanitary pads since menstrual health camps were organised, more than 70% increase in the usage of sanitary pads was observed. Regular checkups and medicine were other most essential services under the health initiative.

EFFICIENCY

The regular arrangement of the health camps was highly efficient at the ground level. A systematic database management system for the beneficiary along with records were kept by the team of Adani Foundation (under CSR), ensuring efficient implementation of various interventions. The participants were regularly informed about the upcoming camps in advance by the ground team through local resource person as well as messaging services, ensuring maximum attendance of the community members.



The team was able to provide a safe and secure environment for women during health camp. Other major aspects of interventions were timely and regular arrangements of health camps with reliable and trustworthy medical professionals providing personal guidance.

LINKAGE WITH SDGS

SDGs Addressed	Inference
	The healthcare initiative improved community well-being, aligning with the goal by enhancing access to essential health services and promoting healthy lives.
	The healthcare initiative promoted gender equality by improving women's access to health services and fostering empowerment.
	The healthcare initiative reduced inequalities by providing equitable access to medical services, aligning with overall goal of reducing disparities.

EDUCATION PROMOTION INITIATIVE

"Empowering Minds, Shaping Futures"

In today's rapidly evolving world, the role of corporate responsibility in fostering sustainable development and empowering communities cannot be overstated. One such commendable endeavour is the *"Project Utthan"*, Education Initiative undertaken by Adani Foundation (under CSR) , which stands as a testament to the organization's commitment towards creating a positive impact in society. The Utthan Initiative encompasses a multifaceted approach to enhance educational infrastructure, empower local institutions, and foster community development. Through strategic interventions spanning infrastructure support, capacity building, and community engagement, Adani Foundation (under CSR) has endeavoured to address the educational needs of underserved communities and contribute to their holistic development. Mundra Petrochem Limited has supported various education promotion initiatives undertaken by Adani Foundation (under CSR).

KEY INTERVENTIONS

	Infrastructure Support to Local Institutions	MPL's commitment to improving educational infrastructure is exemplified by various initiatives, including the provision of essential resources such as rubber mats and office stationery. Additionally, constructing a wooden storeroom and renovating the primary school in Tunda underscore MPL's dedication to creating conducive learning environments for students.
	Training & Capacity Building	Recognizing the pivotal role of educators in shaping young minds, MPL has invested in capacity building measures by hiring Uttan Sahayak and Shikshan Sahayak for government primary schools. Moreover, the distribution of education kits further empowers teachers and students with the necessary tools for effective learning and skill development.
	Community Support	MPL's Education Initiative extends beyond the confines of school premises, reaching out to the broader community. By arranging transportation for underprivileged students, MPL ensures access to education for all, irrespective of socio-economic barriers. Furthermore, initiatives such as women awareness programs contribute towards fostering a more inclusive and empowered society.

RESULTS & OUTCOMES OF THE UTTHAN INITIATIVE

This chapter details the significant achievements of the Education Support Initiative, highlighting improved educational access, enhanced learning outcomes, and empowered students within the community.

RELEVANCE

Addressing the SDG of providing quality education and creating sustainable infrastructure, MPL's educational initiative focused on providing auxiliary support to the education institution in the form of developing infrastructure, providing necessary resources to students, and encouraging girl child education through awareness. There are several gaps in the educational system in the region which need to be addressed, and through systematic planning and execution, MPL's team is enhancing the quality of education in the region.

IMPACT

Parameters	Impacts
Social Impact	
Hiring Utthan Sahayak	Hiring of Utthan Sahayak has provided much-needed technical support to the teaching staff in the local schools. Sahayak provided comprehensive teaching support, especially to students who needed special attention. This has resulted in increased attendance and better learning amongst underperforming students. 
Study Kit Distribution	 61 students from standards 9th to 12th were given study kits, which included notebooks, guides, and school bags.

Parameters	Impacts
Vehicle Transportation Support	 MPL, extended vehicle transportation services to school – going children from Luni and Randh Fisherman Settlements to the Adani Vidya Mandir (AVM) School, Bhadreshwar.
Education Awareness Program	 Education awareness sessions were conducted in four fisherfolk Vasahat of nearby villages to highlight the importance of education, particularly girl–child education. Approximately 500 students benefitted from this awareness sessions.

LINKAGE WITH SDGS

SDGs Addressed	Inference
	The education support initiative enhances quality education and equal access, directly contributing overall goal of inclusive, equitable education for all.
	The education support initiative promotes gender equality by ensuring equal educational opportunities and empowering girls.
	The education support initiative fosters economic growth by providing skills and knowledge.

The education support initiative reduces inequalities by providing equitable access to education.

KEY FINDINGS & RECOMMENDATION

This chapter delves into the outcomes of various projects, shedding light on their impact and effectiveness. By analysing the initiatives undertaken and their corresponding results, this chapter identifies best practices and strategic inputs. Through meticulous examination, it elucidates the tangible benefits accrued, such as skill development, environmental actions, soil conservation and community empowerment. By distilling lessons learned and highlighting successful approaches, this chapter offers valuable insights for future planning and implementation, guiding towards sustainable development and impactful interventions in the realm of social, economic, and environmental initiatives.

MAJOR IMPACT POINTS FOR SOIL CONSERVATION ACTIVITIES

The soil conservation initiatives, combining biogas units, natural farming support, and technical workshops, has yielded significant positive impacts on participating farms.

Reduced Reliance on Traditional Fuel Sources: Biogas units emerged as a highly effective replacement for traditional firewood. This not only conserves valuable forests but also reduces air pollution and promotes a cleaner environment.

Transitioning to Natural Farming: The project's success lies in the synergistic effect of its components. Biogas units produce nutrient-rich slurry, acting as a powerful catalyst for farmers transitioning from conventional to natural farming practices. This organic fertilizer improves soil health and reduces reliance on chemical inputs.

Empowering Farmers through Natural Farming Practices: Additional support in the form of horticulture seed distribution, training on Jivamrut-making (a natural bio-fertilizer), and on-field training on natural farming has proven crucial. These resources empower farmers to adopt natural farming techniques and cultivate sustainable agricultural practices.

Measurable Improvements and Increased Yields: Farmers have observed a tangible shift in their fields. Notably, there is a reduced need for synthetic fertilizers like urea and DAP, indicating healthier soil. Additionally, increased earthworm activity, improved soil health, and ultimately, higher crop yields and quality are positive indicators of the project's success. This holistic approach to soil conservation demonstrates its potential to contribute to long-term agricultural sustainability and improved livelihoods for participating farmers.

Recommendations for Soil Conservation Initiatives

The positive outcomes of soil conservation project encourage to explore further avenues for maximizing its impact and promoting sustainable agricultural practices. Here's a roadmap for future action:

1. Connecting Farmers to Premium Markets: While the initiative has empowered farmers with natural farming practices, connecting them to the right customers seeking organic produce is critical for long-term success. MPL through Adani Foundation plan to establish farmers' markets or explore partnerships with retailers who value organic products. This will allow farmers to capture premium pricing for their high-quality crops, increasing their income and motivating others to adopt similar practices.

2. Certification for Consumer Confidence: Obtaining organic or natural farming certifications can significantly benefit farmers. These certifications act as a seal of authenticity for consumers, allowing farmers to command premium prices for their chemical-free produce. MPL through Adani Foundation aim to aid with the certification process, empowering farmers to access these valuable market differentiators.

3. Biogas: A Catalyst for Sustainability: The project's success highlights the powerful synergy between biogas units and natural farming. Biogas not only provides a clean energy source but also produces nutrient-rich slurry, a valuable organic fertilizer. Integrating biogas units more extensively with natural farming initiatives will contribute significantly to our commitment to promoting sustainable agriculture and addressing soil degradation.

4. On-Farm Solutions for Optimal Results: Recognizing that each farm has unique characteristics, MPL through Adani Foundation plan to offer personalized technical guidance. This might include on-site consultations with agricultural experts who can identify farm-specific challenges and suggest tailored solutions. This in-depth support will better equip farmers during their transition to natural farming methods and enable them to optimize their land's productivity.

By implementing these strategic actions, we aim to further empower farmers, enhance soil health, and promote long-term agricultural sustainability. This comprehensive approach underscores our commitment to creating a positive impact on the environment and the livelihoods of our partner communities.

MAJOR IMPACT POINTS FOR SKILL DEVELOPMENT

The skill development program addressed the critical need for alternative livelihood options in fishing communities facing challenges due to declining fish reserves. Additionally, it provided training in villages with limited employment opportunities beyond traditional agriculture.

Positive Community Response: The training sessions were met with enthusiastic participation from community members, demonstrating a strong desire for skills acquisition.

Handicraft Training Fosters Entrepreneurship: Participants in the handicraft training program are actively exploring avenues to sell their products and secure future income. This indicates not only successful skill development but also the potential for entrepreneurship within the communities.

Data Entry Training Boosts Employability: Individuals who participated in the data entry operator training have gained valuable skills and confidence. They now possess a better understanding of job search strategies and are more empowered to pursue employment opportunities in this field.

These positive outcomes underscore the program's effectiveness in equipping participants with marketable skills and fostering self-sufficiency. By offering alternative income generation avenues, this initiative contributes to the long-term economic well-being of participating communities.

Recommendation for Skill Development Initiatives

The success of MPL's skill development program highlights the potential to further empower communities and equip them with skills that lead to long-term economic security. Here are key areas for future action:

1. Industry-Specific Skill Need Analysis:

- **Identifying Employment Gaps:** Conducting a comprehensive skill needs assessment across various industries, institutions, and organizations in the surrounding area is crucial. Understanding the specific skills required by local employers will enable to tailor future training sessions accordingly. The data-driven approach ensures that participants acquire skills with high market demand, increasing their employability.
- **Collaborative Training Programs:** Partnering with relevant industries can lead to even more impactful training. MPL can co-develop training programs with specific employment pledges from participating companies. This collaborative approach connects participants with potential employers and helps them secure jobs upon program completion.

2. Entrepreneurial Skills Training: While participants have acquired handicraft skills, empowering them as potential entrepreneurs is the next step. MPL may like to provide additional training on market research, branding techniques, and business financing. This comprehensive approach equips participants to navigate the business world, establish themselves as independent artisans, and generate sustainable income.

3. Harnessing the Power of the Internet: In today's digital world, online platforms offer immense potential for marketing and selling products. MPL may plan to train participants on using social media effectively to connect with a wider customer base and

promote their handcrafted goods. This will enhance their visibility and access to new markets.

4. Facilitating Market Access: Connecting participants with potential buyers and retailers is crucial. MPL may plan to explore avenues to establish market linkages between handicraft producers and local stores, online platforms, or even tourist communities. This will provide participants with consistent sales opportunities and contribute to the long-term sustainability of their endeavors.

MAJOR IMPACT POINTS IN HEALTH INITIATIVES

The health initiatives yielded encouraging results, highlighting areas where communities readily adopted positive changes. For instance, the use of sanitary pads saw a significant increase following our interventions. This demonstrates the success of MPL's approach in addressing hygiene concerns.

However, other areas, such as adopting healthy diets and tackling tobacco addiction, require more intensive interventions. Several factors contribute to these challenges, including:

- **Financial Barriers:** Limited financial resources may restrict access to healthy food options or necessary medications.
- **Education and Awareness:** Low literacy rates or insufficient knowledge about healthy habits can hinder behaviour change.

Recognizing these challenges, MPL may plan below::

- **Sustained Awareness Campaigns:** Engaging interactive and educational sessions may be used to spread awareness about a variety of health issues. This will empower communities to make informed choices regarding their well-being.
- **Regular Counselling:** Regular counselling sessions may be provided for addressing specific concerns and offering personalized guidance on healthy lifestyle habits.
- **Addressing Financial Barriers:** Exploring ways to overcome financial obstacles will involve providing health checkup & medication regularly.

By acknowledging the ongoing challenges and implementing these strategic actions will empower communities to adopt lasting healthy practices, ultimately contributing to a more well-being society.

MAJOR IMPACT POINTS FOR WATER CONSERVATION INITIATIVES

The water conservation project highlighted the significant challenges faced by the region regarding water availability and quality. These challenges stem from a confluence of factors:

- **Geographic Constraints:** The region's coastal location plays a major role. Saline water intrusion due to proximity to the coast renders groundwater unsuitable for both domestic consumption and agriculture, particularly in nearby villages.
- **Climate Change Impact:** Climate change exacerbates the situation, potentially altering precipitation patterns and intensifying droughts.
- **Environmental Degradation:** Unsustainable practices may contribute to water quality deterioration and reduced water table levels.

These findings underscore the need for a systematic approach to water management. Here are key areas for future action:

- **Rainwater Harvesting:** Encouraging and facilitating more household for rainwater harvesting will create a readily available source of freshwater for domestic use.
- **Recharge Structures:** Investing in the creation of more recharge structures will help replenish groundwater reserves, mitigating the impact of saline intrusion and ensuring long-term water security.
- **Water Body Restoration:** Continuing rehabilitating existing water bodies, such as ponds or lakes, can improve water quality and storage capacity, providing an additional source of freshwater.

By implementing these comprehensive water management strategies, sustainable water access for the communities will be created.

Recommendation for Water Conservation Initiatives

Building on our initial efforts, MPL may plan to implement additional strategies to ensure water sustainability.

Micro-Irrigation Systems: MPL or Adani Foundation may continue to promote drip irrigation systems which will significantly reduce water waste compared to traditional flood irrigation techniques and promote sustainable water consumption in agriculture.

Farm Pond Creation: Encouraging the creation of farm ponds offers a two-fold benefit. These ponds will provide additional water storage capacity at the farm level, readily available for irrigation purposes. Additionally, they will reduce dependence on strained groundwater resources, promoting long-term water security for the region.

By implementing these water-saving practices, we aim to empower farmers and contribute to a more sustainable water future for the communities we serve.

NEWS on CER activities.

પ્રાકૃતિક ખેતી જ પ્રગતિનો સાચો માર્ગ છે, ખેડૂતો પૂર્ણ વિશ્વાસથી પ્રાકૃતિક ખેતી કરે : રાજ્યપાલ

કચ્છના મુન્દ્રા-માંડવી વિસ્તારમાં પ્રાકૃતિક ખેતી કરતા ખેડૂતો રાજ્યપાલ આચાર્ય દેવવ્રત સાથે ગોષ્ઠિ કરવા રાજભવન પધાર્યા હતા. રાજશક્તિ પ્રાકૃતિક ખેતી સહકારી મંડળીના ૨૨૫ જેટલા સભ્યો પૈકીના આ ખેડૂતોએ પ્રાકૃતિક ખેતીના પોતાના અનુભવો કહ્યા હતા. રાજ્યપાલે દરેક ખેડૂતને વ્યક્તિગત માર્ગદર્શન આપ્યું હતું. તેમણે કહ્યું કે, પ્રાકૃતિક ખેતી જ પ્રગતિનો સાચો માર્ગ છે. ખેડૂતો પૂર્ણ વિશ્વાસથી પ્રાકૃતિક ખેતી કરે. મુન્દ્રા-માંડવીના પારાસભ્ય અનિરુદ્ધભાઈ દવેના નેતૃત્વમાં રાજભવન પધારેલા ખેડૂતોએ ઉત્સાહપૂર્વક પોતાના અનુભવો કહ્યા, એટલું જ નહીં તેઓ પોતાની સાથે પોતાના પ્રાકૃતિક ખેત ઉત્પાદનો પણ હોંશભેર લાવ્યા હતા. ફળ, શાકભાજી અને અનાજની ગુણવત્તા રાજ્યપાલ સમક્ષ રજૂ કરતા ખેડૂતોનો આનંદ છલકાતો હતો. આ ક્ષેત્રમાં પ્રાકૃતિક ખેતીનો વ્યાપ વધારવા પ્રયત્નશીલ અદાણી ફાઉન્ડેશનના પંક્તિબેન શાહ પણ ખેડૂતો સાથે રહ્યા હતા. કચ્છ જિલ્લાના મુન્દ્રા વિસ્તારમાં પ્રાકૃતિક ખેતી કરતા ખેડૂત જીવરાજ ગઢવીએ ગુજરાતના ખેડૂતો પ્રાકૃતિક ખેતી જ કરે એવો સંકલ્પ સિદ્ધ કરવા પોતે જૂતાં નહીં પહેરવાનો સંકલ્પ લીધો છે. રાજ્યપાલ આચાર્ય દેવવ્રતને જીવરાજ ગઢવીના આ સંકલ્પની સરાહના કરતાં તે જલ્દીમાં જલ્દી સાકાર થાય એ માટે સહિયારા પ્રયત્નો કરવાની જરૂર પર ભાર મૂક્યો હતો. જીવરાજભાઈ ગઢવી એ કહ્યું કે, તેઓ છેલ્લા સાત વર્ષથી પ્રાકૃતિક ખેતી કરે છે. તેમની જમીનનો ઓર્ગેનિક કાર્બન ૦.૩% હતો જે આજે વધીને બે ટકા થઈ ગયો છે. પ્રાકૃતિક ખેતીથી તેઓ એટલી સ્વાદિષ્ટ અને પૌષ્ટિક બાજરીનું ઉત્પાદન કરે છે કે તેમની બાજરી ૩૦૦ રૂપિયે કિલો વેચાય છે. તેમણે પ્રાકૃતિક કૃષિનો વ્યાપ વધારવા પોતાનો પરંપરાગત પહેરવેશ જ અપનાવી લીધો છે. પ્રાકૃતિક ખેતીથી તેઓ એટલા સુખી થયા છે કે, પોતાના ખેતરમાં એસો ટુરીઝમ વિકસાવવાનું આયોજન કરી રહ્યા છે. તેઓ કચ્છમાં અન્ય ખેડૂતોને પણ પ્રાકૃતિક ખેતીની તાલીમ આપી રહ્યા છે. પ્રાકૃતિક ખેતીથી કમલમ્ ફ્રુટનો પાક લેતા મહિલા ખેડૂત ગીતાબેન જેઠવાએ કહ્યું કે, તેઓ વર્ષે રૂપિયા અઢીથી ત્રણ લાખના કમલમ્ ફ્રુટનું ઉત્પાદન કરીને ભુજ અને રાજકોટના બજારમાં વેચે છે. રાજ્યપાલ આચાર્ય દેવવ્રતે તેમને ઘનજીવામૃત બનાવવાની યોગ્ય પદ્ધતિ સમજાવી હતી અને વૈજ્ઞાનિક ઢબે પ્રાકૃતિક ખેતી કરવા માર્ગદર્શન આપ્યું હતું. તેમણે વિચારધને બીજામૃતથી સંસ્કારીત કરીને વાવેતર કરવાની, ઘનજીવામૃત બનાવવાની, આચ્છાદન કરવાની, એક સાથે અનેક પાક લેવાની પદ્ધતિઓ વિગતવાર સમજાવી હતી. મહિલા ખેડૂત જ્યોતિબેન ટાંક પોતાના ખેતરનાં કારેલા લાવ્યા હતા. રાજ્યપાલ કારેલાનું કદ અને ગુણવત્તા જોઈને પ્રભાવિત થયા હતા. રાજ્યપાલે કહ્યું કે, પ્રાકૃતિક ખેતી કરતા ખેડૂતો પોતાના ઉત્પાદનોનું જાતે જ મૂલ્યવર્ધન કરીને યોગ્ય માર્કેટિંગ કરે. આમ કરવાથી આવકમાં વધારો થશે. રામભાઈ ગઢવી પોતાની વાડીના જંગલ્લારી નાળિયેર લાવ્યા હતા. વિશાળ કદના નાળિયેર જોઈને રાજ્યપાલ આચાર્ય દેવવ્રતે આશ્ચર્ય વ્યકત કર્યું હતું. તેમણે કહ્યું હતું કે, પ્રાકૃતિક ખેતી પ્રત્યે વિશ્વાસ ઉભો કરો, વેચાણ માટે માર્કેટ તો આપોઆપ ઊભું થઈ જશે. ભુજપુરના સરપંચ માલેકભાઈ ગઢવી, માવજીભાઈ વગેરે ખેડૂતોએ પણ પોતાના અનુભવો વર્ણવ્યા હતા અને પ્રાકૃતિક ખેતીથી સમૃદ્ધિ માટે પ્રસન્નતા વ્યકત કરી હતી. રાજ્યપાલે અન્ય ખેડૂતો પણ પ્રાકૃતિક ખેતી અપનાવે એ માટે પ્રેરણા અને માર્ગદર્શન આપવા સૌ ખેડૂતોને અનુરોધ કર્યો હતો.

અદાણી ફાઉન્ડેશન, આત્મા અને ખેતીવાડી વિભાગ દ્વારા પ્રાકૃતિક ખેતી માટે તાલીમ

આંતરરાષ્ટ્રીય મિલેટ વર્ષ-૨૦૨૩ને સુસંગત કાર્યક્રમનું સફળ આયોજન

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અદાણી ફાઉન્ડેશન, આત્મા અને જિલ્લા ખેતીવાડી વિભાગના સંયુક્ત ઉપક્રમે મુંદ્રા ખાતે પ્રાકૃતિક ખેતીઅંગે તાલીમ કાર્યક્રમ યોજાયો.૨૦૨૩ની આંતરરાષ્ટ્રીય મિલેટ વર્ષ તરીકે ઉજવણી થઈ રહી છે ત્યારે વધુમાં વધુ ખેડૂતો પ્રાકૃતિક ખેતીથી મબલખ કમાણી કરે અને લોકોને પોષકતત્વો સભર ખોરાક મળી રહે તે આ કાર્યક્રમનો મુખ્ય ઉદેશ હતો. આ કાર્યક્રમમાં કચ્છ જિલ્લાના ખેતીવાડી વિભાગના અધિકારીઓ, સહિત મોટી સંખ્યામાં ગ્રામસેવકો અને પરતીપુત્રો ઉપસ્થિત રહ્યા હતા. આપણે સહુ જાણીએ છીએ કે, પ્રાકૃતિક ખેતી આરોગ્યપ્રદ અને પર્યાવરણ મિત્રની જરૂર સારે છે. પ્રકૃતિને જેટલું ઝેર (રાસાયણિક ખાતર) ઓછું આપીશું એટલું જ માનવ હિત જળવાશે.આવા ઉમદા વિચારો સાથે શાંતિવિહાર ખાતે પ્રાસંગિક ઉદબોધન કરતાજિલ્લા ખેતીવાડી અધિકારી કે.બી. વાઘેલાએ જણાવ્યું હતું કે "દેશમાં પ્રાકૃતિક ખેતીને ખૂબ પ્રોત્સાહન મળી રહ્યું છે ત્યારે કચ્છ જીલ્લામાં ખેડૂતો પ્રાકૃતિક ખેતીને સમજશે તો તેનો વ્યાપ વધશે અને આ દિશામાં અદાણી ફાઉન્ડેશન દ્વારા થઈ રહેલા પ્રયત્નો પ્રસંશનીય છે".

દેશ આઝાદીના અમૃત મહોત્સવની ઉજવણી કરી રહ્યો છે ત્યારમાં જિલ્લા મદદનીશ ખેતી નિયામક પી.કે. પટેલેચાલુ વર્ષે ગ્રામ પંચાયત ઈઠ ૩૫ ખેડૂતોને પ્રાકૃતિક ખેતી કરવા સાંકલ કરી હતી.તો અદાણી ફાઉન્ડેશનના ગુજરાત એકમના સી.એસ.આર. વડા પંક્તિબેન શાહે પ્રાકૃતિક ખેતીના પ્રોત્સાહનર્થેએગ્રીહોર્ટીનું જોર વધારવા કાર્યકરોનેલિરદાવી સમાજને તંદુરસ્ત ખોરાક પુરો પાડવાની નેમ વ્યકત કરી હતી..કાર્યક્રમના પ્રારંભે ગીતામાતાને તિલક કરીને આત્મા ભુજ ના પ્રોજેક્ટ ઓફિસર કલ્પેશભાઈ મહેશ્વરીએ ખેડૂતોને પ્રાસંગીક વકતવ્ય આપ્યું હતું.અદાણી ફાઉન્ડેશન તરફથી સ્થાપી આજવિકા કાર્યક્રમના વડા માવજીભાઈ બારૈયાએ પ્રાકૃતિક ખેતીમાં ગાયની ભુમિકા, તેનું ધાર્મિક અને આર્થિક મહત્વ તથા પ્રાકૃતિક ખેતી શા માટે તે અંગે વિસ્તૃત માહિતી આપીસંવર્ધન માટે લોકોને પ્રોત્સાહિત કર્યા હતા.આ પ્રસંગે ખાસ ઉપસ્થિત કૃષિ વિજ્ઞાન કેન્દ્રના વૈજ્ઞાનિકોએપણ બહુમુલ્ય વિચારો થકી ખેડૂતોને માર્ગદર્શનઆપ્યું હતું. ખેતપેદાશોનું મૂલ્યવર્ધન કરી બજાર સુધી પહોચાડનાર કિરેપભાઈ વોરાએ અનુભવો સાથે પ્રાકૃતિક ખેતીનું મહત્વ સમજાવી તેને ઘર આંગણે તૈયાર કરવાની તરકીબો સમજાવી હતી.અદાણી ફાઉન્ડેશન દ્વારા તૈયાર કરવામાં આવેલ પ્રાકૃતિક ખેતી કેલેન્ડર અને પ્રાકૃતિક ખેતી માટે સર્વશ્રેષ્ઠ પ્રવાહી ખાતર જીવામૃતનું નિદર્શન કરવામાં આવ્યું હતું.

અદાણી ફાઉન્ડેશન દ્વારા લોકોપયોગી કાર્યોનો પ્રારંભ

૨૦૦૦ વૃક્ષો માટે વૃક્ષારોપણ શરૂ કરવામાં આવ્યું : જળસંરક્ષણ, વૃક્ષારોપણ, બાયોગેસ અને અગ્નિહોત્રી હવનમાં સત્કર્મોની આહુતિ

મુંદ્રા તા.૧૮

મુંદ્રા સ્થિત અદાણી પેટ્રોકેમિકલ અને અદાણી ફાઉન્ડેશનના સંયુક્ત ઉપક્રમે વિવિધ પર્યાવરણલક્ષી કાર્યોનો પ્રારંભ કરવામાં આવ્યો. ગામડાની પ્રાકૃતિકઓની ગ્રાહોમા ઉર્જિકેટ માટે અદાણી પેટ્રોકેમિકલના સહયોગથી લોકોપયોગી કાર્યો શરૂ કરવામાં આવ્યા છે. જેમાં વરસાદી પાણીનો સંગ્રહ, તળાવની સંગ્રહ ક્ષમતામાં વૃદ્ધિ, વૃક્ષારોપણ, બિનુપયોગી વનસ્પતિઓનો નિકાલ, ઓજનની ઉપાધી વધારવા જેવા અનેક કાર્યો સામેલ છે. અગ્રણીઓની ઉપસ્થિતીમાં પારાસભ્ય અનિરુદ્ધભાઈ દવેના વરદહસ્તે કાર્યક્રમનો શુભારંભ કરવામાં આવ્યો.APSEZના એક્ઝિકયુટિવ ડાયરેક્ટર રજિતભાઈ શાહ, અદાણી ફાઉન્ડેશન સી.એસ.આર. હેડ પંક્તિબેન શાહ તેમજ આજીવાનોની ઉપસ્થિતીમાં કંડાગરા-ભોપાવાંઢ રોડ પર ૨૦૦૦ વૃક્ષો માટે વૃક્ષારોપણ શરૂ કરવામાં આવ્યું. અગ્નિહોત્રીઓ દવેએ જણાવ્યું હતું કે "ખાસી અને પર્યાવરણનું જતન એ પુણ્યનું કામ છે. માલસ જાતને જો અવધું હશે તો આ બે કામો માટે સૌનો સાથ, સૌનો વિકાસ, સૌનો વિશ્વાસ અને સૌનો પ્રયાસ મંત્ર સાર્થક કરવો પડશે. જે ઉદ્યોગકુળો આ માટે આગળ આવ્યા છે તેમને હું અભિનંદન આપું છું."

વાયુ પ્રદુષણ અટકાવવા અને ગ્રામીણોને સ્વચ્છ રાખવાના ઉદેશથી રસોઈ માટે નવા ૨૨૦ આયોગેસ કનેકશન આપવાનું લક્ષ્યાંક રાખવામાં આવ્યું છે. અગાઉ ફાઉન્ડેશન તરફથી ૨૨૫ આયોગેસ સ્થાપિત કરવામાં આવ્યા છે. સિરાચાના કાનજીભાઈ ગઢવી જણાવે છે કે "આયોગેસને કારણે ઓનો આંખો, ફેફસા અને ચામડી બીમારીથી બચે છે. વળી તેનાથી પ્રવાહી ખાતર પણ મળી રહે છે અને રસાયણિક ખાતરથી છુટકારો મળે છે.

આ સાથે ૩૨૫૨રા ગામની વિદ્યાભારતી શાળામાં બાળકોના જન્મદિવસની ઉજવણી અગ્નિહોત્રી હવન દ્વારા કરવામાં આવી. બાળકો સાથે રહિતભાઈ શાહના જન્મ દિવસની ઉજવણી પણ હવનોપચાર દ્વારા કરવામાં આવી. કાર્યક્રમોનું સંકલન અને વ્યવસ્થા અદાણી ફાઉન્ડેશનની ટીમની મદદથી અદાણી પેટ્રોકેમિકલના સિનિયર પ્રોજેક્ટ ઓફિસર કિશોરભાઈ ચાવડાએ કરી હતી.

અદાણી ફાઉન્ડેશન દ્વારા લોકોપયોગી કાર્યોનો પ્રારંભ

૨૦૦૦ વૃક્ષો માટે વૃક્ષારોપણ શરૂ કરવામાં આવ્યું: જળસંરક્ષણ, વૃક્ષારોપણ, બાયોગેસ અને અગ્નિહોત્રી હવનમાં સત્કર્મોની આહૂતિ

ગાંધીધામ : મુંદ્રા સ્થિત અદાણી પેટ્રોકેમિકલ અને અદાણી ફાઉન્ડેશનના સંયુક્ત ઉપક્રમે વિવિધ પર્યાવરણલક્ષી કાર્યોનો પ્રારંભ કરવામાં આવ્યો. ગામડાની પ્રવૃત્તિઓની ગ્લોબલ ઈકેક્ટ માટે અદાણી પેટ્રોકેમિકલના સહયોગથી લોકોપયોગી કાર્યો શરૂ કરવામાં આવ્યા છે. જેમાં વરસાદી પાણીનો સંગ્રહ, તળાવની સંગ્રહ ક્ષમતામાં વૃદ્ધિ, વૃક્ષારોપણ, બિનુપયોગી વનસ્પતિઓનો નિકાલ, ઓગનની ઉંચાઈ વધારવા જેવા અનેક કાર્યો સામેલ છે. અગ્રણીઓની ઉપસ્થિતીમાં ધારાસભ્ય અનિરુદ્ધભાઈ દવેના વરદહસ્તે કાર્યક્રમનો શુભારંભ કરવામાં આવ્યો. APSEZ-ના એક્ઝિક્યુટિવ ડાઈરેક્ટર રક્ષિતભાઈ શાહ, અદાણી ફાઉન્ડેશન સી.એસ.આર. હેડ પંક્તિબેન શાહ તેમજ આગેવાનોની ઉપસ્થિતીમાં કાંડાગરા-ભોપ વાંઢ રોડ પર ૨૦૦૦ વૃક્ષો માટે વૃક્ષારોપણ શરૂ કરવામાં આવ્યું. અનિરુદ્ધભાઈ દવેએ જણાવ્યું હતું કે "પાણી અને પર્યાવરણનું જતન એ પુણ્યનું કામ છે. માણસ જાતને જો બચવું હશે તો આ બે કામો માટે સૌનો સાથ, સૌનો વિકાસ, સૌનો વિશ્વાસ અને સૌનો પ્રયાસ મંત્ર સાર્થક કરવો પડશે. જે ઉદ્યોગ ગૃહો આ માટે આગળ આવ્યા છે તેમને હું અભિનંદન આપું છું."વાયુ પ્રદૂષણ અટકાવવા અને ગૃહીણીઓને સ્વસ્થ રાખવાના ઉદેશથી રસોઈ માટે નવા ૨૨૦ બાયોગેસ કનેકશન આપવાનું લક્ષ્યાંક રાખવામાં આવ્યું છે. અગાઉ ફાઉન્ડેશન તરફથી ૨૨૫ બાયોગેસ સ્થાપિત કરવામાં આવ્યા છે. સિરાચાના કાનજીભાઈ ગઢવી જણાવે છે કે "બાયોગેસને કારણે બહેનો આંખો, ફેફસા અને શ્વાસની બીમારીથી બચે છે. વળી તેનાથી પ્રવાહી ખાતર પણ મળી રહે છે અને રસાયણિક ખાતરથી છુટકારો મળે છે. આ સાથે ઝરપરા ગામની વિદ્યાભારતી શાળામાં બાળકોના જન્મદિવસની ઉજવણી અગ્નિહોત્રી હવન દ્વારા કરવામાં આવી. બાળકો સાથે રક્ષિતભાઈ શાહના જન્મ દિવસની ઉજવણી પણ હવનોપચાર દ્વારા સંપન્ન કરવામાં આવી.કાર્યક્રમોનું સંકલન અને વ્યવસ્થા અદાણી ફાઉન્ડેશનની ટીમની મદદથી અદાણી પેટ્રોકેમિકલના સિનિયર પ્રોજેકટ ઓફિસર કિશોરભાઈ ચાવડાએ કરી હતી.

દિવ્ય ભાસ્કર ભુજ 30-01-2024

ભુજ, મંગળવાર, 30 જાન્યુઆરી, 2024 | 3

કિસાનો ઓછા પાણીમાં વધુ ઉપજ આપતા પાકોનું વાવેતર કરે

ભુજપુરમાં પર્યાવરણ જાળવણી માટે કિસાનોને કરાયા પ્રેરિત

ભાસ્કર ન્યૂઝ | મુન્દ્રા

મુન્દ્રા તાલુકાના ભુજપુરમાઅદાણી ફાઉન્ડેશન, કેકેપીસી અને મુન્દ્રા પેટ્રોકેમ લિમિટેડના સંયુક્ત ઉપક્રમે ખેડૂતોના સશક્તિકરણ,પર્યાવરણ સંરક્ષણ પ્લાસ્ટિક મુક્ત વાતાવરણ ઉભું કરવાના ઉદેશ્ય સાથે કાર્યક્રમનું આયોજન કરાયું હતું જેમાં કિસાનોને ઓછા પાણીમાં વધુ ઉપજ આપતા રોકડિયા પાકોનું વાવેતર કરવા પ્રેરિત કરાયા હતા. મુન્દ્રા તાલુકાના ગામોમાં 31000 થી વધુ આગાયતી વૃક્ષોનું વાવેતર કરવામાં આવ્યું છે.જેથી પર્યાવરણની જાળવણી અને ખેડૂતોની આર્થિક સ્થિતિમાં સુધારો થયો છે.આવા પાકોમાં છોડનો સજીવ રહેવાનો દર 70 ટકા સુધી રહેતો હોવાથી ખેડૂતોને વધુ આર્થિક લાભ મળી રહે છે.કાર્યક્રમ અંતર્ગત આગાયતી પાકો અપનાવનારા કિસાનોને સન્માનિત કરાયા હતા. ઉપરાંત ખેડૂતોની આવકમાં વધારો, રોજગારીની તકોમાં વૃદ્ધિ,પોષણલક્ષી આહાર વગેરે મુદે માર્ગદર્શન અપાયું હતું. અત્રે નોંધનીય છે કે સમગ્ર દેશમાં કૃષિ ક્ષેત્રે ક્રાંતિ આવી છે.તેવામાં કચ્છ જેવા શુષ્ક પ્રદેશ માટે આગાયત કૃષિ અત્યંત મહત્વનું સ્થાન પરાવે છે. કચ્છની કેસર કેરી હોય કે કચ્છી મેવા તરીકે ઓળખાતી ખારેક વિશ્વમાં આગવું સ્થાન પરાવે છે.તેવામાં વૈજ્ઞાનિક પદ્ધતિથી આગાયતી ખેતી અપનાવનારા ખેડૂતો માટે કમાણીના દ્વારા ખુલ્યા છે.

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Annexure – IV

Tree Plantation Activities

Prakrutirath is an initiative for trees distributions among the peoples of nearby villages. It is about fostering a sense of responsibility toward the surrounding environment. Through sapling distribution to individuals, we have empowered communities to take ownership of their surroundings, leading to a heightened consciousness about the environment's significance.

About 10,000 numbers of trees have been planted at village Deshalpar through community tree plantation activities. These tree plantations have included the maintenance of plants i.e water supplying through irrigation, cleaning of unwanted materials / weeds, fencing or barricading of area to protect from outer side animals, regular application of fertilizers, manure, pesticides / insecticides, labor, hoeing etc.

Photo: Tree Plantation at village: Deshalpar

Also, MPL have initiated the tree plantation program at community land of village: Navinal, Ta: Mundra, where about 1100 numbers of healthy tree having height of 6 – 7 ft are being planted. Further, necessary care i.e watering, protecting / covering area, removing of unwanted weeds etc will be taken up on regular basis. This green initiative adds beauty and promotes environmental wellbeing.

Photo: At community land of village: Navinal, Ta: Mundra

In compliance with the goal for community development with sustainability, around 53,136 numbers of Horticulture trees have been distributed to more than 300 farmers of nearby villages. These trees are economical earning trees which includes fruits trees like Mango, Chiku, Coconut Trees, Dates etc. having survival rate is 100%. Officials / representatives of Government of Gujarat have acknowledged the activities. The main inspiring feedback received from farmers was "these fruit trees are not limited to daily income but it is an opportunity to produce like fruit industry".

Photo: Horticulture trees distributions to more than 300 farmers.

Further, as an environment responsible organization, Mundra Petrochem Limited has also carried out plantation activities as part of Eco development drives in surrounding village of the PVC project at Mundra which will lead to achieve green belt development.

Photo: Tree plantation activities initiated at nearby villages.

Tree Plantation Details

Sr. No.	Details of Expert Agency	Name of Species	Number of Species	Survival rate
1	Through Local Farmers	Mango	33780	100%
2		Custard Apple	1300	
3		Dates	15856	
4		Coconut	2200	
5	M/s Manavseva Charitable Trust	Neem	165	100%
6		Banyan	132	
7		Sacred fig	122	
8		Lentil	180	
9		Peltophorum Pterocarpum	150	
10		Java Plum	64	
11		Pithecellobium Dulce	31	
12		Tamarid	30	
13		Pongamia Pinnata	42	
14		Cascabel Thevetia	29	
15		Syzygium Cumini	25	
16		Cluster Fig	50	
17		Ficus religiosa	50	
18		Cordia myxa	20	
19		Terminalia Arjuna	10	
20	M/s Yash Green	Kanjaro (Karanj)	242	≥90%
21		Kasid	1081	
22		Pomegranate (Dadam)	80	
23		Garmalo	500	
24		Neem	280	
25		Khati Aamli	184	
26		Pipal	880	
27		Arjun	303	
28		Mithi Aamli	1100	
29		Dates	620	
30		Jamun	1020	
31		Jamudi	100	
32		Guava (Jamfal)	890	
33		Aamda	440	
34		Aduso	200	
35		Adusi	15	
36		Rayan	290	
37		Karmada	150	
38		Sargu	100	
39		Peltophorum	120	
40		Badam	100	
41		Sitafal	100	
42		Aalmada Creeper	100	
43		Aasitro	100	
44		Vas (Bamboo)	50	
45		Liyar	5	
46		Bogenvellia	100	
47		Ixora	50	
48		Spider lilly	5	

49		Kadi Patta	5	
50		Mogra	10	
51		Seasol Pindia	50	
52		Jasud	20	
53		Banyan (Vad)	15	
54		Karen	100	
55		Croton	120	
56		Gugal	475	

Annexure – V

Awareness Program on "Ban on Single Use Plastic"

Awareness program on "Ban on Single use plastic" has been conducted at Government Schools and Self Help Groups of nearby villages as per The Plastic Waste Management Rules 2016, inter-alia, mandated banning of identified Single Use Plastic (SUP) items with effect from 01/07/2022.

Awareness Program has covers CPCB Notifications, prohibited plastic items, complications created by plastic waste, awareness on plastic waste, plastic recycling numbers and its meaning.

The central aim of the plastic – free drive is to empower and enlighten students as key representatives of change, enabling them to disseminate awareness and instill the practice of reducing single use plastic within their community.

1. Educate: Spread awareness about the harmful effects of plastic on the environment, marine life, soil health and human well – being.

2. Engage: Mobilize community members, especially the youth and family members to actively participate in plastic waste reduction activities.

3. Implement: Introduce sustainable alternatives to ensure proper disposal and recycling.

10,000 students of primary school and 990 students of secondary schools of nearby villages have been enlightened through plastic free awareness programs.

Photo: Awarness program on "Plastic free Drive"

Photo: Awareness Program on “Ban on Single use plastic” and it’s alternatives

Annexure - VI

adani

O/C

Ref: AEL/MPL/ENV/EC/2022 –September/01 Date: 02/09/2022

To,
Ms. Praveena D.K. (IAS),
Collector & DM,
Collector Office, Jilla Seva Sadan,
Bhuj – Kachchh, 370 001

Subject: Environment Clearance (EC) for proposed Project "**VCM–2002 KTPA, PVC–2000 KTPA, Ethylene Glycol– 400 KTPA near village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat** by M/s Adani Enterprises Ltd.

Reference: EC Identification No. - EC22A020GJ133762, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022

Respected Ma'am,

With reference to above subject, this is to inform that Ministry of Environment, Forest and Climate Change has granted Environment Clearance for our project "**Industry-II activity i.e. VCM–2002 KTPA, PVC–2000 KTPA, Ethylene Glycol– 400 KTPA** (as a part of Proposed Coal to Poly-Vinyl Chloride (PVC) Project of AEL in land notified as Industrial area of APSEZ, Ta-Mundra, Dist-Kachchh, Gujarat, comprising of IND-I projects i.e. Semi Coke–2030 KTPA, Cement–6 MTPA; Clinker–4 MTPA, IND-II projects i.e. VCM– 2002 KTPA, PVC–2000 KTPA, Ethylene Glycol– 400 KTPA and IND-III projects i.e. Acetylene–860 KTPA & Caustic Soda–1310 KTPA) and Calcium Carbide–2900 KTPA (Not Specified in EIA Notification)) by M/s Adani Enterprises Ltd." vide EC Identification No. - EC22A020GJ133762, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022.

As required under general condition No. **B - (vi)** of EC, we are submitting herewith copy of Environment Clearance for the said project for your reference, please.

Thanking You.

Yours Faithfully,

Authorized Signatory for Adani Enterprises Ltd.

Praveen Anant (Environment - Head)

Encl: As Above

Adani Enterprises Ltd
"Adani Corporate House",
Shantigram, Near Vaishno Devi Circle,
S. G. Highway, Khodiyar
Ahmedabad 382 421
Gujarat, India
CIN: L51100GJ1993PLC019067

Tel. + 91 79 2656 5555
Fax + 91 79 2555 5500
info@adani.com
www.adani.com

Registered Office: "Adani Corporate House", Shantigram, Near Vaishno Devi Circle, S. G. Highway, Khodiyar, Ahmedabad - 382421

adani

Copy to:

1). **The District Development Officer,**
Jilla Pachayat, Opposite Surmandir Multiplex,
Bhuj – Kachchh, 370 001

2). **The Taluka Development Officer,**
Taluka Panchayat, Mundra
Ta: Mundra Dist: Kachchh, 370 421

3). **The General Manager,**
District Industries Center, Near New Green Hospital, Bhuj – Kachchh, 370 001

4). **The Regional Officer,**
Gujarat Pollution Control Board (Kachchh East),
Room no.215,216 & 217, 2nd Floor, Administration Office Building, Deendayal Port Trust,
Sector – 08, Gandhidham – Kachchh, 370 201

Adani Enterprises Ltd
"Adani Corporate House",
Shantigram, Near Vaishno Devi Circle,
S. G. Highway, Khodiyar
Ahmedabad 382 421
Gujarat, India
CIN: L51100GJ1993PLC019067

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Registered Office: "Adani Corporate House", Shantigram, Near Vaishno Devi Circle, S. G. Highway, Khodiyar, Ahmedabad - 382421

adani

Ref: AEL/MPL/ENV/EC/2022 –September/03

Date: 02/09/2022

To,
The Sarpanch, Shri / Talati Cum Mantri, Shri
Gram Panchayat,
Village: _____
Ta: _____, Dist: Kachchh (List Attached)

Subject: Environment Clearance (EC) for proposed Project "**VCM–2002 KTPA, PVC–2000 KTPA, Ethylene Glycol– 400 KTPA near village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat** by M/s Adani Enterprises Ltd.

Reference: EC Identification No. - EC22A020GJ133762, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022

Respected Sir / Ma'am,

With reference to above subject, this is to inform that Ministry of Environment, Forest and Climate Change has granted Environment Clearance for our project "**Industry-II activity i.e. VCM–2002 KTPA, PVC–2000 KTPA, Ethylene Glycol– 400 KTPA** (as a part of Proposed Coal to Poly-Vinyl Chloride (PVC) Project of AEL in land notified as Industrial area of APSEZ, Ta.-Mundra, Dist-Kachchh, Gujarat, comprising of IND-I projects i.e. Semi Coke–2030 KTPA, Cement–6 MTPA; Clinker–4 MTPA, IND-II projects i.e. VCM– 2002 KTPA, PVC–2000 KTPA, Ethylene Glycol– 400 KTPA and IND-III projects i.e. Acetylene–860 KTPA & Caustic Soda–1310 KTPA) and Calcium Carbide–2900 KTPA (Not Specified in EIA Notification)) by M/s Adani Enterprises Ltd." vide EC Identification No. - EC22A020GJ133762, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022.

As required under general condition No. **B - (vi)** of EC, we are submitting herewith copy of Environment Clearance for the said project for your reference, please.

Thanking You.
Yours Faithfully,

Authorized Signatory for Adani Enterprises Ltd.

Praveen

Praveen Anant (Environment - Head)

Encl: As Above
Copy to:

1). **The Taluka Development Officer,**
Taluka Panchayat, Mundra
Ta: Mundra Dist: Kachchh, 370 421

2). Gujarat Pollution Control Board (Kachchh East),
Room no.215,216 & 217, 2nd Floor, Administration
Office Building, Deendayal Port Trust,
Sector – 08, Gandhidham – Kachchh, 370 201

Adani Enterprises Ltd
"Adani Corporate House",
Shantigram, Near Vaishno Devi Circle,
S. G. Highway, Khodiyar
Ahmedabad 382 421
Gujarat, India
CIN: L51100GJ1993PLC019067

Tel. + 91 79 2656 5555
Fax + 91 79 2555 5500
info@adani.com
www.adani.com

Ref: AEL/MPL/ENV/EC/2022 –September/06/01 Date: 02/09/2022

To,
Shri Naran Gadhavi,
President - Kheti Vikas Seva Trust,
Village: Zarpara, Taluka: Mundra,
Dist-Kutch- 370 405

Subject: Environment Clearance (EC) (for Industrial activities pertain to Industry – 2 & 3) of proposed Project "**Coal to Poly-Vinyl Chloride (PVC) Project in land notified as Industrial area of APSEZ near village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat by M/s Adani Enterprises Ltd"**. – reg.

Reference: 1. EC Identification No. - EC22A020GJ133762, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022
2. EC Identification No. - EC22A013GJ127411, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022

Respected Sir,

With reference to above subject, this is to inform that Ministry of Environment, Forest and Climate Change has granted Environmental Clearance for following Industrial activities pertain to Industry – 2 & 3 of proposed Project "**Coal to Poly-Vinyl Chloride (PVC) Project in land notified as Industrial area of APSEZ near village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat by M/s Adani Enterprises Ltd"**.

Sr. no.	Type of Activities	Name of Activities	Details of Environmental Clearance	Enclosed as
1	Industry – 2	VCM– 2002 KTPA, PVC–2000 KTPA, Ethylene Glycol– 400 KTPA	EC Identification No. - EC22A020GJ133762, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022	Annexure – I
2	Industry – 3	Acetylene–860 KTPA & Caustic Soda–1310 KTPA)	EC Identification No. - EC22A013GJ127411, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022	Annexure – II

Accordingly, in compliance of general condition no. B(VI) & B(VII) of above refer letter sr. no. 1 & 2 respectively, we are enclosing herewith copies of Environmental Clearances for your reference, please.

Thanking You.
Yours Faithfully,

Authorized Signatory for Adani Enterprises Ltd.

Praveen Anant (Environment - Head)

Encl: As Above

Adani Enterprises Ltd
"Adani Corporate House",
Shantigram, Near Vaishno Devi Circle,
S. G. Highway, Khodiyar
Ahmedabad 382 421
Gujarat, India
CIN: L51100GJ1993PLC019067

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Fax + 91 79 2555 5500
info@adani.com
www.adani.com

Annexure - VII

From:	Vinay Kumar Singh
To:	kut-uh-gpcb@gujarat.gov.in
Cc:	ms-gpcb@gujarat.gov.in; ro-gpcb-kute@gujarat.gov.in; iro.gandhingr-mefcc@gov.in
Subject:	Environment Statement (Form – V) for the year 2023 – 2024 for the Project "Poly-vinyl Chloride (PVC)" near Village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat by M/s Mundra Petrochem Limited – Reg.
Date:	Saturday, May 18, 2024 1:15:00 PM
Attachments:	0B. Form V 2023-2024.pdf

Ref: MPL/ENV/GPCB – Form – V/2024 – May/02 Date: 18/05/2024

To, PCB ID:86184
The Unit Head, (Kutch District)
Gujarat Pollution Control Board,
Paryavaran Bhavan, Sector-10A,
Gandhinagar – 382 010
E-mail : kut-uh-gpcb@gujarat.gov.in

Subject: Environment Statement (Form – V) for the year 2023 – 2024 for the Project "Poly-vinyl Chloride (PVC)" near Village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat by M/s Mundra Petrochem Limited – Reg.

Reference : 1) CTE no. 59301 granted by GPCB vide letter no. GPCB/(PCB ID: 86184)/ 16246 dated 13/12/2022.
2) Amended CTE letter no. PC/CCA-KUTCH-2104/GPCB ID 86184/738939 Dated 12/04/2023.
3) MPL/ENV/GPCB – Form – V/2024 – June/01 Dated 29/06/2023.

Respected Sir,

With reference to the Consent to Establish issued by GPCB vide above refer letter dated 13/12/2022, amended vide letter dated 12/04/2023 for the project "Poly-vinyl Chloride (PVC)" near Village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat by M/s Mundra Petrochem Limited.

Presently, the PVC project is under final design & detail engineering stage, however, soil sampling & stabilization, boundary fencing, earth preparation & piling for foundation/pre-construction activities are in progress at site. The soft copy of the Environment Statement (Form – V) for the year 2023 – 2024 is enclosed for your ready reference & record please.

We hope you will find the above in order.

Thanking you,

Vinay Kumar Singh

Head – Environment & Sustainability

Encl: As Above

O/C

Annexure - VIII

adani

Ref: AEL/MPL/ENV/EC/2022 – September/05 Date: 06/09/2022

To,
Shri Shrawan Kumar Verma, IFS (Addl. Charge)
Deputy Director General of Forests (C)
Integrated Regional Office, Gandhinagar,
Ministry of Environment, Forest and Climate Change,
A-Wing–407 & 409, Aranya Bhawan, Near CH-3 Circle,
Sector-10A, Gandhinagar – 382010

एकीकृत क्षेत्रीय कार्यालय, गाँधीनगर
Integrated Regional Office, Gandhinagar
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय,
Ministry of Environment, Forest & Climate Change,
Govt. of India / भारत सरकार
कक्ष क्र. 407 व 409 ए विंग अरण्य भवन
Room No.407 & 409, A wing Aranya Bhavan
गाँधीनगर (गुजरात) / Gandhinagar(Gujarat)
09/09/22

Subject: Environment Clearance (EC) for proposed Project "**VCM–2002 KTPA, PVC–2000 KTPA, Ethylene Glycol– 400 KTPA near village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat** by M/s Adani Enterprises Ltd.

Reference: EC Identification No. - EC22A020GJ133762, File No. - IA-J-11011/149/2021-IA II(I) dated 31/08/202

Respected Sir,

With reference to above subject, this is to inform that Ministry of Environment Forest and Climate Change has granted Environment Clearance for our project "Industry-II activity i.e. VCM–2002 KTPA, PVC–2000 KTPA, Ethylene Glycol– 400 KTPA (as a part of Proposed Coal to Poly-Vinyl Chloride (PVC) Project of AEL in land notified as Industrial area of APSEZ, Ta-Mundra, Dist-Kachchh, Gujarat, comprising of IND-I projects i.e. Semi Coke– 2030 KTPA, Cement–6 MTPA; Clinker–4 MTPA, IND-II projects i.e. VCM– 2002 KTPA, PVC– 2000 KTPA, Ethylene Glycol– 400 KTPA and IND-III projects i.e. Acetylene–860 KTPA & Caustic Soda–1310 KTPA) and Calcium Carbide–2900 KTPA (Not Specified in EIA Notification)) by M/s Adani Enterprises Ltd." vide EC Identification No. - EC22A020GJ133762, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022. Copy enclosed as **Annexure – A**.

Accordingly, in compliance of EC condition No. B(ix), we are submitting herewith copies of following News papers (**Annexure – B**) stating "*the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB (GPCB) and may also be seen at Website of the Ministry at https://parivesh.nic.in/* as well as on Company website at https://adanienterprises.com/-/media/e1f0a2365908404bbf62e8c4d4b83969.ashx" for your reference, please.

Adani Enterprises Ltd
"Adani Corporate House",
Shantigram, Near Vaishno Devi Circle,
S. G. Highway, Khodiyar
Ahmedabad 382 421
Gujarat, India
CIN: L51100GJ1993PLC019067

Tel. + 91 79 2656 5555
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info@adani.com
www.adani.com

Registered Office: "Adani Corporate House", Shantigram, Near Vaishno Devi Circle, S. G. Highway, Khodiyar, Ahmedabad - 382421

adani

Sr. no.	Name of News Paper	Language	Date of Publication
1	Kutch Mitra	Gujarati	05/09/2022
2	Gujarat Samachar	Gujarati	05/09/2022
3	The Times of India	English	05/09/2022

Thanking You.
Yours Faithfully,

Authorized Signatory for Adani Enterprises Ltd,

Praveen Anant (Environment - Head)

Encl: As Above

Copy to:

1). **The Member Secretory,**
Gujarat Pollution Control Board,
Paryavaran Bhavan,
Sector – 10 A,
Gandhinagar 382 010

2). **The Regional Officer,**
Gujarat Pollution Control Board
(Kuchchh East),
Room no.215,216 & 217, Second floor,
Administration Office Building,
Gandhidham – Kuchchh, 370 201

Adani Enterprises Ltd
"Adani Corporate House",
Shantigram, Near Vaishno Devi Circle,
S. G. Highway, Khodiyar
Ahmedabad 382 421
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Registered Office: "Adani Corporate House", Shantigram, Near Vaishno Devi Circle, S. G. Highway, Khodiyar, Ahmedabad - 382421

અદાણી એન્ટરપ્રાઇઝીસ લિમિટેડ

શાંતિગ્રામ, એસ. જી. હાઈવે, અમદાવાદ - ૩૮૨૪૨૧. (ગુજરાત)

જાહેર નોટિસ

મે. અદાણી એન્ટરપ્રાઇઝીસ લિમિટેડ, APSEZ ઔદ્યોગિક જમીન, વાંઢ & ટૂંડા ગામ નજીક, તા: મુન્દ્રા, જી: કચ્છ, ગુજરાત ખાતે પ્રસ્તાવિત **"ઇન્ડસ્ટ્રી - ૨ એકટીવીટી જેવીકે વી.સી.એમ - ૨૦૦૨ કે.ટી.પી.એ., પી.વી.સી. - ૨૦૦૦ કે.ટી.પી.એ., ઇથીલીન ગ્લાયકોલ - ૪૦૦ કે.ટી.પી.એ.** (જે સૂચિત કોલ ટુ પોલી-વિનાયલ (પી.વી.સી.) પ્રોજેક્ટ ના ભાગ રૂપે મે. અદાણી એન્ટરપ્રાઇઝીસ લિમિટેડ દ્વારા પ્રસ્તાવિત, APSEZ ઔદ્યોગિક જમીન, વાંઢ & ટૂંડા ગામ નજીક, તા: મુન્દ્રા, જી: કચ્છ, ગુજરાત, જેમાં ઇન્ડસ્ટ્રી - ૧ પ્રોજેક્ટ - સેમી કોક - ૨૦૩૦ કે.ટી.પી.એ.; સિમેન્ટ - ૬ એમ.ટી.પી.એમ; ક્લિનકર - ૪ એમ.ટી.પી.એમ; ઇન્ડસ્ટ્રી - ૨ પ્રોજેક્ટ - વી.સી.એમ - ૨૦૦૨ કે.ટી.પી.એ., પી.વી.સી. - ૨૦૦૦ કે.ટી.પી.એ., ઇથીલીન ગ્લાયકોલ - ૪૦૦ કે.ટી.પી.એ, અને ઇન્ડસ્ટ્રી - 3 પ્રોજેક્ટ - એસિટિલિન - ૮૬૦ કે.ટી.પી.એ. અને કોસ્ટિક સોડા - ૧૩૧૦ કે.ટી.પી.એ અને કેલ્શિયમ કાર્બાઇડ - ૨૯૦૦ કે.ટી.પી.એ. (EIA નોટિફિકેશન માં દર્શાવેલ નથી) ના ભાગ રૂપે સમાવેશ થાય છે.)" માટે ની પર્યાવરણીય મંજૂરી મિનિસ્ટ્રી ઓફ એન્વિરોમેન્ટ, ફોરેસ્ટ અને ક્લાઇમેટ ચેન્જ, નવી દિલ્લી ના પત્ર ક્રમાંક : **EC Identification No. - EC22A020GJ133762, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022** ના રોજ પ્રાપ્ત થયેલ છે. સદરહુ માન્યતા અંગેનો પત્ર ગુજરાત પ્રદુષણ નિયંત્રણ બોર્ડ ની ઓફિસ માં તેમજ મિનિસ્ટ્રી ઓફ એન્વિરોમેન્ટ, ફોરેસ્ટ અને ક્લાઇમેટ ચેન્જ ની વેબ સાઈટ https://parivesh.nic.in પરથી પણ જોઈ શકાશે. તદ્ ઉપરાંત એન્વિરોન્મેન્ટ ક્લીયરન્સ ની કોપી કંપનનીની વેબસાઈટ https://www.adanienterprises.com/-/media/e1f0a2365908404bbf62e8c4d4b83969.ashx પર પણ જોઈ શકાશે.

sd-

પ્રોદ્યુત માજી (પ્રોજેક્ટ.હેડ)

મે. અદાણી એન્ટરપ્રાઇઝીસ લિમિટેડ

News Paper: Gujarat Samachar, Page no:9, Date:05/09/2022,
Language: Gujarati

અદાણી એન્ટરપ્રાઇઝીસ લિમિટેડ

શાંતિગ્રામ, એસ. જી. હાઇવે, અમદાવાદ - ૩૮૨૪૨૧. (ગુજરાત)

જાહેર નોટિસ

મે. અદાણી એન્ટરપ્રાઇઝીસ લિમિટેડ, APSEZ ઔદ્યોગિક જમીન, વાંઢ & ટૂંડા ગામ નજીક, તા: મુન્દ્રા, જી: કચ્છ, ગુજરાત ખાતે પ્રસ્તાવિત **"ઇન્ડસ્ટ્રી - ૨ એકટીવીટી જેવીકે વી.સી.એમ - ૨૦૦૨ કે.ટી.પી.એ., પી.વી.સી. - ૨૦૦૦ કે.ટી.પી.એ., ઇથીલીન ગ્લાયકોલ - ૪૦૦ કે.ટી.પી.એ.** (જે સૂચિત કોલ ટુ પોલી-વિનાયલ (પી.વી.સી.) પ્રોજેક્ટ ના ભાગ રૂપે મે. અદાણી એન્ટરપ્રાઇઝીસ લિમિટેડ દ્વારા પ્રસ્તાવિત, APSEZ ઔદ્યોગિક જમીન, વાંઢ & ટૂંડા ગામ નજીક, તા: મુન્દ્રા, જી: કચ્છ, ગુજરાત, જેમાં ઇન્ડસ્ટ્રી - ૧ પ્રોજેક્ટ - સેમી કોક - ૨૦૩૦ કે.ટી.પી.એ.; સિમેન્ટ - ૬ એમ.ટી.પી.એમ; ક્લિનકર - ૪ એમ.ટી.પી.એમ; ઇન્ડસ્ટ્રી - ૨ પ્રોજેક્ટ - વી.સી.એમ - ૨૦૦૨ કે.ટી.પી.એ., પી.વી.સી. - ૨૦૦૦ કે.ટી.પી.એ., ઇથીલીન ગ્લાયકોલ - ૪૦૦ કે.ટી.પી.એ, અને ઇન્ડસ્ટ્રી - ૩ પ્રોજેક્ટ - એસિટિલિન - ૮૬૦ કે.ટી.પી.એ. અને કોસ્ટિક સોડા - ૧૩૧૦ કે.ટી.પી.એ અને કેલ્શિયમ કાર્બાઇડ - ૨૯૦૦ કે.ટી.પી.એ. (EIA નોટિફિકેશન માં દર્શાવિલ નથી) ના ભાગ રૂપે સમાવેશ થાય છે.)" માટે ની પર્યાવરણીય મંજૂરી મિનિસ્ટ્રી ઓફ એન્વિરોમેન્ટ, ફોરેસ્ટ અને ક્લાઇમેટ ચેન્જ, નવી દિલ્લી ના પત્ર ક્રમાંક : **EC Identification No. - EC22A020GJ133762, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022** ના રોજ પ્રાપ્ત થયેલ છે. સદરહુ માન્યતા અંગેનો પત્ર ગુજરાત પ્રદુષણ નિયંત્રણ બોર્ડ ની ઓફિસ માં તેમજ મિનિસ્ટ્રી ઓફ એન્વિરોમેન્ટ, ફોરેસ્ટ અને ક્લાઇમેટ ચેન્જ ની વેબ સાઇટ https://parivesh.nic.in પરથી પણ જોઇ શકાશે. તદ્ ઉપરાંત એન્વિરોન્મેન્ટ ક્લીયરન્સ ની કોપી કંપનીની વેબસાઇટ https://www.adanienterprises.com/-/media/e1f0a2365908404bbf62e8c4d4b83969.ashx પર પણ જોઇ શકાશે.

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પ્રોદ્યુત માજી (પ્રોજેક્ટ હેડ)

મે. અદાણી એન્ટરપ્રાઇઝીસ લિમિટેડ

News Paper: Kutchmitra, Page no:5, Date:05/09/2022,
Language: Gujarati

Adani Enterprises Limited

Shantigram, S.G. Highway, Ahmedabad-382421. (Gujarat)

PUBLIC NOTICE

M/s Adani Enterprises Limited, APSEZ Industrial Land, Near Village Vandh & Tunda, Taluka Mundra, District - Kachchh, Gujarat has been accorded Environmental Clearance (EC) for project **"Industry - II activity i.e. VCM - 2002 KTPA, PVC - 2000 KTPA, Ethylene Glycol - 400 KTPA** (as a part of Proposed Coal to Poly-Vinyl Chloride (PVC) Project of AEL in land notified as industrial area of APSEZ, Ta. - Mundra, Dist - Kachchh, Gujarat, comprising of IND - I projects i.e. Semi Coke–2030 KTPA, Cement - 6 MTPA; Clinker - 4 MTPA, IND-II projects i.e. VCM - 2002 KTPA, PVC - 2000 KTPA, Ethylene Glycol - 400 KTPA and IND - III projects i.e. Acetylene - 860 KTPA & Caustic Soda - 1310 KTPA and Calcium Carbide - 2900 KTPA (Not Specified in EIA Notification)) by M/s Adani Enterprises Ltd." by Ministry of Environment, Forest and Climate Change, Government of India vide **EC Identification No. - EC22A020GJ133762, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022.** The said clearance letter is available at website of the Ministry of Environment, Forest and Climate Change at https://parivesh.nic.in and also available at office of the Gujarat Pollution Control Board (GPCB). Copy of EC is also kept at website of the company at https://www.adanienterprises.com/-/media/e1f0a2365908404bbf62e8c4d4b83969.ashx

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Pradyut Maji (Project Head)
M/s Adani Enterprises Limited

News Paper: The Times of India, Page no:11, Date:05/09/2022, Language: English