SIX MONTHLY COMPLIANCE REPORT OF ENVIRONMENTAL CLEARANCE (EC)

1600 (2×800) MW THERMAL POWER PLANT

At

GODDA TALUKA, GODDA DISTRICT JHARKHAND

Submitted to:

Regional Office, East Central Zone
Ministry of Environment, Forests & Climate Change,
Central Pollution Control Board, New Delhi &
Jharkhand State Pollution Control Board, Ranchi

adani
Power

Submitted By:

Environment Management Department
Adani Power (Jharkhand) Limited
Motia, Patwa & adjacent Village,
Godda Taluka, Godda District
Jharkhand

PERIOD: October'2020 – March'2021

CONTENTS

*****

Adani Power (Jharkhand) Limited

Introduction

Adani Power (Jharkhand) Ltd. AP(J)L, a wholly owned company of Adani Power Limited, is developing 1600 (2x800) MW Coal-based Ultra Supercritical Thermal Power Plant at Village Motia, Patwa and adjacent villages of Godda & Poraiyahaat Blocks of Godda District in Jharkhand. The power plant is based on ultra-supercritical, energy efficient & environment friendly technology.

AP(J)L has been granted Environmental Clearances & Consent to Establish by Ministry of Environment & Forest and Jharkhand state Pollution Control Board and AP(J)L has also obtained all necessary statutory / mandatory clearance respectively.

India and Bangladesh desire to enhance traditional ties of friendship, through economic cooperation. Realizing the ever increasing demand of electricity for the socio-economic development and progress, the Government of India (GoI) and Government of Bangladesh (GoB) have signed a Memorandum of Understanding (MoU) on 11 January, 2010.

As provided in the MoU, GoB and GoI shall inter-alia undertake to encourage and facilitate joint co-operation between the parties in Power generation, transmission, energy efficiency and development of various types of renewable energy;

Accordingly, Adani Power Limited (APL) on 11.08.2015 signed a MoU with Bangladesh Power Development Board (BPDB), to develop a 2X800 MW thermal power plant on BOO basis in India and supply the entire power generated to Bangladesh Power Development Board (BPDB) through a dedicated Transmission Line.

Status of the Project:

AP(J)L has been granted Environment Clearances (EC) vide Letter no: J13012/01/2016-IA.I (T) dated: 31.08.2017 and amendment in EC vide letter dated 03.09.2019 for changing the source of water form Chir River to Ganga River. AP(J)L has also been granted amended EC vide Letter No: J-13012/01/2016-IA.I (T) dated 27.02.2020 to incorporate sector specific Special Economic Zone for Power under SL.No.7(C) of Schedule as mentioned in EIA Notification, 2006.

Compliance status of Environmental Clearance

1600 MW (2×800 MW) Godda Thermal Power Plant

Environment Clearance Letter no: J-13012/01/2016-IA.I (T) dated: 31.08.2017 &
Its Subsequent Amendment Letter no. J-13012/01/2016-IA.I (T) dated 03.09.2019 and 27.02.2020

Si. No.	Specific Conditions	Compliance Status
(i)	Total Ash and Sulphur content in the imported coal shall not exceed 25% and 0.5% respectively.	Noted & compliance assured during operation stage of plant.
(ii)	Land acquisition shall be carried out by the State Govt. in accordance with Santhal Pargana Tenancy Act, 1949, Right of Fair Compensation and Transparency in the Land Acquisition, Rehabilitation Act, 2013 and other prevailing laws. Documents in support of land acquisition after completion acquisition process shall be submitted to this Ministry as well as concerned Regional Office.	Complied. Land already acquired & Land possession documents has already been submitted.
(iii)	As per the Revised Tariff Policy notified by Minister of Power vide dated 28.01.2016, project proponent shall explore the use of treated sewage water from the Sewage treatment plant of Municipality / local / similar organization located within 50 km radius of the proposed power project to minimize the water drawl from surface water bodies.	There are no STPs of municipality/local bodies within 50 KM of the site.
(iv)	Compliance of EC conditions, E(P) Act 1986, Rules and MoEF&CC Notifications issued time to time shall be achieved by a qualified environment officer to be nominated by the Project Head of the company who shall be responsible for implementation and necessary compliance.	Compliance assured. APJL has already established Environment Management Department with Senior Management at Corporate level as well as at Plant Site.
(v)	MoEF&CC Notification S.O. 3305 (E) dated 07.12.2015 and subsequent notifications issued time to time shall be implemented with respect to specific water consumption, zero liquid discharge and revised emission standards. The PM, SO_2, NOx and Hg emissions shall not exceed 30 mg/Nm^3, 100 mg/Nm^3, 100 mg/Nm^3 and 0.03 mg/Nm^3 respectively. The specific water consumption exceed shall not exceed 2.5 m^3/MWh and zero wastewater discharge shall be achieved.	Compliance assured during operational phase of the plant. High efficiency Electrostatic Precipitators (ESP) has been considered to meet revised emission standard of <30 mg/ Nm^3 for PM. FGD & SCR are proposed to meet revised standard of SOx & NOx Emission. TPP has been designed to meet the Specific Water consumption of less than 2.5 m^3/MWh and zero waste water discharge.
(vi)	MoEF&CC Notifications on Fly ash utilization S.O. 763(E) dated 14.09.1999, S.O. 979(E) dated 27.08.2003, S.O. 2804 (E) dated 3.11.2009, S.O. 254(E) dated 25.01.2016 and subsequent amendments shall be complied with.	Compliance assured once the project takes off. As per Fly Ash Notification, Half yearly & Annual Ash generation and utilization will be submitted to MoEF&CC, CPCB & JSPCB during operational phase of the plant.
(vii)	Separate Environmental Clearance may be obtained for the proposed Township as applicable under EIA notification 2006.	Separate Environment Clearance has been granted by SEIAA, Jharkhand for Residential

		Township vide letter No. EC/SEIAA/2017-18/2070/2017/207 dated 31/08/2018.
(viii)	Solar rooftops shall be installed in the surrounding villages as part of CSR activities.	Noted. It is proposed to provide Solar lights in surrounding villages wherever feasible to install through Adani Foundation as part of CSR activity. However, 100 streetlights (non-solar) have been installed in the villages and road side points of TPP core area and pipeline villages. CSR activities are reflected in **Annexure-II.**
(ix)	Skill mapping of the Project affected people (PAF) be carried out on a long-term basis for their livelihood generation. A report is to be submitted within 3 months to the Ministry from the date of issuance of environmental clearance.	Complied. Skill Mapping Report prepared by M/s Indian Institute of Social Welfare & Business Management (IISWBM) Kolkata has already been submitted to your good office along with compliance report. Skill Development Centers: Adani Skill Development Centre- ASDC, Godda Sakhsam Training Centres Motia, Rangania, Nayabad, Patwa, Sondiha, Basantpur, Sarba, Bahuriya and Dumariya village.
(x)	Modern methods of agriculture organic forming, compost / vermiculture making and utilization, drip/direct to root irrigation to be promoted in and around the Project area.	Noted & compliance assured. Six villages level training were conducted in core and railway line villages to promote organic farming through Vermicomposting. Adani Foundation supported farming communities by promoting production of organic manure by installation of Vermi-Compost Bag/Vermibed across the core and pipeline village. 111 Vermicomposting units has been set up by 88 farmers from 14 villages of core and railway line area of TPP for their livelihood generation. Village level training & On-Field Demonstration on System of Rice Intensification (SRI) conducted in Motia village to promote organic farming through SRI method with participation of over 50 small & marginal farmers. Social distancing were also maintained. We have also supported 56 farmers with average 2 Kg Paddy Seeds for SRI which Enabling Farmers to Promote Organic Farming and Increase their Annual Earnings. Detailed summarized is CSR report enclosed as **Annexure- II.**
(xi)	While implementing CSR,	Being Complied. Saksham training cum sewing centre are operational at core and outreach areas to

	• Women empowerment is important. Therefore, proper skill based training/long term livelihood revenue generation be created for all of them. • Computer facilities may be provided in the school along with a trained computer teacher to inculcate computer skill among the youths. • Water supply provisions shall be made for all the bio-toilets under Swachh Bharat Abhiyan. • Preventive health programme may be preferred than the curative health programme such as nutrition development of small children and around the project.	empower women. So far, more than 2500 women have been trained and benefited in sewing machine operator/ self employed tailor vertical who are engaged in producing school uniforms as well as are self-employed in stitching cloths of individual orders assisting them to uplift their socio-economic conditions. Adani Foundation in partnership with District Administration launched Gyanodaya project to promote e-learning through Smart Classes. Gyanodaya bagged **"Indian Chamber Of Commerce (ICC) Social Impact Award - Promoting Education"** on **12th March 2021** at Kolkata on the achievements of providing quality education in remotest and untapped villages of Godda district through smart learning among 67000 students of 277 government schools. Computer Learning Centres are operational in Motia, Rangania, Pathergama, Jitpur & Sunderpahari villages. Total beneficiaries so far is 1567 Nos. We have constructed model bathrooms with soak pit in various villages towards creating awareness for cleanliness and hygiene by our program named "SWACCHAGRIH". Curative health program being taken care under "SuPoshan" program. Detailed CSR report is attached as **Annexure – II.**
(xii)	Vision document specifying prospective plan for the site shall be formulated and submitted to the Regional Office of the Ministry within six months.	Complied. Vision document has already been submitted along with compliance report.
(xiii)	Harnessing solar power within the premises of the plant particularly at available roof tops shall be carried out and the status of implementation including actual generation of solar power shall be submitted along with half yearly monitoring report.	Noted and compliance assured. Project is under construction phase and it is proposed to utilize the roof tops of buildings which are feasible for installation of solar panels.
(xiv)	A long term study of radio activity and heavy metals content on coal to be used shall be carried out through a reputed institute and results thereof analyzed every two year and reported along with monitoring reports. Thereafter mechanism for an in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.	Noted. Radioactivity testing result/report of two Coal samples (testing done by Board of Radiation and Isotope technology, Mumbai) from the source area already submitted along with EIA report. Further, Radioactivity Test and Heavy Metal study report will be submitted during the plant operation.

		There is no proven technology to monitor radioactivity at plant level on continuous basis. Periodic test report will be submitted during operational phase of the plant.
(xv)	Online continuous monitoring system for stack emission, ambient air and effluent shall be installed.	Noted & compliance assured. AP(J)L has proposed to install Online Continuous Emission Monitoring System & Effluent monitoring system. The monitoring system will be installed before COD.
(xvi)	High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that a particulate emission does not exceed 30 mg/Nm^3 as would be notified by the Ministry, whichever is stringent. Adequate dust extraction system such as cyclones/bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided along with an environment friendly sludge disposal system.	Noted. High efficiency Electrostatic Precipitators (ESP) will be installed in each boiler to meet PM emission of less than 30 mg/Nm^3. Dust extraction system (Cyclone followed by bag filters) in coal crusher and coal transfer area (JNTs), rain gun type dust suppression system in coal yard and dry fog type dust suppression system in belt conveyor have been proposed.
(xvii)	Adequate dust extraction system such as cyclones / bag filters and water spray system in dusty areas in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.	Dust extraction system with Bag filter in Crusher House is proposed. Pneumatic ash handling system with bag filters for ash handling & water sprinkling system will be provided in Coal yard.
(xviii)	Monitoring of surface water quantity and quality shall be regularly conducted and records maintained shall be submitted to the Ministry regularly. Further, monitoring system shall be placed between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall also be undertaken and results/findings submitted along with half yearly monitoring report.	Compliance assured. Baseline data was collected during EIA study & Regular monitoring of Air, Water (surface & ground) is being carried out. Environmental Parameters monitoring results submitted periodically to RO, MoEF&CC Ranchi, MS JSPCB, Ranchi & RO JSPCB, Dumka. Environmental monitoring reports are enclosed as **Annexure – I.**
(xix)	A well designed rain water harvesting system shall be put in place within six months, which shall comprise of rain water collection from the built up and open area in the plant premises and detailed report kept of the quantity of water harvested every year and its use.	Rain Water Harvesting (RWH) study carried out along with EIA study and already submitted. RWH plan is under implemented along with project construction.
(xx)	No water bodies including natural drainage system in the area shall be distributed due to activities associated with the setting up/operation of the power plant.	Noted & compliance assured. There are some first order streams, which will be altered. The drainage profile will be maintained from SE to NW direction along the natural drainage profile. There is an unlined (kachcha) canal passing through the site, which is diverted along the Project boundary without disturbing flow and natural drainage pattern.

(xxi)	Additional soil for leveling of the proposed site shall be generated within the sites (to the extent possible) so that natural drainage system of the area is protected and improved.	Noted & agreed. Excavated Soil being utilized within the project site to the extent possible.
(xxii)	Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Mercury and other heavy metals (As, Hg, Cr, Pb, etc.) shall be monitored in the bottom ash. No ash shall be disposed off in low lying area.	Monitoring of Mercury and other heavy metals in bottom ash assured during operational phase of the plant. Dry Ash collection, pneumatic conveying system with storage (silos) facilities being established. Unutilized ash will be disposed off in the ash dyke through HCSD.
(xxiii)	No mine void filling will be undertaken as an option for ash utilization without adequate lining of mine with suitable media such that no leachate shall take place at any point of time. In case, the option of mine void filling is to be adopted, prior detailed study of soil characteristics of the mine area shall be undertaken from an institute of repute and adequate clay lining shall be ascertained by the state pollution control board and implementation done in close co-ordinate with the State Pollution Control Board.	Noted & agreed. In case of mine void filling option undertaken during operational phase of the plant, detailed study from reputed institute shall be undertaken, adequate lining will be done and pollution control board shall be consulted.
(xxiv)	Fugitive emission of fly ash (dry and wet) shall be controlled such that no agricultural or non-agricultural land is affected. Damage to any land shall be mitigated and suitable compensation provided with the local Panchayats.	Compliance assured. To control fugitive emission, adequate water sprinkling arrangements will be made in fly ash area. TPP will provide suitable compensation, if any damage in future.
(xxv)	Green belt consisting of three tiers of plantation of native species all around plant and at least 50 m width shall be raised. Wherever 50 m width is not feasible a 20 m width shall be raised and adequate justification shall be submitted to the Ministry. Tree density shall not be less than 2500 per ha with survival rate not less than 80%.	Compliance assured. Green belt development / plantation is being developed along with project construction and efforts are being made to develop more greenery in & around the plant with survival rate of more than 80%.
(xxvi)	Green belt shall also be developed around the Ash Pond over and above the Green Belt around the plant boundary.	Noted and compliance assured.
(xxvii)	The project proponent shall formulate a well laid Corporate Environment Policy and identify and designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with the conditions stipulated in this clearance letter and other applicable environmental laws and regulations.	Corporate HSE policy is placed & signed by the Chairman. IMS implementation & certification for the project will be implemented during plant operation.
(xxviii)	CSR schemes identified based on need assessment shall be implemented in consultation with the village Panchayat and the District Administration starting from the development of	CSR activities are implemented in consultation and collaboration with the community & community leaders as well as District Administration.

	project itself. As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken. Company shall provide separate budget for community development activities and income generating programmes.	Regular community meetings are organized in all the villages to understand the issues of community. Social development activities have been carried out for Need Based families under the CSR activities by **Adani Foundation.** Need Based Assessment Study and Development of CSR report has already been submitted along with compliance report. Detailed CSR report is enclosed as **Annexure-II.**
(xxix)	For proper and periodic monitoring of CSR activities, a CSR committee or a Social Audit committee or a suitable external agency shall be appointed. CSR activates shall be evaluated by an independent external agency. This evaluation shall be both concurrent and final.	Social development activities have been carried out for Need Based families under the CSR activities by **Adani Foundation.** Evaluation of CSR activities will be done during plant operation by external agency in every three years. However, an Annual Audit Plan is in place in the company which is conducted at all the sites. An internal Audit team undertakes review of the systems, process and also verifies on ground implementation of CSR activities as well as the systems. CSR report is enclosed as **Annexure- II.**
S.N	**General Conditions:**	**Compliance Status**
(i)	The treated effluents conforming to the prescribed standards only shall be re-circulated and reused within the plant. Arrangements shall be made that effluents and storm water do not get mixed.	Noted. Plant layout has been designed with separate system for Storm Water drain and Effluent.
(ii)	A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt/plantation.	Compliance assured. Decentralized Sewage Treatment Plants are proposed & treated water will be reused suitably within the plant premises for green belt development. One STP of 10KLD capacity is operational & 100% Treated water is being used for plantation/green belt development.
(iii)	Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires in coal yard, especially during summer season. Copy of these measures with full details along with location plant layout shall be submitted to the Ministry as well as to the Regional Office of the Ministry.	Fire Safety Management Plan is prepared and implemented. Fire Safety Management Plan already submitted with compliance report of October 2018 to March 2019.
(iv)	Storage facilities for auxiliary liquid fuel such as LDO/ HFO /LSHS shall be made in the plant area in consultation with Department of Explosives, Nagpur. Sulphur content in the liquid fuel will not exceed 0.5%. Disaster Management Plan shall be	Noted. The LDO/HFO/LSHS will be properly stored in designated location & minimum risk area and Department of explosive shall be consulted. Mock drills are being conducted periodically.

	prepared to meet any eventuality in case of an accident taking place due to storage of oil.	DMP already submitted with compliance report of October 2018 to March 2019
(v)	First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	Being Complied. First aid facilities, drinking water facility, Sanitation facility, Waste water disposal, solid wastes management and primary health facilities are being ensured at site.
(vi)	Noise levels emanating from turbine shall be so controlled such that the noise in the work zone shall be limited to 85 dB(A) from source. For people working in the high noise area, requisite personal protective equipment like earplugs / ear muffs etc. shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc shall periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non-noisy/less noisy areas.	Necessary action/prevention measures have been taken care in design to maintain noise levels within 85 dBA at source. High Noise areas are identified. Presently, being construction phase, Elevation Boards at MPH has been provided with mandatory Personnel Protective Equipment (PPE's). A complete medical check-up with audiometric test of workers & employees is being carried out prior their joining in the organization.
(vii)	Regular monitoring of ambient air ground level concentration of SO_2, NOx, $PM_{2.5}$ and PM_{10} and Hg shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limit, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the regional office of this ministry. The data shall also be put on the website of the company.	Being complied. Regular monitoring of ground level concentration of Ambient Air for SO2, NOx, PM2.5 and PM10 and Hg is being carried out and monthly reports are being submitted to the MS, SEIAA & JSPCB Ranchi & RO JSPCB, Dumka. For selection of monitoring location and monitoring frequency in consultation with JSPCB & intimation letter has also been submitted to the board. Monitoring frequencies are as below: • Ambient Air twice in a week, • Water quality & Noise once in Month and • Soil Quality once in a season (Except Monsoon). Periodic Environmental monitoring report is enclosed, Please refer **Annexure- I**. EC compliance report is uploaded on the company website.
(viii)	Utilization of 100 % Fly ash generated shall be made from 4th year of operation. Status of implementation shall be reported to the regional office of the Ministry from time to time.	Noted. Ash utilization plan/schedule has been incorporated in the EIA report. Status of implementation will be reported to the Regional office, MoEF&CC regularly during plant operation.
(ix)	Provision shall be made for housing of the construction labour (as applicable) within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets. Mobile STPs, safe drinking water, medical health care, crèche etc. The housing may be in the form of	Required hutment, drinking water, Mobile Toilets. Mobile STPs, Safe Drinking Water & Medical health care facilities, Medical health care facilities, Fuel for cooking and other infrastructure has been arranged on temporary basis.

	temporary structures to be removed after the construction of the project.	Local manpower is preferred during Construction phase & hence less necessity to build housing for the construction labour.
(x)	The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in	Complied. Advertisement in 10 Local News Papers was published in Hindi & English. Copy of News Paper cutting already submitted along with Oct'17 to March'2018 compliance report.
(xi)	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parisad / Municipal Corporation, urban local Body and the Local NGO, if any, from whom suggestions/representations, if any, received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.	Complied. A copy of the Environment Clearance letter was provided to Panchayats, Zila Parisad and local Body. Acknowledgement already submitted along with compliance report. The clearance letter has been uploaded on the company website http://www.adanipower.com/
(xii)	The proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutants levels namely SPM, RSPM ($PM_{2.5}$ & PM_{10}), SO2, NOx (ambient levels as well as stack emissions shall be displayed at a convenient location near the main gate of the company in the public domain.	Being complied. Six monthly compliance status reports are being submitted to MoEF&CC, CPCB & JSPCB. Compliance status uploaded on Company's website. Digital displayed board is proposed to install at the main gate of the power plant, before COD of the power plant. Manual Display Board is already provided at main gate. Information on Ambient Air Quality & waste details are displayed at main gate which is maintained and updated periodically. Environmental monitoring report is enclosed, Please refer **Annexure- I.**
(xiii)	The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent 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 the Minister by e-mail.	Noted. Environment statement will be submitted to JSPCB, after obtaining the Consent to Operate (CTO).

(xiv)	The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Central Pollution Control Board and State Pollution Control Board. The project: proponent shall upload the status of compliance of the environment of the environmental clearance conditions on their website and update the same periodically and simultaneously send the same by e-mail to the Regional Office, Ministry of Environment and Forests.	Six monthly compliance status reports are regularly submitted to MoEF&CC, CPCB & JSPCB. The same is sent by email also. Six monthly compliance report for the period of Apr'20 to Sep'20 submitted to your good office vide our letter no. APL/APJL/EMD/EC/ MoEF/198/11/20 dated 11.11.2020. Compliance status updated on Company's website. https://www.adanipower.com
(xv)	The progress of the project shall be submitted to CEA on six monthly basis.	Report Submission to CEA is not applicable as Project is dedicated to Bangladesh Govt. and it is not connected to Indian Grid.
(xvi)	Regional Office of the MoEF&CC will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their reference during monitoring. Criteria pollutants levels including NO_x (from stack & ambient air) shall be displayed at the main gate of the power plant.	Noted. Copies of Environment Impact Assessment report (EIA) with Environment Management Plan already sent to Regional Office, Ranchi, vide our letter no. APJL/ENV/EC/SMR/175 /05/2018, dated-14.05.2018 Digital displayed board will be installed at the main gate of the power plant, before COD of the power plant. Manual display Board is already provided at main gate. Information on Ambient Air Quality & waste details are displayed at main gate which is maintained and updated periodically.
(xvii)	Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.	Separate budget has been already allocated for Environmental protection measures. Fund for Environment management: Capital Cost: Rs. 2,225.68 Crores
(xviii)	The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project by the concerned authorities and the dates of start of land development work and commissioning of plant.	Financial closures has been achieved and disclosed. Construction work for Site development, Boundary wall, Site office, Stores and other facilities started. Main Plant and other facilities already Started. Commissioning of the Plant is expected by May'2022. However due to current pandemic scenario of COVID 19 it may get delayed.
(xix)	Full cooperation shall be extended to the Scientists / Officers from the Ministry / Regional Office of the Ministry at Bangalore / CPCB / SPCB	Noted. Full co-operation shall be extended all time.

	who would be monitoring the compliance of environmental status.	
Conditions of EC Amendment		
(i)	Stage-I Forest Clearance for diversion of 13.3293 ha for laying pipeline shall be submitted. As per Ministry's guidelines, a formal amendment will be issued after furnishing the Stage-I Clearance.	The copy of stage –I submitted before amendment. This condition stands deleted as per amended EC Vide No. J -13012/01/2016-I.A.I (T) dated 27.02.2020.
(ii)	In line with Ministry's OM dated 11.3.2010 in regard to Oil and Gas pipelines, in a similar manner, 10 trees to be planted for every tree cut in the non-forest area.	Noted. We have consulted Divisional Forest Officer (DFO), Godda vide our letter no. AP(J)L/FC/ENV/227/05/20 date 28.05.2020 to provide plantation scheme with demand note for proposed plantation. Compliance of Stage – I has already been submitted & verified by nodal officer, MoEFCC also issued the Stage – II FC approval on 29.01.2021.
(iii)	There will be storage reservoirs for storing 15 MCM water to cater during lean season.	Noted and agreed. Compliance assured.
(iv)	Daily quantity (Average, minimum and maximum) of fresh water withdrawn from Ganga River near Sahebganj for the Power Plant shall be recorded and data base be preserved to ensure permissible drawl of fresh water from Ganga River. The source sustainability reports for withdrawal of water from Chir River and from the Ganga River shall be placed in the public domain by the proponent, either by uploading to the PARIVESH portal or its own website.	Noted & Agreed. Compliance assured once the project takes off. Source sustainability reports for withdrawal of water from Chir River and from the Ganga River has been uploaded and is already available on https://parivesh.nic.in/
(v)	As per the original EC, 33% greenbelt of plant area shall be developed. In case of any shortage of land, additional land shall be acquired to meet the condition.	Noted. Green belt development / plantation being developed along with project construction & during operation and efforts will be made to develop more greenery in & around the plant with survival rate of more than 80%.
(vi)	The conditions specified in the In-Principle (Stage-I) Forest Clearance dated 28.6.2019 shall be complied with. A compliance to these conditions shall also be submitted along with Six monthly compliance report. Further, copy of Formal (Stage-II) Approval shall be submitted as and when it is obtained.	Compliance of conditions mentioned in the In-Principle approval (Stage-I) Forest Clearance dated 28.06.2019 has been uploaded on https://parivesh.nic.in/. Compliance report of Stage – I Forest Clearance submitted along with EC compliance report period of Oct'19 to Mar'20. Stage II has been granted vide letter no. FP/JH/Others/32772/2018/4489 dated 29.01.2021. A copy of Stage-II Approval is attached as **Annexure IV**
(vii)	The total project area has now been reduced to 558 acres from 1255 acres. The remaining area (if acquired) shall be developed as greenbelt.	Noted. Power plant facilities have been reworked and total project area has now been optimized to 558 acres from 1255 acres.

(viii)	All the conditions prescribed in the permission granted by National Mission for Clean Ganga (NMCG), Ministry of Water Resources, River Development & Ganga Rejuvenation vide their letters dated 8.8.2018 and 16.11.2018 for withdrawal of 36 MCM of water from River Ganga during June to December, shall be complied with.	Noted and will be complied.
Additional Conditions (EC Amendment)		
(i)	The area of 7.7 acres (originally proposed 558 acres & Notified SEZ land: 550.23 acres) shall be developed with greenbelt. Demarcation of this land with co-ordinates and progress of greenbelt is to be submitted in the compliance report.	Noted and agreed. Green belt development / plantation being developed along with project construction & during operation and efforts will be made to develop more greenery in & around the plant with survival rate of more than 80%.
(ii)	In para 5 of amended EC dated 03.09.2019, the period of '6 months' be read as '07 months'.	Noted.

ADANI POWER (JHARKHAND) LTD.

2*800 MW Godda Thermal Power Project

Village: Motia, Dist: Godda, Jharkhand

ENVIRONMENTAL MONITORING REPORT
PERIOD: October'20 – December'20

Go Green Mechanisms Pvt. Ltd.

Head Office & Lab: Dayal Estate, National Highway No. 8, Opp. APMC Market Gate – 1, Jetalpur, Ahmedabad – 382426

Contact: 7069072001/02

Email: lab@gogreenmechanisms.com

REPORT TITLE

COMPANY NAME:	**Adani Power (Jharkhand) Ltd.**
SITE LOCATION:	2*800 MW Godda Thermal Power Plant Village: Motia, Dist: Godda, Jharkhand
BASELINE PERIOD:	Oct'20 to Dec'20
REPORT DATE:	18.02.2021
ORIGINATED BY:	Environmental Monitoring and Analytical Team Go Green Mechanisms Pvt. Ltd.
REVIEWED BY:	Amit Badlani Director, Go Green Mechanisms Pvt. Ltd.
PREPARED BY:	Go Green Mechanisms Pvt. Ltd (GGMPL) Dayal Estate, Opp AMPC Market Gate No.1, Jetalpur-382426 Ahmedabad

TABLE OF CONTENT

LIST OF GRAPH

LIST OF FIGURE

SECTION 1: FOREWORD

The protection of environment plays a crucial role in maintain the local environment quality for any industry, throughout their production. Hence compliance of the statutory requirements becomes very important to conserve the ecological balance within and surrounding the plant area. Therefore, environment protection is becoming a prerequisite for sustainable development. In line with this requirement, the management of Adani Power (Jharkhand) Ltd. has adopted a corporate responsibility of development and top priority is given for environment protection.

In order to comply with the Environment protection act, to fulfil statutory requirement and to be in tune with Environmental Preservation and sustainable development Adani Power (Jharkhand) Ltd., has retained M/S. Go Green Mechanisms Pvt. Ltd. As Environment Consultants and for various Environmental issues related to their Power Plant.

Environmental Quality Monitoring Report for the Month October'20 to November'20 has been collected by Go Green Mechanisms pvt. Ltd.

Note: Environmental Quality Monitoring Report for the Month December'20 has been collected by Envirotech East Pvt. Limited.

We are thankful to Adani Power (Jharkhand) Ltd. for the opportunity provided to be associated in this endeavour.

SECTION 2: LIST OF EQUIPMENTS

The list of Equipments used in the project is delineated in the following table.

Sr. No.	Name of Equipments	Make/Model
1	Respirable Dust Sampler	Ecotech Instruments / AAS 217BL
2	$PM_{2.5}$ Sampler	Ecotech Instruments & Eonair Technologies/AAS 127 & AQS 235
3	Gaseous Attachment with RDS	Ecotech Instruments / AAS 217BL
4	Sound Level Meter	Hemsun / HDB 2202
5	Weather Monitoring Station	Ambient Weather Station
6	Weighing Balance	Shimadzu /AUW220D
7	UV Visible Spectrophotometer	Systronics
8	Hot Air Oven	Patel Scientific Instruments
9	Filtration Assembly	Labline
10	Water Analysis Kit	Systronics
11	Bacteriological Incubator	Labline
12	Centi-micro Balance	Shimadzu /ATX224
13	Dissolved Oxygen Test Kit	Lutron
14	Autoclave	Patel Scientific Instruments
15	Laminar Air Flow	Labline
16	Muffle Furnace	Patel Scientific Instruments
17	Flame Photometer	Systronics /128
18	Digital colony counter	Labline
19	Microscope	Patel Scientific Instruments
20	Orbital Shaker	Labline
21	Centrifuge	Bio Lab
22	Simple Distillation Assembly	Labline
23	ICP-OES/AES	Thermo Fisher Scientific /iCAP 7400 SERIES
24	AAS	Thermo Fisher Scientific / AA 303
25	Ion Chromatography	Metrohm Herisau / 1.925.0020

SECTION 3: LIST OF PROJECT PERSONNEL

Sr. No.	Name	Qualification	Experience (Yrs)	Designation
1.	Amit Badlani	B.E. (Chemical) M.S.(Energy & Environmental Technology) M.S. (Pollution Control)	17 Yrs	Managing Director
2.	R.K.Pandey	B.Sc. Biology	16 Yrs	Project In-charge
3.	Satyam Kumar	M Sc. (Env. Mgmt)	03 Yrs 06 months	Lab Manager
4.	Payal Patel	M Sc. (Env. Sci.)	05 Yrs	Dy. Lab Manager
5.	Yash Goswami	Dip. Env. Engineer	10 Yrs 06 months	Field Operation - Manger
6.	Tantan Kumar	M Sc. (Env. Mgmt)	03 Yrs 06 months	Sr. Chemist
7.	Pooja Parekh	B.Sc. (Microbiology) & DMLT	05 Month	Lab Chemist
8.	Chandan Kumar	B.Sc. Chemistry	01 Yrs 05 months	Field Assistant

For Go Green Mechanisms Pvt. Ltd.

Amit Badlani
Managing Director

SECTION 4: EXECUTIVE SUMMARY

Adani Power (Jharkhand) Limited has undertaken the task of preparing EMP report for its 1600 (2x800) MW Godda Thermal Power Plant & Residential Township which is within the premises of TPP.

M/s. Go Green Mechanisms Private Limited, got the opportunity to prepare the Environmental monitoring Data on the basis of actual field monitoring with respect to Group I Parameters i.e. Air, Water, Soil, Noise & Meteorological on behalf of HTG Engineering Pvt. Ltd.

A Meteorological station was set up on the terrace of "Hostel Block" & Micrometeorological parameters like Ambient Temperature, Relative Humidity, Wind direction, Wind Speed, Rain fall & Barometric Pressure etc were recorded on hourly basis during the study period.

On the basis of wind direction pattern, the three locations of AAQM were selected. The concentration of gaseous pollutants, $PM_{2.5}$ were sampled and analysed for compliance to GSR 826(E) vide Notification Dated 16/11/2009.

Four numbers of Ground water samples, two numbers of Effluent water samples and one number of Surface water were collected to understand the overall water quality of the project area. The water parameters were sampled and analysed to check for compliance to the specifications of (IS 10500:2012 & I 2296:1982 Inland surface water Class C).

The noise level was monitored at 10 locations on Day & Night time basis, monthly as per IS 9989: RA 2001.

The main aim of the soil testing is to assess the soil quality of the area to define the present status of soil. It helps in the assessment of impact if any, due to the project activities and selection of suitable species of plants for green belt development at the project area as it works as an anti-pollution tools.

SECTION 5: CONCEPTS & METHODOLOGY

5.1 METHODOLOGY

In the present study the following are the standard methods used for collection, analysis & interpretation of data:

AAQM Sampling & analysis: "Indian Standards (IS 5182)", "Guidelines for the measurement of Ambient Air Pollutants, Vol-I, CPCB" & "USEPA" methods were used for Ambient Air sampling and analysis to study the present pollution load around the Proposed Project location.

Parameters of AAQM	Standard Methods	Analytical Instruments
PM_{10}	IS 5182 (P-23):2006	Weighing Balance
$PM_{2.5}$	GGMPL/SOP/AA/60	Weighing Balance
Oxides of Nitrogen(NOx)	IS 5182 (P-6):2006	Spectrophotometer
Oxides of Sulphur(SO_2)	IS 5182 (P-2):2009	Spectrophotometer
Mercury	Method IO 3.4:1999	ICP-OES (Hydride Generator)

Water Sampling & analysis: Similarly "Indian Standards (IS 3025)", "USEPA" and "APHA 23rd Edition were used for water sample collection and analysis.

Parameters of Water Samples	Standard Methods	Analytical Instruments
Taste	IS 3025 (Pt 08): RA 2006	-
Turbidity	APHA 23rd Edn 2017 2130 B	Turbidity Meter
Total Dissolve Solid	APHA 23rd Edn 2017 2540 C	Hot air Oven
Boron(B)	APHA 23rd Edn 2017 4500 B C	Spectrophotometer
Calcium(Ca)	APHA 23rd Edn 2017 3500 Ca B	-
Chloride(Cl)	IS 3025 (Pt 32): RA 2007	-
Fluoride(F)	APHA 23rd Edn 2017 4500 F D	Spectrophotometer
Residual Chlorine	APHA 23rd Edn 2017 4500 Cl B	Chlorine kit
Nitrate (NO_3)	IS 3025 (Pt 34): RA 2017	Spectrophotometer
Phenolic Compounds	IS 3025 (Pt 43): RA 2003	Spectrophotometer
Sulphate (SO_4)	APHA 23rd Edn 2017 4500 SO_4 E	Spectrophotometer
Total hardness ($CaCO_3$)	APHA 23rd Edn 2017 2340 C	-
Cyanide (CN)	APHA 23rd Edn 2017 4500 CN C ,E	Ion Chromatography
Selenium (Se)	IS 3025 (Pt 56): 2003	ICP-OES
pH	IS 3025 (Pt 11): RA 2006	pH Meter
Colour	IS 3025 (Pt 04): RA 2017	-
Odour	IS 3025 (Pt 05): RA 2006	-
Alkalinity	APHA 23rd Edn 2017 2320 B	-
Temperature	APHA 23rd Edn 2017 2550 B	Thermometer
Magnesium (Mg)	APHA 23rd Edn 2017 3500 Mg B	ICP-OES
Copper (Cu)	APHA 23rd Edn 2017 3111 B	ICP-OES

Iron (Fe)	APHA 23rd Edn 2017 3500 Fe B	ICP-OES
Manganese (Mn)	APHA 23rd Edn 2017 3111 B	ICP-OES
Mercury (Hg)	APHA 23rd Edn 2017 3112 B	ICP-OES (Hydride Generator)
Lead (Pb)	APHA 23rd Edn 2017 3111 B	ICP-OES
Arsenic (As)	APHA 23rd Edn 2017 3111 B	ICP-OES (Hydride Generator)
Cadmium (Cd)	APHA 23rd Edn 2017 3111 B	ICP-OES
Zinc (Zn)	APHA 23rd Edn 2017 3111 B	ICP-OES
Hexavalent Chromium	APHA 23rd Edn 2017 3500 Cr B	Spectrophotometer
Detergent	Annex K of IS 13428	Gas Stripping apparatus/ Spectrophotometer
Aluminum	IS 3025 (Pt 55): RA 2009	ICP-OES
E. Coli	IS 1622-1981: RA 2009	Bacteriological incubater/ Autoclave/ Laminar flow
Total Coliform	IS 1622: RA 2009	Bacteriological incubater/ Autoclave/ Laminar flow

Noise Level Monitoring: "Protocol for Ambient Level Noise Monitoring, IS 9989: RA 2001" was followed to monitor the Ambient Noise level surrounding the Project Site.

Parameters	Standard Methods	Analytical Instruments
Leq	IS 9989: RA 2001	Noise Level Meter

Weather Monitoring: "EPA-454/R-99-005, February 2000" was followed for micro-meteorological data collection result interpretation.

Parameters	Standard Methods	Analytical Instruments	Make/Model
Air Temperature	GGMPL/SOP/MP/01:2020	Digital sensor	Ambient Weather Station
Relative Humidity	GGMPL/SOP/MP/01:2020	Digital Sensor(Hygrometer)	
Wind Speed	GGMPL/SOP/MP/01:2020	3 Cup anemometer	
Wind Direction	GGMPL/SOP/MP/01:2020	Hall Effect (Wind Vane)	
Rain Fall	GGMPL/SOP/MP/01:2020	Tipping Bucket	

Soil sampling & analysis: "Indian Standard Method of Test for Soils (IS: 2720, IS: 14767 and IS: 5949)" were followed for soil sample collection, sample conditioning and analysis of physical chemical parameters. Hand boring method using spiral Auger was used for collection of soil samples.

Parameters	Standard Methods	Analytical Instruments
Magnesium	Method 3051A	ICP-OES
Calcium	IS 5949:2003	ICP-OES
Manganese	Method 3051A	ICP-OES
Boron	Method 3051A	ICP-OES
Copper	Method 3051A	ICP-OES

Sulphur	IS 14685	ICP-OES
Chloride	GGMPL/SOP/SOIL/45	ICP-OES
Zinc	Method 3051A	ICP-OES
Nitrogen	IS 14684: 2005	ICP-OES
Phosphorous	GGMPL/SOP/SOIL/44	ICP-OES
Potassium	Method 3051A	ICP-OES
Iron	Method 3051A	ICP-OES
Molybdenum	Method 3051A	ICP-OES

A brief account of the methodologies and matrices followed in the present study is given under different headings. All the methods were structured for the identification, collection and organization of environmental impacts data. The information, thus gathered, had been analyzed and presented in the form of a number of visual formats for easy interpretation and Marision making.

SECTION 6: PLAN FOR SAMPLING LOCATIONS

Site selection criteria play an important role in the initiation of "baseline data generation" as it provides an outlook on the type of environmental compliance and management to be adopted by the project proponent. The locations were selected on the basis of "joint site survey", "examination of toposheet of the project area", "secondary micro-meteorological data analysis" and "availability of resources" for ambient air quality monitoring & micro-meteorological monitoring.

A synopsis about the locations is as follows:

AAQM Locations	
Code	**Name of Location**
A1	Nr. Motia Village
A2	Nr. Mali Village
A3	Nr. Nayabad Village
Met Data Station	
Code	**Name of Location**
M1	Hostel Block
Water Samples	
Code	**Name of Location**
G/W-1	Motia Village
G/W-2	Mali Village
G/W-3	Nayabad Village
G/W-4	Patwa Village
E/W-1	STP Outlet plant
E/W-2	STP Outlet township
S/W-1	Ganga river
Noise Monitoring Locations	
Code	**Name of Location**
N1	At Motia Village
N2	At Mali Village
N3	At Nayabad Village
N4	At Patwa Village
N5	Nr. Adani Office
N6	Nr. BTG Area (U/C)
N7	Nr. CT Area (U/C)
N8	Nr. RW Reservoir (U/C)
N9	Nr. STP (In township)
N10	Nr. Temple (In township)
Soil Samples	
Code	**Name of Location**
S-1	Nr. Mali Village
S-2	Nr. Nayabad Village
S-3	Nr. Patwa Village

SECTION 7: METEOROLOGICAL DATA

Weather monitoring would help in keeping track of different parameters like temperature, humidity, rainfall, wind direction, wind speed & barometric pressure. Real time meteorological data is used to support a number of programs including public aviation, agricultural activity, disaster management etc.

In the present study we monitored the "ambient temperature, relative humidity, wind speed, wind direction, barometric pressure, rainfall etc.

Figure 1: Weather Monitoring Station at Hostel Block

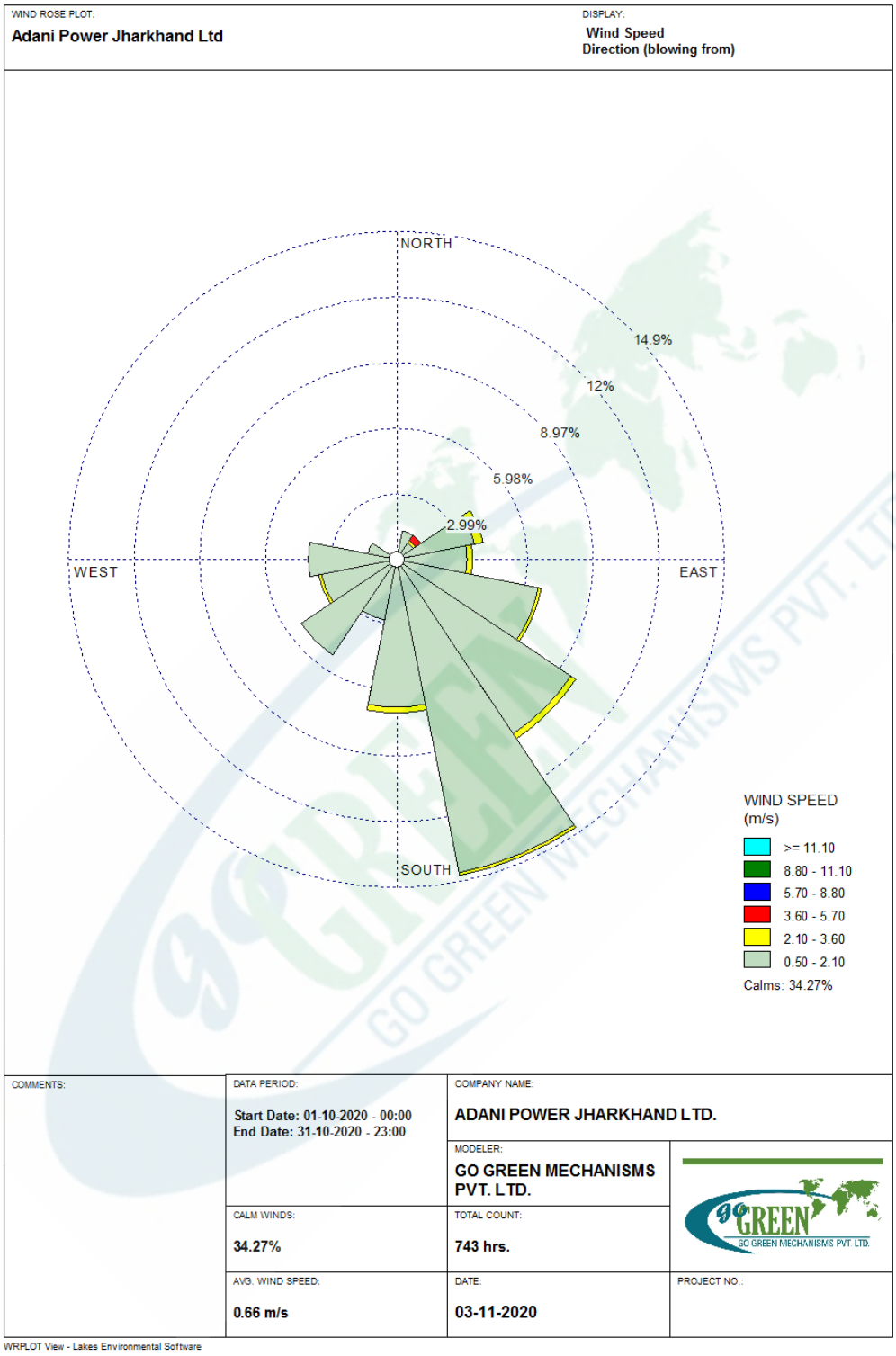


Figure 2: Windrose diagram for the month of October - 2020

It is observed from the windrose diagram for the month of October'20 the predominant wind direction is South-South East.

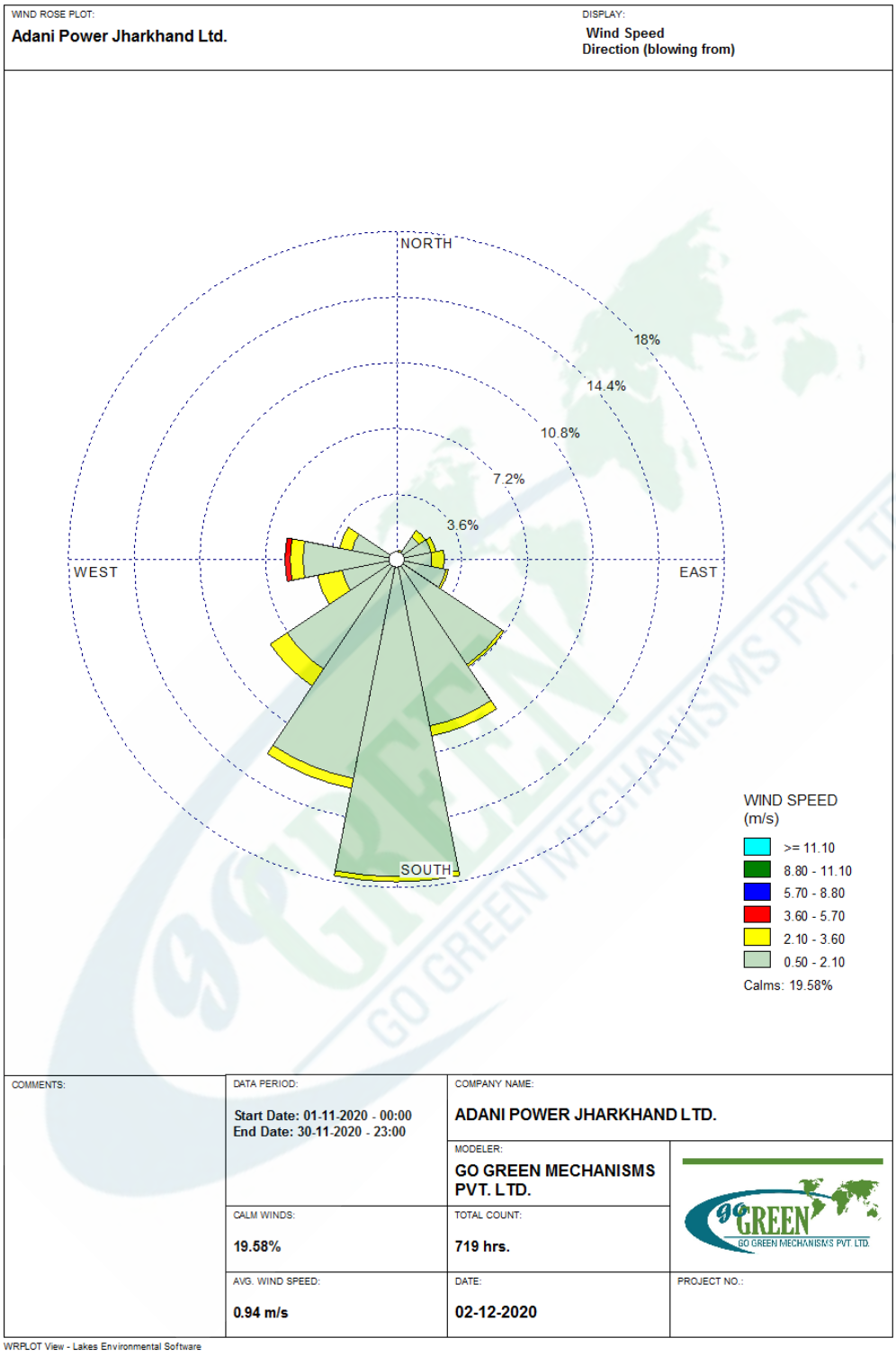


Figure 3: Windrose diagram for the month of November - 2020

It is observed from the windrose diagram for the month of November'20 the predominant wind direction is South.

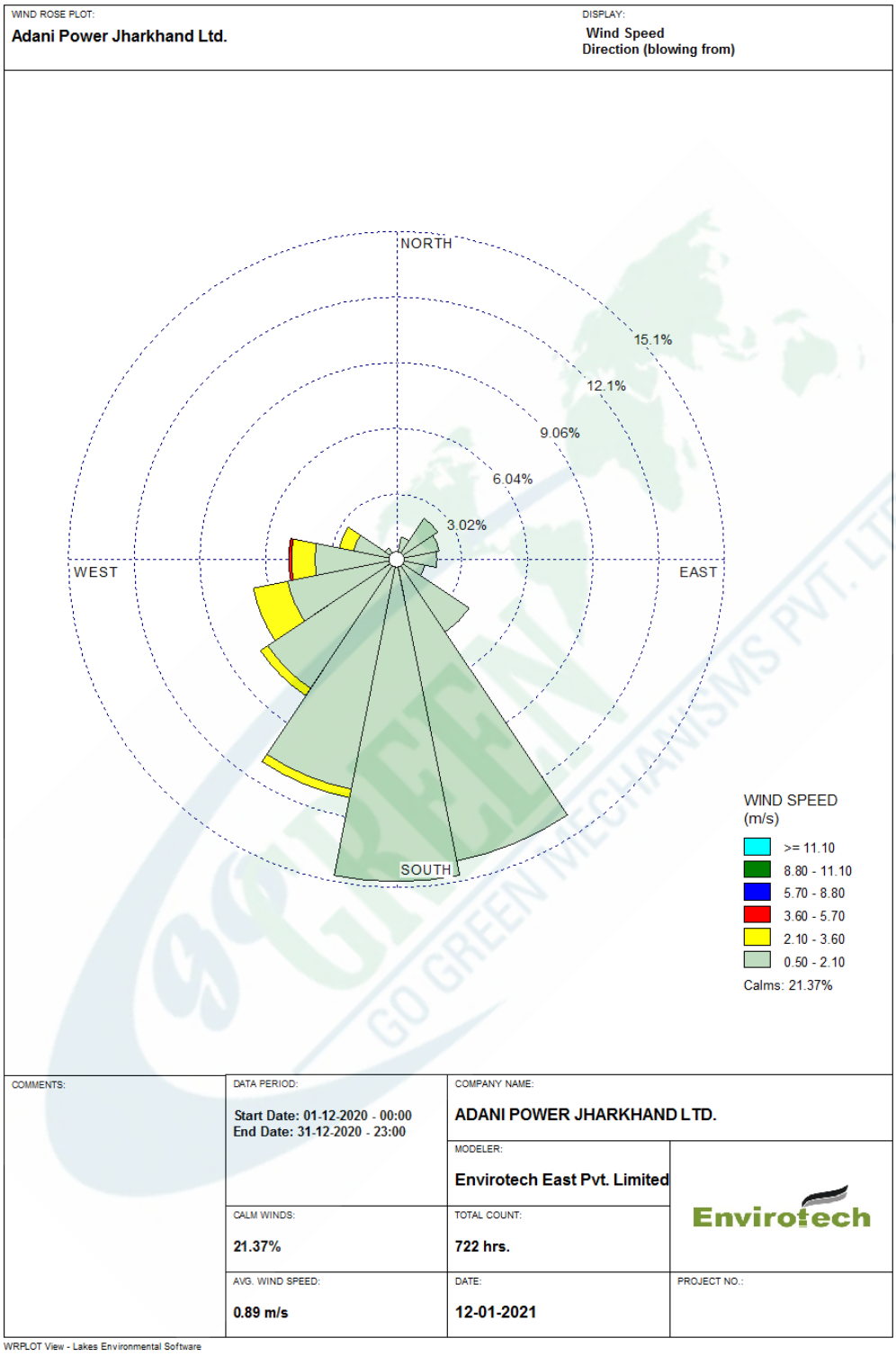


Figure 4: Windrose diagram for the month of December - 2020

It is observed from the windrose diagram for the month of December'20 the predominant wind direction is South.

ADANI POWER (JHARKHAND) LIMITED

2 x 800 MW Ultra Super Critical Thermal Power Plant, Godda, Jharkhand

Site Specific Micro-Meteorological Data

LOCATION: APJL - Godda

Recording Time: 00:00 Hrs - 23:00 Hrs

OCT :-2020

Date	Temperature(°C)			Humidity (%)			Wind Speed(M/S)		Wind Direction (blowing from)	Barometric Pressure (mmhg)	Rainfall(mm
	Max	Min	Avg	Max	Min	Avg	Max	Avg		(Average)	Total
01.10.2020	33.2	24.3	27.8	99	71	92.7	5.2	0.5	SE	745.2	47.5
02.10.2020	32.0	25.0	27	99	78	93.1	6.9	0.6	E	745.7	18.0
03.10.2020	33.0	25.5	27.3	99	70	92.3	4.8	1.0	SE	746.3	21.6
04.10.2020	32.8	26.6	27.9	99	73	91.6	6.6	0.7	NE	747.1	3.6
05.10.2020	33.5	25.9	27.8	99	70	91.7	6.3	0.7	S	746.6	5.6
06.10.2020	30.9	26.1	26.9	99	80	93.4	3.1	0.8	NNE	746.6	0.0
07.10.2020	34.4	24.9	27.6	99	62	91.1	5.2	1.0	SE	748.4	2.0
08.10.2020	33.2	25.1	28	98	71	90.1	3.1	0.7	SE	748.8	0.0
09.10.2020	33.6	27.9	30.7	99	68	82.5	3.1	0.8	NNE	748.2	0.0
10.10.2020	34.0	26.1	29.4	99	49	82.9	2.9	0.6	SSE	747.0	0.0
11.10.2020	34.1	25.5	29.7	97	58	79.7	2.5	0.6	SE	746.4	0.0
12.10.2020	34.9	25.8	30.3	95	58	77.6	2.6	0.6	SE	746.9	0.0
13.10.2020	35.2	25.9	30.5	95	52	75.7	2.7	0.5	E	747.6	0.0
14.10.2020	34.7	25.1	29.8	94	56	79.2	3.3	0.6	SE	747.5	0.0
15.10.2020	34.6	26.0	29.4	96	63	83.2	4.0	0.6	SE	747.7	0.0
16.10.2020	34.8	25.6	29.5	98	65	83.9	2.5	0.6	SSE	746.7	0.0
17.10.2020	32.8	26.6	29.4	96	68	84.4	1.5	0.5	SSE	747.9	0.0
18.10.2020	33.7	25.1	28.7	99	61	83.9	3.2	0.3	SSE	747.9	0.0
19.10.2020	33.7	24.2	27.4	97	61	85.5	3.0	0.7	W	747.5	0.0
20.10.2020	33.3	23.1	27.6	95	56	79.2	2.4	0.7	SE	747.7	0.0
21.10.2020	34.3	23.2	27.8	96	54	80	2.4	0.6	E	748.1	0.0
22.10.2020	33.4	24.3	27	96	62	86.6	4.3	0.4	SE	747.0	0.0
23.10.2020	30.1	23.4	25.9	99	70	88.6	6.7	0.71.6	NNE	746.1	0.0
24.10.2020	31.0	22.7	25.9	99	69	88.4	4.1	1.0	NNE	747.5	0.0
25.10.2020	32.2	22.7	26.6	99	50	73.2	3.8	1.1	WSW	749.9	0.0
26.10.2020	32.2	19.8	24.5	83	41	69.9	3.5	1.0	SW	750.7	0.0
27.10.2020	26.5	19.4	21.6	85	67	76.7	2.4	0.9	SSE	750.2	0.0
28.10.2020	30.2	21.0	23.2	89	57	78.4	3.9	0.7	SSE	751.8	0.0
29.10.2020	31.1	21.0	24.3	89	57	75.6	3.9	0.8	SSE	751.5	0.0
30.10.2020	31.7	22.5	26.9	83	49	67.8	5.0	1.2	WNW	749.9	0.0
31.10.2020	32.2	19.9	26.4	87	49	66.8	5.2	1.0	SE	750.5	0.0

total rainfall in mm (Oct-20)	98.3
Rainfall from 01.01.2020	1482.9
Rainfall from 01.06.2020	1158.9

ADANI POWER (JHARKHAND) LIMITED

2 X 800 MW Ultra Super Critical Thermal Power Plant, Godda, Jharkhand

Site Specific Micro-Meteorological Data

LOCATION: APJL - Godda

Recording Time: 00:00 Hrs - 23:00 Hrs

NOV :-2020

Date	Temperature(°C)			Humidity (%)			Wind Speed(M/S)		Wind Direction (blowing from)	Barometric Pressure (mmhg)	Rainfall(mm
	Max	Min	Avg	Max	Min	Avg	Max	Avg		(Average)	Total
01.11.2020	28.2	24.0	25.6	87	69	79.8	2.0	0.9	S	751.4	0.0
02.11.2020	31.8	21.7	26.2	84	44	67.1	3.8	1.1	SSE	752.0	0.0
03.11.2020	30.8	19.8	24.6	77	32	56.8	4.0	1.2	WNW	752.2	0.0
04.11.2020	29.6	19.0	24	66	25	47.5	5.9	2.0	NNW	751.6	0.0
05.11.2020	29.9	17.2	19.9	66	25	57.8	1.9	0.9	WSW	752.7	0.0
06.11.2020	30.0	17.1	22.3	68	33	61.7	4.4	2.3	NNW	754.1	0.0
07.11.2020	29.3	18.7	24.5	82	40	57.8	3.4	1.0	NNW	754.6	0.0
08.11.2020	29.9	16.6	22.8	88	47	69.6	4.0	0.9	NNW	754.9	0.0
09.11.2020	30.1	19.7	25.7	84	44	60.6	4.3	1.0	NNE	751.7	0.0
10.11.2020	31.8	17.4	23.6	87	37	68.1	3.4	0.6	SSE	753.6	0.0
11.11.2020	30.8	17.5	24.2	92	38	65.5	6.1	1.0	N	754.7	0.0
12.11.2020	31.5	18.2	18.2	92	38	65.5	6.1	0.9	NW	754.7	0.0
13.11.2020	30.5	19.0	24.5	84	38	62.7	5.2	0.9	NW	754.1	0.0
14.11.2020	30.1	19.9	24.4	78	43	62.8	4.6	1.0	NE	753.4	0.0
15.11.2020	30.2	17.9	23.5	88	26	61.5	4.3	1.4	NNE	753.4	0.0
16.11.2020	30.8	20.1	27.9	76	39	47.9	3.8	1.3	NW	752.6	0.0
17.11.2020	28.6	17.2	21.1	87	43	71.9	5.5	1.3	W	753.0	0.0
18.11.2020	29.2	24.2	27.8	67	43	49.5	5.0	1.7	WNW	752.5	0.0
19.11.2020	28.4	18.6	23.1	87	50	70.1	4.0	0.6	SE	752.1	0.0
20.11.2020	28.7	18.5	22.7	93	54	76.6	2.3	0.5	SE	752.0	0.0
21.11.2020	26.5	17.5	21.8	94	51	73.1	5.3	1.3	SSW	752.0	0.0
22.11.2020	24.6	14.3	19.1	75	30	53.7	5.5	1.6	SSW	754.5	0.0
23.11.2020	26.6	12.4	18.7	82	38	60.8	2.6	0.8	SE	755.0	0.0
24.11.2020	26.9	12.2	19.2	90	42	66.9	2.8	0.7	SE	754.9	0.0
25.11.2020	26.8	13.4	19.9	87	44	66.7	3.8	1.0	SSE	754.9	0.0
26.11.2020	25.1	14.5	20	89	54	73.5	3.1	0.8	SSE	755.1	0.0
27.11.2020	22.2	17.2	19.7	88	69	80	4.0	0.9	SSW	756.2	0.0
28.11.2020	27.1	12.2	20.4	94	25	70	3.7	1.1	SW	756.1	0.0
29.11.2020	27.1	12.2	20.6	84	25	60.7	6.1	1.1	SSW	755.4	0.0
30.11.2020	27.3	14.3	20.2	78	35	59.5	3.5	1.1	SSW	755.0	0.0

total rainfall in mm (Nov'20)	0
Rainfall from 01.01.2020	1482.9
Rainfall from 01.06.2020	1158.9

ADANI POWER (JHARKHAND) LIMITED

2 X 800 MW Ultra Super Critical Thermal Power Plant, Godda, Jharkhand

Site Specific Micro-Meteorological Data

LOCATION: APJL - Godda

Recording Time: 00:00 Hrs - 23:00 Hrs

DEC :-2020

Date	Temperature(°C)			Humidity (%)			Wind Speed(M/S)		Wind Direction (blowing from)	Barometric Pressure (mmhg)	Rainfall(mm
	Max	Min	Avg	Max	Min	Avg	Max	Avg		(Average)	Total
01.12.2020	27.6	14.3	20.5	82	45	64.1	2.3	0.8	WNW	754.9	0.0
02.12.2020	27.3	15.7	20.7	78	45	64.5	2.4	0.8	SSE	753.5	0.0
03.12.2020	26.1	15.0	20	86	43	67.7	2.2	0.7	E	753.4	0.0
04.12.2020	26.7	14.0	22.4	73	54	61.3	2.0	0.5	SW	753.5	0.0
05.12.2020											
06.12.2020											
07.12.2020	27.9	14.1	24.4	89	50	65.3	2.0	0.4	SSE	755.6	0.0
08.12.2020	20.4	15.0	17.9	99	86	95.1	3.1	0.5	S	754.7	0.0
09.12.2020	20.4	16.1	17.3	99	86	96.7	2.2	0.5	SSE	754.2	0.0
10.12.2020	19.8	15.3	17.2	99	82	93.9	3.7	0.7	SE	754.0	0.3
11.12.2020	18.6	14.2	16.2	99	84	93.7	2.9	0.5	SE	754.4	0.0
12.12.2020	24.0	13.7	18.7	99	64	83.6	4.4	0.7	SSE	753.5	0.0
13.12.2020	24.0	16.2	19.7	97	68	84.8	5.7	1.5	SSW	752.6	0.0
14.12.2020	25.3	16.1	20.2	97	48	73.2	3.4	1.3	SSW	753.9	0.0
15.12.2020	24.5	12.5	19.1	99	43	71.4	4.0	0.8	SSW	755.6	0.0
16.12.2020	24.8	14.9	19.5	90	40	66.9	5.7	1.2	SSW	756.0	0.0
17.12.2020	23.6	13.8	18.4	88	51	68.8	5.9	1.8	SW	755.4	0.0
18.12.2020	21.4	11.3	16	82	35	59.3	6.3	1.5	SW	755.8	0.0
19.12.2020	19.7	8.6	13.7	86	32	68.5	4.4	1.0	SSW	756.9	0.0
20.12.2020	20.3	8.3	13.9	91	48	72.4	3.4	0.9	SSE	756.5	0.0
21.12.2020	21.2	9.5	13.9	89	56	72.4	3.3	0.9	SSE	756.5	0.0
22.12.2020	22.5	9.5	14.9	97	56	74.6	3.5	0.7	SSE	755.2	0.0
23.12.2020	22.3	10.3	15.1	99	57	84.2	3.2	1.0	N	754.0	0.0
24.12.2020	24.0	14.6	20	84	48	64.1	2.8	1.0	NE	753.8	0.0
25.12.2020	23.5	11.8	17.2	91	40	69.2	4.8	1.5	SSW	754.1	0.0
26.12.2020	23.5	11.4	16.7	83	33	62.3	4.0	1.1	WNW	755.0	0.0
27.12.2020	22.3	10.9	15.8	81	42	64.7	3.6	1.3	NE	754.0	0.0
28.12.2020	23.6	9.5	15.6	87	35	65	2.7	0.9	SSE	753.8	0.0
29.12.2020	23.6	10.0	16.4	86	45	68.2	2.6	0.7	S	754.4	0.0
30.12.2020	23.5	11.6	17	90	35	68.2	3.3	1.0	WNW	755.4	0.0
31.12.2020	22.3	11.5	15.9	88	44	70	3.4	1.3	NNE	755.5	0.0

total rainfall in mm (Dec'20)	0.3
Rainfall from 01.01.2020	1483.2
Rainfall from 01.06.2020	1159.2

SECTION 8: AMBIENT AIR MONITORING REPORT

8.1 CONCEPT & SCOPE

The Ambient Air monitoring encompasses the results and statistical evaluation of the data monitored at three different locations.

Different parameters like PM_{10}, $PM_{2.5}$, Oxides of Sulphur, Oxides of Nitrogen and Mercury are monitored for representing the ambient air quality within the study area.

8.2 FREQUENCY OF SAMPLING

The frequency of the sampling for AAQM was as follows:

PARAMETERS	FREQUENCY OF EACH LOCATION
PM10, PM2.5, Oxides of Sulphur, Oxides of Nitrogen	Twice in a week
Mercury	Once in a month

8.3 SAMPLING DURATION AS PER NAAQMs 2009

Sr. No.	Parameters	Sampling Duration (Hr.)
1	Particulate Matter (PM_{10})	24
2	Particulate Matter ($PM_{2.5}$)	24
3	Oxides of Sulphur (SO_2)	24
4	Oxides of Nitrogen (NOx)	24
5	Mercury	-

8.4 AAQM METHODOLOGY

PARAMETERS	METHODOLOGY/PRINCIPLE
Particulate Matter (PM_{10})	Air is drawn through a size-selective inlet and through a 20.3 X 25.4 cm (8 X 10 in) filter at a flow rate, which is typically 1132 L/min. Particles with aerodynamic diameter less than the cut-point of the inlet are collected, by the filter. The mass of these particles is determined by the difference in filter weights prior to and after sampling. The concentration of PM_{10} in the designated size range is calculated by dividing the weight gain of the filter by the volume of air sampled.
Particulate Matter ($PM_{2.5}$)	An electrically powered air sampler draws ambient air at a constant volumetric flow rate (16.7 lpm) maintained by a mass flow / volumetric flow controller coupled to a microprocessor into specially designed inertial particle-size separator (i.e. cyclones or impactors) where the suspended particulate matter in the $PM_{2.5}$ size ranges is separated for collection on a 47 mm polytetrafluoroethylene (PTFE) filter over a specified sampling period. Each filter is weighed before and after sample collection to determine the net gain due to the particulate matter. The mass concentration in the ambient air is computed as the total mass of collected particles in the $PM_{2.5}$ size ranges divided by the actual volume of air sampled, and is expressed in $\mu g/m^3$. The microprocessor reads averages and stores five-minute averages of ambient temperature, ambient pressure, filter temperature and volumetric flow rate.
Sulphur Dioxide (SO_2)	Sulphur dioxide from air is absorbed in a solution of potassium tetrachloromercurate (TCM). The impingers setup for the absorbance of Sulphur Dioxide from air is shown in Figure 15. A dichlorosulphitomercurate complex, which resists oxidation by the oxygen in the air, is formed. Once formed, this complex is stable to strong oxidants such as ozone and oxides of nitrogen and therefore, the absorber solution may be stored for some time prior to analysis. The complex is made to react with para-rosaniline and formaldehyde to form the intensely coloured pararosaniline methylsulphonic acid. The absorbance of the solution is measured by means of a suitable spectrophotometer.
Nitrogen Dioxide	Ambient nitrogen dioxide (NO_2) is collected by bubbling air through a solution of sodium hydroxide and sodium arsenite. The concentration of nitrite ion (NO_2) produced during sampling is determined colorimetrically by reacting the nitrite ion with phosphoric acid, sulfanilamide, and N-(1-naphthyl)-ethylenediamine dihydrochloride (NEDA) and measuring the absorbance of the highly coloured azo-dyeat 540 nm.

Figure 5: Ambient air Motoring Nr. Mali Village

Figure 6: Ambient air Monitoring Nr. Motia Village

8.5 ANALYTICAL RESULTS

Results & statistical calculations for Location- A1:

Name of Location (A1)		Nr. Motia Village			
Sr. No.	**Date of Sampling**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NOx**
Unit		µg/m³	µg/m³	µg/m³	µg/m³
GSR 826 (E)		100	60	80	80
1.	01.10.2020	20.0	10.4	BQL(QL=5)	
2.	05.10.2020	40.4	13.3	6.1	12.4
3.	08.10.2020	46.8	15.2	7.1	13.7
4.	12.10.2020	49.7	16.2	7.6	14.4
5.	15.10.2020	50.2	18.6	6.7	14.7
6.	19.10.2020	51.2	20.1	7.9	15.4
7.	22.10.2020	56.1	20.7	7.2	14.6
8.	26.10.2020	53.4	21.7	8.0	15.2
9.	29.10.2020	61.2	22.1	8.2	15.8
10.	02.11.2020	58.0	23.1	8.4	15.8
11.	05.11.2020	59.7	22.0	7.9	15.0
12.	09.11.2020	55.6	20.9	7.7	14.6
13.	12.11.2020	60.7	25.0	8.9	16.2
14.	16.11.2020	70.2	30.5	8.3	15.9
15.	19.11.2020	61.7	26.9	8.7	16.8
16.	23.11.2020	63.4	27.7	9.7	17.1
17.	16.11.2020	62.7	26.4	10.2	17.0
18.	01.12.2020	65.0	27.4	8.1	17.6
19.	04.12.2020	64.8	29.8	9.7	15.9
20.	07.12.2020	68.7	31.7	10.1	18.1
21.	10.12.2020	51.4	25.4	7.4	13.9
22.	14.12.2020	63.4	29.5	9.8	14.9
23.	17.12.2020	68.9	31.4	10.0	16.5
24.	21.12.2020	70.4	32.1	10.7	16.8
25.	24.12.2020	68.3	33.2	9.3	16.4
26.	28.12.2020	71.1	32.7	10.6	16.7

RESULT INTERPRETATION				
No. of Observations	26	26	26	26
Min Concentration	20.0	10.4	BQL(QL=5)	8.4
Max Concentration	71.1	33.2	10.7	18.1
Average	58.2	24.4	8.6	15.4

Note: Environmental Quality Monitoring Report for the Month December'20 has been collected by Envirotech East Pvt. Limited.

Results & statistical calculations for Location- A2:

Name of Location (A2)		Nr. Mali Village			
Sr. No.	**Date of Sampling**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NOx**
Unit		µg/m³	µg/m³	µg/m³	µg/m³
GSR 826 (E)		100	60	80	80
1.	01.10.2020	19.4	10.2	BQL(QL=5)	7.8
2.	05.10.2020	38.7	12.1	5.8	10.1
3.	08.10.2020	45.7	15.0	6.9	13.1
4.	12.10.2020	44.6	14.8	5.7	12.8
5.	15.10.2020	46.7	17.1	6.3	14.3
6.	19.10.2020	47.8	18.2	7.3	14.9
7.	22.10.2020	54.1	18.7	6.6	13.8
8.	26.10.2020	52.8	21.1	8.1	14.0
9.	29.10.2020	59.6	19.8	8.4	15.6
10.	02.11.2020	55.4	20.1	7.8	14.5
11.	05.11.2020	54.2	19.7	8.0	15.1
12.	09.11.2020	53.2	21.1	7.6	16.0
13.	12.11.2020	58.4	22.7	8.5	16.1
14.	16.11.2020	68.7	31.2	7.3	14.7
15.	19.11.2020	57.9	24.4	8.2	15.5
16.	23.11.2020	61.8	25.5	9.3	16.6
17.	16.11.2020	59.9	25.2	10.0	15.2
18.	01.12.2020	63.5	26.7	8.2	15.7
19.	04.12.2020	62.7	25.9	8.8	16.7
20.	07.12.2020	65.2	30.1	9.9	17.4
21.	10.12.2020	50.7	24.4	7.8	13.4
22.	14.12.2020	61.2	27.9	9.4	14.5
23.	17.12.2020	66.7	30.0	9.6	16.3
24.	21.12.2020	67.5	31.8	10.8	16.2
25.	24.12.2020	67.5	32.0	10.2	15.8
26.	28.12.2020	70.1	33.1	10.3	16.6

RESULT INTERPRETATION				
No. of Observations	26	26	26	26
Min Concentration	19.4	10.2	BQL(QL=5)	7.8
Max Concentration	70.1	33.1	10.8	17.4
Average	55.9	23.0	8.3	14.7

Note: Environmental Quality Monitoring Report for the Month December'20 has been collected by Envirotech East Pvt. Limited.

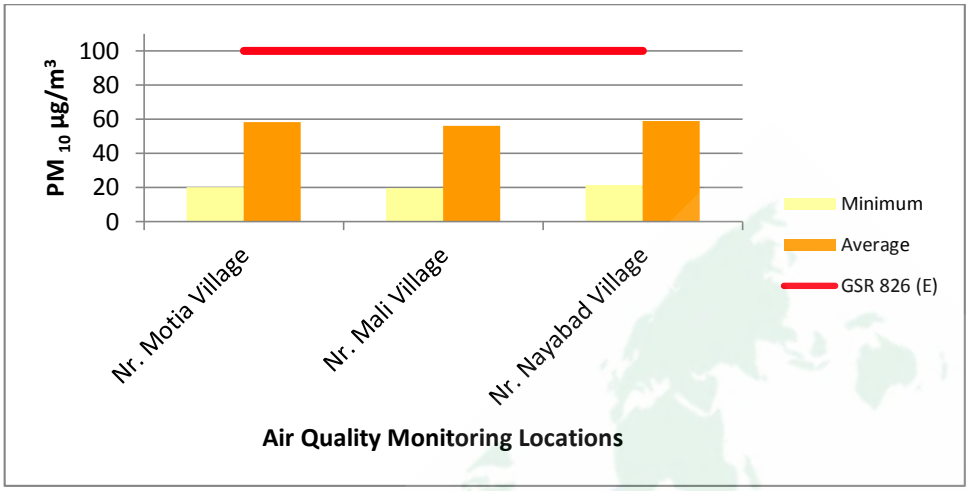
Results & statistical calculations for Location- A3:

Name of Location (A3)		Nr. Nayabad Village			
Sr. No.	**Date of Sampling**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NOx**
Unit		µg/m³	µg/m³	µg/m³	µg/m³
GSR 826 (E)		100	60	80	80
1.	01.10.2020	21.4	11.1	BQL(QL=5)	9.1
2.	05.10.2020	41.9	12.7	6.5	11.7
3.	08.10.2020	46.0	16.1	7.0	13.5
4.	12.10.2020	48.7	15.9	6.8	12.9
5.	15.10.2020	56.0	19.7	7.5	15.1
6.	19.10.2020	51.3	19.9	7.4	15.3
7.	22.10.2020	51.7	21.2	7.7	13.9
8.	26.10.2020	55.2	21.3	8.3	15.5
9.	29.10.2020	62.1	20.9	8.7	16.0
10.	02.11.2020	57.0	22.1	8.1	15.4
11.	05.11.2020	60.1	20.7	7.4	15.3
12.	09.11.2020	56.4	23.7	8.8	15.7
13.	12.11.2020	59.4	25.4	9.1	16.7
14.	16.11.2020	69.9	27.6	9.4	16.3
15.	19.11.2020	62.8	27.4	8.6	16.9
16.	23.11.2020	65.1	28.1	9.9	16.5
17.	16.11.2020	64.4	27.3	10.0	16.6
18.	01.12.2020	67.4	28.7	8.7	17.9
19.	04.12.2020	65.4	29.1	7.9	17.3
20.	07.12.2020	71.8	30.0	9.5	16.0
21.	10.12.2020	53.4	26.1	8.0	14.4
22.	14.12.2020	63.5	28.9	10.4	16.1
23.	17.12.2020	68.4	32.4	10.5	16.9
24.	21.12.2020	69.8	33.7	10.1	17.5
25.	24.12.2020	70.0	31.7	10.9	15.6
26.	28.12.2020	72.6	35.0	10.8	17.0

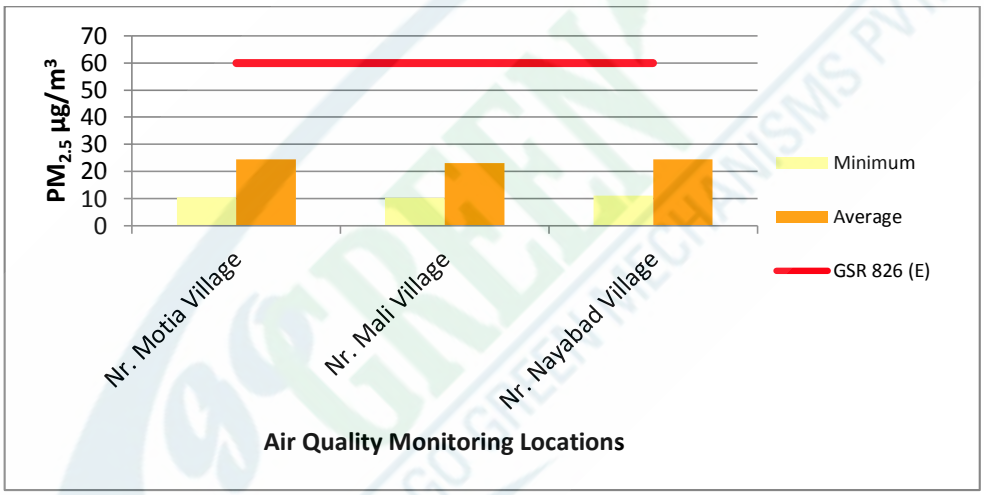
RESULT INTERPRETATION				
No. of Observations	26	26	26	26
Min Concentration	21.4	11.1	BQL(QL=5)	9.1
Max Concentration	72.6	35.0	10.9	17.9
Average	58.9	24.5	8.7	15.4

Note: Environmental Quality Monitoring Report for the Month December'20 has been collected by Envirotech East Pvt. Limited.

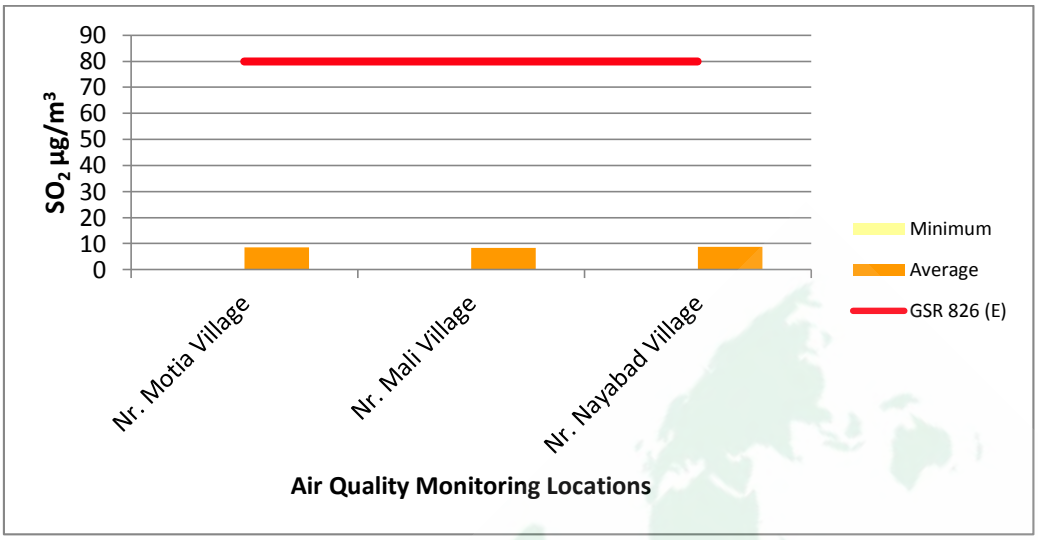
8.6 GRAPHICAL REPRESENTATION OF THE RESULTS



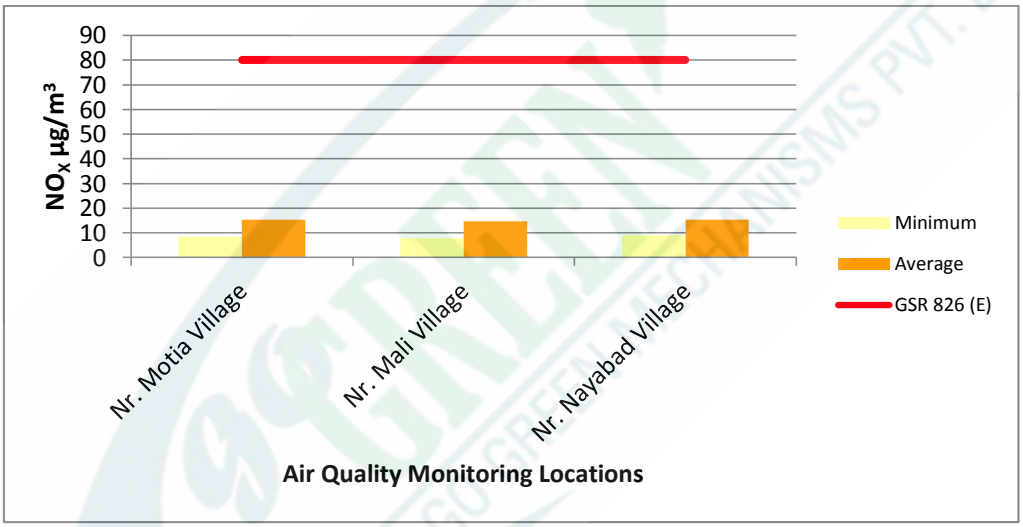
Graph 1: Particulate Matter (PM_{10})



Graph 2: Particulate Matter ($PM_{2.5}$)



Graph 3: Sulphur Dioxide (SO_2)



Graph 4: Oxides of Nitrogen (NO_x)

8.7 EXECUTIVE SUMMARY OF AAQM RESULTS

Particulate Matter (PM_{10})				
Site	**Minimum**	**Maximum**	**Average**	**GSR 826 (E)**
Nr. Motia Village	20.0	71.1	58.2	100
Nr. Mali Village	19.4	70.1	55.9	100
Nr. Nayabad Village	21.4	72.6	58.9	100

Particulate Matter ($PM_{2.5}$)				
Site	**Minimum**	**Maximum**	**Average**	**GSR 826 (E)**
Nr. Motia Village	10.4	33.2	24.4	60
Nr. Mali Village	10.2	33.1	23.0	60
Nr. Nayabad Village	11.1	35.0	24.5	60

Sulphur Dioxide (SO_2)				
Site	**Minimum**	**Maximum**	**Average**	**GSR 826 (E)**
Nr. Motia Village	BQL(QL=5)	10.7	8.6	80
Nr. Mali Village	BQL(QL=5)	10.8	8.3	80
Nr. Nayabad Village	BQL(QL=5)	10.9	8.7	80

Oxides of Nitrogen (NO_x)				
Site	**Minimum**	**Maximum**	**Average**	**GSR 826 (E)**
Nr. Motia Village	8.4	18.1	15.4	80
Nr. Mali Village	7.8	17.4	14.7	80
Nr. Nayabad Village	9.1	17.9	15.4	80

From all the above graphical representation it is clearly interpreted that all the values of PM_{10}, $PM_{2.5}$, SO_2 and NO_X were lower than the prescribed limits for all the stated locations.

8.8 ANALYTICAL RESULTS OF MERCURY

In this study, we also monitored some other critical pollutants like Mercury to assess the existing levels of air pollutants as well as the regional background concentration of the cluster area.
Beside these, some Heavy metal concentration in the ambient air were also monitored in and around the project area. The following tabulated pollutants were monitored once in a month.

Location	Sampling Month	Mercury (Hg)
Unit		µg/m^3
Limits as per GSR 826 Standard		NS
Nr. Motia Village	Oct'20	BQL(QL=0.02)
	Nov'20	BQL(QL=0.02)
	Dec'20	BQL(QL=0.02)
Nr. Mali Village	Oct'20	BQL(QL=0.02)
	Nov'20	BQL(QL=0.02)
	Dec'20	BQL(QL=0.02)
Nr. Nayabad Village	Oct'20	BQL(QL=0.02)
	Nov'20	BQL(QL=0.02)
	Dec'20	BQL(QL=0.02)

Note: NS= Not Specified

Note: Environmental Quality Monitoring Report for the Month December'20 has been collected by Envirotech East Pvt. Limited.

SECTION 9: WATER ANALYSIS REPORT

9.1 CONCEPT & SCOPE

Water quality of the project area plays an important role on the socio economy of the Project. The higher concentrations of the water pollutants have serious impacts on the environment. Hence, it becomes important to assess the water quality periodically in the project vicinity.

Thus to assess the water quality of the project area, 04 locations were selected for Ground water sampling and 02 locations were selected for Effluent water sampling.

The quality of Ground water samples were compared with respect to IS 3025/APHA specification, the concentration of the target analytes are within the prescribed limits.

Bacterial examination was also carried out to find out the E-Coli & Total Coliform contamination in water sources.

Note: Environmental Quality Monitoring Report for the Month December'20 has been collected by Envirotech East Pvt. Limited.

9.2 METHODOLOGY

PARAMETER	PRINCIPLE OF METHEDOLOGY
PH	Measurement of pH is one of the most important and frequently used test in water chemistry. Practically every phase of water supply and wastewater treatment, e.g., acid-base neutralization, Water softening, precipitation, coagulation, disinfection and corrosion control, is pH dependent. pH is used in alkalinity and carbon dioxide measurements and many other acid-base equilibria. At a given temperature the intensity of the acid or basic character of a solution is indicated by pH or hydrogen ion activity. Alkalinity and acidity are the acid and base neutralizing capacities of a water and usually expressed in mole per liter, needed to change the pH value of a 1-L sample by 1 unit. pH as defined by Sorenson is –log $[H^+]$; it is the "intensity" factor of acidity
Turbidity	The method is based on a comparison of the intensity of light scattered by a standard reference suspension under the same condition. Higher the intensity of scattered light, the higher the turbidity of particular sample. Formazin polymer is used as the primary standard reference suspension. The turbidity of a specify concentration of formalin suspension is defined as 4000 NTU.
Chloride	In a neutral or slightly alkaline solution, potassium chromate can indicate the endpoint of the silver nitrate titration of chloride. Silver chloride is precipitated quantitatively before red silver chromate is formed.
Fluoride	The SPANDS colorimetric method is based on the reaction between fluoride and a zirconium-dye lake. Fluoride reacts with the dye lake, dissociating a portion of it into a colorless complex anion (ZrF_6^{-2}) and the dye. As the amount of fluoride increase, the color produced becomes progressively lighter. The reaction rate between fluoride and zirconium ions is influenced greatly by the acidity of the reaction mixture. If the proportion of acid in the reagent is increased, the reaction can be made almost instantaneous. Under such condition, however, the effect of various ions differs from that in the conventional alizarin methods. The selection of dye for this rapid fluoride method is governed largely by the resulting tolerance to these ions.
Sulphate	Sulphate ion (SO_4^{2-}) is precipitated in an acetic acid medium with barium chloride ($BaCl_2$) so as to form barium sulphate ($BaSO_4$) crystals of uniform size. Light absorbance of the $BaSO_4$ suspension is measured by a photometer and the SO_4^{2-} concentration is determined by comparison of the reading with a standard curve SO_4^{2-}. The absorbance of the barium sulphate formed is measured by a spectrophotometer at 450 nm.
Cd, Cu, As, Pb, Hg, Zn, Mn	Atomic absorption spectroscopy is based on absorption by ground state atoms of an element present in the sample which is atomized in the flame or graphic furnace. Depending on absorption of selected wavelength of the element the concentration is estimated. The technique provides valuable information on concentration of required elements present in the sample. Concentration are in ppm or ppb levels depending on source of sample excitation.
Iron	Iron is brought into solution, reduced to the ferrous state by boiling with acid and hydroxylamine and treated with 1,10-phenanthroline at pH 3.2 to 3.3 Three molecules of phenanthroline chelate each atom of ferrous iron to form an orange-red complex. The colored solution obeys beer's law; its intensity is independent of pH from 3 to 9. A pH between 2.9 and 3.5 insures rapid color development in the presence of an excess of phenanthroline. Color standards are stable for at least 6 months.

Hexavalent Chromium (As Cr^{+6})	This procedure measures only hexavalent chromium, Cr^{+6}. For total chromium, Determination, acid-digest the sample and follow with a suitable instrumental analysis technique. The hexavalent chromium is determined calorimetrically by reaction with diphenylcarbazide in acid solution. A red-violet colored complex of unknown composition is produced which is measured at 540 nm.
Calcium (As Ca)	When EDTA is added to water containing both calcium and magnesium it combines first with the calcium. Calcium can be determined directly with EDTA, when the pH is made sufficiently high that the magnesium is largely precipitated as the hydroxide and an indicator is used that combines with calcium only. Several indicators give a Colour change when all of the calcium has been complexed by the EDTA at a pH of 12 to 13.
Total Hardness (As $CaCO_3$)	This method depends on ability of EDTA or its disodium salt to form stable complexes with calcium and magnesium ions. When the dye Eriochrome black T (EBT) is added to a solution containing calcium and magnesium ions at pH 10.0 a wine red complex is formed. This solution is titrated with standard solution of disodium salt of EDTA, which extracts calcium and magnesium from the dye complex and the dye is changed back to its original blue Colour. Eriochrome black T is used to indicate the end-point for the titration of calcium and magnesium together.
Residual Chloride	Chlorine will liberate free iodine from potassium iodide (KI) solution at pH 8 or less. The liberated iodine is titrated with a standard solution of sodium thiosulfate ($Na_2S_2O_3$) with starch as the indicator. Titrate at pH 3 to 4 because the reaction is not stoichiometric at neutral pH due to partial oxidation of thiosulfate to sulfate.
Boron (As B)	In the presence of boron, a solution of carmine or carminic acid in concentrated sulphuric acid changes from a bright red to a bluish red or blue, Depending on the concentration of boron present.
Total Dissolved Solids	A well-mixed sample is filtered through a standard filter and the filtrate is evaporated to dryness in a weighed dish and dried to constant weight at 180°C. The increase in dish weight represents the total dissolved solids.
Nitrate	Two moles of nitrate nitrogen react with one mole of chromotropic acid to form a yellow reaction product having maximum absorbance at 410 nm.
Alkalinity (As $CaCO_3$)	Hydroxyl ions present in a sample as a result of dissociation or hydrolysis of solutes react with addition of standard acid. Alkalinity thus depends on the end point pH used. For method of determining inflection points from titration curves and the rationale for titrating to fixed pH endpoints.

Figure 7: Water Sampling Motia Village, Hand pump

Figure 8: Water Sampling Mali Village, Hand pump

Figure 9: Water Sampling Nayabad Village, Hand pump

Figure 10: Water Sampling Patwa Village Hand pump

Figure 11: Water Sampling at STP Outlet plant

Figure 12: Water Sampling at STP Outlet township

9.3 ANALYTICAL RESULTS

Date of Sampling: 20.10.2020

Sr. No.	Parameter	Unit	Locations	As Per IS 10500:2012	
			Motia Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.51	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	424.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	176.0	200	600
5.	Alkalinity as $CaCO_3$	mg/L	67.0	200	600
6.	Calcium as Ca	mg/L	48.5	75	200
7.	Chloride	mg/L	27.0	250	1000
8.	Sulphate	mg/L	31.1	200	400
9.	Nitrate	mg/L	5.9	45	No Relaxation
10.	Iron	mg/L	0.22	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.2)	5	15
14.	Magnesium (Mg)	mg/L	13.3	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	30.0	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.01)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.001)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.01)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.1)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.001)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.01)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.001)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.001)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.001)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 20.10.2020

Sr. No.	Parameter	Unit	Location	As Per IS 10500:2012	
			Mali Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.33	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	319.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	176.0	200	600
5.	Alkalinity as $CaCO_3$	mg/L	82.0	200	600
6.	Calcium as Ca	mg/L	46.9	75	200
7.	Chloride	mg/L	25.0	250	1000
8.	Sulphate	mg/L	36.8	200	400
9.	Nitrate	mg/L	5.1	45	No Relaxation
10.	Iron	mg/L	0.20	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.2)	5	15
14.	Magnesium (Mg)	mg/L	14.3	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	31.0	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.01)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.01)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.01)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.1)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.001)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.01)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.001)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.001)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.001)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 20.10.2020

Sr. No.	Parameter	Unit	Locations	As Per IS 10500:2012	
			Nayabad Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.21	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	378.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	181.0	200	600
5.	Alkalinity as $CaCO_3$	mg/L	74.0	200	600
6.	Calcium as Ca	mg/L	41.2	75	200
7.	Chloride	mg/L	27.1	250	1000
8.	Sulphate	mg/L	19.6	200	400
9.	Nitrate	mg/L	5.1	45	No Relaxation
10.	Iron	mg/L	0.21	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
14.	Zinc (Zn)	mg/L	BQL(QL=0.2)	5	15
15.	Magnesium (Mg)	mg/L	19.0	30	100
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	30.0	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.01)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.001)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.01)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.1)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.001)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.01)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.001)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.001)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.001)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 20.10.2020

Sr. No.	Parameter	Unit	Location	As Per IS 10500:2012	
			Patwa Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.18	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{o}C	mg/L	332.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	130.0	200	600
5.	Alkalinity as $CaCO_3$	mg/L	86.0	200	600
6.	Calcium as Ca	mg/L	36.6	75	200
7.	Chloride	mg/L	26.1	250	1000
8.	Sulphate	mg/L	37.7	200	400
9.	Nitrate	mg/L	6.4	45	No Relaxation
10.	Iron	mg/L	0.18	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
14.	Zinc (Zn)	mg/L	BQL(QL=0.2)	5	15
15.	Magnesium (Mg)	mg/L	10.2	30	100
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	30.0	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.01)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.001)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.01)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.1)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.001)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.01)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.001)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.001)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.001)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 20.10.2020

Sr. No.	Parameter	Unit	Location STP Outlet (Plant)
1.	pH at 25 °C	--	6.91
2.	Colour*	CU	BQL(QL=1)
3.	Total Suspended Solids	mg/L	40.0
4.	Total Dissolved Solids	mg/L	420.0
5.	BOD at 27°C – 3 Days	mg/L	16.0
6.	Chemical Oxygen Demand	mg/L	80.0
7.	Oil & Grease	mg/L	BQL(QL=2)
8.	Chloride	mg/L	57.0
9.	Sulphate as SO_4	mg/L	136.4
10.	Ammonical Nitrogen as NH_3	mg/L	2.9
11.	Total Kjheldal Nitrogen as TKN	mg/L	6.9
12.	Dissolved Phosphate	mg/L	1.2
13.	Aluminum (Al)	mg/L	BQL(QL=0.001)
14.	Arsenic (As)	mg/L	BQL(QL=0.01)
15.	Boron (B)	mg/L	BQL(QL=0.1)
16.	Cadmium (Cd)	mg/L	BQL(QL=0.001)
17.	Copper (Cu)	mg/L	BQL(QL=0.01)
18.	Lead (Pb)	mg/L	BQL(QL=0.02)
19.	Manganese (Mn)	mg/L	BQL(QL=0.05)
20.	Mercury (Hg)	mg/L	BQL(QL=0.001)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 20.10.2020

Sr. No.	Parameter	Unit	Location STP Outlet (Township)
1.	pH at 25 °C	--	7.85
2.	Colour*	CU	BQL(QL=1)
3.	Total Suspended Solids	mg/L	24.0
4.	Total Dissolved Solids	mg/L	212.0
5.	BOD at 27°C – 3 Days	mg/L	4.5
6.	Chemical Oxygen Demand	mg/L	14.0
7.	Oil & Grease	mg/L	BQL(QL=2)
8.	Chloride	mg/L	29.8
9.	Sulphate as SO_4	mg/L	128.6
10.	Ammonical Nitrogen as NH_3	mg/L	2.1
11.	Total Kjheldal Nitrogen as TKN	mg/L	5.3
12.	Dissolved Phosphate	mg/L	0.8
13.	Aluminum (Al)	mg/L	BQL(QL=0.001)
14.	Arsenic (As)	mg/L	BQL(QL=0.01)
15.	Boron (B)	mg/L	BQL(QL=0.1)
16.	Cadmium (Cd)	mg/L	BQL(QL=0.001)
17.	Copper (Cu)	mg/L	BQL(QL=0.01)
18.	Lead (Pb)	mg/L	BQL(QL=0.001)
19.	Manganese (Mn)	mg/L	BQL(QL=0.05)
20.	Mercury (Hg)	mg/L	BQL(QL=0.001)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 21.10.2020

Sr. No.	Parameter	Unit	Location Ganga river
1.	pH @ 25 ^{o}C	...	7.37
2.	Turbidity	NTU	1.2
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	236.0
4.	Total Suspended Solids	mg/L	58.0
5.	Dissolved Oxygen	mg/L	7.6
6.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)
7.	Chloride	mg/L	16.0
8.	Sulphate	mg/L	35.9
9.	Nitrate	mg/L	4.8
10.	Fluoride	mg/L	0.49
11.	BOD at 27°C – 3 Days	mg/L	5.2
12.	Chemical Oxygen Demand	mg/L	30.0
13.	Residual Chlorine	mg/L	BQL(QL=0.05)
14.	Colour	Hazen	BQL(QL=1)
15.	Odour	...	Agreeable
16.	Temperature°C	°C	31.0
17.	Taste	...	Agreeable
18.	Chromium	mg/L	BQL(QL=0.02)
19.	Iron	mg/L	0.12
20.	Copper	mg/L	BQL(QL=0.02)
21.	Zinc	mg/L	BQL(QL=0.02)
22.	Cadmium	mg/L	BQL(QL=0.002)
23.	Lead	mg/L	BQL(QL=0.005)
24.	Arsenic	mg/L	BQL(QL=0.005)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

ADANI POWER (JHARKHAND) LIMITED

2X800MW ULTRA SUPER CRITICAL THERMAL POWER PLANT

GODDA JHARKHAND

GROUND WATER TABLE

LOCATION: OPEN WELL

MONTH:OCT'2020

LOCATION NAME	PLINTH HEIGHT	TOTAL DEPTH OF WELL FROM R.L	TOTAL DEPTH OF WELL FROM G.L	DEPTH OF WATER TABLE FROM G.L	WATER COLUMN	DIA- MATER	REMARK
MOTIA VILLAGE	0.70	5.90	5.2	1.8	3.4	2.15	-
MALI VILLAGE	0.50	6.20	5.7	3.4	2.3	2.25	-
NAYABD VILLAGE	0.65	6.35	5.7	3.1	2.6	1.96	-
PATWA VILLAGE	0.70	6.50	5.8	3.3	2.5	2.5	-

All values are in meter(m)

GO GREEN MECH. (INDIA) PVT. LTD. AHMEDABAD

For. GO GREEN MECHANISMS PVT. LTD.

Authorized Signatory

Date of Sampling: 16.11.2020

Sr. No.	Parameter	Unit	Locations	As Per IS 10500:2012	
			Motia Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.36	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{o}C	mg/L	457.2	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	182.0	200	600
5.	Alkalinity as $CaCO_3$	mg/L	71.0	200	600
6.	Calcium as Ca	mg/L	50.1	75	200
7.	Chloride	mg/L	31.0	250	1000
8.	Sulphate	mg/L	28.7	200	400
9.	Nitrate	mg/L	5.3	45	No Relaxation
10.	Iron	mg/L	0.18	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.2)	5	15
14.	Magnesium (Mg)	mg/L	13.8	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	32.0	-	-
19.	Taste*	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.01)	0.05	No Relaxation
22.	Aluminum (Al	mg/L	BQL(QL=0.001)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.01)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.1)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.001)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.01)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.001)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.001)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.001)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 16.11.2020

Sr. No.	Parameter	Unit	location	As Per IS 10500:2012	
			Mali Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.24	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{o}C	mg/L	298.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	153.4	200	600
5.	Alkalinity as $CaCO_3$	mg/L	86.9	200	600
6.	Calcium as Ca	mg/L	44.6	75	200
7.	Chloride	mg/L	27.7	250	1000
8.	Sulphate	mg/L	40.1	200	400
9.	Nitrate	mg/L	5.6	45	No Relaxation
10.	Iron	mg/L	0.25	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.2)	5	15
14.	Magnesium (Mg)	mg/L	10.2	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	33.0	-	-
19.	Taste*	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.01)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.001)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.01)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.1)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.001)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.01)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.001)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.001)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.001)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 16.11.2020

Sr. No.	Parameter	Unit	Locations	As Per IS 10500:2012	
			Nayabad Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.16	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{o}C	mg/L	409.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	183.0	200	600
5.	Alkalinity as $CaCO_3$	mg/L	63.8	200	600
6.	Calcium as Ca	mg/L	43.7	75	200
7.	Chloride	mg/L	30.5	250	1000
8.	Sulphate	mg/L	20.8	200	400
9.	Nitrate	mg/L	5.6	45	No Relaxation
10.	Iron	mg/L	0.17	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
14.	Zinc (Zn)	mg/L	BQL(QL=0.2)	5	15
15.	Magnesium (Mg)	mg/L	17.9	30	100
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	32.0	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.01)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.001)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.01)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.1)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.001)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.01)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.001)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.001)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.001)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 16.11.2020

Sr. No.	Parameter	Unit	Location	As Per IS 10500:2012	
			Patwa Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.25	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{o}C	mg/L	289.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	143.0	200	600
5.	Alkalinity as $CaCO_3$	mg/L	102.0	200	600
6.	Calcium as Ca	mg/L	41.1	75	200
7.	Chloride	mg/L	30.2	250	1000
8.	Sulphate	mg/L	43.7	200	400
9.	Nitrate	mg/L	6.8	45	No Relaxation
10.	Iron	mg/L	0.21	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
14.	Zinc (Zn)	mg/L	BQL(QL=0.2)	5	15
15.	Magnesium (Mg)	mg/L	9.8	30	100
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	33.0	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.01)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.001)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.01)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.1)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.001)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.01)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.001)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.001)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.001)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 16.11.2020

Sr. No.	Parameter	Unit	Location STP Outlet (Plant)
1.	pH at 25 °C	--	6.87
2.	Colour*	CU	BQL(QL=1)
3.	Total Suspended Solids	mg/L	47.0
4.	Total Dissolved Solids	mg/L	398.2
5.	BOD at 27°C – 3 Days	mg/L	21.7
6.	Chemical Oxygen Demand	mg/L	90.0
7.	Oil & Grease	mg/L	BQL(QL=2)
8.	Chloride	mg/L	62.0
9.	Sulphate as SO_4	mg/L	143.2
10.	Ammonical Nitrogen as NH_3	mg/L	3.2
11.	Total Kjheldal Nitrogen as TKN	mg/L	7.4
12.	Dissolved Phosphate	mg/L	1.5
13.	Aluminum (Al)	mg/L	BQL(QL=0.001)
14.	Arsenic (As)	mg/L	BQL(QL=0.01)
15.	Boron (B)	mg/L	BQL(QL=0.1)
16.	Cadmium (Cd)	mg/L	BQL(QL=0.001)
17.	Copper (Cu)	mg/L	BQL(QL=0.01)
18.	Lead (Pb)	mg/L	BQL(QL=0.02)
19.	Manganese (Mn)	mg/L	BQL(QL=0.05)
20.	Mercury (Hg)	mg/L	BQL(QL=0.001)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 16.11.2020

Sr. No.	Parameter	Unit	Location STP Outlet (Township)
1.	pH at 25 °C	--	7.73
2.	Colour*	CU	BQL(QL=1)
3.	Total Suspended Solids	mg/L	31.0
4.	Total Dissolved Solids	mg/L	248.5
5.	BOD at 27°C – 3 Days	mg/L	5.1
6.	Chemical Oxygen Demand	mg/L	17.3
7.	Oil & Grease	mg/L	BQL(QL=2)
8.	Chloride	mg/L	30.2
9.	Sulphate as SO_4	mg/L	122.2
10.	Ammonical Nitrogen as NH_3	mg/L	2.6
11.	Total Kjheldal Nitrogen as TKN	mg/L	5.7
12.	Dissolved Phosphate	mg/L	1.1
13.	Aluminum (Al)	mg/L	BQL(QL=0.001)
14.	Arsenic (As)	mg/L	BQL(QL=0.01)
15.	Boron (B)	mg/L	BQL(QL=0.1)
16.	Cadmium (Cd)	mg/L	BQL(QL=0.001)
17.	Copper (Cu)	mg/L	BQL(QL=0.01)
18.	Lead (Pb)	mg/L	BQL(QL=0.02)
19.	Manganese (Mn)	mg/L	BQL(QL=0.05)
20.	Mercury (Hg)	mg/L	BQL(QL=0.001)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 17.11.2020

Sr. No.	Parameter	Unit	Location Ganga river
1.	pH @ 25 ^{o}C	...	7.24
2.	Turbidity	NTU	1.5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	252.0
4.	Total Suspended Solids	mg/L	63.0
5.	Dissolved Oxygen	mg/L	8.1
6.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)
7.	Chloride	mg/L	21.0
8.	Sulphate	mg/L	43.1
9.	Nitrate	mg/L	4.9
10.	Fluoride	mg/L	0.52
11.	BOD at 27°C – 3 Days	mg/L	5.5
12.	Chemical Oxygen Demand	mg/L	32.0
13.	Residual Chlorine	mg/L	BQL(QL=0.05)
14.	Colour	Hazen	BQL(QL=1)
15.	Odour	...	Agreeable
16.	Temperature°C	°C	33.0
17.	Taste	...	Agreeable
18.	Chromium	mg/L	BQL(QL=0.02)
19.	Iron	mg/L	0.15
20.	Copper	mg/L	BQL(QL=0.02)
21.	Zinc	mg/L	BQL(QL=0.02)
22.	Cadmium	mg/L	BQL(QL=0.002)
23.	Lead	mg/L	BQL(QL=0.005)
24.	Arsenic	mg/L	BQL(QL=0.005)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

ADANI POWER (JHARKHAND) LIMITED

2X800MW ULTRA SUPER CRITICAL THERMAL POWER PLANT

GODDA JHARKHAND

GROUND WATER TABLE

LOCATION: OPEN WELL

MONTH: NOV'2020

LOCATION NAME	PLINTH HEIGHT	TOTAL DEPTH OF WELL FROM R.L	TOTAL DEPTH OF WELL FROM G.L	DEPTH OF WATER TABLE FROM G.L	WATER COLUMN	DIA- MATER	REMARK
MOTIA VILLAGE	0.70	5.90	5.2	1.95	3.25	2.15	-
MALI VILLAGE	0.50	6.20	5.7	3.7	2.0	2.25	-
NAYABAD VILLAGE	0.65	6.35	5.7	3.6	2.1	1.96	-
PATWA VILLAGE	0.70	6.50	5.8	3.5	2.3	2.5	-

All values are in meter (m)

For. GO GREEN MECHANISMS PVT. LTD.

P. B. Patel

Authorized Signatory

GO GREEN MECHANISMS PVT. LTD. AHMEDABAD

Date of Sampling: 07.12.2020

Sr. No.	Parameter	Unit	Locations	As Per IS 10500:2012	
			Motia Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.41	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{o}C	mg/L	442.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	179.0	200	600
5.	Alkalinity as $CaCO_3$	mg/L	76.0	200	600
6.	Calcium as Ca	mg/L	48.6	75	200
7.	Chloride	mg/L	35.2	250	1000
8.	Sulphate	mg/L	31.7	200	400
9.	Nitrate	mg/L	5.1	45	No Relaxation
10.	Iron	mg/L	0.17	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
14.	Zinc (Zn)	mg/L	BQL(QL=0.2)	5	15
15.	Magnesium (Mg)	mg/L	14.0	30	100
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	28.0	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.01)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.001)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.01)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.1)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.001)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.01)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.001)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.001)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.001)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month December'20 has been collected by Envirotech East Pvt. Limited.

Date of Sampling: 07.12.2020

Sr. No.	Parameter	Unit	Location	As Per IS 10500:2012	
			Mali Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.32	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{o}C	mg/L	302.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	146.9	200	600
5.	Alkalinity as $CaCO_3$	mg/L	91.0	200	600
6.	Calcium as Ca	mg/L	43.2	75	200
7.	Chloride	mg/L	26.7	250	1000
8.	Sulphate	mg/L	43.1	200	400
9.	Nitrate	mg/L	5.4	45	No Relaxation
10.	Iron	mg/L	0.22	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
14.	Zinc (Zn)	mg/L	BQL(QL=0.2)	5	15
15.	Magnesium (Mg)	mg/L	9.5	30	100
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	29.0	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.01)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.001)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.01)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.1)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.001)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.01)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.001)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.001)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.001)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month December'20 has been collected by Envirotech East Pvt. Limited.

Date of Sampling: 07.12.2020

Sr. No.	Parameter	Unit	Locations	As Per IS 10500:2012	
			Nayabad Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.09	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{o}C	mg/L	397.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	187.0	200	600
5.	Alkalinity as $CaCO_3$	mg/L	68.0	200	600
6.	Calcium as Ca	mg/L	44.7	75	200
7.	Chloride	mg/L	32.1	250	1000
8.	Sulphate	mg/L	23.5	200	400
9.	Nitrate	mg/L	6.1	45	No Relaxation
10.	Iron	mg/L	0.15	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
14.	Zinc (Zn)	mg/L	BQL(QL=0.2)	5	15
15.	Magnesium (Mg)	mg/L	18.3	30	100
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	28.0	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.01)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.001)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.01)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.1)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.001)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.01)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.001)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.001)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.001)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month December'20 has been collected by Envirotech East Pvt. Limited.

Date of Sampling: 07.12.2020

Sr. No.	Parameter	Unit	Location	As Per IS 10500:2012	
			Patwa Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.15	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{o}C	mg/L	273.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	138.0	200	600
5.	Alkalinity as $CaCO_3$	mg/L	98.0	200	600
6.	Calcium as Ca	mg/L	38.7	75	200
7.	Chloride	mg/L	33.6	250	1000
8.	Sulphate	mg/L	47.1	200	400
9.	Nitrate	mg/L	4.5	45	No Relaxation
10.	Iron	mg/L	0.18	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
14.	Zinc (Zn)	mg/L	BQL(QL=0.2)	5	15
15.	Magnesium (Mg)	mg/L	10.0	30	100
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	29.0	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.01)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.001)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.01)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.1)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.001)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.01)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.001)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.001)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.001)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month December'20 has been collected by Envirotech East Pvt. Limited.

Date of Sampling: 07.12.2020

Sr. No.	Parameter	Unit	Location STP Outlet (Plant)
1.	pH at 25 °C	--	6.81
2.	Colour*	CU	BQL(QL=1)
3.	Total Suspended Solids	mg/L	44.0
4.	Total Dissolved Solids	mg/L	408.0
5.	BOD at 27°C – 3 Days	mg/L	19.6
6.	Chemical Oxygen Demand	mg/L	70.0
7.	Oil & Grease	mg/L	BQL(QL=2)
8.	Chloride	mg/L	59.4
9.	Sulphate as SO_4	mg/L	136.4
10.	Ammonical Nitrogen as NH_3	mg/L	3.7
11.	Total Kjheldal Nitrogen as TKN	mg/L	7.9
12.	Dissolved Phosphate	mg/L	1.8
13.	Aluminum (Al)	mg/L	BQL(QL=0.001)
14.	Arsenic (As)	mg/L	BQL(QL=0.01)
15.	Boron (B)	mg/L	BQL(QL=0.1)
16.	Cadmium (Cd)	mg/L	BQL(QL=0.001)
17.	Copper (Cu)	mg/L	BQL(QL=0.01)
18.	Lead (Pb)	mg/L	BQL(QL=0.02)
19.	Manganese (Mn)	mg/L	BQL(QL=0.05)
20.	Mercury (Hg)	mg/L	BQL(QL=0.001)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month December'20 has been collected by Envirotech East Pvt. Limited.

Date of Sampling: 07.12.2020

Sr. No.	Parameter	Unit	Location STP Outlet (Township)
1.	pH at 25 °C	--	7.58
2.	Colour*	CU	BQL(QL=1)
3.	Total Suspended Solids	mg/L	30.0
4.	Total Dissolved Solids	mg/L	264.0
5.	BOD at 27°C – 3 Days	mg/L	6.8
6.	Chemical Oxygen Demand	mg/L	20.0
7.	Oil & Grease	mg/L	BQL(QL=2)
8.	Chloride	mg/L	33.6
9.	Sulphate as SO_4	mg/L	128.4
10.	Ammonical Nitrogen as NH_3	mg/L	3.1
11.	Total Kjheldal Nitrogen as TKN	mg/L	6.5
12.	Dissolved Phosphate	mg/L	1.2
13.	Aluminum (Al)	mg/L	BQL(QL=0.001)
14.	Arsenic (As)	mg/L	BQL(QL=0.01)
15.	Boron (B)	mg/L	BQL(QL=0.1)
16.	Cadmium (Cd)	mg/L	BQL(QL=0.001)
17.	Copper (Cu)	mg/L	BQL(QL=0.01)
18.	Lead (Pb)	mg/L	BQL(QL=0.02)
19.	Manganese (Mn)	mg/L	BQL(QL=0.05)
20.	Mercury (Hg)	mg/L	BQL(QL=0.001)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month December'20 has been collected by Envirotech East Pvt. Limited.

Date of Sampling: 08.12.2020

Sr. No.	Parameter	Unit	Location Ganga river
1.	pH @ 25 ^{o}C	...	7.30
2.	Turbidity	NTU	2.0
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	260.0
4.	Total Suspended Solids	mg/L	56.0
5.	Dissolved Oxygen	mg/L	7.6
6.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)
7.	Chloride	mg/L	24.6
8.	Sulphate	mg/L	39.6
9.	Nitrate	mg/L	5.2
10.	Fluoride	mg/L	0.48
11.	BOD at 27°C – 3 Days	mg/L	6.1
12.	Chemical Oxygen Demand	mg/L	30.0
13.	Residual Chlorine	mg/L	BQL(QL=0.05)
14.	Colour	Hazen	BQL(QL=1)
15.	Odour	...	Agreeable
16.	Temperature°C	°C	29.0
17.	Taste	...	Agreeable
18.	Chromium	mg/L	BQL(QL=0.02)
19.	Iron	mg/L	0.18
20.	Copper	mg/L	BQL(QL=0.02)
21.	Zinc	mg/L	BQL(QL=0.02)
22.	Cadmium	mg/L	BQL(QL=0.002)
23.	Lead	mg/L	BQL(QL=0.005)
24.	Arsenic	mg/L	BQL(QL=0.005)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month December'20 has been collected by Envirotech East Pvt. Limited.

ADANI POWER (JHARKHAND) LIMITED

2X800MW ULTRA SUPER CRITICAL THERMAL POWER PLANT

GODDA JHARKHAND

GROUND WATER TABLE

LOCATION: OPEN WELL

MONTH: DEC'2020

LOCATION NAME	PLINTH HEIGHT	TOTAL DEPTH OF WELL FROM R.L	TOTAL DEPTH OF WELL FROM G.L	DEPTH OF WATER TABLE FROM G.L	WATER COLUMN	DIA- MATER	REMARK
MOTIA VILLAGE	0.70	5.90	5.2	2.14	3.06	2.15	-
MALI VILLAGE	0.50	6.20	5.7	3.95	1.75	2.25	-
NAYABD VILLAGE	0.65	6.35	5.7	3.93	1.77	1.96	-
PATWA VILLAGE	0.70	6.50	5.8	3.72	2.08	2.5	-

All values are in meter (m)

For ENVIROTECH EAST (P) LTD.

ENVIROTECH EAST PVT. LTD. 100, Kalikapur, Madurdaha Kolkata 700107

(Authorized Signatory)

SECTION 10: NOISE LEVEL MONITORING

To know the background ambient noise level at the project and surrounding environment, noise level were measured at all the ambient air monitoring stations for baseline study.

The Day time & Night time average noise level data are given in tabular formats as well as in graphical form for easy interpretation.

Here, the day time means time from 06:00 am to 10:00 pm & night time means time from 10:00 pm to 06:00 am.

$$Leq = \frac{10\ \text{Log10}\ (\text{t1x10}^{\frac{L1}{10}} + \text{t2 x 10}^{\frac{L2}{10}} + \text{t3 x 10}^{\frac{L3}{10}} + ..)}{T}$$

Where Leq = Equivalent continuous noise level (dB)(A)
t1 = time at L1 (Hours)
t2 = time at L2 (Hours)
L1 = sound pressure level dB (A) at time 1
T = total time over which the Leq is required (Hours)

(N1) At Motia Village

Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Residential Area		55	55	55	45	45	45
1	12.10.2020	52.2	39.9	48.3	37.4	30.1	34.1
2	23.11.2020	53.1	40.1	49.3	38.1	29.2	35.3
3	21.12.2020	52.6	39.7	48.9	40.2	31.3	36.4

(N2) At Mali Village

Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Residential Area		55	55	55	45	45	45
1	12.10.2020	50.4	38.1	47.0	38.7	31.5	35.0
2	23.11.2020	50.9	39.0	47.4	38.9	32.1	35.7
3	21.12.2020	52.1	40.1	47.8	39.7	31.2	37.2

(N3) At Nayabad Village

Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Residential Area		55	55	55	45	45	45
1	13.10.2020	52.3	40.4	47.9	40.1	30.7	35.2
2	24.11.2020	53.1	41.2	48.5	41.2	31.9	36.8
3	22.12.2020	54.2	41.9	49.4	42.1	32.4	38.7

(N4) At Patwa Village							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Residential Area		55	55	55	45	45	45
1	13.10.2020	50.1	37.7	48.2	40.1	27.9	36.4
2	24.11.2020	51.2	36.9	47.3	41.1	30.2	35.9
3	22.12.2020	52.3	38.2	46.2	42.1	31.7	37.9

(N5) Nr. Adani Office							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Industrial Area		75	75	75	70	70	70
1	14.10.2020	54.1	42.7	47.8	42.1	36.7	40.4
2	25.11.2020	53.2	43.7	49.6	43.1	36.0	39.4
3	19.12.2020	54.3	43.0	50.2	44.7	39.2	42.4

(N6) Nr. BTG Area (U/C)							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Industrial Area		75	75	75	70	70	70
1	14.10.2020	70.1	53.5	63.7	56.8	47.2	52.1
2	25.11.2020	71.6	51.6	65.6	57.1	48.6	51.8
3	19.12.2020	72.0	50.7	67.3	56.2	47.2	52.1

(N7) Nr. CT Area (U/C)							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Industrial Area		75	75	75	70	70	70
1	15.10.2020	68.7	45.5	61.8	49.9	40.1	45.3
2	26.11.2020	66.1	46.4	58.8	51.8	42.1	47.7
3	18.12.2020	68.1	45.7	62.3	52.2	41.3	49.0

(N8) Nr. RW Reservoir (U/C)							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Industrial Area		75	75	75	70	70	70
1	15.10.2020	55.9	37.3	46.9	39.4	32.2	35.6
2	26.11.2020	60.1	40.6	54.3	40.2	33.1	36.4
3	18.12.2020	65.2	41.6	61.2	41.2	32.4	37.8

(N9) Nr. STP (In township)							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Industrial Area		75	75	75	70	70	70
1	16.10.2020	55.4	42.9	51.2	41.6	33.8	37.6
2	27.11.2020	56.2	43.4	49.8	42.6	33.6	36.5
3	17.12.2020	55.7	44.7	50.0	43.7	34.1	39.6

(N10) Nr. Temple (In township)							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Industrial Area		75	75	75	70	70	70
1	16.10.2020	54.1	41.4	48.9	40.7	32.2	37.4
2	27.11.2020	53.4	41.7	48.0	41.3	33.0	39.4
3	17.12.2020	54.7	42.1	49.3	42.0	32.6	39.4

From above tabulated results it can be concluded that the noise level was within the prescribed limits throughout the monitoring period at the stated locations.

Note: Environmental Quality Monitoring Report for the Month December'20 has been collected by Envirotech East Pvt. Limited.

SECTION 11: SOIL ANALYSIS

11.1 CONCEPT & SCOPE

Soil is fundamental & ultimate natural resources that full fill a number of functions & provide various services like agriculture, industrial construction & ecological habitat development etc. Some of the most significant impacts on this resource occur as a result of activities associated with the use of chemical fertilizers, unscientific construction activities, unplanned city design, unscientific land use pattern and land filling by toxic materials.

Soil analysis can determine the fertility or the expected growth potential and the nutrient deficiency and potential toxicity which help in taking cost effective Marision for the better soil management.

Location Code	Name of Location
S-1	Nr. Mali Village
S-2	Nr. Nayabad Village
S-3	Nr. Patwa Village

11.2 SOIL ANALYTICAL RESULTS

Date of Sampling: 10.11.2020

Location: Nr. Mali Village				
Date of Sampling: 10.11.2020				
Sr. No.	Parameter	Unit	Result	Norms
1.	Maganesium as Mg	%	0.39	NS
2.	Calcium as Ca	%	1.19	NS
3.	Magnanese as Mn	mg/kg	BQL(QL=0.1)	NS
4.	Boron as B	mg/kg	0.82	NS
5.	Cupper as Cu	mg/kg	BQL(QL=0.1)	NS
6.	Sulphur as S	%	0.53	NS
7.	Chloride as Cl	%	0.08	NS
8.	Zinc as Zn	mg/kg	7.9	NS
9.	Nitrogen as N	%	1.29	NS
10.	Phosphorous as P	%	0.04	NS
11.	Potassium as K	%	0.044	NS
12.	Iron as Fe	%	0.063	NS
13.	Molybdenum as Mo	mg/kg	BQL(QL=0.1)	NS

Location: Nr. Nayabad Village				
Date of Sampling: 10.11.2020				
Sr. No.	Parameter	Unit	Result	Norms
1.	Maganesium as Mg	%	0.63	NS
2.	Calcium as Ca	%	1.08	NS
3.	Magnanese as Mn	mg/kg	BQL(QL=0.1)	NS
4.	Boron as B	mg/kg	0.59	NS
5.	Cupper as Cu	mg/kg	BQL(QL=0.1)	NS
6.	Sulphur as S	%	0.08	NS
7.	Chloride as Cl	%	0.05	NS
8.	Zinc as Zn	mg/kg	3.8	NS
9.	Nitrogen as N	%	0.79	NS
10.	Phosphorous as P	%	0.084	NS
11.	Potassium as K	%	0.061	NS
12.	Iron as Fe	%	0.044	NS
13.	Molybdenum as Mo	mg/kg	BQL(QL=0.1)	NS

Location: Nr. Patwa Village				
Date of Sampling: 10.11.2020				
Sr. No.	Parameter	Unit	Result	Norms
1.	Maganesium as Mg	%	0.85	NS
2.	Calcium as Ca	%	1.92	NS
3.	Magnanese as Mn	mg/kg	BQL(QL=0.1)	NS
4.	Boron as B	mg/kg	0.75	NS
5.	Cupper as Cu	mg/kg	BQL(QL=0.1)	NS
6.	Sulphur as S	%	0.81	NS
7.	Chloride as Cl	%	0.14	NS
8.	Zinc as Zn	mg/kg	2.8	NS
9.	Nitrogen as N	%	1.34	NS
10.	Phosphorous as P	%	0.08	NS
11.	Potassium as K	%	0.06	NS
12.	Iron as Fe	%	0.031	NS
13.	Molybdenum as Mo	mg/kg	BQL(QL=0.1)	NS

Note: NS= Not Specified

ADANI POWER (JHARKHAND) LTD.

2*800 MW Godda Thermal Power Project

Village: Motia, Dist: Godda, Jharkhand

ENVIRONMENTAL MONITORING REPORT
PERIOD: January'21 – March'21

Go Green Mechanisms Pvt. Ltd.

Head Office & Lab: Dayal Estate, National Highway No. 8, Opp. APMC Market Gate – 1, Jetalpur, Ahmedabad – 382426

Contact: 7069072001/02

Email: lab@gogreenmechanisms.com

REPORT TITLE

COMPANY NAME:	**Adani Power (Jharkhand) Ltd.**
SITE LOCATION:	2*800 MW Godda Thermal Power Plant Village: Motia, Dist: Godda, Jharkhand
BASELINE PERIOD:	Jan'21 to Mar'21
REPORT DATE:	09.04.2021
ORIGINATED BY:	Environmental Monitoring and Analytical Team Go Green Mechanisms Pvt. Ltd.
REVIEWED BY:	Amit Badlani Director, Go Green Mechanisms Pvt. Ltd.
PREPARED BY:	Go Green Mechanisms Pvt. Ltd (GGMPL) Dayal Estate, Opp AMPC Market Gate No.1, Jetalpur-382426 Ahmedabad

TABLE OF CONTENT

LIST OF GRAPH

LIST OF FIGURE

SECTION 1: FOREWORD

The protection of environment plays a crucial role in maintain the local environment quality for any industry, throughout their production. Hence compliance of the statutory requirements becomes very important to conserve the ecological balance within and surrounding the plant area. Therefore, environment protection is becoming a prerequisite for sustainable development. In line with this requirement, the management of Adani Power (Jharkhand) Ltd. has adopted a corporate responsibility of development and top priority is given for environment protection.

In order to comply with the Environment protection act, to fulfil statutory requirement and to be in tune with Environmental Preservation and sustainable development Adani Power (Jharkhand) Ltd., has retained M/S. Go Green Mechanisms Pvt. Ltd. As Environment Consultants and for various Environmental issues related to their Power Plant.

Environmental Quality Monitoring Report for the Month of January'21 to February'21 has been collected by Go Green Mechanisms pvt. Ltd.

Note: Environmental Quality Monitoring Report for the Month of March'21 has been collected by Envirotech East Pvt. Limited.

We are thankful to Adani Power (Jharkhand) Ltd. for the opportunity provided to be associated in this endeavour.

SECTION 2: LIST OF EQUIPMENTS

The list of Equipments used in the project is delineated in the following table.

Sr. No.	Name of Equipments	Make/Model
1	Respirable Dust Sampler	Ecotech Instruments / AAS 217BL
2	$PM_{2.5}$ Sampler	Ecotech Instruments & Eonair Technologies/AAS 127 & AQS 235
3	Gaseous Attachment with RDS	Ecotech Instruments / AAS 217BL
4	Sound Level Meter	Hemsun / HDB 2202
5	Weather Monitoring Station	Ambient Weather Station
6	Weighing Balance	Shimadzu /AUW220D
7	UV Visible Spectrophotometer	Systronics
8	Hot Air Oven	Patel Scientific Instruments
9	Filtration Assembly	Labline
10	Water Analysis Kit	Systronics
11	Bacteriological Incubator	Labline
12	Centi-micro Balance	Shimadzu /ATX224
13	Dissolved Oxygen Test Kit	Lutron
14	Autoclave	Patel Scientific Instruments
15	Laminar Air Flow	Labline
16	Muffle Furnace	Patel Scientific Instruments
17	Flame Photometer	Systronics /128
18	Digital colony counter	Labline
19	Microscope	Patel Scientific Instruments
20	Orbital Shaker	Labline
21	Centrifuge	Bio Lab
22	Simple Distillation Assembly	Labline
23	ICP-OES/AES	Thermo Fisher Scientific /iCAP 7400 SERIES
24	AAS	Thermo Fisher Scientific / AA 303
25	Ion Chromatography	Metrohm Herisau / 1.925.0020

SECTION 3: LIST OF PROJECT PERSONNEL

Sr. No.	Name	Qualification	Experience (Yrs)	Designation
1.	Amit Badlani	B.E. (Chemical) M.S.(Energy & Environmental Technology) M.S. (Pollution Control)	17 Yrs	Managing Director
2.	R.K.Pandey	B.Sc. Biology	16 Yrs	Project In-charge
3.	Satyam Kumar	M Sc. (Env. Mgmt)	04 Yrs	Lab Manager
4.	Payal Patel	M Sc. (Env. Sci.)	06 Yrs	Dy. Lab Manager
5.	Yash Goswami	Dip. Env. Engineer	11 Yrs	Field Operation - Manger
6.	Tantan Kumar	M Sc. (Env. Mgmt)	04 Yrs	Sr. Chemist
7.	Pooja Parekh	B.Sc. (Microbiology) & DMLT	01 Yr 03 Month	Lab Chemist
8.	Chandan Kumar	B.Sc. Chemistry	01 Yrs 05 months	Field Assistant

For Go Green Mechanisms Pvt. Ltd.

Amit Badlani
Managing Director

SECTION 4: EXECUTIVE SUMMARY

Adani Power (Jharkhand) Limited has undertaken the task of preparing EMP report for its 1600 (2x800) MW Godda Thermal Power Plant & Residential Township which is within the premises of TPP.

M/s. Go Green Mechanisms Private Limited, got the opportunity to prepare the Environmental monitoring Data on the basis of actual field monitoring with respect to Group I Parameters i.e. Air, Water, Soil, Noise & Meteorological on behalf of HTG Engineering Pvt. Ltd.

A Meteorological station was set up on the terrace of "Hostel Block" & Micrometeorological parameters like Ambient Temperature, Relative Humidity, Wind direction, Wind Speed, Rain fall & Barometric Pressure etc were recorded on hourly basis during the study period.

On the basis of wind direction pattern, the three locations of AAQM were selected. The concentration of gaseous pollutants, $PM_{2.5}$ were sampled and analysed for compliance to GSR 826(E) vide Notification Dated 16/11/2009.

Four numbers of Ground water samples, two numbers of Effluent water samples, one number of Surface water and one number of Surface water sample were collected to understand the overall water quality of the project area. The water parameters were sampled and analysed to check for compliance to the specifications of (IS 10500:2012 & I 2296:1982 Inland surface water Class C).

The noise level was monitored at 10 locations on Day & Night time basis, monthly as per IS 9989: RA 2001.

The main aim of the soil testing is to assess the soil quality of the area to define the present status of soil. It helps in the assessment of impact if any, due to the project activities and selection of suitable species of plants for green belt development at the project area as it works as an anti-pollution tools.

SECTION 5: CONCEPTS & METHODOLOGY

5.1 METHODOLOGY

In the present study the following are the standard methods used for collection, analysis & interpretation of data:

AAQM Sampling & analysis: "Indian Standards (IS 5182)", "Guidelines for the measurement of Ambient Air Pollutants, Vol-I, CPCB" & "USEPA" methods were used for Ambient Air sampling and analysis to study the present pollution load around the Proposed Project location.

Parameters of AAQM	Standard Methods	Analytical Instruments
PM_{10}	IS 5182 (P-23):2006	Weighing Balance
$PM_{2.5}$	GGMPL/SOP/AA/60	Weighing Balance
Oxides of Nitrogen(NOx)	IS 5182 (P-6):2006	Spectrophotometer
Oxides of Sulphur(SO_2)	IS 5182 (P-2):2009	Spectrophotometer
Mercury	Method IO 3.4:1999	ICP-OES (Hydride Generator)

Water Sampling & analysis: Similarly "Indian Standards (IS 3025)", "USEPA" and "APHA 23rd Edition were used for water sample collection and analysis.

Parameters of Water Samples	Standard Methods	Analytical Instruments
Taste	IS 3025 (Pt 08): RA 2006	-
Turbidity	APHA 23rd Edn 2017 2130 B	Turbidity Meter
Total Dissolve Solid	APHA 23rd Edn 2017 2540 C	Hot air Oven
Boron(B)	APHA 23rd Edn 2017 4500 B C	Spectrophotometer
Calcium(Ca)	APHA 23rd Edn 2017 3500 Ca B	-
Chloride(Cl)	IS 3025 (Pt 32): RA 2007	-
Fluoride(F)	APHA 23rd Edn 2017 4500 F D	Spectrophotometer
Residual Chlorine	APHA 23rd Edn 2017 4500 Cl B	Chlorine kit
Nitrate (NO_3)	IS 3025 (Pt 34): RA 2017	Spectrophotometer
Phenolic Compounds	IS 3025 (Pt 43): RA 2003	Spectrophotometer
Sulphate (SO_4)	APHA 23rd Edn 2017 4500 SO_4 E	Spectrophotometer
Total hardness ($CaCO_3$)	APHA 23rd Edn 2017 2340 C	-
Cyanide (CN)	APHA 23rd Edn 2017 4500 CN C ,E	Ion Chromatography
Selenium (Se)	IS 3025 (Pt 56): 2003	ICP-OES
pH	IS 3025 (Pt 11): RA 2006	pH Meter
Colour	IS 3025 (Pt 04): RA 2017	-
Odour	IS 3025 (Pt 05): RA 2006	-
Alkalinity	APHA 23rd Edn 2017 2320 B	-
Temperature	APHA 23rd Edn 2017 2550 B	Thermometer
Magnesium (Mg)	APHA 23rd Edn 2017 3500 Mg B	ICP-OES
Copper (Cu)	APHA 23rd Edn 2017 3111 B	ICP-OES

Iron (Fe)	APHA 23rd Edn 2017 3500 Fe B	ICP-OES
Manganese (Mn)	APHA 23rd Edn 2017 3111 B	ICP-OES
Mercury (Hg)	APHA 23rd Edn 2017 3112 B	ICP-OES (Hydride Generator)
Lead (Pb)	APHA 23rd Edn 2017 3111 B	ICP-OES
Arsenic (As)	APHA 23rd Edn 2017 3111 B	ICP-OES (Hydride Generator)
Cadmium (Cd)	APHA 23rd Edn 2017 3111 B	ICP-OES
Zinc (Zn)	APHA 23rd Edn 2017 3111 B	ICP-OES
Hexavalent Chromium	APHA 23rd Edn 2017 3500 Cr B	Spectrophotometer
Detergent	Annex K of IS 13428	Gas Stripping apparatus/ Spectrophotometer
Aluminum	IS 3025 (Pt 55): RA 2009	ICP-OES
E. Coli	IS 1622-1981: RA 2009	Bacteriological incubater/ Autoclave/ Laminar flow
Total Coliform	IS 1622: RA 2009	Bacteriological incubater/ Autoclave/ Laminar flow

Noise Level Monitoring: "Protocol for Ambient Level Noise Monitoring, IS 9989: RA 2001" was followed to monitor the Ambient Noise level surrounding the Project Site.

Parameters	Standard Methods	Analytical Instruments
Leq	IS 9989: RA 2001	Noise Level Meter

Weather Monitoring: "EPA-454/R-99-005, February 2000" was followed for micro-meteorological data collection result interpretation.

Parameters	Standard Methods	Analytical Instruments	Make/Model
Air Temperature	GGMPL/SOP/MP/01:2020	Digital sensor	Ambient Weather Station
Relative Humidity	GGMPL/SOP/MP/01:2020	Digital Sensor(Hygrometer)	
Wind Speed	GGMPL/SOP/MP/01:2020	3 Cup anemometer	
Wind Direction	GGMPL/SOP/MP/01:2020	Hall Effect (Wind Vane)	
Rain Fall	GGMPL/SOP/MP/01:2020	Tipping Bucket	

Soil sampling & analysis: "Indian Standard Method of Test for Soils (IS: 2720, IS: 14767 and IS: 5949)" were followed for soil sample collection, sample conditioning and analysis of physical chemical parameters. Hand boring method using spiral Auger was used for collection of soil samples.

Parameters	Standard Methods	Analytical Instruments
Magnesium	Method 3051A	ICP-OES
Calcium	IS 5949:2003	ICP-OES
Manganese	Method 3051A	ICP-OES
Boron	Method 3051A	ICP-OES
Copper	Method 3051A	ICP-OES

Sulphur	IS 14685	ICP-OES
Chloride	GGMPL/SOP/SOIL/45	ICP-OES
Zinc	Method 3051A	ICP-OES
Nitrogen	IS 14684: 2005	ICP-OES
Phosphorous	GGMPL/SOP/SOIL/44	ICP-OES
Potassium	Method 3051A	ICP-OES
Iron	Method 3051A	ICP-OES
Molybdenum	Method 3051A	ICP-OES

A brief account of the methodologies and matrices followed in the present study is given under different headings. All the methods were structured for the identification, collection and organization of environmental impacts data. The information, thus gathered, had been analyzed and presented in the form of a number of visual formats for easy interpretation and Marision making.

SECTION 6: PLAN FOR SAMPLING LOCATIONS

Site selection criteria play an important role in the initiation of "baseline data generation" as it provides an outlook on the type of environmental compliance and management to be adopted by the project proponent. The locations were selected on the basis of "joint site survey", "examination of toposheet of the project area", "secondary micro-meteorological data analysis" and "availability of resources" for ambient air quality monitoring & micro-meteorological monitoring.

A synopsis about the locations is as follows:

AAQM Locations	
Code	**Name of Location**
A1	Nr. Motia Village
A2	Nr. Mali Village
A3	Nr. Nayabad Village
Met Data Station	
Code	**Name of Location**
M1	Hostel Block
Water Samples	
Code	**Name of Location**
G/W-1	Motia Village
G/W-2	Mali Village
G/W-3	Nayabad Village
G/W-4	Patwa Village
E/W-1	STP Outlet plant
E/W-2	STP Outlet township
S/W-1	Ganga river
Noise Monitoring Locations	
Code	**Name of Location**
N1	At Motia Village
N2	At Mali Village
N3	At Nayabad Village
N4	At Patwa Village
N5	Nr. Adani Office
N6	Nr. BTG Area (U/C)
N7	Nr. CT Area (U/C)
N8	Nr. RW Reservoir (U/C)
N9	Nr. STP (In township)
N10	Nr. Temple (In township)
Soil Samples	
Code	**Name of Location**
S-1	Nr. Mali Village
S-2	Nr. Nayabad Village
S-3	Nr. Patwa Village

SECTION 7: METEOROLOGICAL DATA

Weather monitoring would help in keeping track of different parameters like temperature, humidity, rainfall, wind direction, wind speed & barometric pressure. Real time meteorological data is used to support a number of programs including public aviation, agricultural activity, disaster management etc.

In the present study we monitored the "ambient temperature, relative humidity, wind speed, wind direction, barometric pressure, rainfall etc.

Note: Environmental Quality Monitoring Report for the Month of March'21 has been collected by Envirotech East Pvt. Limited.

Figure 1: Weather Monitoring Station at Hostel Block

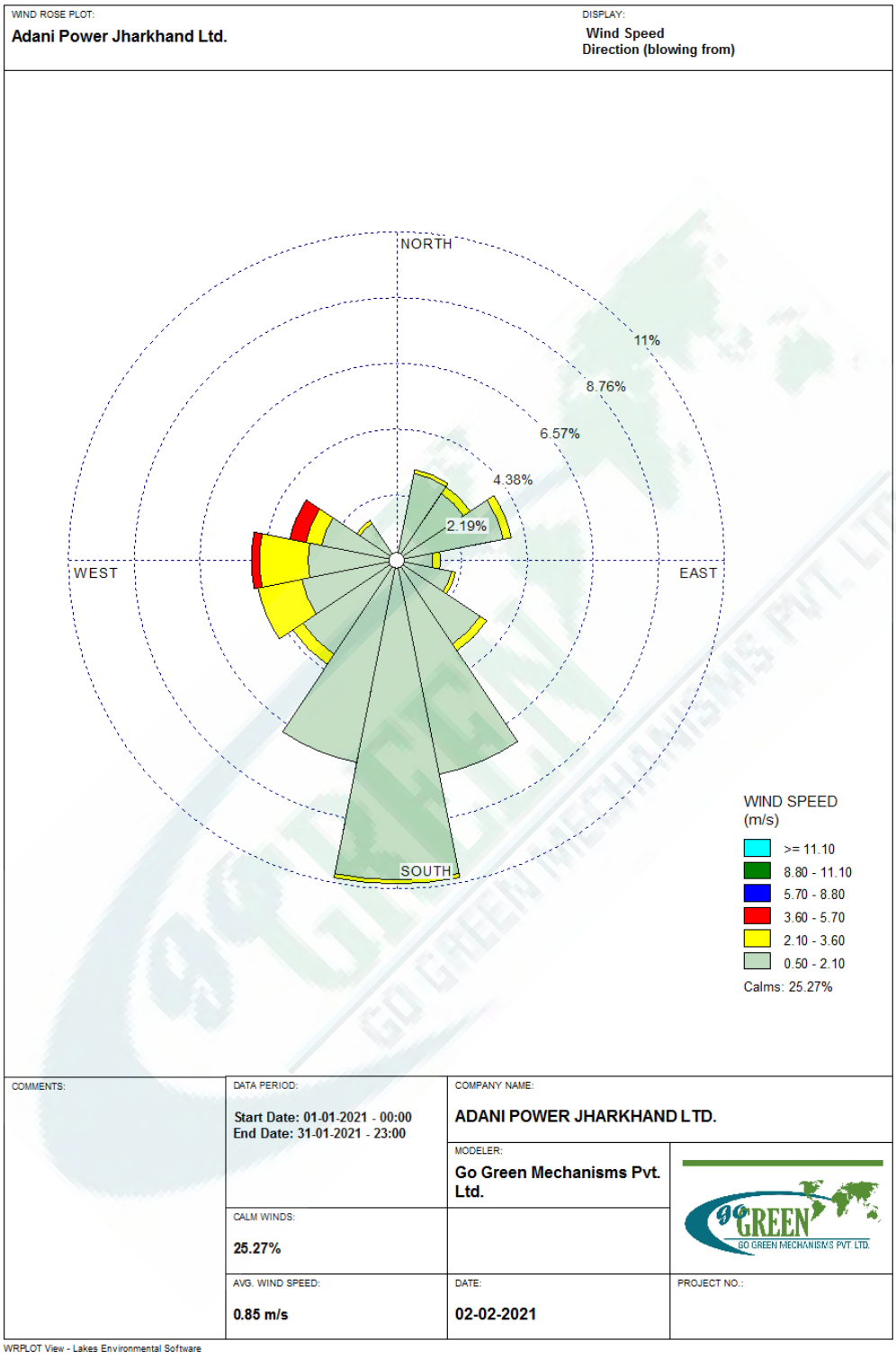


Figure 2: Windrose diagram for the month of January'21

It is observed from the windrose diagram for the month of January'21 the predominant wind direction is South.

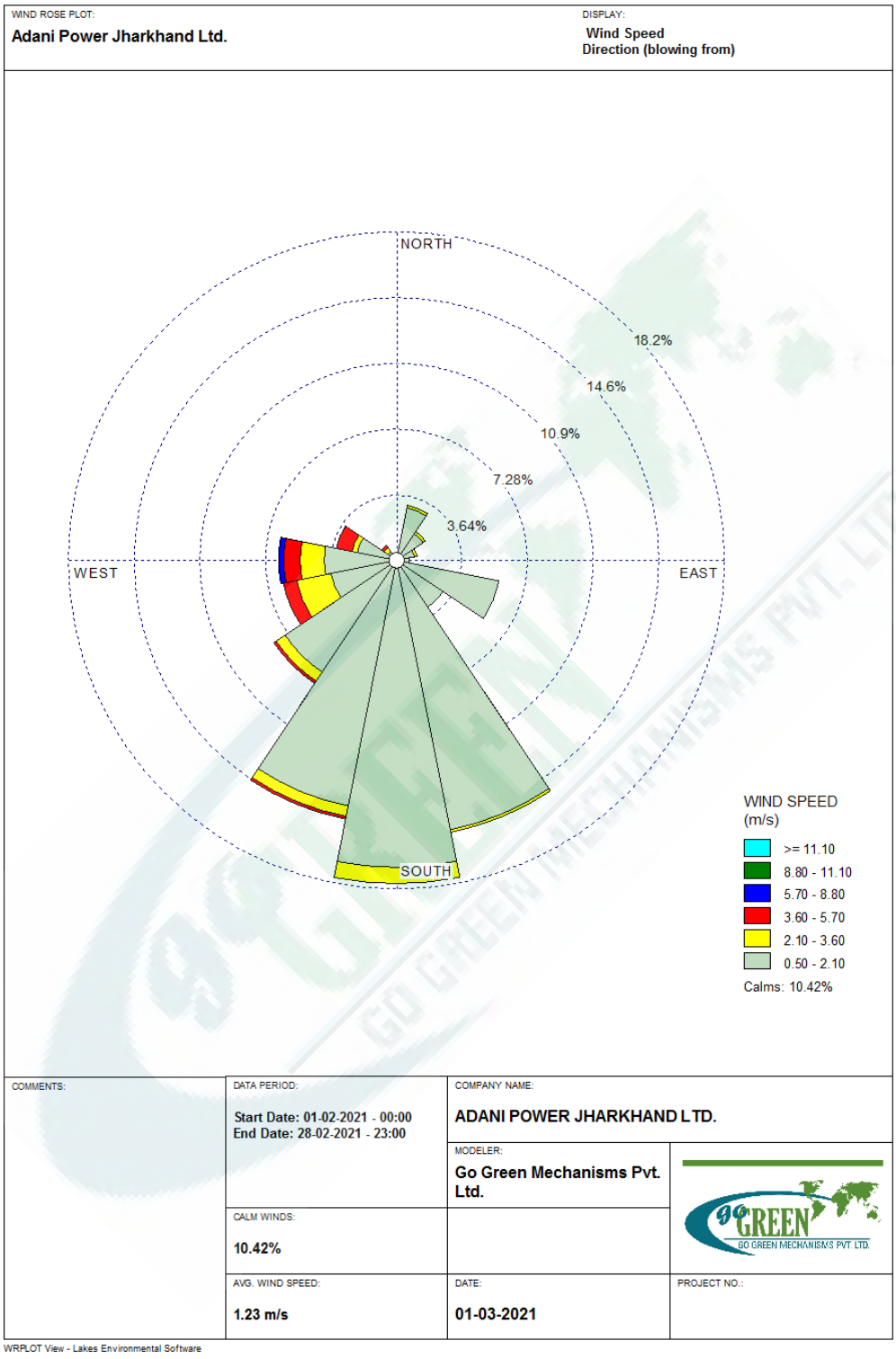


Figure 3: Windrose diagram for the month of February'21

It is observed from the windrose diagram for the month of February'21 the predominant wind direction is South.

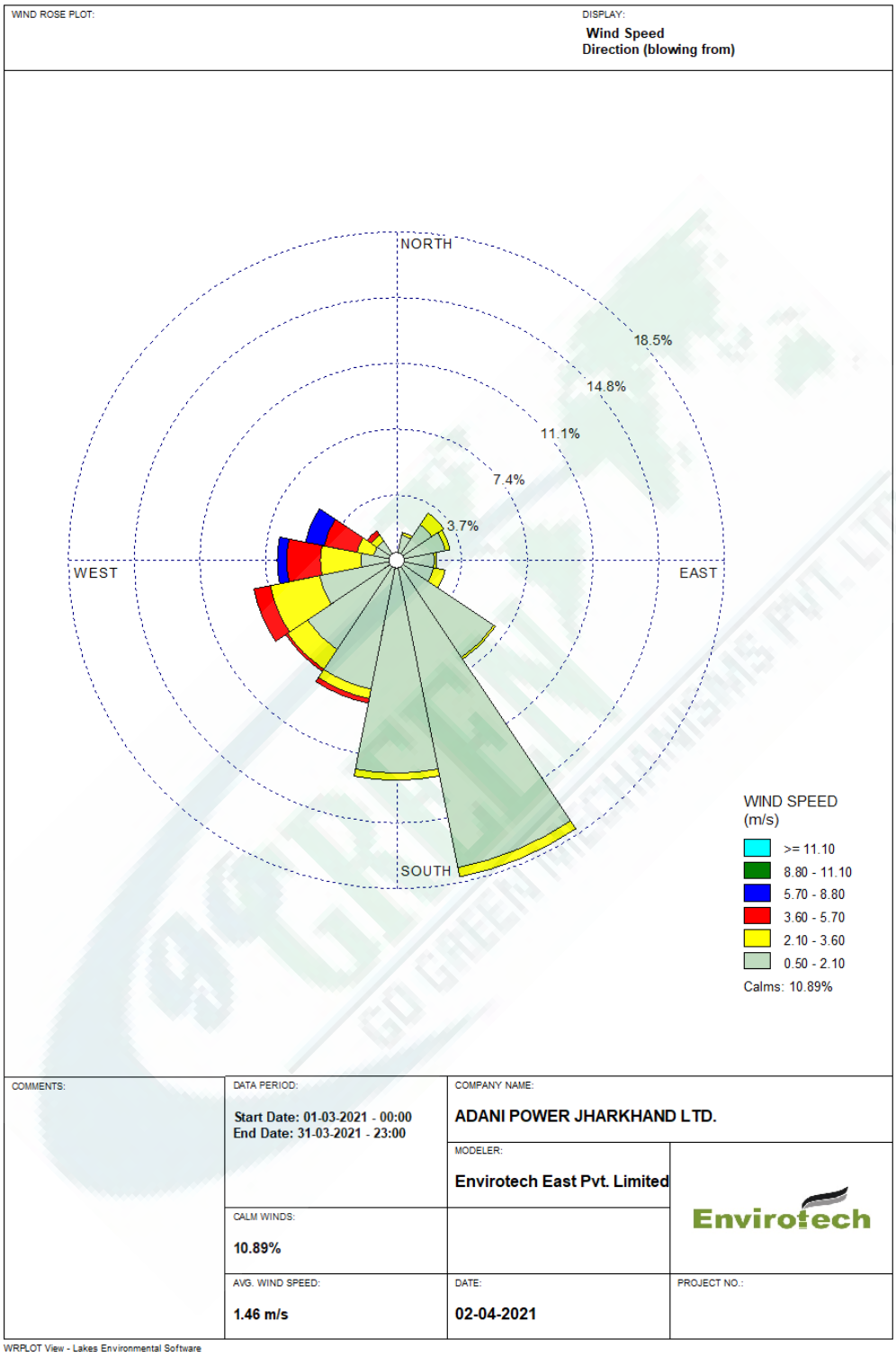


Figure 4: Windrose diagram for the month of March'21

It is observed from the windrose diagram for the month of March'21 the predominant wind direction is South East-South.

ADANI POWER (JHARKHAND) LIMITED

2 X 800 MW Ultra Super Critical Thermal Power Plant, Godda, Jharkhand

Site Specific Micro-Meteorological Data

LOCATION: APJL - Godda

Recording Time: 00:00 Hrs - 23:00 Hrs **JAN**:-2021

Date	Temperature(°C)			Humidity (%)			Wind Speed(M/S)		Wind Direction (blowing from)	Barometric Pressure (mmhg)	Rainfall(mm
	Max	Min	Avg	Max	Min	Avg	Max	Avg		(Average)	Total
01.01.2021	23.6	11.3	17	85	37	61.1	3.3	1.0	NW	755.4	0.0
02.01.2021	23.6	10.4	16.1	82	43	64.8	3.2	0.9	SSW	755.6	0.0
03.01.2021	25..8	10.4	17.5	85	34	63.9	2.0	0.7	SSE	754.4	0.0
04.01.2021	22.7	13.0	15.9	89	62	80.3	1.5	0.7	ENE	754.8	0.0
05.01.2021	21.4	12.7	18.6	88	45	88	2.1	1.2	SSE	755.4	0.0
06.01.2021	22.0	11.7	17.9	84	48	76.8	4.7	0.8	NE	751.2	0.0
07.01.2021	29.2	17.4	22.6	74	40	60.7	5.0	1.7	S	751.8	0.0
08.01.2021	25.9	15.3	20.3	87	52	71.1	4.7	1.3	S	752.1	0.0
09.01.2021	26.3	15.1	20.5	89	47	71.1	7.2	1.2	WNW	751.8	0.0
10.01.2021	26.6	16.3	21.0.	88	57	72.9	6.1	1.5	SW	752.1	0.0
11.01.2021	24.5	15.9	21	87	55	70.2	7.8	1.9	NNE	752.6	0.0
12.01.2021	20.8	12.4	16.2	94	56	78.7	6.9	1.1	WNW	752.1	0.0
13.01.2021	17.4	10.4	12.4	93	61	84.5	5.9	1.5	SSW	752.6	0.0
14.01.2021	21.4	11.5	17.4	88	46	63.8	4.6	1.2	NNE	754.2	0.0
15.01.2021	18.6	9.8	13.6	96	66	86.7	3.1	1.0	NNE	752.5	0.0
16.01.2021	18.3	10.8	13.6	99	59	81.7	4.7	1.1	WNW	752.0	0.0
17.01.2021	20.4	9.9	13.1	96	60	85.2	2.4	0.6	SSE	751.4	0.0
18.01.2021	22.0	13.3	18.5	99	63	78.3	4.1	0.9	NNE	754.0	0.0
19.01.2021	21.9	11.3	17.5	99	63	81.07	2.7	0.5	NE	752.6	0.0
20.01.2021	19.9	12.1	15	99	74	92.2	3.5	0.5	N	751.1	0.0
21.01.2021	18.8	9.6	13.4	99	78	93.6	3.8	0.5	S	750.9	0.0
22.01.2021	13.2	9.5	12	99	96	98	2.1	0.3	WNW	754.4	0.0
23.01.2021	19.5	11.5	16.5	99	74	84.8	2.6	1.0	NNE	753.4	0.0
24.01.2021	17.8	11.5	13.7	99	82	95.7	3.2	0.5	ESE	754.2	0.0
25.01.2021	16.2	11.2	16.2	99	63	96.1	1.7	0.6	ESE	755.6	0.0
26.01.2021	14.7	10.7	12.4	95	78	88.6	2.5	0.7	SW	755.1	0.0
27.01.2021	18.6	12.8		66	59	65.2	1.9	1.2	SW	756.0	0.0
28.01.2021	18.1	10.7	13.9	95	70	86.9	2.1	0.5	SSE	755.8	0.0
29.01.2021	18.0	7.0	11.3	99	72	92.9	3.1	0.6	SSE	755.6	0.0
30.01.2021	25..8	9.9	12.7	92	46	95.1	3.0	1.2	S	851.9	0.0
31.01.2021	22.7	13.3	16.4	94	77	82.4	3.1	2.3	SE	755.8	0.0

total rainfall in mm	0

ADANI POWER (JHARKHAND) LIMITED

2 X 800 MW Ultra Super Critical Thermal Power Plant, Godda, Jharkhand

Site Specific Micro-Meteorological Data

LOCATION: APJL - Godda

Recording Time: 00:00 Hrs - 23:00 Hrs **FEB**:-2021

Date	Temperature(°C)			Humidity (%)			Wind Speed(M/S)		Wind Direction (blowing from)	Barometric Pressure (mmhg)	Rainfall(mm)
	Max	Min	Avg	Max	Min	Avg	Max	Avg		(Average)	Total
01.02.2021	22.0	10.5	16.5	85.0	52.0	68.4	4.7	1.1	SSE	757.5	0.3
02.02.2021	22.1	12.7	17.2	82.0	48.0	62.8	4.9	0.9	S	757.1	2.0
03.02.2021	24.1	10.3	16.5	90.0	42.0	71.0	4.0	1.0	S	756.1	0.0
04.02.201	26.3	10.9	18.5	92.0	39.0	65.9	3.3	0.9	SSE	755.7	0.0
5.022021	29.1	12.0	20.0	87.0	29.0	63.2	3.7	1.0	SE	754.3	0.0
06.02.2021	22.4	13.8	17.8	88.0	55.0	73.5	4.7	1.2	SSE	754.4	0.0
07.02.2021	23.8	13.6	18.4	91.0	42.0	68.2	7.4	1.5	SW	755.3	0.0
08.02.2021	24.7	12.6	18.0	85.0	39.0	65.8	5.5	1.5	SSW	755.5	0.0
09.02.2021	25.5	12.9	18.7	80.0	40.0	63.4	4.1	1.1	NNE	753.9	0.0
10.02.2021	25.7	12.8	19.0	88.0	48.0	68.5	3.5	0.7	SSE	752.9	0.0
11.02.2021	26.1	13.1	19.2	90.0	41.0	68.4	4.8	0.9	S	753.0	0.0
12.02.2021	27.2	13.5	19.9	86.0	38.0	66.5	4.5	1.1	SSE	753.6	0.0
13.02.2021	27.3	13.7	20.1	91.0	44.0	72.7	3.5	0.8	S	753.9	0.0
14.02.2021	27.6	14.4	20.6	93.0	39.0	69.9	4.1	1.0	SSE	753.3	0.0
15.02.2021	26.7	14.2	20.4	85.0	37.0	62.4	5.5	1.2	S	752.5	0.0
16.02.2021	28.5	13.8	21.1	80.0	37.0	60.9	3.5	0.8	SSE	752.4	0.0
17.02.2021	28.2	17.3	22.0	81.0	43.0	65.1	2.8	0.7	NNE	753.4	0.0
18.02.2021	20.0	17.1	18.3	86.0	73.0	81.4	1.5	0.6	SSE	753.9	0.0
19.02.2021	25.7	16.3	20.8	91.0	62.0	79.0	3.1	0.9	SSE	756.1	0.0
20.02.2021	26.5	18.6	22.3	70.0	44.0	57.2	3.6	1.3	SSE	755.4	0.0
21.02.2021	28.6	16.5	22.1	77.0	33.0	57.4	5.6	1.4	S	754.8	0.0
22.02.2021	28.7	15.8	22.0	78.0	44.0	60.9	3.6	1.1	S	753.8	0.0
23.02.2021	28.4	15.9	21.9	85.0	44.0	67.0	4.0	1.0	SSE	752.2	0.0
24.02.2021	29.6	17.5	23.0	85.0	54.0	70.1	4.1	1.0	S	750.6	0.0
25.02.2021	32.2	18.9	25.2	74.0	23.0	47.6	7.8	2.3	SSW	749.1	0.0
26.02.2021	32.5	20.4	25.8	59.0	24.0	43.8	9.7	2.3	S	747.8	0.0
27.02.2021	32.3	18.2	25.6	67.0	31.0	47.2	11.4	2.2	S	747.7	0.0
28.02.2021	33.5	20.7	26.8	63.0	25.0	43.0	9.0	2.6	W	748.6	0.0

total rainfall in mm	2.3
Rainfall from 01.01.2021	2.3
Rainfall from 01.06.2021	N/A

ADANI POWER (JHARKHAND) LIMITED

2 X 800 MW Ultra Super Critical Thermal Power Plant, Godda, Jharkhand

Site Specific Micro-Meteorological Data

LOCATION: APJL - Godda

Recording Time: 00:00 Hrs - 23:00 Hrs **Mar**:-2021

Date	Temperature(°C)			Humidity (%)			Wind Speed(M/S)		Wind Direction (blowing from)	Barometric Pressure (mmhg)	Rainfall(mm
	Max	Min	Avg	Max	Min	Avg	Max	Avg		(Average)	Total
01.03.2021	32.6	20.9	26.4	55.0	22.0	40.2	10.8	2.5	SSW	751.0	0.0
02.03.2021	30.7	18.5	24.6	66.0	23.0	45.0	5.9	1.8	SSW	752.0	0.0
03.03.2021	29.4	16.0	22.5	69.0	34.0	53.2	4.3	1.0	SSW	752.0	0.0
04.03.201	31.4	16.8	23.7	73.0	30.0	53.1	4.6	1.1	SSE	751.3	0.0
05.03.2021	33.6	18.1	25.5	66.0	18.0	44.4	7.0	1.5	SSE	750.1	0.0
06.03.2021	31.4	17.9	23.9	63.0	16.0	41.5	6.7	1.6	SSE	750.6	0.0
07.03.2021	33.1	17.4	24.7	80.0	25.0	49.1	4.6	1.2	SSE	751.7	0.0
08.03.2021	31.9	18.8	25.0	92.0	41.0	66.3	4.0	0.8	SE	752.1	0.0
09.03.2021	32.7	19.9	25.8	85.0	48.0	72.0	3.6	0.9	NW	751.2	0.0
10.03.2021	32.8	20.5	26.4	98.0	41.0	73.3	3.4	1.0	SE	751.7	0.0
11.03.2021	34.2	20.3	27.2	85.0	333.0	63.1	3.1	0.9	SE	752.7	0.0
12.03.2021	34.9	25.5	30.3	70.0	30.0	49.8	3.4	1.1	NNE	752.0	0.0
13.03.2021	25.8	19.0	22.6	89.0	62.0	76.7	9.9	1.6	SSE	754.2	0.0
14.03.2021	32.6	16.4	24.5	94.0	35.0	62.8	4.7	1.0	SE	751.9	0.0
15.03.2021	33.3	19.5	26.9	77.0	23.0	46.0	7.1	1.6	SSE	750.7	0.0
16.03.2021	34.2	19.3	27.1	68.0	26.0	45.1	6.7	1.5	SSE	750.6	0.0
17.03.2021	34.0	22.0	27.6	55.0	19.0	39.7	7.4	1.5	S	750.2	0.0
18.03.2021	34.8	19.8	27.5	60.0	26.0	41.6	4.8	1.1	SSE	752.7	0.0
19.03.2021	35.1	22.0	24.7	64.0	41.0	55.1	3.2	1.1	SSE	749.3	0.0
20.03.2021	33.5	22.0	28.1	64.0	35.0	48.2	7.0	1.7	SSE	748.5	0.0
21.03.2021	35.6	22.8	29.0	67.0	22.0	44.0	8.7	1.8	SSE	748.8	0.0
22.03.2021	36.5	22.7	29.0	52.0	22.0	37.7	7.0	1.7	SSE	750.2	0.0
23.03.2021	37.3	23.2	30.2	59.0	21.0	40.6	5.3	1.1	SSE	751.1	0.0
24.03.2021	36.0	25.4	30.9	63.0	28.0	41.2	8.7	2.4	WSW	750.2	0.0
25.03.2021	35.3	23.2	29.2	55.0	20.0	35.0	11.2	3.3	SW	750.0	0.0
26.03.2021	35.2	22.1	28.5	47.0	18.0	30.6	8.7	2.2	SW	750.3	0.0
27.03.2021	36.6	19.7	28.4	54.0	16.0	32.7	4.0	1.1	SSE	750.1	0.0
28.03.2021	37.5	21.6	29.5	54.0	20.0	35.6	3.6	1.0	SSE	748.5	0.0
29.03.2021	36.1	24.0	30.0	66.0	31.0	49.4	4.1	1.2	SSE	746.5	0.0
30.03.2021	39.0	23.8	30.6	83.0	25.0	58.9	5.0	1.2	SSE	742.5	0.0
31.03.2021	35.3	22.2	27.9	86.0	29.0	65.7	7.4	1.3	SSE	741.8	0.0

total rainfall in mm	0

SECTION 8: AMBIENT AIR MONITORING REPORT

8.1 CONCEPT & SCOPE

The Ambient Air monitoring encompasses the results and statistical evaluation of the data monitored at three different locations.

Different parameters like PM_{10}, $PM_{2.5}$, Oxides of Sulphur, Oxides of Nitrogen and Mercury are monitored for representing the ambient air quality within the study area.

8.2 FREQUENCY OF SAMPLING

The frequency of the sampling for AAQM was as follows:

PARAMETERS	FREQUENCY OF EACH LOCATION
PM10, PM2.5, Oxides of Sulphur, Oxides of Nitrogen	Twice in a week
Mercury	Once in a month

8.3 SAMPLING DURATION AS PER NAAQMs 2009

Sr. No.	Parameters	Sampling Duration (Hr.)
1	Particulate Matter (PM_{10})	24
2	Particulate Matter ($PM_{2.5}$)	24
3	Oxides of Sulphur (SO_2)	24
4	Oxides of Nitrogen (NOx)	24
5	Mercury	-

8.4 AAQM METHODOLOGY

PARAMETERS	METHODOLOGY/PRINCIPLE
Particulate Matter (PM_{10})	Air is drawn through a size-selective inlet and through a 20.3 X 25.4 cm (8 X 10 in) filter at a flow rate, which is typically 1132 L/min. Particles with aerodynamic diameter less than the cut-point of the inlet are collected, by the filter. The mass of these particles is determined by the difference in filter weights prior to and after sampling. The concentration of PM_{10} in the designated size range is calculated by dividing the weight gain of the filter by the volume of air sampled.
Particulate Matter ($PM_{2.5}$)	An electrically powered air sampler draws ambient air at a constant volumetric flow rate (16.7 lpm) maintained by a mass flow / volumetric flow controller coupled to a microprocessor into specially designed inertial particle-size separator (i.e. cyclones or impactors) where the suspended particulate matter in the $PM_{2.5}$ size ranges is separated for collection on a 47 mm polytetrafluoroethylene (PTFE) filter over a specified sampling period. Each filter is weighed before and after sample collection to determine the net gain due to the particulate matter. The mass concentration in the ambient air is computed as the total mass of collected particles in the $PM_{2.5}$ size ranges divided by the actual volume of air sampled, and is expressed in $\mu g/m^3$. The microprocessor reads averages and stores five-minute averages of ambient temperature, ambient pressure, filter temperature and volumetric flow rate.
Sulphur Dioxide (SO_2)	Sulphur dioxide from air is absorbed in a solution of potassium tetrachloromercurate (TCM). The impingers setup for the absorbance of Sulphur Dioxide from air is shown in Figure 15. A dichlorosulphitomercurate complex, which resists oxidation by the oxygen in the air, is formed. Once formed, this complex is stable to strong oxidants such as ozone and oxides of nitrogen and therefore, the absorber solution may be stored for some time prior to analysis. The complex is made to react with para-rosaniline and formaldehyde to form the intensely coloured pararosaniline methylsulphonic acid. The absorbance of the solution is measured by means of a suitable spectrophotometer.
Nitrogen Dioxide	Ambient nitrogen dioxide (NO_2) is collected by bubbling air through a solution of sodium hydroxide and sodium arsenite. The concentration of nitrite ion (NO_2) produced during sampling is determined colorimetrically by reacting the nitrite ion with phosphoric acid, sulfanilamide, and N-(1-naphthyl)-ethylenediamine dihydrochloride (NEDA) and measuring the absorbance of the highly coloured azo-dyeat 540 nm.

Figure 5: Ambient air Motoring Nr. Mali Village

Figure 6: Ambient air Monitoring Nr. Motia Village

8.5 ANALYTICAL RESULTS

Results & statistical calculations for Location- A1:

Name of Location (A1)		Nr. Motia Village			
Sr. No.	**Date of Sampling**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NOx**
Unit		$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$
GSR 826 (E)		100	60	80	80
1.	01.01.2021	71.5	32.4	11.8	17.4
2.	04.01.2021	69.1	30.2	11.0	15.8
3.	07.01.2021	73.2	35.2	10.1	16.2
4.	11.01.2021	70.2	33.4	9.6	16.0
5.	14.01.2021	72.4	34.4	10.0	16.5
6.	18.01.2021	58.7	26.5	7.3	12.4
7.	21.01.2021	67.4	30.4	10.8	14.9
8.	25.01.2021	72.3	35.9	11.1	17.3
9.	28.01.2021	71.7	34.9	10.7	16.4
10.	01.02.2021	55.1	24.1	8.4	12.7
11.	04.02.2021	68.7	30.4	10.2	15.2
12.	08.02.2021	71.2	31.8	11.1	16.2
13.	11.02.2021	69.9	30.2	10.6	15.6
14.	15.02.2021	68.1	33.1	9.9	16.4
15.	18.02.2021	73.1	29.8	12.4	17.1
16.	22.02.2021	72.8	34.4	12.9	18.4
17.	25.02.2021	70.1	33.3	11.6	17.7
18.	01.03.2021	74.5	33.5	14.9	17.7
19.	04.03.2021	75.6	32.8	12.7	18.4
20.	08.03.2021	75.8	36.5	13.4	18.6
21.	11.03.2021	74.8	37.8	15.5	19.7
22.	15.03.2021	78.2	38.3	13.9	18.2
23.	18.03.2021	76.5	35.1	14.7	19.9
24.	22.03.2021	79.3	36.2	15.3	20.1
25.	25.03.2021	78.0	33.7	14.3	19.6

RESULT INTERPRETATION				
No. of Observations	25	25	25	25
Min Concentration	55.1	24.1	7.3	12.4
Max Concentration	79.3	38.3	15.5	20.1
Average	71.5	33.0	11.8	17.0

Note: Environmental Quality Monitoring Report for the Month of March'21 has been collected by Envirotech East Pvt. Limited.

Results & statistical calculations for Location- A2:

Name of Location (A2)		Nr. Mali Village			
Sr. No.	**Date of Sampling**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NOx**
Unit		µg/m³	µg/m³	µg/m³	µg/m³
GSR 826 (E)		100	60	80	80
1.	01.01.2021	67.5	30.3	12.1	15.3
2.	04.01.2021	66.8	29.8	9.1	14.8
3.	07.01.2021	71.2	36.1	9.3	15.1
4.	11.01.2021	68.1	31.2	8.3	15.7
5.	14.01.2021	69.7	32.8	10.2	16.1
6.	18.01.2021	58.0	23.7	8.1	13.2
7.	21.01.2021	65.3	29.4	12.0	13.7
8.	25.01.2021	70.9	34.2	10.1	16.8
9.	28.01.2021	68.7	33.9	10.3	15.9
10.	01.02.2021	53.2	22.4	7.8	13.1
11.	04.02.2021	67.5	29.9	11.2	15.4
12.	08.02.2021	66.6	30.3	9.7	14.7
13.	11.02.2021	70.4	32.1	11.3	17.4
14.	15.02.2021	67.5	30.1	12.0	16.5
15.	18.02.2021	68.8	35.4	11.5	16.6
16.	22.02.2021	70.0	33.4	12.5	17.2
17.	25.02.2021	69.5	34.0	10.8	16.9
18.	01.03.2021	76.4	36.7	12.6	18.4
19.	04.03.2021	73.8	35.6	11.9	17.5
20.	08.03.2021	78.4	38.4	12.8	17.4
21.	11.03.2021	74.6	36.1	14.4	18.0
22.	15.03.2021	76.6	35.4	13.0	16.9
23.	18.03.2021	76.8	34.1	13.7	18.5
24.	22.03.2021	77.3	33.6	14.6	19.8
25.	25.03.2021	79.0	39.7	14.1	19.1

RESULT INTERPRETATION				
No. of Observations	25	25	25	25
Min Concentration	53.2	22.4	7.8	13.1
Max Concentration	79.0	39.7	14.6	19.8
Average	70.1	32.7	11.3	16.4

Note: Environmental Quality Monitoring Report for the Month of March'21 has been collected by Envirotech East Pvt. Limited.

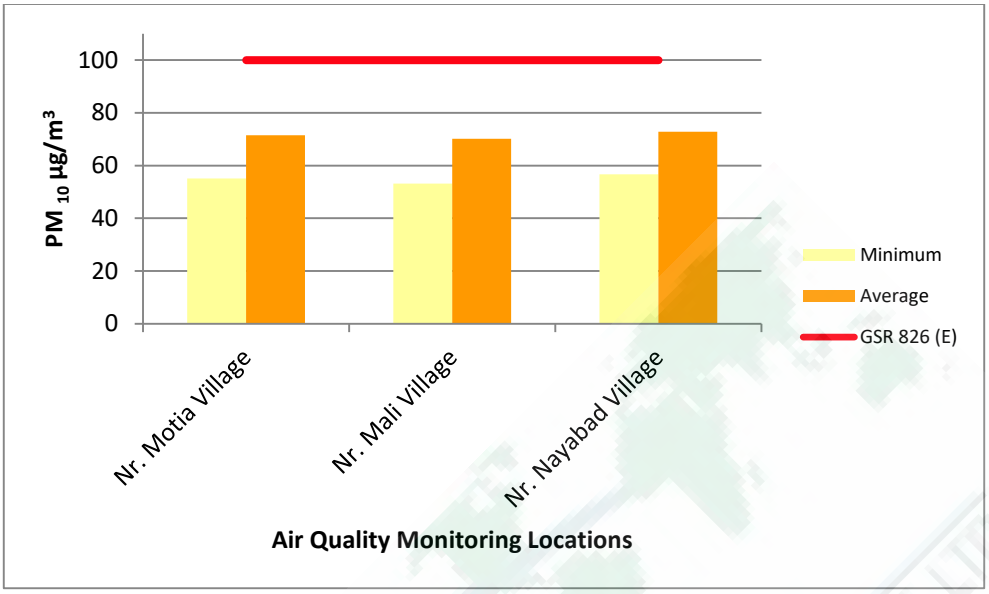
Results & statistical calculations for Location- A3:

Name of Location (A3)		Nr. Nayabad Village			
Sr. No.	**Date of Sampling**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NOx**
Unit		µg/m³	µg/m³	µg/m³	µg/m³
GSR 826 (E)		100	60	80	80
1.	01.01.2021	69.9	30.1	11.3	16.6
2.	04.01.2021	71.8	34.7	9.7	17.1
3.	07.01.2021	74.1	35.4	11.4	17.2
4.	11.01.2021	72.7	34.1	9.8	16.3
5.	14.01.2021	73.4	35.8	10.7	15.4
6.	18.01.2021	60.1	28.5	8.4	13.1
7.	21.01.2021	70.1	31.6	10.9	15.2
8.	25.01.2021	74.9	36.1	11.7	17.0
9.	28.01.2021	72.6	35.7	11.2	16.7
10.	01.02.2021	56.7	25.1	9.4	13.8
11.	04.02.2021	69.3	31.2	10.7	15.8
12.	08.02.2021	72.1	32.2	12.1	16.3
13.	11.02.2021	66.7	31.7	11.4	15.7
14.	15.02.2021	70.2	32.4	10.1	16.1
15.	18.02.2021	71.8	32.0	12.2	18.2
16.	22.02.2021	73.5	35.5	12.6	18.0
17.	25.02.2021	72.5	34.6	11.8	17.8
18.	01.03.2021	77.6	34.5	15.2	18.1
19.	04.03.2021	78.5	38.8	13.6	19.0
20.	08.03.2021	77.9	40.1	14.8	18.3
21.	11.03.2021	75.4	37.5	15.4	19.2
22.	15.03.2021	80.1	39.5	14.0	18.8
23.	18.03.2021	78.9	36.9	15.1	19.5
24.	22.03.2021	78.9	39.4	15.0	20.7
25.	25.03.2021	79.5	36.8	14.2	19.4

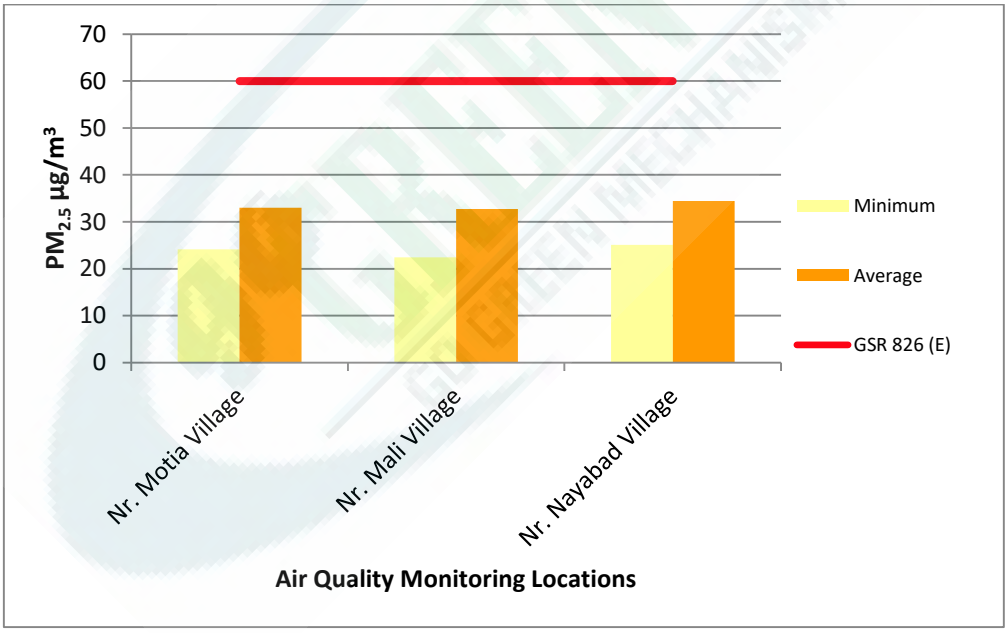
RESULT INTERPRETATION				
No. of Observations	25	25	25	25
Min Concentration	56.7	25.1	8.4	13.1
Max Concentration	80.1	40.1	15.4	20.7
Average	72.8	34.4	12.1	17.2

Note: Environmental Quality Monitoring Report for the Month of March'21 has been collected by Envirotech East Pvt. Limited.

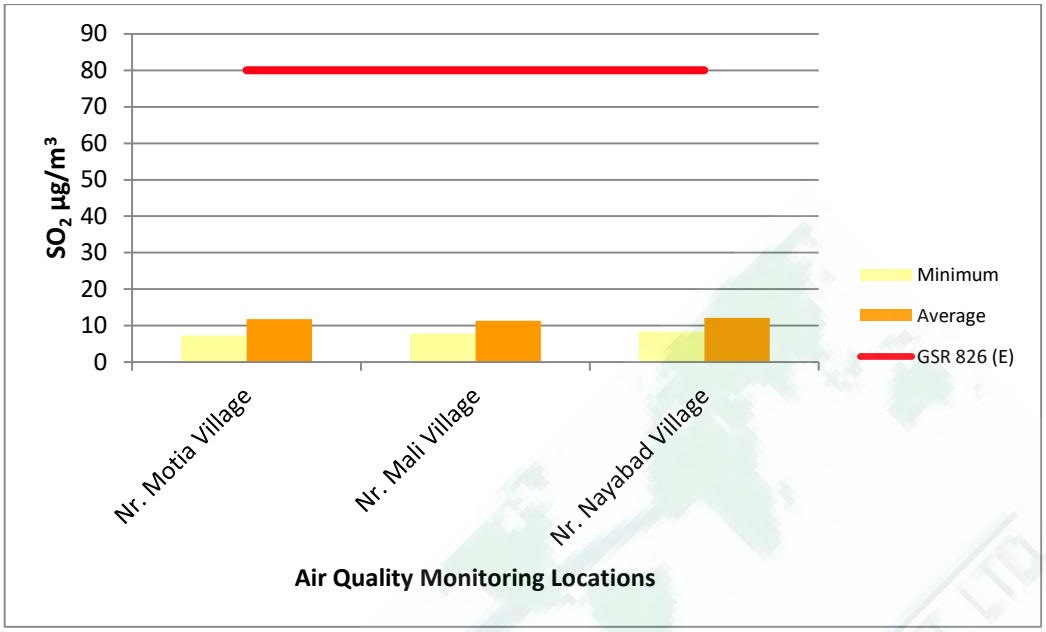
8.6 GRAPHICAL REPRESENTATION OF THE RESULTS



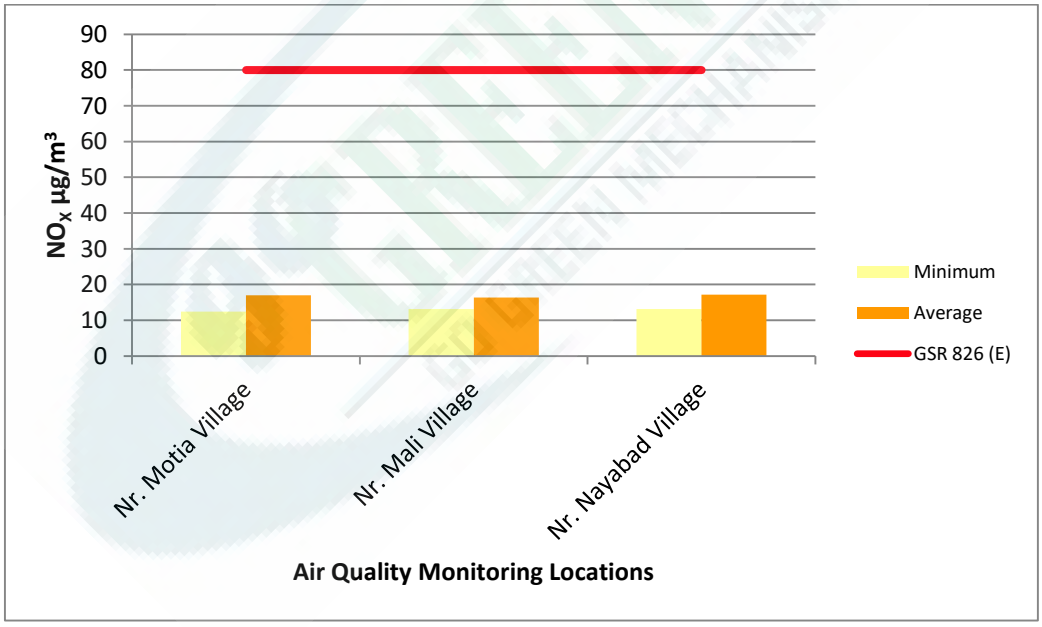
Graph 1: Particulate Matter (PM_{10})



Graph 2: Particulate Matter ($PM_{2.5}$)



Graph 3: Sulphur Dioxide (SO_2)



Graph 4: Oxides of Nitrogen (NO_x)

8.7 EXECUTIVE SUMMARY OF AAQM RESULTS

Particulate Matter (PM_{10})				
Site	**Minimum**	**Maximum**	**Average**	**GSR 826 (E)**
Nr. Motia Village	55.1	79.3	71.5	100
Nr. Mali Village	53.2	79.0	70.1	100
Nr. Nayabad Village	56.7	80.1	72.8	100

Particulate Matter ($PM_{2.5}$)				
Site	**Minimum**	**Maximum**	**Average**	**GSR 826 (E)**
Nr. Motia Village	24.1	38.3	33.0	60
Nr. Mali Village	22.4	39.7	32.7	60
Nr. Nayabad Village	25.1	40.1	34.4	60

Sulphur Dioxide (SO_2)				
Site	**Minimum**	**Maximum**	**Average**	**GSR 826 (E)**
Nr. Motia Village	7.3	15.5	11.8	80
Nr. Mali Village	7.8	14.6	11.3	80
Nr. Nayabad Village	8.4	15.4	12.1	80

Oxides of Nitrogen (NO_x)				
Site	**Minimum**	**Maximum**	**Average**	**GSR 826 (E)**
Nr. Motia Village	12.4	20.1	17.0	80
Nr. Mali Village	13.1	19.8	16.4	80
Nr. Nayabad Village	13.1	20.7	17.2	80

From all the above graphical representation it is clearly interpreted that all the values of PM_{10}, $PM_{2.5}$, SO_2 and NO_X were lower than the prescribed limits for all the stated locations.

8.8 ANALYTICAL RESULTS OF MERCURY

In this study, we also monitored some other critical pollutants like Mercury to assess the existing levels of air pollutants as well as the regional background concentration of the cluster area.
Beside these, some Heavy metal concentration in the ambient air were also monitored in and around the project area. The following tabulated pollutants were monitored once in a month.

Location	Sampling Month	Mercury (Hg)
Unit		µg/m^3
Limits as per GSR 826 Standard		NS
Nr. Motia Village	Jan'21	BQL(QL=0.02)
	Feb'21	BQL(QL=0.02)
	Mar'21	BQL(QL=0.02)
Nr. Mali Village	Jan'21	BQL(QL=0.02)
	Feb'21	BQL(QL=0.02)
	Mar'21	BQL(QL=0.02)
Nr. Nayabad Village	Jan'21	BQL(QL=0.02)
	Feb'21	BQL(QL=0.02)
	Mar'21	BQL(QL=0.02)

Note: NS= Not Specified

Note: Environmental Quality Monitoring Report for the Month of March'21 has been collected by Envirotech East Pvt. Limited.

SECTION 9: WATER ANALYSIS REPORT

9.1 CONCEPT & SCOPE

Water quality of the project area plays an important role on the socio economy of the Project. The higher concentrations of the water pollutants have serious impacts on the environment. Hence, it becomes important to assess the water quality periodically in the project vicinity.

Thus to assess the water quality of the project area, 04 locations were selected for Ground water sampling, 02 locations were selected for Effluent water sampling and 01 location was selected for surface water sampling.

The quality of Ground water samples were compared with respect to IS 3025/APHA specification, the concentration of the target analytes are within the prescribed limits.

Bacterial examination was also carried out to find out the E-Coli & Total Coliform contamination in water sources.

Note: Environmental Quality Monitoring Report for the Month of March'21 has been collected by Envirotech East Pvt. Limited.

9.2 METHODOLOGY

PARAMETER	PRINCIPLE OF METHEDOLOGY
PH	Measurement of pH is one of the most important and frequently used test in water chemistry. Practically every phase of water supply and wastewater treatment, e.g., acid-base neutralization, Water softening, precipitation, coagulation, disinfection and corrosion control, is pH dependent. pH is used in alkalinity and carbon dioxide measurements and many other acid-base equilibria. At a given temperature the intensity of the acid or basic character of a solution is indicated by pH or hydrogen ion activity. Alkalinity and acidity are the acid and base neutralizing capacities of a water and usually expressed in mole per liter, needed to change the pH value of a 1-L sample by 1 unit. pH as defined by Sorenson is –log $[H^+]$; it is the "intensity" factor of acidity
Turbidity	The method is based on a comparison of the intensity of light scattered by a standard reference suspension under the same condition. Higher the intensity of scattered light, the higher the turbidity of particular sample. Formazin polymer is used as the primary standard reference suspension. The turbidity of a specify concentration of formalin suspension is defined as 4000 NTU.
Chloride	In a neutral or slightly alkaline solution, potassium chromate can indicate the endpoint of the silver nitrate titration of chloride. Silver chloride is precipitated quantitatively before red silver chromate is formed.
Fluoride	The SPANDS colorimetric method is based on the reaction between fluoride and a zirconium-dye lake. Fluoride reacts with the dye lake, dissociating a portion of it into a colorless complex anion (ZrF_6^{-2}) and the dye. As the amount of fluoride increase, the color produced becomes progressively lighter. The reaction rate between fluoride and zirconium ions is influenced greatly by the acidity of the reaction mixture. If the proportion of acid in the reagent is increased, the reaction can be made almost instantaneous. Under such condition, however, the effect of various ions differs from that in the conventional alizarin methods. The selection of dye for this rapid fluoride method is governed largely by the resulting tolerance to these ions.
Sulphate	Sulphate ion (SO_4^{2-}) is precipitated in an acetic acid medium with barium chloride ($BaCl_2$) so as to form barium sulphate ($BaSO_4$) crystals of uniform size. Light absorbance of the $BaSO_4$ suspension is measured by a photometer and the SO_4^{2-} concentration is determined by comparison of the reading with a standard curve SO_4^{2-}. The absorbance of the barium sulphate formed is measured by a spectrophotometer at 450 nm.
Cd, Cu, As, Pb, Hg, Zn, Mn	Atomic absorption spectroscopy is based on absorption by ground state atoms of an element present in the sample which is atomized in the flame or graphic furnace. Depending on absorption of selected wavelength of the element the concentration is estimated. The technique provides valuable information on concentration of required elements present in the sample. Concentration are in ppm or ppb levels depending on source of sample excitation.
Iron	Iron is brought into solution, reduced to the ferrous state by boiling with acid and hydroxylamine and treated with 1,10-phenanthroline at pH 3.2 to 3.3 Three molecules of phenanthroline chelate each atom of ferrous iron to form an orange-red complex. The colored solution obeys beer's law; its intensity is independent of pH from 3 to 9. A pH between 2.9 and 3.5 insures rapid color development in the presence of an excess of phenanthroline. Color standards are stable for at least 6 months.

Hexavalent Chromium (As Cr^{+6})	This procedure measures only hexavalent chromium, Cr^{+6}. For total chromium, Determination, acid-digest the sample and follow with a suitable instrumental analysis technique. The hexavalent chromium is determined calorimetrically by reaction with diphenylcarbazide in acid solution. A red-violet colored complex of unknown composition is produced which is measured at 540 nm.
Calcium (As Ca)	When EDTA is added to water containing both calcium and magnesium it combines first with the calcium. Calcium can be determined directly with EDTA, when the pH is made sufficiently high that the magnesium is largely precipitated as the hydroxide and an indicator is used that combines with calcium only. Several indicators give a Colour change when all of the calcium has been complexed by the EDTA at a pH of 12 to 13.
Total Hardness (As $CaCO_3$)	This method depends on ability of EDTA or its disodium salt to form stable complexes with calcium and magnesium ions. When the dye Eriochrome black T (EBT) is added to a solution containing calcium and magnesium ions at pH 10.0 a wine red complex is formed. This solution is titrated with standard solution of disodium salt of EDTA, which extracts calcium and magnesium from the dye complex and the dye is changed back to its original blue Colour. Eriochrome black T is used to indicate the end-point for the titration of calcium and magnesium together.
Residual Chloride	Chlorine will liberate free iodine from potassium iodide (KI) solution at pH 8 or less. The liberated iodine is titrated with a standard solution of sodium thiosulfate ($Na_2S_2O_3$) with starch as the indicator. Titrate at pH 3 to 4 because the reaction is not stoichiometric at neutral pH due to partial oxidation of thiosulfate to sulfate.
Boron (As B)	In the presence of boron, a solution of carmine or carminic acid in concentrated sulphuric acid changes from a bright red to a bluish red or blue, Depending on the concentration of boron present.
Total Dissolved Solids	A well-mixed sample is filtered through a standard filter and the filtrate is evaporated to dryness in a weighed dish and dried to constant weight at 180°C. The increase in dish weight represents the total dissolved solids.
Nitrate	Two moles of nitrate nitrogen react with one mole of chromotropic acid to form a yellow reaction product having maximum absorbance at 410 nm.
Alkalinity (As $CaCO_3$)	Hydroxyl ions present in a sample as a result of dissociation or hydrolysis of solutes react with addition of standard acid. Alkalinity thus depends on the end point pH used. For method of determining inflection points from titration curves and the rationale for titrating to fixed pH endpoints.

Figure 7: Water Sampling Motia Village, Hand pump

Figure 8: Water Sampling Mali Village, Hand pump

Figure 9: Water Sampling Nayabad Village, Hand pump

Figure 10: Water Sampling Patwa Village Hand pump

Figure 11: Water Sampling at STP Outlet plant

Figure 12: Water Sampling at STP Outlet township

9.3 ANALYTICAL RESULTS

Date of Sampling: 07.01.2021

Sr. No.	Parameter	Unit	Locations	As Per IS 10500:2012	
			Motia Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.39	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	396.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	166.0	200	600
5.	Alkalinity as $CaCO_3$	mg/L	98.0	200	600
6.	Calcium as Ca	mg/L	44.8	75	200
7.	Chloride	mg/L	39.8	250	1000
8.	Sulphate	mg/L	27.4	200	400
9.	Nitrate	mg/L	6.1	45	No Relaxation
10.	Iron	mg/L	0.14	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	13.1	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	27.7	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 07.01.2021

Sr. No.	Parameter	Unit	Location Mali Village	As Per IS 10500:2012 Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.29	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	312.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	138.0	200	600
5.	Alkalinity as $CaCO_3$	mg/L	82.0	200	600
6.	Calcium as Ca	mg/L	41.6	75	200
7.	Chloride	mg/L	29.4	250	1000
8.	Sulphate	mg/L	37.2	200	400
9.	Nitrate	mg/L	4.9	45	No Relaxation
10.	Iron	mg/L	0.19	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	8.3	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	28.3	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 07.01.2021

Sr. No.	Parameter	Unit	Locations	As Per IS 10500:2012	
			Nayabad Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.25	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	366.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	178.0	200	600
5.	Alkalinity as $CaCO_3$	mg/L	86.0	200	600
6.	Calcium as Ca	mg/L	43.1	75	200
7.	Chloride	mg/L	35.4	250	1000
8.	Sulphate	mg/L	26.3	200	400
9.	Nitrate	mg/L	5.5	45	No Relaxation
10.	Iron	mg/L	0.20	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	17.1	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	28.0	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 07.01.2021

Sr. No.	Parameter	Unit	Location	As Per IS 10500:2012	
			Patwa Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.23	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	286.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	164.0	200	600
5.	Alkalinity as $CaCO_3$	mg/L	128.0	200	600
6.	Calcium as Ca	mg/L	42.8	75	200
7.	Chloride	mg/L	34.9	250	1000
8.	Sulphate	mg/L	37.7	200	400
9.	Nitrate	mg/L	3.3	45	No Relaxation
10.	Iron	mg/L	0.12	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	13.9	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	27.3	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 07.01.2021

Sr. No.	Parameter	Unit	Location STP Outlet (Plant)
1.	pH at 25 °C	--	6.65
2.	Colour	CU	BQL(QL=1)
3.	Total Suspended Solids	mg/L	23.0
4.	Total Dissolved Solids	mg/L	422.0
5.	BOD at 27°C – 3 Days	mg/L	16.4
6.	Chemical Oxygen Demand	mg/L	60.0
7.	Oil & Grease	mg/L	BQL(QL=2)
8.	Chloride	mg/L	62.1
9.	Sulphate as SO_4	mg/L	122.8
10.	Ammonical Nitrogen as NH_3	mg/L	2.9
11.	Total Kjheldal Nitrogen as TKN	mg/L	6.8
12.	Dissolved Phosphate	mg/L	1.6
13.	Aluminum (Al)	mg/L	BQL(QL=0.1)
14.	Arsenic (As)	mg/L	BQL(QL=0.02)
15.	Boron (B)	mg/L	BQL(QL=0.1)
16.	Cadmium (Cd)	mg/L	BQL(QL=0.01)
17.	Copper (Cu)	mg/L	BQL(QL=0.1)
18.	Lead (Pb)	mg/L	BQL(QL=0.02)
19.	Manganese (Mn)	mg/L	BQL(QL=0.1)
20.	Mercury (Hg)	mg/L	BQL(QL=0.001)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 20.10.2020

Sr. No.	Parameter	Unit	Location STP Outlet (Township)
1.	pH at 25 °C	--	7.42
2.	Colour	CU	BQL(QL=1)
3.	Total Suspended Solids	mg/L	28.0
4.	Total Dissolved Solids	mg/L	272.0
5.	BOD at 27°C – 3 Days	mg/L	7.4
6.	Chemical Oxygen Demand	mg/L	30.0
7.	Oil & Grease	mg/L	BQL(QL=2)
8.	Chloride	mg/L	29.6
9.	Sulphate as SO_4	mg/L	116.4
10.	Ammonical Nitrogen as NH_3	mg/L	2.6
11.	Total Kjheldal Nitrogen as TKN	mg/L	5.2
12.	Dissolved Phosphate	mg/L	1.4
13.	Aluminum (Al)	mg/L	BQL(QL=0.1)
14.	Arsenic (As)	mg/L	BQL(QL=0.02)
15.	Boron (B)	mg/L	BQL(QL=0.1)
16.	Cadmium (Cd)	mg/L	BQL(QL=0.01)
17.	Copper (Cu)	mg/L	BQL(QL=0.1)
18.	Lead (Pb)	mg/L	BQL(QL=0.02)
19.	Manganese (Mn)	mg/L	BQL(QL=0.1)
20.	Mercury (Hg)	mg/L	BQL(QL=0.001)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 08.02.2021

Sr. No.	Parameter	Unit	Location Ganga river
1.	pH @ 25 ^{o}C	...	7.24
2.	Turbidity	NTU	1.6
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	252.0
4.	Total Suspended Solids	mg/L	46.0
5.	Dissolved Oxygen	mg/L	6.8
6.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)
7.	Chloride	mg/L	26.3
8.	Sulphate	mg/L	37.1
9.	Nitrate	mg/L	4.6
10.	Fluoride	mg/L	0.39
11.	BOD at 27°C – 3 Days	mg/L	5.6
12.	Chemical Oxygen Demand	mg/L	20.0
13.	Residual Chlorine	mg/L	BQL(QL=0.05)
14.	Colour	Hazen	BQL(QL=1)
15.	Odour	...	Agreeable
16.	Temperature°C	°C	28.3
17.	Taste	...	Agreeable
18.	Chromium	mg/L	BQL(QL=0.02)
19.	Iron	mg/L	0.13
20.	Copper	mg/L	BQL(QL=0.02)
21.	Zinc	mg/L	BQL(QL=0.02)
22.	Cadmium	mg/L	BQL(QL=0.002)
23.	Lead	mg/L	BQL(QL=0.005)
24.	Arsenic	mg/L	BQL(QL=0.005)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 08.02.2021

Sr. No.	Parameter	Unit	Locations	As Per IS 10500:2012	
			Motia Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.45	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	384.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	167.6	200	600
5.	Alkalinity as $CaCO_3$	mg/L	78.0	200	600
6.	Calcium as Ca	mg/L	43.7	75	200
7.	Chloride	mg/L	35.6	250	1000
8.	Sulphate	mg/L	30.4	200	400
9.	Nitrate	mg/L	5.4	45	No Relaxation
10.	Iron	mg/L	0.18	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	14.2	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	32.4	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 08.02.2021

Sr. No.	Parameter	Unit	location	As Per IS 10500:2012	
			Mali Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.2	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	350.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	155.9	200	600
5.	Alkalinity as $CaCO_3$	mg/L	88.0	200	600
6.	Calcium as Ca	mg/L	42.5	75	200
7.	Chloride	mg/L	27.2	250	1000
8.	Sulphate	mg/L	42.1	200	400
9.	Nitrate	mg/L	5.2	45	No Relaxation
10.	Iron	mg/L	0.20	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	12.1	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	32.4	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 08.02.2021

Sr. No.	Parameter	Unit	Locations	As Per IS 10500:2012	
			Nayabad Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.15	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	315.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	175.6	200	600
5.	Alkalinity as $CaCO_3$	mg/L	71.4	200	600
6.	Calcium as Ca	mg/L	42.8	75	200
7.	Chloride	mg/L	33.7	250	1000
8.	Sulphate	mg/L	25.4	200	400
9.	Nitrate	mg/L	5.8	45	No Relaxation
10.	Iron	mg/L	0.18	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	16.7	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	31.1	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 08.02.2021

Sr. No.	Parameter	Unit	Location	As Per IS 10500:2012	
			Patwa Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.18	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	315.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	141.9	200	600
5.	Alkalinity as $CaCO_3$	mg/L	114.0	200	600
6.	Calcium as Ca	mg/L	35.9	75	200
7.	Chloride	mg/L	32.7	250	1000
8.	Sulphate	mg/L	40.1	200	400
9.	Nitrate	mg/L	4.7	45	No Relaxation
10.	Iron	mg/L	0.14	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	12.7	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	30.2	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 08.02.2021

Sr. No.	Parameter	Unit	Location STP Outlet (Plant)
1.	pH at 25 °C	--	6.74
2.	Colour	CU	BQL(QL=1)
3.	Total Suspended Solids	mg/L	41.0
4.	Total Dissolved Solids	mg/L	520.0
5.	BOD at 27°C – 3 Days	mg/L	20.4
6.	Chemical Oxygen Demand	mg/L	82.0
7.	Oil & Grease	mg/L	BQL(QL=2)
8.	Chloride	mg/L	55.8
9.	Sulphate as SO_4	mg/L	142.2
10.	Ammonical Nitrogen as NH_3	mg/L	3
11.	Total Kjheldal Nitrogen as TKN	mg/L	7.2
12.	Dissolved Phosphate	mg/L	1.4
13.	Aluminum (Al)	mg/L	BQL(QL=0.1)
14.	Arsenic (As)	mg/L	BQL(QL=0.02)
15.	Boron (B)	mg/L	BQL(QL=0.1)
16.	Cadmium (Cd)	mg/L	BQL(QL=0.01)
17.	Copper (Cu)	mg/L	BQL(QL=0.1)
18.	Lead (Pb)	mg/L	BQL(QL=0.02)
19.	Manganese (Mn)	mg/L	BQL(QL=0.1)
20.	Mercury (Hg)	mg/L	BQL(QL=0.001)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 08.02.2021

Sr. No.	Parameter	Unit	Location STP Outlet (Township)
1.	pH at 25 °C	--	8.20
2.	Colour	CU	BQL(QL=1)
3.	Total Suspended Solids	mg/L	29.0
4.	Total Dissolved Solids	mg/L	312.0
5.	BOD at 27°C – 3 Days	mg/L	6.7
6.	Chemical Oxygen Demand	mg/L	32.4
7.	Oil & Grease	mg/L	BQL(QL=2)
8.	Chloride	mg/L	31.1
9.	Sulphate as SO_4	mg/L	132.1
10.	Ammonical Nitrogen as NH_3	mg/L	2.8
11.	Total Kjheldal Nitrogen as TKN	mg/L	6.1
12.	Dissolved Phosphate	mg/L	0.9
13.	Aluminum (Al)	mg/L	BQL(QL=0.1)
14.	Arsenic (As)	mg/L	BQL(QL=0.02)
15.	Boron (B)	mg/L	BQL(QL=0.1)
16.	Cadmium (Cd)	mg/L	BQL(QL=0.01)
17.	Copper (Cu)	mg/L	BQL(QL=0.1)
18.	Lead (Pb)	mg/L	BQL(QL=0.02)
19.	Manganese (Mn)	mg/L	BQL(QL=0.1)
20.	Mercury (Hg)	mg/L	BQL(QL=0.001)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 09.02.2021

Sr. No.	Parameter	Unit	Location Ganga river
1.	pH @ 25 ^{o}C	...	7.20
2.	Turbidity	NTU	1.4
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	235.0
4.	Total Suspended Solids	mg/L	55.0
5.	Dissolved Oxygen	mg/L	5.9
6.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)
7.	Chloride	mg/L	22.5
8.	Sulphate	mg/L	34.8
9.	Nitrate	mg/L	5.3
10.	Fluoride	mg/L	0.45
11.	BOD at 27°C – 3 Days	mg/L	5.7
12.	Chemical Oxygen Demand	mg/L	22.1
13.	Residual Chlorine	mg/L	BQL(QL=0.05)
14.	Colour	Hazen	BQL(QL=1)
15.	Odour	...	Agreeable
16.	Temperature°C	°C	31.4
17.	Taste	...	Agreeable
18.	Chromium	mg/L	BQL(QL=0.02)
19.	Iron	mg/L	0.15
20.	Copper	mg/L	BQL(QL=0.02)
21.	Zinc	mg/L	BQL(QL=0.02)
22.	Cadmium	mg/L	BQL(QL=0.002)
23.	Lead	mg/L	BQL(QL=0.005)
24.	Arsenic	mg/L	BQL(QL=0.005)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 08.03.2021

Sr. No.	Parameter	Unit	Locations	As Per IS 10500:2012	
			Motia Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.4	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	390.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	175.7	200	600
5.	Alkalinity as $CaCO_3$	mg/L	82.0	200	600
6.	Calcium as Ca	mg/L	49.4	75	200
7.	Chloride	mg/L	34.1	250	1000
8.	Sulphate	mg/L	28.4	200	400
9.	Nitrate	mg/L	6.0	45	No Relaxation
10.	Iron	mg/L	0.21	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	12.7	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	mg/L	31.2	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month of March'21 has been collected by Envirotech East Pvt. Limited.

Date of Sampling: 08.03.2021

Sr. No.	Parameter	Unit	Location	As Per IS 10500:2012	
			Mali Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.28	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	325.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	170.3	200	600
5.	Alkalinity as $CaCO_3$	mg/L	88.0	200	600
6.	Calcium as Ca	mg/L	47.1	75	200
7.	Chloride	mg/L	26.7	250	1000
8.	Sulphate	mg/L	41.2	200	400
9.	Nitrate	mg/L	5.3	45	No Relaxation
10.	Iron	mg/L	0.18	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	12.8	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	32.1	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month of March'21 has been collected by Envirotech East Pvt. Limited.

Date of Sampling: 08.03.2021

Sr. No.	Parameter	Unit	Locations	As Per IS 10500:2012	
			Nayabad Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.21	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	345.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	185.2	200	600
5.	Alkalinity as $CaCO_3$	mg/L	81.2	200	600
6.	Calcium as Ca	mg/L	46.3	75	200
7.	Chloride	mg/L	26.9	250	1000
8.	Sulphate	mg/L	21.4	200	400
9.	Nitrate	mg/L	4.7	45	No Relaxation
10.	Iron	mg/L	0.19	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	16.9	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	32.1	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month of March'21 has been collected by Envirotech East Pvt. Limited.

Date of Sampling: 08.03.2021

Sr. No.	Parameter	Unit	Location	As Per IS 10500:2012	
			Patwa Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.23	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	300.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	151.1	200	600
5.	Alkalinity as $CaCO_3$	mg/L	108.0	200	600
6.	Calcium as Ca	mg/L	41.2	75	200
7.	Chloride	mg/L	30.7	250	1000
8.	Sulphate	mg/L	38.8	200	400
9.	Nitrate	mg/L	5.1	45	No Relaxation
10.	Iron	mg/L	0.17	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	11.7	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	31.1	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month of March'21 has been collected by Envirotech East Pvt. Limited.

Date of Sampling: 08.03.2021

Sr. No.	Parameter	Unit	Location STP Outlet (Plant)
1.	pH at 25 °C	--	7.20
2.	Colour	CU	BQL(QL=1)
3.	Total Suspended Solids	mg/L	45.0
4.	Total Dissolved Solids	mg/L	512.0
5.	BOD at 27°C – 3 Days	mg/L	18.7
6.	Chemical Oxygen Demand	mg/L	76.5
7.	Oil & Grease	mg/L	BQL(QL=2)
8.	Chloride	mg/L	61.2
9.	Sulphate as SO_4	mg/L	135.9
10.	Ammonical Nitrogen as NH_3	mg/L	3.8
11.	Total Kjheldal Nitrogen as TKN	mg/L	8.0
12.	Dissolved Phosphate	mg/L	1.5
13.	Aluminum (Al)	mg/L	BQL(QL=0.1)
14.	Arsenic (As)	mg/L	BQL(QL=0.02)
15.	Boron (B)	mg/L	BQL(QL=0.1)
16.	Cadmium (Cd)	mg/L	BQL(QL=0.01)
17.	Copper (Cu)	mg/L	BQL(QL=0.1)
18.	Lead (Pb)	mg/L	BQL(QL=0.02)
19.	Manganese (Mn)	mg/L	BQL(QL=0.1)
20.	Mercury (Hg)	mg/L	BQL(QL=0.001)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month of March'21 has been collected by Envirotech East Pvt. Limited.

Date of Sampling: 08.03.2021

Sr. No.	Parameter	Unit	Location STP Outlet (Township)
1.	pH at 25 °C	--	7.90
2.	Colour	CU	BQL(QL=1)
3.	Total Suspended Solids	mg/L	38.0
4.	Total Dissolved Solids	mg/L	298.0
5.	BOD at 27°C – 3 Days	mg/L	9.4
6.	Chemical Oxygen Demand	mg/L	35.1
7.	Oil & Grease	mg/L	BQL(QL=2)
8.	Chloride	mg/L	30.6
9.	Sulphate as SO_4	mg/L	130.2
10.	Ammonical Nitrogen as NH_3	mg/L	2.7
11.	Total Kjheldal Nitrogen as TKN	mg/L	7.1
12.	Dissolved Phosphate	mg/L	1.2
13.	Aluminum (Al)	mg/L	BQL(QL=0.1)
14.	Arsenic (As)	mg/L	BQL(QL=0.02)
15.	Boron (B)	mg/L	BQL(QL=0.1)
16.	Cadmium (Cd)	mg/L	BQL(QL=0.01)
17.	Copper (Cu)	mg/L	BQL(QL=0.1)
18.	Lead (Pb)	mg/L	BQL(QL=0.02)
19.	Manganese (Mn)	mg/L	BQL(QL=0.1)
20.	Mercury (Hg)	mg/L	BQL(QL=0.001)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month of March'21 has been collected by Envirotech East Pvt. Limited.

Date of Sampling: 09.03.2021

Sr. No.	Parameter	Unit	Location Ganga river
1.	pH @ 25 ^{o}C	...	7.25
2.	Turbidity	NTU	2.1
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	245.0
4.	Total Suspended Solids	mg/L	61.0
5.	Dissolved Oxygen	mg/L	7.8
6.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)
7.	Chloride	mg/L	19.8
8.	Sulphate	mg/L	40.1
9.	Nitrate	mg/L	5.2
10.	Fluoride	mg/L	0.49
11.	BOD at 27°C – 3 Days	mg/L	6.2
12.	Chemical Oxygen Demand	mg/L	24.7
13.	Residual Chlorine	mg/L	BQL(QL=0.05)
14.	Colour	Hazen	BQL(QL=1)
15.	Odour	...	Agreeable
16.	Temperature°C	°C	32.1
17.	Taste	...	Agreeable
18.	Chromium	mg/L	BQL(QL=0.02)
19.	Iron	mg/L	0.14
20.	Copper	mg/L	BQL(QL=0.02)
21.	Zinc	mg/L	BQL(QL=0.02)
22.	Cadmium	mg/L	BQL(QL=0.002)
23.	Lead	mg/L	BQL(QL=0.005)
24.	Arsenic	mg/L	BQL(QL=0.005)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month of March'21 has been collected by Envirotech East Pvt. Limited.

ADANI POWER (JHARKHAND) LIMITED

2X800MW ULTRA SUPER CRITICAL THERMAL POWER PLANT

GODDA JHARKHAND

GROUND WATER TABLE

LOCATION:OPEN WELL **MONTH:JAN'21**

LOCATION NAME	PLINTH HEIGHT	TOTAL DEPTH OF WELL FROM R.L	TOTAL DEPTH OF WELL FROM G.L	DEPTH OF WATER TABLE FROM G.L	WATER COLUMN	DIA- MATER	REMARK
MOTIA VILLAGE	0.70	5.90	5.2	2.30	2.9	2.15	-
MALI VILLAGE	0.50	6.20	5.7	4.17	1.53	2.25	-
NAYABD VILLAGE	0.65	6.35	5.7	4.2	1.5	1.96	-
PATWA VILLAGE	0.70	6.50	5.8	3.93	1.87	2.5	-

All values are in meter(m)

ADANI POWER (JHARKHAND) LIMITED

2X800MW ULTRA SUPER CRITICAL THERMAL POWER PLANT

GODDA JHARKHAND

GROUND WATER TABLE

LOCATION:OPEN WELL **MONTH: FEB'21**

LOCATION NAME	PLINTH HEIGHT	TOTAL DEPTH OF WELL FROM R.L	TOTAL DEPTH OF WELL FROM G.L	DEPTH OF WATER TABLE FROM G.L	WATER COLUMN	DIA- MATER	REMARK
MOTIA VILLAGE	0.70	5.90	5.2	2.7	2.5	2.15	-
MALI VILLAGE	0.50	6.20	5.7	4.6	1.1	2.25	-
NAYABD VILLAGE	0.65	6.35	5.7	4.65	1.05	1.96	-
PATWA VILLAGE	0.70	6.50	5.8	4.38	1.42	2.5	-

All values are in meter(m)

ADANI POWER (JHARKHAND) LIMITED

2X800MW ULTRA SUPER CRITICAL THERMAL POWER PLANT

GODDA JHARKHAND

GROUND WATER TABLE

LOCATION:OPEN WELL **MONTH: Mar'21**

LOCATION NAME	PLINTH HEIGHT	TOTAL DEPTH OF WELL FROM R.L	TOTAL DEPTH OF WELL FROM G.L	DEPTH OF WATER TABLE FROM G.L	WATER COLUMN	DIA- MATER	REMARK
MOTIA VILLAGE	0.70	5.90	5.2	3.0	2.2	2.15	-
MALI VILLAGE	0.50	6.20	5.7	4.9	0.8	2.25	-
NAYABD VILLAGE	0.65	6.35	5.7	4.9	0.8	1.96	-
PATWA VILLAGE	0.70	6.50	5.8	4.65	1.15	2.5	-

All values are in meter(m)

SECTION 10: NOISE LEVEL MONITORING

To know the background ambient noise level at the project and surrounding environment, noise level were measured at all the ambient air monitoring stations for baseline study.

The Day time & Night time average noise level data are given in tabular formats as well as in graphical form for easy interpretation.

Here, the day time means time from 06:00 am to 10:00 pm & night time means time from 10:00 pm to 06:00 am.

$$Leq = \frac{10\ \text{Log10}\ (t1 \text{x} 10^{\frac{L1}{10}} + t2\ \text{x}\ 10^{\frac{L2}{10}} + t3\ \text{x}\ 10^{\frac{L3}{10}} + ..)}{T}$$

Where Leq = Equivalent continuous noise level (dB)(A)
t1 = time at L1 (Hours)
t2 = time at L2 (Hours)
L1 = sound pressure level dB (A) at time 1
T = total time over which the Leq is required (Hours)

(N1) At Motia Village

Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Residential Area		55	55	55	45	45	45
1	21.01.2021	51.2	38.1	48.5	39.3	30.8	35.7
2	16.02.2021	53.1	40.1	49.2	38.7	31.4	35.5
3	12.03.2021	54.0	36.7	48.5	40.1	32.0	36.3

(N2) At Mali Village

Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Residential Area		55	55	55	45	45	45
1	21.01.2021	53.7	39.2	48.2	40.1	32.0	37.7
2	16.02.2021	42.4	37.4	48.3	41.2	30.8	38.2
3	12.03.2021	53.4	36.5	48.6	40.5	31.2	38.8

(N3) At Nayabad Village

Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Residential Area		55	55	55	45	45	45
1	22.01.2021	53.8	40.4	48.1	41.6	32.0	38.5
2	15.02.2021	54.1	42.2	49.6	40.2	33.2	38.6
3	11.03.2021	52.7	38.8	48.1	42.0	32.4	39.0

(N4) At Patwa Village							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Residential Area		55	55	55	45	45	45
1	22.01.2021	54.4	35.8	47.6	41.2	30.7	37.6
2	15.02.2021	53.6	36.8	48.2	41.6	31.0	38.3
3	11.03.2021	52.7	37.6	47.9	42.0	32.1	38.7

(N5) Nr. Adani Office							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Industrial Area		75	75	75	70	70	70
1	20.01.2021	52.1	38.1	49.3	39.3	30.8	40.7
2	19.02.2021	53.4	39.2	48.7	38.8	31.2	39.9
3	15.03.2021	54.0	40.1	49.0	41.2	35.4	40.3

(N6) Nr. BTG Area (U/C)							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Industrial Area		75	75	75	70	70	70
1	20.01.2021	69.8	44.7	65.8	53.2	38.3	49.9
2	18.02.2021	71.6	58.2	67.3	66.2	40.3	57.5
3	13.03.2021	72.1	56.8	68.0	65.4	44.5	57.8

(N7) Nr. CT Area							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Industrial Area		75	75	75	70	70	70
1	19.01.2021	69.2	47.4	62.9	54.3	42.6	50.4
2	18.02.2021	72.6	50.2	66.1	55.2	41.7	49.9
3	13.03.2021	71.4	52.1	65.3	58.4	43.1	52.4

(N8) Nr. RW Reservoir (U/C)							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Industrial Area		75	75	75	70	70	70
1	19.01.2021	64.3	42.0	59.0	41.9	31.7	38.0
2	19.02.2021	67.5	45.4	60.9	48.2	32.1	41.2
3	15.03.2021	66.7	51.2	61.3	55.6	34.2	47.7

(N9) Nr. STP (In township)							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Industrial Area		75	75	75	70	70	70
1	18.01.2021	53.8	42.4	49.3	42.4	33.9	39.3
2	22.02.2021	54.0	41.6	50.2	40.3	31.4	36.5
3	16.03.2021	53.7	38.2	49.7	41.6	32.8	37.3

(N10) Nr. Temple (In township)							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Industrial Area		75	75	75	70	70	70
1	18.01.2021	52.8	40.2	48.6	41.7	33.1	38.6
2	22.02.2021	53.2	41.1	48.5	40.2	32.7	37.4
3	16.03.2021	54.5	40.0	49.0	41.7	34.1	37.9

From above tabulated results it can be concluded that the noise level was within the prescribed limits throughout the monitoring period at the stated locations.

Note: Environmental Quality Monitoring Report for the Month of March'21 has been collected by Envirotech East Pvt. Limited.

SECTION 11: SOIL ANALYSIS

11.1 CONCEPT & SCOPE

Soil is fundamental & ultimate natural resources that full fill a number of functions & provide various services like agriculture, industrial construction & ecological habitat development etc. Some of the most significant impacts on this resource occur as a result of activities associated with the use of chemical fertilizers, unscientific construction activities, unplanned city design, unscientific land use pattern and land filling by toxic materials.

Soil analysis can determine the fertility or the expected growth potential and the nutrient deficiency and potential toxicity which help in taking cost effective Marision for the better soil management.

Location Code	Name of Location
S-1	Nr. Mali Village
S-2	Nr. Nayabad Village
S-3	Nr. Patwa Village

11.2 SOIL ANALYTICAL RESULTS

Date of Sampling: 11.02.2021

Location: Nr. Mali Village

Date of Sampling: 11.02.2021

Sr. No.	Parameter	Unit	Result	Norms
1.	Maganesium as Mg	%	0.33	NS
2.	Calcium as Ca	%	0.92	NS
3.	Magnanese as Mn	mg/kg	BQL(QL=0.1)	NS
4.	Boron as B	mg/kg	0.41	NS
5.	Cupper as Cu	mg/kg	BQL(QL=0.1)	NS
6.	Sulphur as S	%	0.078	NS
7.	Chloride as Cl	%	0.069	NS
8.	Zinc as Zn	mg/kg	4.20	NS
9.	Nitrogen as N	%	0.72	NS
10.	Phosphorous as P	%	0.048	NS
11.	Potassium as K	%	0.041	NS
12.	Iron as Fe	%	0.053	NS
13.	Molybdenum as Mo	mg/kg	BQL(QL=0.1)	NS
14.	Organic Matter	%	0.67	NS
15.	Organic Carbon	%	0.39	NS
16.	Soil Texture	-	Sandy Loam	NS
17.	Sand	%	58	NS
18.	Silt	%	30	NS
19.	Clay	%	12	NS

Location: Nr. Nayabad Village

Date of Sampling: 11.02.2021

Sr. No.	Parameter	Unit	Result	Norms
1.	Maganesium as Mg	%	0.49	NS
2.	Calcium as Ca	%	0.96	NS
3.	Magnanese as Mn	mg/kg	BQL(QL=0.1)	NS
4.	Boron as B	mg/kg	0.35	NS
5.	Cupper as Cu	mg/kg	BQL(QL=0.1)	NS
6.	Sulphur as S	%	0.062	NS
7.	Chloride as Cl	%	0.071	NS
8.	Zinc as Zn	mg/kg	3.10	NS
9.	Nitrogen as N	%	0.67	NS
10.	Phosphorous as P	%	0.063	NS
11.	Potassium as K	%	0.049	NS
12.	Iron as Fe	%	0.051	NS
13.	Molybdenum as Mo	mg/kg	BQL(QL=0.1)	NS
14.	Organic Matter	%	0.72	NS
15.	Organic Carbon	%	0.42	NS
16.	Soil Texture	-	Sandy Loam	NS
17.	Sand	%	55	NS
18.	Silt	%	35	NS
19.	Clay	%	10	NS

Location: Nr. Patwa Village				
Date of Sampling: 11.02.2021				
Sr. No.	Parameter	Unit	Result	Norms
1.	Maganesium as Mg	%	0.41	NS
2.	Calcium as Ca	%	0.89	NS
3.	Magnanese as Mn	mg/kg	BQL(QL=0.1)	NS
4.	Boron as B	mg/kg	0.37	NS
5.	Cupper as Cu	mg/kg	BQL(QL=0.1)	NS
6.	Sulphur as S	%	0.075	NS
7.	Chloride as Cl	%	0.066	NS
8.	Zinc as Zn	mg/kg	3.60	NS
9.	Nitrogen as N	%	0.71	NS
10.	Phosphorous as P	%	0.055	NS
11.	Potassium as K	%	0.043	NS
12.	Iron as Fe	%	0.046	NS
13.	Molybdenum as Mo	mg/kg	BQL(QL=0.1)	NS
14.	Organic Matter	%	0.69	NS
15.	Organic Carbon	%	0.40	NS
16.	Soil Texture	-	Sandy Loam	NS
17.	Sand	%	60	NS
18.	Silt	%	30	NS
19.	Clay	%	10	NS

Note: NS= Not Specified

ANNEXURE-B

रजिस्ट्री सं० डी० एल०-33004/99 REGD. NO. D. L.-33004/99

भारत का राजपत्र
The Gazette of India

असाधारण
EXTRAORDINARY
भाग II—खण्ड 3—उप-खण्ड (ii)
PART II—Section 3—Sub-section (ii)
प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

सं. 2487] नई दिल्ली, बृहस्पतिवार, अगस्त 31, 2017/भाद्र 9, 1939
No. 2487] NEW DELHI, THURSDAY, AUGUST 31, 2017/BHADRA 9, 1939

पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

अधिसूचना

नई दिल्ली, 30 अगस्त, 2017

का. आ. 2836(अ).— केन्द्रीय सरकार, पर्यावरण (संरक्षण) नियम, 1986 के नियम 10 के साथ पठित, पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 12 की उपधारा (1) के खंड (ख) और धारा 13 द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए भारत सरकार के तत्कालीन पर्यावरण और वन मंत्रालय की अधिसूचना सं. का.आ. 1174 (अ), तारीख 18 जुलाई, 2007 में निम्नलिखित और संशोधन करती है, अर्थात् :—

2. उक्त अधिसूचना से संलग्न सारणी में क्रम संख्यांक 156 और उससे संबंधित प्रविष्टियों के पश्चात् निम्नलिखित क्रम संख्यांक और प्रविष्टियां अंत:स्थापित की जाएंगी, अर्थात् :—

(1)	(2)	(3)	(4)
"157	मैसर्स देवांश टेस्टिंग एंड रिसर्च लेबोरेट्रीज प्रा. लि. 94,शिवगंगा इंडस्ट्रीयल एस्टेट, लेकशरी, भगवानपुर-247661, रुड़की, जिला-हरिद्वार, उत्तराखंड ।	(1) सुश्री अर्चना सिंह (2) श्री अरविन्द खर्कवाल (3) डा. एच.एम.चौहान	09.08.2017 से 08.08.2022
158	मैसर्स नोएडा टेस्टिंग लेबोरेट्रीज, जीटी-20, सेक्टर-117, नोएडा-201304, उत्तर प्रदेश	(1) श्री गोपाल दास वर्मा (2) श्री पंकज कुमार शर्मा (3) श्री राजेश कुमार सिंह	09.08.2017 से 08.08.2022
159	मैसर्स साई यूनिवर्सल माइनिंग सर्विस, प्लाट सं0 15-डीपी2, केआईएडीबी, संकलापुरा इंडस्ट्रीयल एरिया, पानी की टंकी के पास, बेलारी मेन रोड, होसपेट-583201, जिला-बेलारी, कर्नाटक ।	(1) श्री पवन कुमार जीवीके (2) श्री डी.सुदर्शन रेड्डी (3) श्री ए.नागाराजू	09.08.2017 से 08.08.2022
160	मैसर्स बी.एस.एन्वी-टेक प्रा.लि. 12-13 1270/73, एमीटी विले, चौथा तल, सेंट एन रोड, टर्नाका, सिकंदराबाद-500017, तेलंगाना।	(1) श्री ए.वी.हनुमंथा राव (2) कुमारी सीएच.वी. तुलामी (3) श्री बी.एस.चंद्रा मूर्ती	09.08.2017 से 08.08.2022

161	मैसर्स नाईक्रोम टेस्टिंग लेबोरेट्रीजट्रीज़ एंड रिसर्च प्रा. लि. 170, जजस् बंगलो रोड, नारायणपुर, धारवाड़-580008, कर्नाटक।	(1) श्री कृष्णा नारायण कुलकर्णी (2) श्री अंबरीश एस.सिंदगी (3) डा. मंजुला एस.पाटिल	09.08.2017 से 08.08.2022
162	मैसर्स गो ग्रीन मेकेनिज़म प्रा. लि. दयाल एस्टेट, राष्ट्रीय राजमार्ग सं. 8, एपीएमसी मार्केट के सामने, गेट-1 (दीन दयाल अनाज मंडी), बरेजा रोड, जेतलपुर, जिला-अहमदाबाद-382426, गुजरात	(1) श्री. अमित बदलानी (2) श्री खंबाटा मायरम होमांग (3) सुश्री तृप्ति पाहिया	09.08.2017 से 08.08.2022"

[फा. सं. क्यू 15018/21/2017-सीपीडब्ल्यू]

डा. मनोरंजन होता, सलाहकार

टिप्पण : मूल अधिसूचना भारत के राजपत्र, असाधारण, में अधिसूचना संख्यांक का. आ. 1174(अ), तारीख 18 जुलाई, 2007 द्वारा प्रकाशित की गई थी और अधिसूचना संख्यांक का.आ.1539(अ), तारीख 13 सितम्बर, 2007, का.आ. 1811(अ), तारीख 24 अक्तूबर, 2007, का.आ. 55(अ), तारीख 9 जनवरी, 2008, का.आ. 428(अ) तारीख 4 मार्च, 2008, का.आ. 865(अ), तारीख 11 अप्रैल, 2008, का.आ. 1894 (अ) तारीख 31 जुलाई, 2008, का.आ. 2728(अ) 25 नवम्बर, 2008, का.आ. 1356 (अ) तारीख 27 मई, 2009, का.आ.1802(अ) तारीख 22 जुलाई, 2009, का.आ.2399 (अ) तारीख 18 सितम्बर, 2009, का.आ.3122(अ) तारीख 7 दिसम्बर, 2009, का.आ. 3123(अ), 7 दिसम्बर, 2009, का.आ. 142(अ) तारीख 21 जनवरी, 2010, का.आ.619(अ) तारीख 19 मार्च, 2010, का.आ. 1662(अ) तारीख 13 जुलाई, 2010, का.आ. 2390(अ) तारीख 30 सितम्बर, 2010, का.आ. 2904(अ) तारीख 8 दिसम्बर, 2010, का.आ.181(अ) तारीख 28 जनवरी, 2011, का.आ. 692(अ) तारीख 5 अप्रैल, 2011, का.आ. 1537(अ) तारीख 6 जुलाई, 2011, का.आ.1754(अ) तारीख 28 जुलाई, 2011, का.आ. 2609(अ) तारीख 22 नवम्बर, 2011, का.आ. 264(अ) तारीख 13 फरवरी, 2012, का.आ. 1150(अ) तारीख 22 मई, 2012, का.आ. 1295(अ), 6 जून, 2012 का.आ. 2039(अ) तारीख 5 सितम्बर, 2012, का.आ. 2850(अ) तारीख 7 दिसम्बर, 2012, का.आ.592(अ) तारीख 8 मार्च, 2013, का.आ. 945(अ) तारीख 8 अप्रैल, 2013, का.आ. 2287(अ) तारीख 27 जुलाई, 2013, का.आ. 3489(अ) तारीख 26 नवम्बर, 2013, का.आ. 21(अ) तारीख 3 जनवरी, 2014, का.आ. 561(अ) तारीख 26 फरवरी, 2014, का.आ. 1190(अ) तारीख 2 जून, 2014, का.आ. 2003(अ) तारीख 9 अगस्त, 2014, का.आ.137 (अ) तारीख 12 जनवरी, 2015, का.आ. 1783(अ) तारीख 30 जून, 2015, का.आ. 2453(अ) तारीख 7 सितम्बर, 2015 का.आ. 1953(अ), तारीख 2 जून, 2016 और का.आ. 388(अ) तारीख 10 फरवरी, 2017 द्वारा उनका अन्तिम संशोधन किया गया।

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 30st August, 2017

S.O. 2836(E).—In exercise of the powers conferred by clause (b) of sub-section (1) of section 12 and section 13 of the Environment (Protection) Act, 1986 (29 of 1986), read with rule 10 of the Environment (Protection) Rules, 1986, the Central Government hereby makes the following further amendments in the notification of the Government of India in the erstwhile Ministry of Environment and Forests, number S.O. 1174(E), dated the 18th July, 2007, namely :—

In the said notification, in the Table, after serial number 156 and the entries relating thereto, the following serial numbers and entries shall be inserted, namely:—

(1)	(2)	(3)	(4)
"157	M/s. Devansh Testing & Research Laboratory Pvt. Ltd. 94, Shiv Ganga Industrial Estate, Lakeshari, Bhagwanpur-247661, Roorkee, Dist-Haridwar, Uttarakhand.	(i) Ms. Archana Singh (ii) Shri. Arvind Kharkwal (iii) Dr. H.S. Chauhan.	09.08.2017 to 08.08.2022
158	M/s. NOIDA Testing Laboratories. GT-20, Sector-117, NOIDA-201304, Uttar Pradesh.	(i) Shri. Gopal Das Verma (ii) Shri. Pankaj Kumar Sharma (iii) Shri. Rajesh Kumar Singh.	09.08.2017 to 08.08.2022
159	M/s. Sai Universal Mining Services Plot No. 15-DP2, KIADB, Sankalapura Industrial Area, Near Water Tank, Bellary Main Road, Hospet-583201, Dist. Bellary, Karnataka .	(i) Shri. Pavan Kumar GVK (ii) Shri. D. Sudharshan Reddy (iii) Shri. A. Nagaraju.	09.08.2017 to 08.08.2022

160	M/s. B.S. Envi-Tech Pvt. Ltd. 12-13 1270/71/73, Amity Ville, 4th Floor, St. Ann's Road, Tarnaka, Secunderabad-500017, Telangana.	(i) Shri. A.V. Hanumantha Rao (ii) Ms. CH. V. Tulasi (iii) Shri. B.S. Chandra Murthy.	09.08.2017 to 08.08.2022
161	M/s. Nichrome Testing Laboratory and Research Pvt. Ltd. 170, Judges Bunglow Road, Narayanpur, Dharwad-580008, Karnataka.	(i) Shri Krishna Narayan Kulkarni (ii) Shri Ambarish S. Sindagi (iii) Dr. Manjula S. Patil .	09.08.2017 to 08.08.2022
162	M/s. Go Green Mechanisms Pvt. Ltd. Dayal Estate, National Highway No. 8, Opp. APMC Market, Gate-1 (Deen Dayal Grain Market), Bareja Road, Jetalpur, Dist-Ahmedabad-382426, Gujarat.	(i). Shri Amit Badlani (ii) Shri Khambata Cyrus Hosang (iii) Ms. Trupti Padhya.	09.08.2017 to 08.08.2022."

[F. No. Q. 15018/21/2017-CPW]

DR. MANORANJAN HOTA, Advisor

Note.-The principal notification was published in the Gazette of India, Extraordinary vide number S.O. 1174 (E), dated the 18th July, 2007 and subsequently amended vide notification numbers S.O. 1539 (E), dated the 13th September, 2007, S.O. 1811(E), dated the 24th October, 2007, S.O. 55(E), dated the 9th January, 2008, S.O. 428(E), dated the 4th March, 2008, S.O. No. 865(E), dated the 11th April, 2008, S.O. No. 1894(E), dated the 31st July,2008, S.O. No. 2728(E), dated the 25th November, 2008, S.O. 1356(E), dated the 27 th May, 2009, S.O.No. 1802(E), dated the 22nd July, 2009, S.O. No.2399(E), dated the 18th September, 2009, S.O. No.3122(E), dated the 7th December, 2009, S.O. No. 3123(E), dated the 7th December, 2009, S.O. No. 142(E), dated the 21st January, 2010, S.O. 619 (E), dated the 19th March, 2010, S.O. No.1662(E), dated the 13th July,2010, S.O. No. 2390(E), dated the 30th September, 2010, S.O. No .2904 (E), dated the 8th December, 2010 , S.O. No. 181(E), dated the 28th January, 2011, S.O.No. 692(E) dated the 5th April, 2011, S.O. No. 1754 (E), dated the 28th July, 2011, S.O. No. 2609, dated the 22nd November, 2011, S.O. No. 264(E) , dated the 13th February, 2012, S.O. No. 1150 (E) dated the 22nd May, 2012, S.O. No. 1295(E), dated the 6th June, 2012, S.O. No. 2039 (E), dated the 5th September, 2012, S.O. No. 2850 (E), dated the 7th December, 2012, S.O. No. 592 (E), dated the 8th March, 2013, S.O. No. 945(E), dated the 8th April, 2013, S.O. No. 2287 (E), dated the 26th July,2013, S.O. No. 3489(E) dated the 26th November, 2013, S.O. No. 21(E), dated the 3rd January, 2014, S.O. No. 561 (E), dated the 26th February, 2014, S.O. No. 1190(E), dated the 1st June, 2014, S.O. No. 2003(E), dated the 9th August,2014, S.O. No. 137 (E), dated the 12th January, 2015, S.O. No. 1783(E), dated the 30th June, 2015, S.O. No. 2453(E), dated the 7th September, 2015 , S.O. No. 1953(E), dated the 2nd June,2016 and S.O. No. 388(E), dated the 10th February, 2017.

RAKESH SUKUL Digitally signed by RAKESH SUKUL Date: 2017.09.01 19:23:54 +05'30'

Uploaded by Dte. of Printing at Government of India Press, Ring Road, Mayapuri, New Delhi-110064
and Published by the Controller of Publications, Delhi-110054.

F. No. Q-15018/01/2016-CPW
Government of India
Ministry of Environment, Forest and Climate Change
(CP Division)

.....

Indira Paryavaran Bhavan,
Jorbagh Road, Aliganj, New Delhi-110 003

Dated: 6th April, 2017

ORDER

Subject: Recognition as Environmental Laboratory under the Environmental (Protection) Act, 1986 – regarding.

This refers to application/letter No. Nil, dated 10th December 2015 of M/s Go Green Mechanisms Pvt. Ltd. for recognition of its laboratory under the Environment (Protection) Act, 1986. Based on the recommendation of the Expert Committee for Recognition of Environmental Laboratories in its 48th meeting held on 06.02.2017 and acceptance of the terms and conditions at Annexure-III, IV and V of the Guidelines for Recognition of Environmental Laboratories by the applicant, this Ministry approves the recognition of M/s Go Green Mechanisms Pvt. Ltd., Dayal Estate, National Highway No.8, Opp. APMC Market Bareja (Deen Dayal Grain Market), Bareja Road, Jetalpur, Dist. Ahmedabad – 382 426, Gujarat for five years, as shall be notified in the Gazette of India.

2. As per information provided Vide letter dated 02.06.2016, M/s Go Green Mechanisms Private Ltd. can undertake the analysis of

(i) Water and Wastewater(*Physical Test:* Conductivity, Colour, pH, Fixed and Volatile solids, Total solids, Total dissolved solids, Total Suspended Solids, Turbidity, Temperature, Velocity & discharge Measurement of industrial effluent stream, Salinity, Settleable solids and SVI;

(ii) ***Inorganic****- General and non-metallic* : Acidity, Alkalinity, Ammonical Nitrogen, Chloride, Chlorine residual, Dissolved Oxygen, Fluoride, Total Hardness, TKN, Nitrite Nitrogen, Nitrate Nitrogen, Phosphate, Sulphate, Sulphite, Silica, Sulphide; *Trace Metals*: Boron, Cadmium, Calcium, Chromium Total, Chromium Hexavalent, Copper, Iron, Lead, Magnesium, Mercury, Nickel, Potassium, Sodium & SAR, Zinc, Arsenic, Aluminium, Manganese and Vanedium;

(iii) ***Organics*** *(General) and Trace Organics:* BOD, COD, Oil and Grease, Phenol, Pesticide i.e. (Organo-chlorine, Organo Nitrogen-Phosphorus), PAH, Organic Carbon and Carbon/Nitrogen ratio;

(iv) ***Microbiological Tests:*** Total coliform, Faecal Coliform, Faecal Streptococci, E.Coli and Total Plate Count;

(v) Ambient Air /Fugitive Emissions: : Nitrogen Dioxide , Sulphur Dioxide, Total suspended particulate matter, PM_{10}, Ammonia, Carbon Monoxide, lead, Ozone, Benzene- Toulene- Xylene (BTX), PAH, Benzo-a-pyrine, PM2.5 and VOC;

cont....

(R. N. JINDAL)
Director/निदेशक
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Min. of Environment, Forests & Climate Change
भारत सरकार, नई दिल्ली
Govt. of India, New Delhi

(vi) Stack gases/ Source Emission : Particulate matter, Sulphur Dioxide, Velocity & flow, Carbon Dioxide, Carbon Monoxide, Temperature, Oxygen, Oxides of Nitrogen, Acid mist, Ammonia, Fluoride (Particulate), Hydrochloric acid, Hydrogen Sulphide and Carbon Disulphide;

(Vii) Noise : ambient and source noise level Monitoring; and

(viii) Meteorological monitoring: Ambient temperature, Wind direction, Wind speed, Relative Humidity, Solar radiation and Rain fall.

3. The laboratory shall compulsorily participate in the Analytical Quality Control (AQC) exercise conducted by the Central Pollution Control Board (CPCB) at least once a year to ascertain the capability of the laboratory and analyses carried out and shall submit quarterly progress reports to this Ministry.

4. Periodic surveillance of the recognized environmental laboratory will be undertaken by this Ministry/ CPCB to assess its proper functioning, systematic operation and reliability of data generated at the laboratory.

5. It is also mandatory for the laboratory to renew the NABL / ISO 9001 and OHSAS accreditations and its renewal as per accreditation rules. Permission in Para 2 above is subject to such accreditation and renewal, as applicable.

(R.N. Jindal)
Director (S)
Tel. No. 011-24695246
Email: ram.jindal@nic.in

(आ. नि. जिन्दल)
(R. N. JINDAL)
निदेशक/Director
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Environment, Forests & Climate Change
सरकार, नई दिल्ली
Govt. of India, New Delhi

To

M/s Go Green Mechanisms Pvt. Ltd.
Dayal Estate, National Highway No.8
Opp. APMC Market Bareja (Deen Dayal Grain Market)
Bareja Road, Jetalpur,
Dist. Ahmedabad – 382 426, Gujarat.

Copy to:

1. Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi-110032.
2. Member Secretary, Gujarat Pollution Control Board, Paryavaran Bhawan-Sector 10-A, Gandhi Nagar- 382010, Gujarat.
3. Regional Office Nagpur, Ministry of Environment, forest and Climate Change, Ground Floor, East Wing, New Secretariat Building, Civil Lines, Nagpur, Maharashtra.
4. Zonal Office, Central Pollution Control Board, Parivesh Bhawan Opp.VMC Ward, Off. No-10, Subhanpura, Vadodara-390023, Gujarat.
5. IT Division, MoEF&CC, New Delhi-110003.

O/C

Issued
07/04/17

National Accreditation Board for Testing and Calibration Laboratories

CERTIFICATE OF ACCREDITATION

GO GREEN MECHANISMS PRIVATE LIMITED (TESTING LABORATORY)

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

DAYAL ESTATE, NATIONAL HIGHWAY NO.8, BAREJA, JETALPUR, AHMEDABAD, GUJARAT, INDIA

in the field of

TESTING

Certificate Number: TC-7073

Issue Date: 09/11/2020 **Valid Until:** 08/11/2022

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.
(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Identity : Go Green Mechanisms Pvt Ltd

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer

ANNUAL REPORT 2020-21

(APRIL 2020- MARCH 2021)

INTRODUCTION

The Adani Foundation, the CSR arm of Adani Group of Companies, executes Corporate Social Responsibility projects for Thermal Power Plant, Motia in four main core areas– Education, Community Health, Sustainable Livelihood Development and Community Infrastructure Development. With a people centric approach, the Foundation responds towards the emerging needs at the grass roots level aligning its activities with the Sustainable Development Goals (SDGs) with a vision to end poverty and protect and preserve planet and bring solidarity and peace among all individuals and society. Adani Foundation aims to walk with the communities, empower people to look ahead by making the right choices and securing a bright and beautiful future, together. Amidst COVID 19 outbreak, Gyanodaya program swiftly met the needs of spreading the light of education via Youtube Channel, DD Jharkhand and Gyanodaya Rath which facilitated the students to continue building their career in a new normal. The Gyanodaya Program bagged **Indian Chamber of Commerce -ICC Social Impact Award- Promoting Education** with its meticulous endeavor of igniting the light in the lives of more than 67000 students of 276 schools of Godda district and empowered them for growth and development of family, society and the nation. On the other hand, new opportunities was created amidst outbreak through initiation of Coaching Program for preparation of Jawahar Navodaya Vidyalaya (JNV) Class 6 Entrance Examination in TPP core and pipeline area of Godda district.

On the other hand, The Women group of Phoolo Jhano Saksham Aajeevika Mandal (PJSASM) unitedly worked together and proved their mettle by shielding the marginalized, poorer and COVID warriors through production of several Personal Protective Equipments (PPEs) along with consistently supporting the Education department by completing the second work order of Uniform Production for 1.71 lakh students of Academic Session 2019-20. The Sustainable Model for Uplifting Livelihood for Women Groups have empowered women socially and economically who are independently surpassing all the rivals and achieving triumph in family and society through their stitching skills and allegiance. The unprecedented performance of Women Groups of Saksham Sewing trainees has received two assignments for Sweater Weaving Project and supply of uniforms for 1.51 lakh govt. school students for another 5 years from District Education department. Moreover, the Water Conservation and

Harvesting Program is bridging the gap of resources to create social and economic, ecological assets from conservation and preservation of the *'Wetlands, Water bodies and Water Commons'*.

In this financial year Adani's CSR intervention extends to Godda and Sahebganj districts of Jharkhand state covering 192 villages of Core, Periphery, Railway Siding and Pipeline area. Apart from benefitting and engaging communities from our intervention areas, many of CSR activities were conducted in Godda town too for establishing Adani Foundation as a brand among the intellectuals of the society. The CSR Umbrella also shielded the community and public as a whole amidst Epidemic outbreak by instantly providing relief from several COVID Mitigation and Relief Program in all over district. Total population of Godda district is 13.13 lakhs, out of which population of our intervention villages is 60000 approximately. We have been able to benefit 4.53 lakhs people directly and 10.38 lakhs people indirectly across the stretch of 91 Kms ranged from Godda district to Sahebganj district passing through more than hundreds of project affected villages by organizing various community development activities in Education, Community Health, Sustainable Livelihood and Rural Infrastructure Development verticals.

The robust team of Adani Foundation at Jharkhand comprises of dedicated professionals including Unit CSR Head, Senior Project Officer, Project Officers, Assistant Suposhan Officers, and a deputy manager-CSR from Adani Power (Jharkhand) limited and a Medical team comprises of a doctor and four Para medicos.

The progress of CSR projects/interventions from **April, 2020 to March, 2021** is described in detail as under:

HIGHLIGHTS OF CSR ACTIVITIES

A. Education & Rural Sports

Providing Quality Education in Society

Adani foundation strives to enhance the quality of education in its intervention villages through following initiatives directly benefitting over 60000 students and their families in the year 2020-21. Due to epidemic, some of the coaching classes and schools remained closed to avoid any occurrence of fatalities caused by COVID 19. The teachers were engaged in shielding the citizens and community at large from infections of COVID 19 through management in Relief Measures Program. While, after the end of Lockdown period, the coaching classes were initiated at community places such as school ground, near trees, with social distancing and adherence to all safety protocols and guidelines.

- **By Initiating Competitive Classes and Coaching for the Poor Students viz.**

  - **Apna School** initiative is providing coaching classes to 210 students in a 'Group of 30' till 5th standard in 5 locations at Kauribihar, Kaithartikar, Sondiha, Baliakitta & Amrakanoli villages.
  - **Adani Gyan Jyoti (Group -30) Yojana:** This year 424 students till 10th standard benefitted from foundation building coaching classes and capacity building sessions in core and pipeline areas. Out of Super 30 students of class 10th standard of Academic Session 2019-20, 12 students had passed the exam with 1st division marks and 13 students secured 2nd division marks.

- **Teacher Support** has been provided in 15 schools for subjects like Science and Mathematics and improving education level by benefitting over 2900 students.

- **Education Sponsorship program** to provide 100% education support for one ward each from 300 Project Affected Families of Jitpur mines to reduce dropout by focusing on quality education and thereby regular attendance of students.

- **Gyanodaya Project:** Adani Foundation in partnership with District Administration launched Gyanodaya project on August 2018 to promote e-learning through Smart Classes. Gyanodaya project is currently operational in 277 schools covering 846 classes in 9 blocks of Godda district with its spread across 209 remote and untapped villages facilitated by over 1000 skilled teachers and benefitting more than 67,000 students directly.

- **Initiatives undertaken** amidst Epidemic Outbreak to continue imparting education to the children including Gyanodaya YouTube Channel, Gyanodaya DD Jharkhand, Gyanodaya Rath, IIT JEE Coaching Classes

- Field visit by **Mr. Abhishek Chaudhary, Vice President NICDC/OSD, NITI Aayog on October 2020** to review the implementation of Gyanodaya Godda in plus 2 HS Sunderpahari, Sunderpahari block along with district officials.

Awards and Honours

- **ICC Social Impact Award to Gyanodaya:** Gyanodaya bagged **"Indian Chamber Of Commerce (ICC) Social Impact Award -Promoting Education"** on **12th March 2021** at Kolkata on the achievements of providing quality education in remotest and untapped villages of Godda district through smart learning among 67000 students of 277 government schools.

❖ **Super 200 Programme:** The students of Super 200 Programme had passed with flying colours with distinction marks of Academic Session 2019-20. They expressed their gratitude towards Adani Foundation for supporting them to achieve their ambition.

❖ **Digital literacy Class,** two batch of Digital Literacy classes were commenced via online mode amidst COVID 19, for the candidates of educational qualification, up to matriculation of Kerobazar School (133 trainees) in Pathargama block (Batch from 04th February 2021 to 20th March 2021) and Rajabitha School (88 trainees) in Mahagama block (Batch from 08th January 2021 to 20th February 2021) of Godda district.

❖ **Coaching Program for the preparation of Jawahar Navodaya Vidyalaya (JNV) Class 6 Entrance Examination** amidst Epidemic was started in the month of January 2020 with an objective to nurture the underprivileged children

❖ **Kitchen Material Support:** This year Adani Foundation supported the School Management Committees (SMC) with Kitchen Materials to in nine schools of TPP core area benefitting over **2400 students** of primary and secondary education directly and more than **9000 population** indirectly.

❖ **Adani Foundation Support for Palni's Education** for five years @Rs 2500 per month, Rs. 30,000 per year

- **Drinking Water Facility:** AF supported with **2 RO Water Purifier** of 50 Litre per hour and 20 Litre per hour water purification capacity in **Intermediate College, Mahagama benefitting over 1100 students.**

Capacity Building Programme

1. **Training on First-Aid Safety:** Training on First-Aid Safety was conducted by Adani Medical team on 22nd February 2021 among students of High school, Baksara.
2. **Samman Samaroh for Meritorious students:** 25 students of Class 10th & 12th standard from Thakurgangti block of Godda district were appreciated and honored for doing outstanding Performance in various fields of Education.
3. **Under Gyan Jyoti Tuition Program,** top 5 students of Primary School, Amrakanoli were awarded with prizes on 10th February 2021.

Supporting Sports Events

1. **Sports Kit Distribution:** 38 Sports kit comprising of football, volley ball, cricket etc., were distributed to more than 20 youth groups under rural youth engagement program to promote recreational activity and sports events in core, railway line and pipeline villages
2. **Cricket Tournament:** Five cricket tournaments were organized covering 26 villages in core, and pipeline areas among the rural youths.
3. **Cricket Tournament in Sondiha village:** 3 days' Cricket tournament was organized from 24th December 2020 to 26th December '20 in Sondiha village, TPP core area in the presence of Local MLA, and PRI members.
4. **Football Tournament:** Twenty five football tournaments were held in 56 villages of core, and pipeline areas involving youths to instill with confidence, develop personality and motivate for shaping bright future.
5. **Netball tournament** was organized at Gandhi Maidan, Godda in the month of January 2021 by the netball association in which Adani Foundation has also supported.
6. **Friendship Cricket Match on International Day of Persons with Disabilities (IDPD):** On the eve of International Day of Persons with Disabilities (IDPD) on 3rd December 2020, Friendship Cricket Match was held among Adani Power (Jh.) Limited and Divyang Cricket team of Godda District participated by 2 teams and 22 players.
7. **Celebration of National Youth Day in Pipeline Area-Godda:** On the occasion of National Youth day on 12th January 2021, Adani Foundation had organized one day football tournament at Gudiya Ground.

B. Community Health

1. Mobile Health Care Unit (MHCU)

Four Mobile Health Care Units have together catered to primary health care needs of **40,043** patients this year from core, periphery, railway siding and pipe line area villages.

- **AF's Supported Mobile Health Care unit** in core villages treated and disbursed medicines to **3067** patients (**1258** males, **1208** female & **601** children) covering 13 villages and labourers working at Site office. Ambulance services has also been made available for COVID 19 cases at Godda district
- **Adani supported Helpage India** MHCU delivered medical services in 26 periphery villages coming under buffer zone 1 and railway siding villages of Adani Power Plant. MHCU was operational at 16 sites covering 26 locations benefitting over total **9777** patients including **3880** male, **3885** female and **2012** children. To cope up and mitigate the COVID 19 crisis, Ambulance services was also provided for COVID 19 cases at Godda district.
- **AF supported Wockhardt operated MHCU in Godda** is functional across 4 blocks viz. Mahagama, Boarijor, Pathargama and Thakurgangti in pipeline area treating and disbursing medicines to **16,261** patients including **5922** males, **6652** females and **3687** children covering 41 villages.
- **AF supported Wockhardt operated MHCU in Sahebganj** is functional across 4 blocks viz. Mandro, Borio, Sahebganj, and Taljhari in pipeline area treating and disbursing medicines to **10,938** patients including **3835** males, **4871** females and **2232** children covering 35 villages in total 60 stoppages.

2. **Health & Wellness Center/Clinic in Motia:** Wellness Center has been strengthened at Sub Health Center (SHC) at Motia village with an objective to provide primary health care facilities and disseminate knowledge to the poor people living at remote areas. The function started in October 2020 which, treated and disbursed medicines to **3123 patients** (Males **985**, Females **1333** and **805** Children).

3. **Specialized Health Camp for Elderly:** Adani Foundation had organised four Health cum Awareness Camp for Senior Citizens in the month of May 2020 with an aim to provide basic health care services at village level in four villages of periphery and pipeline area.

4. **Specialized Health Camp:** Adani Foundation had organised four special medical camp in four panchayats namely, Lakhanpahadi, Ghat Rampur, Machhitand and Amdiha with the support of Helpage India in Pathargama block of Pipeline area.

5. **Homeopathic Health Camp** was organized on **5th June 2020** by team of Adani Power (Jharkhand) Limited, Adani Foundation and Government Homeopathic Medical

College & Hospital, Parsapani, Godda Jharkhand with an objective to boost the immunity system and protect from Corona virus of human body.

6. **Specialized Medical Camps:** In this Financial Year, Adani Foundation endeavored to cater health needs in specific health issues of the masses amidst Epidemic outbreak by adhering to safety protocols. Total of 10 Specialized Medical Camps were organized at 12 locations covering more than 30 villages from core, railway line and pipeline area.

7. **Health Awareness:** With collaboration of Medical Team of Adani Foundation and Helpage India, health awareness is raised among school children, teachers and community. Community health awareness programme during Medical camp in rural areas helps aware rural dwellers about their better health and safety from diseases.

8. **Critical Health cases:** Diagnosis of critical cases of laborers working in TPP (site office) is done by CSR Medical Team regularly in an emergency manner.

9. **Spectacle Distribution:** This year **134 Spectacles beneficiaries** out of total 395 eye patients have been provided support of spectacles covering four blocks; Godda & Boarijor of Godda district and, Borio & Mandro of Sahebganj district on March 2021.

10. **Anemia Detection cum Hemoglobin Screening Camp in TPP Core Area:** Anemia Detection cum Hemoglobin Screening Camp was organized at two locations namely at **Sub Health Centre (SHC), Motia on 1st March 2021** and at **ITI Siktia on 8th March 2021** on the occasion of International Women's Day.

11. **Relief Program against Pandemic COVID 19:** Relief program has been initiated by Adani Foundation for safety and protection of every individual and community from Pandemic CORONA Virus through engagement in activities such as

    1. Sanitisation programme running in entire area of Godda and our concern villages through Application of Disinfectants in 12 intervention villages through Fogging/Spraying for 7 days.
    2. Distribution of 30000 Soap has been initiated in the community area,
    3. Input Support of Essential Commodities for 700 Poor Households including for their subsistence,
    4. AF Supported **Community Kitchen** led by four Self Help Groups (SHGs) was initiated at 4 places in the district to prepare meals and reduce hunger by feeding two times (Lunch & Dinner) every day to more than 2000 Labourers, Contractors and Truckers in Town and Plant area
    5. **Relief Program for Migrant Workers** such as Crowd Management, Distribution of Food Packets, Essential Food Grains for Quarantined Migrant Laborers, Water Bottles for Drinking Use.
    6. **Production of 25 Hands-Free Sanitisation Machine/Units** (G-HanSa) at Public Places and Plant Premises in Godda.
    7. **Making Ambulance available** for COVID 19 cases at Godda district.

8. **COVID Support:** Donation of Rs. 1 Crore in **CM Relief Fund** of Jharkhand state by APJL, Godda.

12. **Street Light at TPP Core area:** Installation of 100 street lights in the villages and road side point of TPP core area, 8 (2 installed) in pipeline villages of Mahagama block while 10 is remaining to be installed near to Motia school.

Suposhan Program

- **SuPoshan:** Malnutrition among children of 0 to 5 years has reduced by over 90% i.e. 271 children out of 299 became healthy while Anemia has reduced by more than 46 % i.e. over 813 out of 1758 adolescent girls of 10 to 19 years and women in reproductive age group have become healthy and rest falls under Moderately Anemic Range as per Universal HB screening survey. Suposhan program has been scaled up in 13 new villages of Railway (4) and Pipeline (8) and 1 new village of core area followed by baseline survey and conduction of Universal HB screening.

  Initiatives amidst COVID 19

  - **Telephonic Follow up & Counselling:** Due to epidemic, telephonic mode has been started to counsel the target groups including Children, Adolescent Girls, Pregnant Women on topic such as Anaemia, Nutrition & Hand wash; Immunisation, Importance of MCP Card, etc.
  - **Follow-up of Sanginis: -** Sanginis were taught through telephonic communication for creating awareness on management of COVID 19 situation and family counseling of target groups.
  - **Importance of Hand wash and Social Distancing: -** Sanginis took a lead to guide their community on various measures to fight and tackle with Covid 19, manage social distancing, local measures to boost immunity system, and made aware about hand wash practice through demonstration.
  - **E- Learning Course: -** Due to lock down effect of Covid pandemic Suposhan team along with Sangini did E–Learning Courses for time utilization and knowledge purpose
  - **Cooking video made by Sangini:** With advent of Epidemic outbreak, the Sangini had initiated to raise awareness of community on COVID 19 and Nutritional elements which is easily found in the villages for the enhancement of health of children, adolescents and women.

- **AF Supported with Vegetable Seeds** to **576 households** of core and railway line villages to meet the nutritional requirement of women and children as well as the entire family through inclusion of green nutritious vegetables in their daily meal.

- Total **31 Poshan Vatika model** was established this year at household level including **Ganga Maa Model (10)** and **Traditional/Rectangular Shaped Nutrition Garden (21)** in **14 villages of core (9), railway line (2) and pipeline area (3).**
- **Multilayer Farming:** On March 2021, Machan system has been initiated in Motia and Dumaria villages of TPP Core area on pilot basis to grow more quantities of vegetable crops throughout the season for food, nutrition and livelihood security after successful accomplishment of Ganga Maa Model.
- **Plantation for Nutrition Security:** Moringa/Drumstick plantation in the intervention villages was done by Suposhan Sangini and villagers to promote importance of Nutrition among community.

Awareness Programmes

- **Awareness Program on COVID 19:** Adani Foundation operated Wockhardt Foundation had organized 'One-day Awareness Program on COVID 19' in Malnistara village of Pathargama block, Godda district.
- **Celebration of World Breastfeeding Week:** World Breastfeeding Week (WBW) was celebrated by Suposhan Sanginis to mobilize the target groups through Banner on MHCU, Slogan writing, Pamphlet, etc.
- **Celebration of National Nutrition Month (1-30th September)**, **Global Hand Washing Day**, **Celebration of World Food Day, and Celebration of New Born Care Week** was celebrated in core, railway line, pipeline and Jitpur mines villages, by Suposhan Sanginis to mobilize the target groups on importance of Nutrition and its various dimensions.
- **Village Swachhata Abhiyan- Adarsh Swachh Gram:** Village Swachhata Abhiyan-Adarsh Swachh Gram, program aims to create a culture of cleanliness among rural tribes by inculcating the youth and community with sense of sensitivity, ownership and responsibility to change the prevalent condition of cleanliness in the villages.

Capacity Building Programmes

- **Training On Nutritional Security at KVK:** One day on campus training was organized on the topic "Nutritional Security" at Kriffco supported Gramin Vikas Trust (GVT) led Krishi Vigyan Kendra (KVK), Godda on 07.09.2020 for extension Suposhan functionaries.
- **Suposhan Sanginis Training Program** in the month of November 2020 on usage of weight machine, Infantometer, Stadiometer , MUAC measurement, Benefits of Local food, drumstick consumption

Seasonal Assistance/Community Involvement

- **Assistance to tribal in Sohraye festival:** Lungi-Panchi is traditional costume of tribal for festivities. AF distributed Lungi-Panchi to the tribals on the occasion of Sohrai festival to over 150 tribal women in three tribal villages of core area namely Petwi Santhali (70), Nayabad (40) and Gangta (40) of Godda and Poreyahat block.
- **Assistance to Widows:** On 11th March 2021, under Welfare Support, Adani Foundation supported the Widows with one set of Saree to 50 women in Kaudi Khutna village of Kaudi Khutna panchayat, Mandro block, Sahebganj district
- AF supported with **2 RO Water Purifier** for clean and safe **drinking water facility** for the patients and hospital staffs of Thakurgangti Hospital and Mahagama Hospital, of pipeline area, Godda district
- **Distribution of Relief Materials-Tarpaulin Distribution:** Under Welfare Support Relief Materials are distributed to support families affected from natural hazards or manmade calamities for the safety of their health and lives. Five poorer households of Motia village were assisted with tarpaulin to live in the shelter with safety during rainy season and protect themselves from uncertain circumstances.
- **Poor Assistance Programme-Mosquito Net Distribution:** Adani Foundation believes in assisting the community who are marginalized and deprived from basic facilities for survival. The health of the villagers is made secure and protected from several diseases which leads to fatalities and death cases in the villages
- **Assistance in Health, Marriage and Death:** Poor people are supported financially in events like marriage, death and illness as emergency support. Adani provides financial support for such purposes which require huge expense such as marriage ceremony, educational needs, major illness including hospitalization of patient, death of a person. **265** beneficiaries from 20 villages have been extended financial support to the tune of **Rs. 32,54,752.3/-**
- **Plantation on World Environment Day:** World Environment Day was celebrated on 5th June'20 in plant premises and ITI Siktia centre among the community.
- **Environment Protection Programme-** Promoting Afforestation, Nutrition and Ecological Preservation in project villages and plant premises to conserve the Planet, Earth and its biological creatures by Self Help Group (SHGs), teachers and community.
- **Plantation of Horticulture plants:** 352 saplings of horticulture plants of nutritional value namely banana, lemon, drumstick, and guava, was planted in seven villages by 141 families of TPP area.

C. Sustainable Livelihood

- **Adani Skill Development Centre:** New Training Batch was started on August'20 of Fitter, Bar-Bender, Asst. Elec., Welder, GDA, SMO, F&B, trade. So far, **1112 candidates** are attending the training classes in their domain field under Skilling India Program of National Skill Development Corporation (NSDC).
- **On the Job Training (OJT) & Placement:** Total **395 candidates** of Hospitality (13), Fitter (18), and bar bending (13), GDA (2), Welder (8), SMO (341) trade joined the organization with decent package.
- **Conduction of Guest Lecture** by Experienced Professionals in specialized trade for the candidates via Online Mode**.** Training was given on topics Soft skill (Fitter Mechanical Assembly), Hand washing (GDA), Steel and its types (Bar-bending)
- **Production of Medical (Patient) Bed for COVID Centre by ASDC Trainers:** The Master trainer of Fitter & Welder trade of ASDC Saksham have designed and made Beds which is convenient and comfortable for the COVID positive patients quarantined in COVID Centre.
- **AF conducted 53 Veterinary Health Camps** in Godda & Sahebganj district benefitting over **2,996 households** with treatment of **17,511** Livestocks.
- **Village level training on Vermicomposting:** Six village level training (Theoretical & On-Field Demonstration) on Vermicomposting production was conducted from 17th May 2020 to March 2021 in core and railway line villages namely Motia, Dumaria, Baksara, Badi Baksara, and Kauribihar, to promote organic farming through Vermicomposting and benefitted more than 200 farmers from 14 villages.

- **Vermicomposting production by Farmers: 111** Vermicomposting units have been set up by **88 farmers** of **14 villages** of core and railway line area of TPP.
- **Village level training & On-Field Demonstration on System of Rice Intensification (SRI)** was conducted on 20th June 2020 facilitated by technical experts of Krishi Vigyan Kendra (KVK) in Motia village
- **AF Supported with (Improved Samba Mahsuri Rice)- BPT-5204 CSIR CCMB,** Paddy Seeds for SRI to 56 farmers of core villages.
- **Livelihood Security from System of Rice Intensification (SRI):** 60 farmers of core, railway line and pipeline-Sahebganj villages have gained courage to implement SRI in their farm land of 54.96 acres.
- **Financial Support for Volunteers and Project Affected Families:** This year Jitpur mines has continued to support 370 families project affected families at the rate Rs. 1440/- per month towards livelihood engagement. Also, Rs.1, 65,201 Monthly Honorarium payments for Volunteer was continues this year. These volunteers help the Adani team for field mobilization and also help to maintain positivity in the Project affected Villages.
- **Monitoring** of 150 Self Help Groups is going on under livelihood programme.

- **Environment Protection Programme-** Promoting Afforestation, Nutrition and Ecological Preservation in project villages and plant premises to conserve the Planet, Earth and its biological creatures.
- **Plantation of Horticulture plants:** 352 saplings of horticulture plants of nutritional value namely banana, lemon, drumstick, and guava, was planted in seven villages by 141 families of TPP area.
- **Awareness cum Training Program on International Day of Persons with Disabilities (3rd December'20)** was organized in Primary Health Center (PHC)/Wellness Center, Motia
- **Celebration of International Women's Day on 8th March at ITI Siktia & Pipeline-Godda**
- **Training Program On Mahua Laddoo At with Krishi Vigyan Kendra (KVK), Godda:** To cater to the dual needs of nutrition and livelihood security of the households', training program was organized on 23rd March 2021

Uniform Production Centre Visit

- **Visit of Vice President NICDC/OSD, NITI Aayog**
- Grand Celebration in the honor of Welcoming Chief Guest, **Honorable Chairman, Adani Group, Shri Gautam S. Adani and Honourable Chairperson, Adani Foundation, Dr. Priti G. Adani** with delegates of District Administration, Adani Power (Jharkhand) Limited, Godda and Adani Foundation on 24th January 2021.

Awards and Honours

- **Certificate Distribution to Saksham Trainees:** ASDC Saksham trainees were awarded merit certificate after completion of trainings and their assessment of performance are per set standards in fitter, welder, and Food & Beverage, Bar-Bending and Digital Literacy trade.

D. Rural/Community Infrastructure Development

Water Conservation, Ground water recharge

1. **Deepening work of Ponds:** Pond Deepening work of five ponds in four villages of core area has been carried out in the Financial Year 2020-21.
2. **Pond Cleaning:** Pond cleaning work was also carried out in three villages for three ponds namely Mularsa Tank Pond, Kajhiya Pond and Bathing Ghat in Godda for

channelizing the domestic, cultural and religious activities by villagers and the community.

Drinking Water Facility

1. **Drinking water facility in villages –Borewell, Community Well etc.:** 56 drinking water facility in villages –Borewell, Community Well etc.in core, railway line and pipeline villages.
2. **Installation & Repairing Work of 197 Hand pumps & Hand pump Platform** in core, railway line and pipeline villages.
3. **2 RO Water for Drinking Water facility** in Thakurgangti and Mahagama hospital for the Welfare of people and public enabling access to clean and safe drinking water.

Educational infrastructure Development

1. **Renovation of Primary school** at Amrakanoli village of TPP core area for quality learning of students.
2. **Construction of 06 Class room** is going on at High School, Motia to provide infrastructure for students to learn in a proper proximity. Ongoing
3. **Renovated & Beautified with BALA painting** for learnings of the children (3-5 years) in **six Anganwadi Centre** in 4 villages of core area. Anganwadi is the source of several benefits for child and maternal health and well-being.
4. **Construction of Library at Madhuri village & Renovation of Laboratory** at +2 School, Godda of our core area to provide a common platform for the students to access educational resources for improvement of academic performance and attain quality of education.
5. **Renovation of Laboratory of +2 School, Godda and High School, Motia:** To improve the standard of higher education of Godda district, one of the aspirational districts of Jharkhand.
6. **Renovation of +2 School and Construction of Gate at +2 School at Baksara:** To provide better rural infrastructure to enable access to educational institutions for rural children
7. **Construction of Canteen at Police Line**, Gumma village of railway line area to provide better infrastructure for the government functionaries and delegates. Ongoing.
8. **Construction work of Main Gate, Security Room & Approach Road at ITI Siktia & Renovation of Community Hall for SMO training at** Bahuria village for smooth skill development training on SMO trade, in which all nearby tribal and rural women prepare dress for school children.

Health and Sanitation infrastructure Development

1. **Renovation of Hospital Building at Thakurgangti Hospital:** Renovation work of hospital building at Thakurgangti was done to channelize the functioning of hospital at the earliest to serve the public of pipeline area in large number.
2. **Construction of Waiting Shed at Mahagama Hospital** helped them to operate all health services in a better manner.

Other Village development structures

1. **Construction of 31 Model Bathroom & Soak pit near Handpump:** As we are working towards creating awareness for cleanliness and hygiene by our program named "SWACCHAGRIH" with aim to aware and engage people in creating cleanliness culture.
2. **Construction of 20 Seating Place (Chabutra)** in TPP villages of our pipeline and core area.
3. **Renovation of 2 Community Hall for Community Programs** for Promotion of cultural activity and local events at village level for community.
4. Renovation and construction of 19 community structures in TPP core villages and town area.
5. **Renovation of Panchayat Bhawan** at Lobhanda to provide better rural infrastructure in the villages and doing better planning and implementation of village development work.
6. **Renovation of Kitchen at Satsang Bhawan, Patwa** to provide a suitable infrastructure to the villagers to perform various important rituals and social activities throughout the year.
7. **Construction of 2 Drains:** Construction of 2 Drains (100 m) at Motia, Uttar tola and Construction of Drain (125 m) at Sondiha Village.
8. **Renovation of Stadium at Ramgarh Road:** To provide better infrastructure facilities to the villagers.
9. **Construction of Pipe Culvert at Rangania Village:** To provide better infrastructure facilities to the villagers.
10. **Renovation and construction of 36 community structures:** We have taken up the renovation of community structures like Temples/Puja Sthal/ Manjhisthan/ Satsang Bhawan/Sidhu Kanhu Shade etc. in core, railway line and pipeline villages.

DETAILED DESCRIPTION OF CSR ACTIVITIES

EDUCATION & RURAL SPORTS

Providing Quality Education in Society

1. **'Apna School' initiative to provide coaching classes for students:** This initiative is operational in villages falling under poor socio- economic condition namely Baliakitta, Kauribihar, Kaithartikar, Sondiha, and Amrakanoli village of core and railway line area to provide coaching classes to the students till 5th standard and provide access to formal education to the poor and enthusiastic children.

   The total number of students getting benefitted is 210. The local teachers from the community have been engaged in the teaching. This initiative has led to improvement in learning and education of children. This coaching class is also useful to interact with the community.

   The initiative has mainly been taken in area with low literacy level i.e. below 50% literacy among Santhal and Yadav Community (Scheduled Tribes and Other Backward Classes).

SN	PROGRAM LOCATION	BLOCK	STATUS	CLASS	STUDENTS
	Core Area (147 students)				
1	Baliakitta	Podaiyahat	Active	I to V	22
2	Sondiha	Podaiyahat	Active	III to IX	60
3	Amrakanoli	Poreyahat	Active	I to V	65
	Railway Line Area (63 students)				
1	Kauribihar	Podaiyahat	Active	I to VII	43
2	Kaithartikar	Podaiyahat	Active	I to V	20
Total					**210**

2. **Adani Gyan Jyoti Yojna (Group 30): -** Education plays a vital role in development of society economically, socially and financially, it also helps to them strengthen, so Adani Gyan Jyoti Yojna was initiated in Motia Village in which 30 students each of 8th, 9th & 10th standard studies at the centre for their concept building. The programme was extended in another villages of pipeline area with an objective of improvement in results of poor & meritorious students in matriculation

board exams. The program is serving over 424 students and capacitating them for their holistic development.

SN	ADANI GYAN JYOTI KENDRA	BLOCK	STATUS	CLASS	STUDENTS
	Core Area (22 students)				
1	Motia	Godda	Active	X	22
	Pipeline area (402 students)				
1	UMS Jiyajori	Mahagama	Active	I to V	30
2	UMS Jiyajori	Mahagama	Active	VI to VIII	35
3	PS Ranidih	Boarijor	Active	I to V	48
4	Majdoor Bhawan, Karnu	Mahagama	Active	III to V	39
5	MS Baniyadih	Thakurgangti	Active	V to VIII	250
Total					**424**

Academic Performance: In tenure of FY 2018-19, total 95 numbers of students benefitted from Adani Gyan Jyoti Yojana and completed their exams successfully. For the Academic Session 2019-20, Admission test was conducted for new session of class 8th and class 10th board students.

- **Passing Result and Passing Marks (2018-19):** Out of total 56 students of class 8th, 18 students were selected for next session. While, all 30 students who appeared in 10th board exams got succeeded with decent marks. Out of which 20 students got 1st division, 8 Students got 2nd division, & 2 students got 3rd division marks.

- **Passing Result and Passing Marks (2019-20):** The students succeeded with improved marks and passed with flying colours in their board exams. All 30 students had passed the exam securing 100% passing percent while, the proportion of students securing 1st and 2nd division was equal and rest 5 students fallen under 3rd division marks.

Class 8th Student of Academic Session 2018-19		
Appeared	**Selected**	**%**
56	18	32.14

Academic Session	**Year Wise Performance of Class 10th students under Gyan Jyoti Tuition Programme**

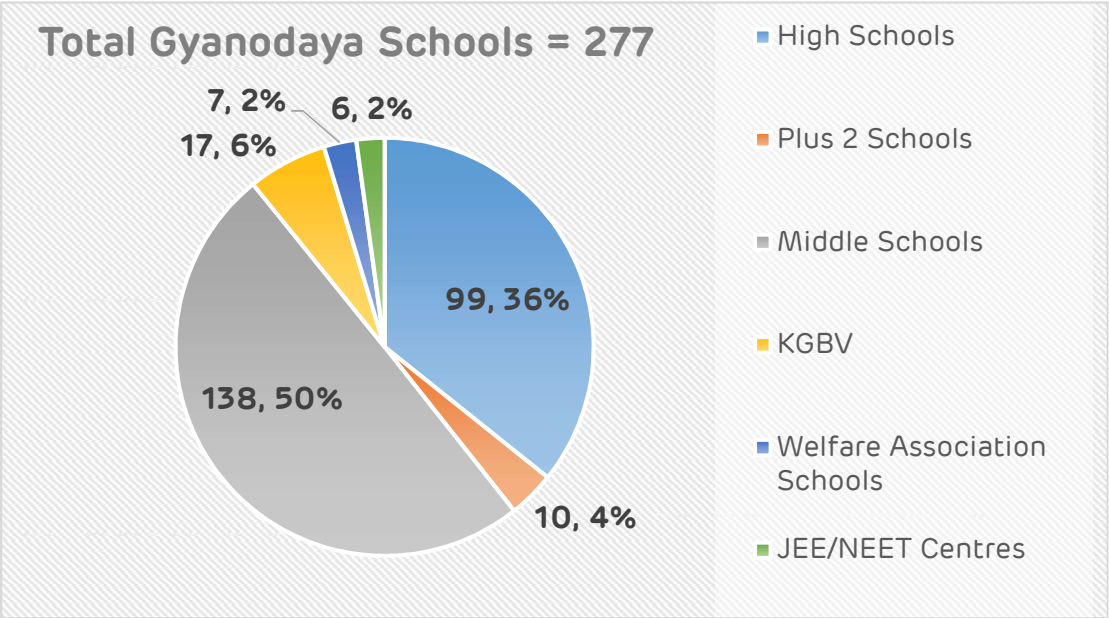
	Class 10th (Student)		Passing %	1st Div	2nd Div	3rd Div
	Appeared	Passed				
2018-19	30	30	100	20	8	2
2019-20	30	30	100	12	13	5

3. Gyanodaya Project: GYANODAYA, 'Mera Mobile, Mera Vidyalaya', a step towards lightning in dark was launched by Adani Foundation in partnership with District Administration on August 2018 to promote e-learning through Smart Classes in Middle and Higher Secondary Government Schools for students of 6th-12th standard. Gyanodaya project has reached **277 Govt. Schools** covering 846 classes with its reach spread across **209 remote and untapped villages** of Godda district in 9 blocks of Godda district.

In the tenure of less than 2.8 years, the program has leveraged its services facilitated by over 1000 skilled teachers and benefitting more than 67,000 students directly. Transformation in their lives has been observed through multiple benefits of digital learning such as - digital skills, decision making capabilities, visual learning, cultural awareness, improved academic performance and creativity. Gyanodaya model is filling the gap of teachers' shortage by enabling students to access the smart classes with a simple touch of TV remote.

Outreach of Gyanodaya: Gyanodaya program covers **138** Middle Schools**, 99** High Schools, **10** Plus 2 Schools, **17** KGBVs, **7** Welfare Association Schools, and **6** JEE/NEET Centres, respectively.

Block	Middle schools	High Schools	Plus2 Schools	KGBVs	Welfares	JEE/NEET Centres	Aggregate
Godda	42	20	3	2	0	4	71
Sunderpahari	3	5	0	2	3	NA	13
Podaiyahat	30	16	3	2	0	NA	51
Pathargama	24	6	1	2	0	1	34
Basantrai	9	5	0	1	0	NA	15
Mahagama	13	17	2	2	0	1	35
Boarijore	3	8	0	2	4	NA	17
Mehrama	6	11	0	2	0	NA	19
Thakurgangti	8	11	1	2	0	NA	22
Total	**138**	**99**	**10**	**17**	**7**	**6**	**277**



Till Financial Year 2020-21, Gyanodaya Programme had resulted into the following mentioned output and outcome among multi- stakeholders and beneficiaries:

Programme Output

- **Capacity Building of 765 teachers:** Total 765 teachers have been trained to use digital technology to conduct smart classes in schools effectively and efficiently in the district.

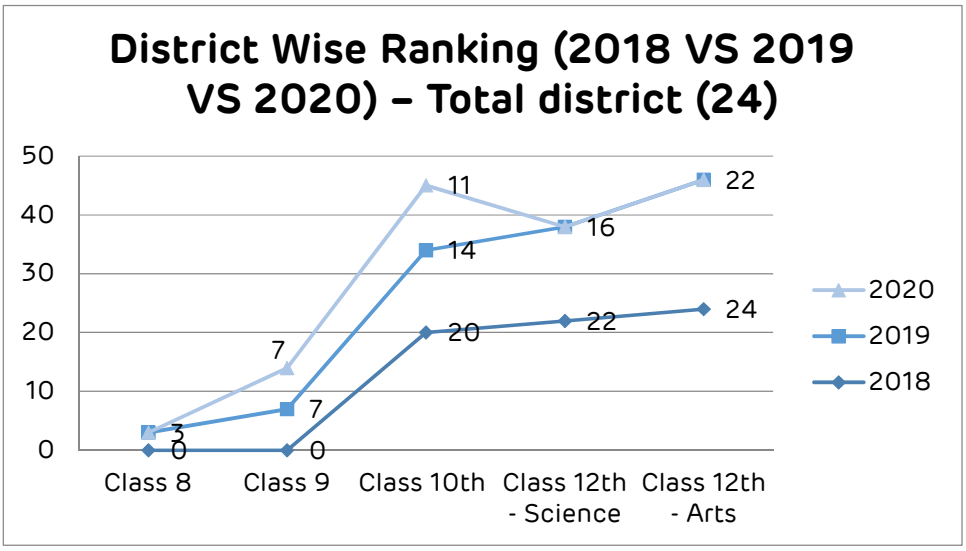
- **Beautification Work of 176 schools:** Under the provision of 14th Finance Commission, 176 schools were beautified to enable school teachers and children for learning in ecosystem of education. This initiative also has seen the major involvement of Panchayati Raj Institutions in setting up crucial infrastructure in the schools using the provisions of the 14th Finance Commission.

- **100 % Electrification of 42 remote schools** has been done to provide energy access in schools and impart digital learning.

- About **25 schools** have been provided drinking water connection and hand-pumps to enable access to drinking water for children.

Programme Outcome

1. **Improvement in School Ranking at District Level:** The magnificent attempt of Gyanodaya has resulted into improvement in overall performance of education of Godda District after the year 2018. The School Ranking has improved significantly in the year 2020.



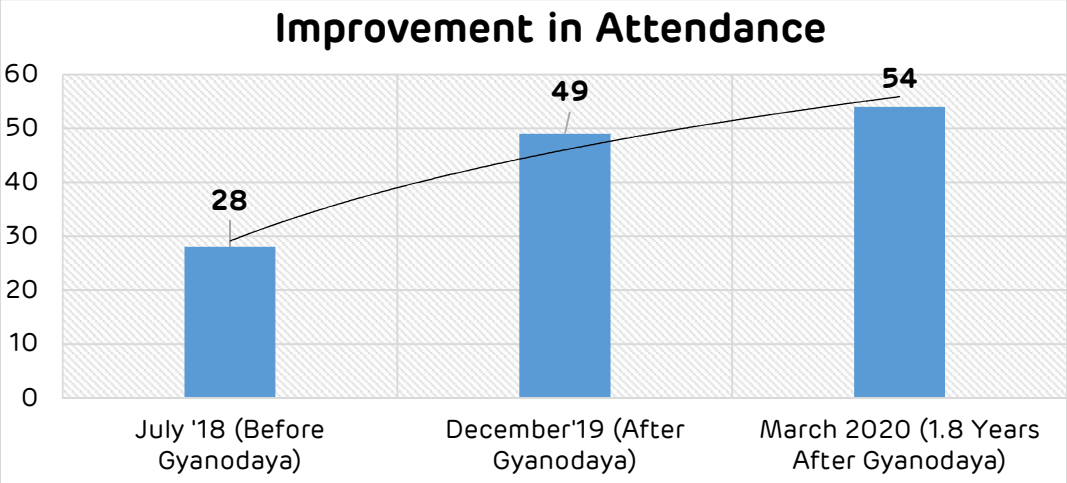
**No Examination held of Class 8th and Class 9th in 2018*

a) Class 9th standard upholds **7th** rank position in the year 2019 & **2020** as compared to **21st position** in the year 2018-19
b) The figures improved from 20th rank (2018) to 14th rank (2019) to **11th** rank in the year **2020** of Class 10th,
c) 22nd rank (2018) to **16th** rank **(2019)** in class 12th (Science) and
d) 24th rank (2018) to **22nd** rank **(2019)** in class 12th (Arts)
e) Class 8th stands at **3rd** rank (2019) among 24 districts of Jharkhand state.

2. **Increase in Attendance Rate of Students:** The visually appealing, easy-to-grasp and retainable concepts covered in the study materials has led to 170% increase in the class-wise attendance comparing the figures of past years (July 18) from 20% attendance to **54%** (March 2020). A significant reduction in dependency on tuition classes has been observed all across the blocks which will thereby increase the faith of students and parents likewise on government schools. The growth in the class-wise attendance has been a result of making learning engaged and interactive using conceptualized and animated concept videos being taught under the Gyanodaya model.

No classes were held due to outbreak.

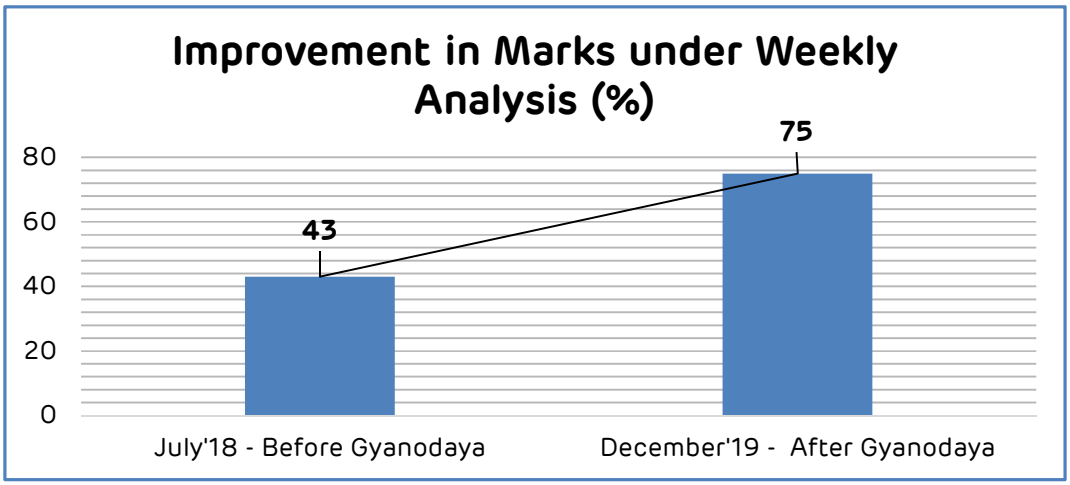
Improvement in Attendance after implementation of Gyanodaya	
July-18 (Before Gyanodaya)	**March 2020 (1.8 Years After Gyanodaya)**
20-30%	54%



3. **Improvement in Marks of Students:** Prior to educational initiative of Gyanodaya, the students used to fall under 30-40% marks bracket which has now shifted to **70-75%** marks bracket on an average due to better understanding and retention of basic concepts and a daily quiz after every video.

Impact of Gyanodaya project on Results is as given below:

July-18 (Before Gyanodaya)	**December 2019 (1.6 Years After Gyanodaya)**
Improvement in Marks under Weekly Analysis	
30% - 40%	70-75 %

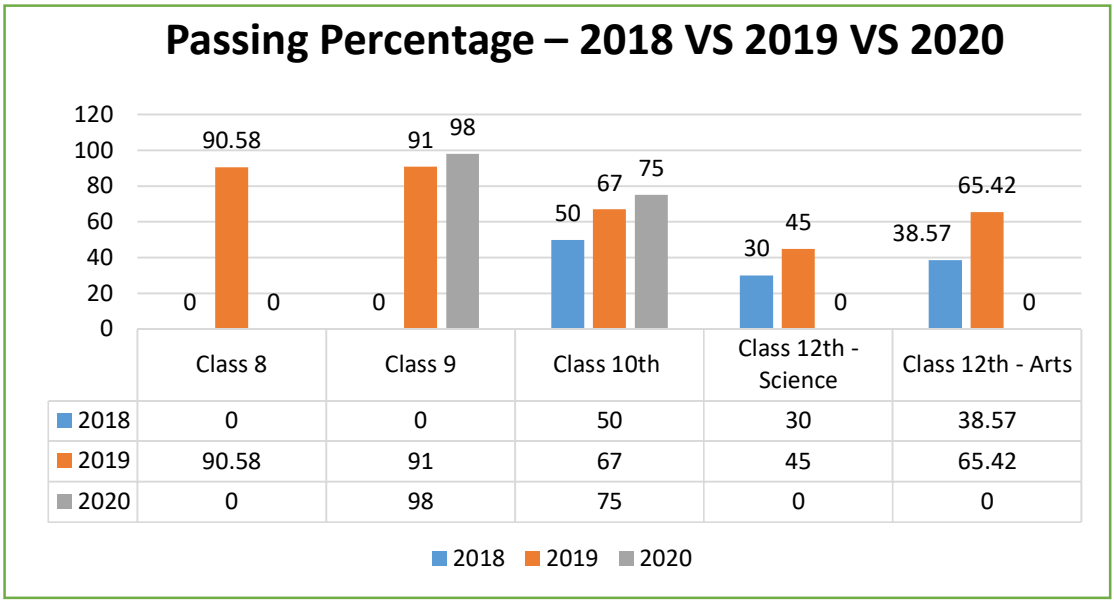


4. **Increase in Passing Percentages:** The passing percentage of students of Class 9th and Class 10th has increased in the year 2020 as compared to previous two consecutive years 2019 and 2018

   i. **Class 10th: 75% (2020)** passing percentage as compared to figure of 2019 (67%) and 2018 (50%),
   ii. **Class 9th:** Passing percentage increased from 91% (2019) to **98%** in the year **2020,**
   iii. While, the passing % of Intermediate students has increased from 30% (2018) to **45% (2019)** in Intermediate (Science) and 38.57% (2018) to **65.42% (2019)** in Intermediate (Arts).
   iv. On the other hand, the passing percentage of class 8th students is **90.58%** in the year **2019**.

Class wise Increase in Passing Percentages of students in Godda district					
Academic Year	**Class 8th**	**Class 9th**	**Class 10th**	**Class 12th Science**	**Class 12th Arts**
2017-2018	0	0	50	30	38.57
2018-2019	90.58	91	67	45	65.42
2019-2020	NA	98	75	NA	NA
% Increase	**90.58**	**7.69**	**50**	**50**	**69.61**

**Exams were not conducted of class 8th & 9th on 2018*
***% increase figure from 2018 to 2020*

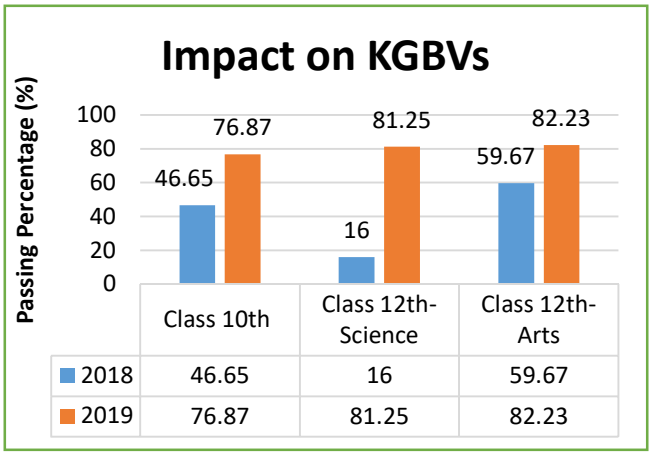


5. Impact on Kasturba Gandhi Bal Vidyalaya (KGBVs)

There are 17 KGBVs in the districts where about 1200 girl students were enrolled in 10th standard and about 450 students were enrolled in 12th standard in 2019.

- **Improvement in Passing Percentage of Class 10th:** The passing percentage of girls' students has increased from 46.65% (2018) to **76.87%** (2019) of standard 10th.

- **Improvement in Passing Percentage of Class 12th:** Likewise, it has improved significantly from low passing rate of 16% (2018) to **81.25%** (2019) in Class 12th (Science) and from 59.67% (2018) to **82.23%** (2019) in Class 12th (Arts).



❑ Gyanodaya Initiatives during COVID 19 Epidemic

- **Gyanodaya YouTube Channel:** Gyanodaya Godda responded swiftly to closure of schools and other institutions due to COVID 19 with the formation of YouTube Channel on April 2020. The YouTube version of Gyanodaya was started by Adani Foundation and Eckovation team to continue benefitting students in this Epidemic outbreak. The parents and their wards were informed about this initiative via print and social media platforms to gain access to education without any hindrance. All the content for every standard was uploaded to the platform. Over 3.6 million viewers are benefitted by attempting to enrich themselves from **Gyanodaya YouTube Channel.**
- Website Link for Contents & Online Classes for the students of Class 6 to 12: *godda.nic.in/covid-19-2/*

- **Gyanodaya DD Jharkhand:** On 11th May 2020, Gyanodaya collaborated at the state level and broadcasted 3 hours of content through DD Jharkhand daily for students of Class 1st to Class 12th standard residing in remote areas of Jharkhand. It was instrumental in cases where students did not have access to a smart phone or high speed internet access. It benefitted over 1 lakh children including both school going students and out of school children from all across the districts of Jharkhand state. It also created a learning space which enriched their knowledge in an inclusive manner for both parents and their wards at home.

- **Gyanodaya Rath: Gyanodaya Rath,** an initiative of District Administration was inaugurated on 1st October'20 by DC and DDC to continue imparting education amidst Epidemic Outbreak. It catered to the educational needs of students for the preparation of board exams and get instant feedback and guidance for improvement. Total **2750 students** of **Class 9th and 10th standard** of 16 schools of 8 blocks were benefitted from Gyanodaya Rath program.

Methodology

- ✓ The Gyanodaya Van commute in the schools and community places of remotest villages comprising of marginalized and deprived households wherein the classes is conducted for 3 hours duration during morning and afternoon hours with proper seating arrangement and social distancing.
- ✓ In the first round of Gyanodaya Rath Program, two mobile van was operated which covered six schools of three blocks namely, Godda, Sunderpahari and Podaiyahat block of Godda district for one week duration from **2nd October 2020 to 8th October 2020**.
- ✓ The average students' strength on each day remains 40 students. The students had actively participated in the newly designed learning platform, the coping mechanism during the epidemic in the common places.
- ✓ The students are also imbibing the moral values and discipline under the sacred Peepal and Banyan tree near to their schools and villages.
- ✓ The students' daily note down the concepts being taught followed by sincere revision at their home without any failure.

Extension of Program (4th Phase): The **1st phase, 2nd phase & 3rd phase** of Gyanodaya Rath was operated by 5 mobile van in months of October and November'20 in Poreyahat, Sunderpahari, Boarijor, Mehrama, Thakurgangti & Pathargama block of Godda district

- ✓ **Fourth round of Gyanodaya Rath** was operational for class 9th students from 21st December 2020 covering 8 schools in 8 marginalized villages of Thakurgangti, Mehrama, Pathargama, and Boarijor block operated by four Gyanodaya Rath.
- ✓ Syllabus were prepared according to JAC reduced Syllabus.

Summary of Gyanodaya Rath							
Phase	**Date**	**Days**	**Gyanodaya Rath**	**Blocks**	**Schools**	**Class**	**Students**
I	02nd Oct to 08th Oct'20	6	2	3	6	10th	189
II	13th Oct to 30th Oct'20	10	2	3	6	10th	189
III	07th Nov to 05th Dec'20	21	5	5	10	10th	1145
IV	21st Dec to 20th Jan'21	25	5	5	10	9th	1227
Total				**8**	**16**	**2750**	

Benefits of Gyanodaya Rath

- ✓ Digital education in remote areas.

- ✓ Preparation for upcoming board exams.
- ✓ Students regaining interest towards study after a long gap.
- ✓ Career guidance by Gyanodaya team.
- ✓ Bridge the gap of irregular power supply/electric, lack of proper network connectivity and other social issues.
- ✓ Build solidarity, enrich moral values and create harmony among the children, parents and family.
- ✓ Gyanodaya Rath model was leveraged to provide access to education for both School going and Out of school children.

- **Visit of Vice President NICDC/OSD, NITI Aayog:** Field visit by **Mr. Abhishek Chaudhary, Vice President NICDC/OSD, NITI Aayog on October 2020** to review the implementation of Gyanodaya Godda in plus 2 HS Sunderpahari, Sunderpahari block along with district officials. He also interacted with the students studying under Gyanodaya Rath program along with DDC and delegates of District Administration, Adani Foundation and Eckovation team.

- **Gyanodaya Inaugural Program for IIT JEE Coaching Classes: on 23rd December 2020, Gyanodaya IIT JEE Coaching Classes** was inaugurated for aspiring students of government school by District Administration including DC Mr. Bhor Singh Yadav, DDC Ms. Anjali Yadav, and SDM Mr. Rituraj, Godda and team of Eckovation and Adani Foundation. Career Counselling session was held among the students of 10th and 12th standard. On the importance of education and right decision making skills after 10th and 12th for successful career which can be achieved by hard work and perseverance. 30 meritorious students from the district was selected for the preparation for which regular coaching classes is conducted.

- **Launching Program of Gyanodaya Godda App:** Launching Program was held **on 29th December 2020** for Gyanodaya Godda App for aspiring students of government school by Honorable DC, Godda Mr. Bhor Singh Yadav. During this pandemic, students studying in government schools have suffered the most. To help them all in their annual examination, with the support of District Administration, Godda and Adani Foundation, Eckovation has developed this application which is focused on Jharkhand Board. The app is based on Jharkhand board syllabus for students of class 6 to 12.

Awards and Honours

- **ICC Social Impact Award to Gyanodaya:** Gyanodaya bagged **"Indian Chamber Of Commerce (ICC) Social Impact Award -Promoting Education"** on **12th March**

2021 at Kolkata on the achievements of providing quality education among 67000 students of 276 schools in remotest and untapped villages of Godda district through smart learning in the government schools. The Chief Guests of the event were **Deputy High Commissioner, Mr. Nicholas Loy, British High Commission, Consulate General, Japan, Mr. Nakamura Yutakaya, Consulate General, Australia, Mr. Jenial Simay and President of Indian Chamber of Commerce, Mr. Vikas Agarwal and ICC Chairman, Ms. Nayantara Paul Chaudhary.** The delegates of Adani Foundation, Godda were honoured by ICC team with huge appreciation and felicitation of awards during the ceremony.

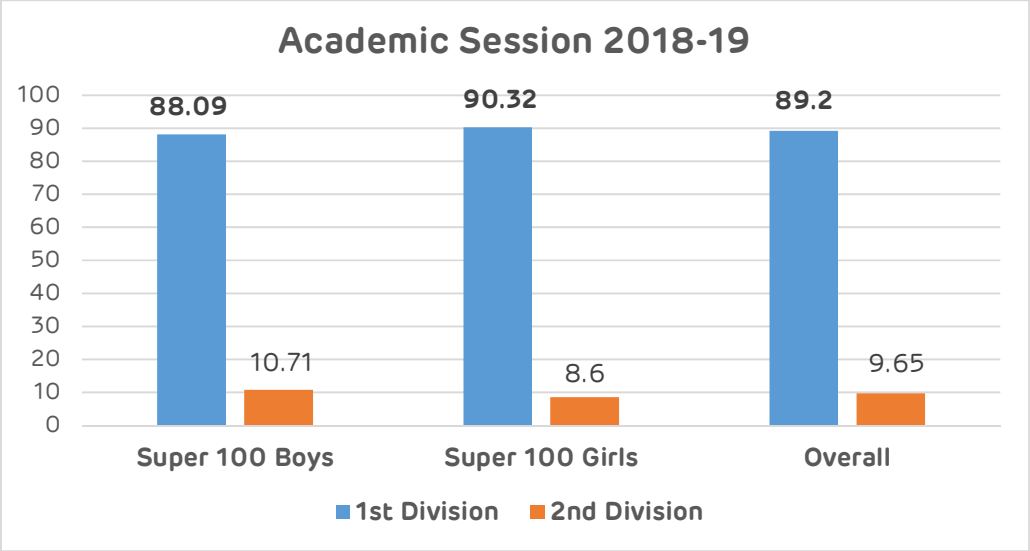
4. Super 100 & Super 200 Program

- **Super 100 Programme**: The Super 100 Program of Adani Foundation in collaboration with District Administration provided Residential Coaching Classes for conducive learning environment to top 100 students of Godda district for the preparation of Jharkhand Board exam held on March 2019. It resulted in increase in performance of Super 100 Boys and Super 100 Girls.

  - **Super 100 Boys:** Out of 84 boys, 74 boys **(88.09%)** got 1st division, and 9 (10.71%) got 2nd division.

  - **Super 100 Girls:** Similarly, out of 93 girls, 84 **(90.32%)** got 1st division and 8 girls (8.6%) got 2nd division.

Academic Session 18-19 (Passing Results in %)			
Super 100 Students	**Total Students**	**1st Division**	**2nd Division**
Super 100 Boys	84	88.09	10.71
Super 100 Girls	93	90.32	8.6
Overall	**177**	**89.2**	**9.65**



- **Super 200 Programme:** The outstanding performance of Super 100 students in Jharkhand Board Exam held on March 2019 and Appraisal by District Administration, led to origin of Super 200 Programme on 8th November 2019 with an objective to enable Super 200 students (Boys and Girls) to succeed in 10th Board exam with first division marks and secure bright career. It is operational in ITI Siktia, Women's College for Super 200 Boys and Kasturba Vidyalaya, Pathargama & Kasturba Vidyalaya, Godda Center for Super 200 Girls in Godda district.

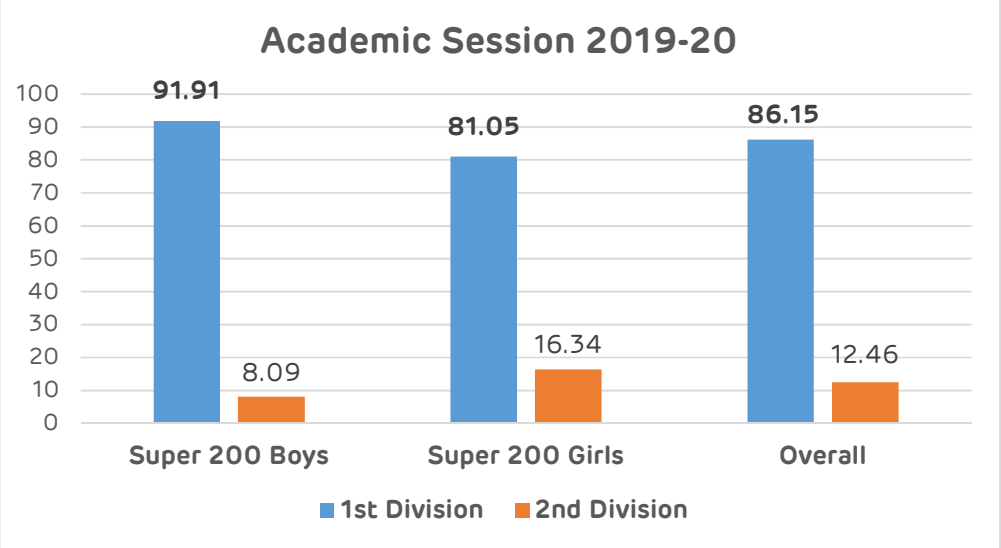
- The **Closing ceremony of Super 200 Program** was held on February 2020 at ITI Siktia and Kasturba Vidyalaya to motivate and build confidence in students for the broad exam preparation. District Administration and Adani Foundation team put forth their speech to appreciate students on their hard work and blessings for future endeavor.

- **Performance of Students of Academic Session 2019-2020**
  - **Super 200 Girls:** During the Academic Session, 2019-20, 153 girls learning in KGBV Pathargama & Godda centre had appeared in 10th Board exams. Out of which, **124 girls (81.05%)** secured **1st division marks**, 25 students (16.34%) got 2nd division marks, and 2 students got 3rd division marks while 1 student passed with marginal marks.

  - **Super 200 Boys:** 136 boys had appeared in the board exam, out of which **125 boys (91.91%)** of Super 200 Boys got **1st division marks**, 11 (8.09%) got 2nd division marks, while no students fallen under 3rd division. District Administration, District Education Officer (DEO) and whole team of Gyanodaya, Godda, Super 200 Program and Adani Foundation were

applauded for their endeavour in changing the scenario of education in Godda district.

Academic Session 19-20 (Passing Results in %)							
Super 200 Students	**Total Appeared**	**1st Division**		**2nd Division**		**3rd Division**	
		Students	**%**	**Students**	**%**	**Students**	**%**
Super 200 Boys	136	125	91.91	11	8.09	0	NA
Super 200 Girls	153	124	81.05	25	16.34	2	1.31
Overall	**289**	**249**	**86.16**	**36**	**12.46**	**2**	**0.69**



5. Coaching Program for JNV Class 6 Entrance Examination: Coaching Program for the preparation of Jawahar Navodaya Vidyalaya (JNV) Class 6 Entrance Examination amidst Epidemic was started in the month of January 2020 with an objective to nurture the underprivileged students in particular and to bring them at par with others in the development of conducive environment and get 100% improved academic performance of students.

- **Methodology**
  - Special coaching classes by teachers (Offline mode) is operational at 8 different locations at village level and online access to learning materials by

students (self-study) are followed to cater to the needs of over 1300 enrolled students for securing target 30 seats out of total 80 seats in the district.

- The program is scheduled to run for 3 months duration prior to scheduled examination in the month of April 2021 to enable the students to pass the examination with flying colors.
- The preparation of the examination will include arrangement of learning materials, stationery items and miscellaneous items for the same.
- 1312 number of students issued with G-suite ID for accessing online learning material. Out of which **113 students** are doing preparation in coaching centres facilitated by Adani teachers.
- Weekly tests are conducted by teachers for evaluation of students 'performance.

Navodaya Coaching Details			
S.I	**Block**	**Centre Name**	**Students Enrolled**
1	Godda	MS Motiya	18
2	Poreyahat	MS Sondiha	13
3	Poreyahat	MS Baksara	16
4	Poreyahat	MS Birniya	15
5	Godda	Dumariya	9
6	Godda	PS Kaithatikar	14
7	Mahagama	UMS Maniyamor	19
8	Thakur Gangti	UMS Baniyadih	9
Total			**113**

6. Teacher Support in School: - On community demand, Adani Foundation has provided 25 experienced and knowledgeable teachers in 15 schools including 14 govt. and 1 private school in core, railway line and pipeline areas to enable access to quality education by all the school going students. This initiative aims to improve the quality of education in schools by improving student-teacher ratio and concept building of students in subjects like Science and Mathematics.

The teachers are also training the children for Navodaya entrance preparation in 8 locations of core and pipeline area benefitting over **3000 students** (2913 students of Gyan Jyoti and 113 students of Navodaya Coaching) who regularly attend classes and more than **12000 beneficiaries** indirectly. Nonetheless, the teachers had also, occupied themselves in identifying suspected cases of COVID 19 in their proximity, if any, and provided immediate relief and mitigation services

in collaboration with Medical team and Volunteers of Adani Foundation, Godda. Also, participated in Community Mobilisation and educated the community on Promoting Sustainable Livelihood in the villages.

Sl. No	Location	Standard	No. of Student
1.	High School, Motia	**9th & 10th**	235
2.	Middle school, Motia	**1st to 8th**	546
3.	High School, Baksara	**9th to 12th**	276
4.	Upgraded high school, Sondiha	**6th to 8th**	192
5.	Middle School, Kauribahiyar	**1st to 8th**	286
6.	Primary School, Kaithatikar	**1st to 5th**	142
7.	Veena Bharti, Podaiyahat	**6th to 10th**	276
8.	Middle School, Rangania/Baliakitta	**1st to 8th**	176
9.	Primary School, Amrakanoli	**1st to 5th**	136
10.	Middle School, Jiajori	**1st to 8th**	76
11.	Primary School, Ranidih	**1st to 5th**	50
12.	Primary School, Karnu	**1st to 5th**	100
13.	Manasparivartan Private School, Baksara	**1st to 8th**	126
14.	Upper Middle School, Baniadih	**8th to 9th**	176
15.	Primary School, Thakurgangti	**1st to 5th**	120
Total			**2913**

7. Material Support to School for Improvement of School Kitchen

Poor implementation of government schemes and improper functioning of schools, leads to the cause of decline in quality of education. To bridge the gap of educational resources in the school, Adani Foundation provides support to government schools with respect to Learning Materials, Kitchen Materials and Infrastructure development support to strengthen the education institution and build the future of children in a constructive and right manner.

Objective

- Improving the nutritional status of children studying in classes I – VIII in Government schools

- Encouraging poor children, belonging to disadvantaged sections, to attend school more regularly and help them concentrate on classroom activities.
- Providing nutritional support to children of primary stage
- The provision of healthy diets support a healthy lifestyle in order to accommodate all learning opportunities.
- To provide a healthy balanced diet within a relaxed dining atmosphere to encourage children to be included in the social interaction during eating.
- Help to raise educational attainment through nutrition.
- Implementation of Mid-Day Meal programme properly in an inclusive manner.

Kitchen Material Support: This year Adani Foundation supported the School Management Committees (SMC) with Kitchen Materials to in nine schools of TPP core area benefitting over **2400 students** of primary and secondary education directly and more than **9000 population** indirectly.

SN	School	Students	Date of Distribution	Unit
1	Primary School, Kaithatikar	138	12.02.21	1
2	MS Motia	635	12.02.21	1
3	MS Kauribihar	316	12.02.21	1
4	MS Patwa	136	13.02.21	1
5	MS Sondiha	197	13.02.21	1
6	MS Dumaria	277	13.02.21	1
7	MS Basantpur	392	13.02.21	1
8	MS Baksara	280	13.02.21	1
9	MS Rangania	126	13.02.21	1
Total		**2497**		**9**

8. School Education Sponsorship Program

Context: Jitpur coal block is located in north-western part of Chuperbita Basin of Rajmahal coal field in Godda district of Jharkhand. Around, 70 % of population are PVTGs including Santhal and Paharia tribes who resides in outskirts area in rural Godda depending upon traditional culture and lifestyles for their survival. Rain fed farming, NTFPs collection, and wage labor in coal mines during drought period is their only, source of earning and substantial number of people falls under below poverty lines. Due to lack of income, illiteracy, agriculture debt; lack of awareness about their rights and basic provisions, alcoholism and superstitions enters them in vicious circle of poverty.

Also, the tribal children cannot access to basic education due to poor socio and economic condition of their families. They are rather engaged in agriculture, labor, livestock grazing, and monotonous work of households. In times of nurturing with education and constructive environment, their childhood is lost in solitude and despair with chain of hardships and labor. Also, due to no availability of adequate school and school teachers, there was 100% incidence of dropout in schools.

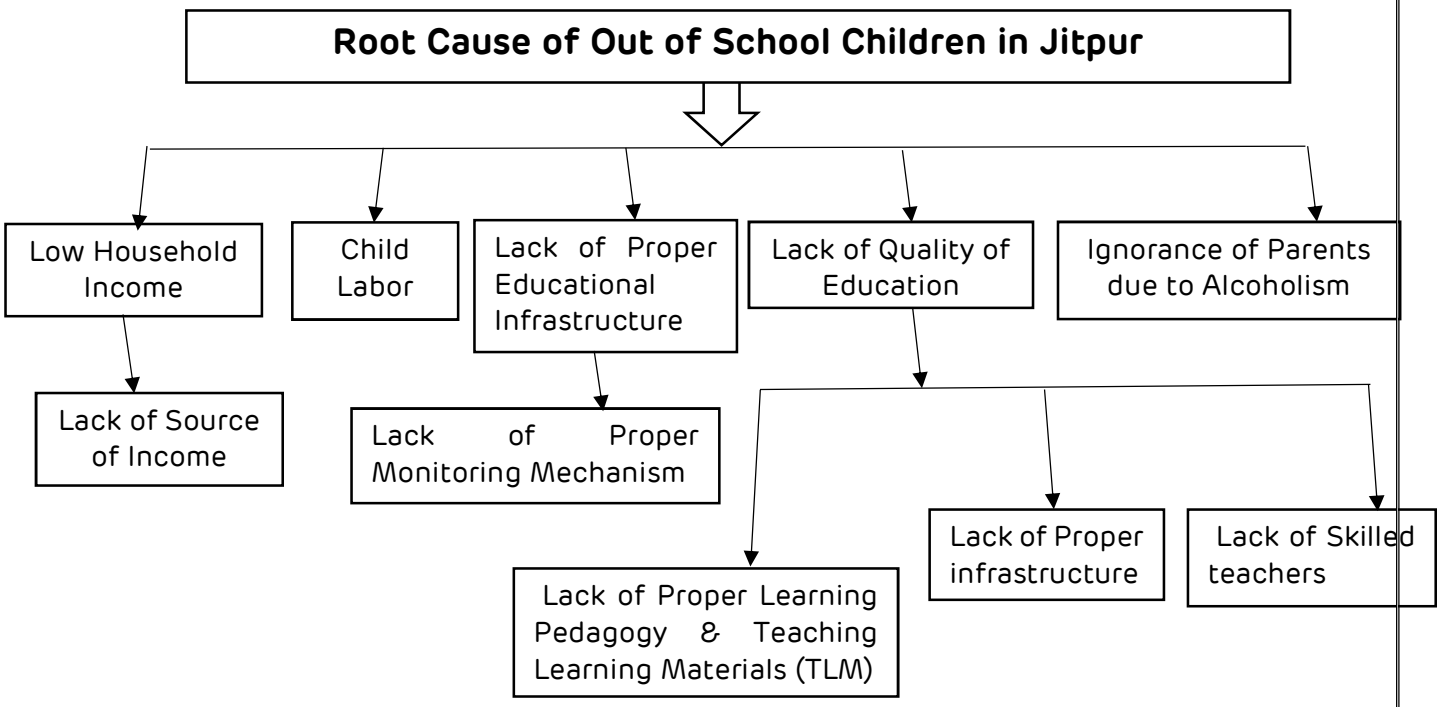


Fig. 1 Root Causes of Drop out of Children in Jitpur coal mines area

- **Intervention:** To reduce the plight of families and overcome difficulties, and reduce dropout rate of tribal children, Adani Foundation team launched *School Education Sponsorship Program* in the year 2016 to provide 100% education support for one ward each from 300 Project Affected Families of Jitpur mines to reduce dropout by focusing on quality education and thereby regular attendance of students and ensure 100% literacy in new generation.

- **Services under Umbrella of Education Sponsorship Program**

Under this programme, 100% Educational support is provided which comprises of (a) School Fees, (b) Books, (c) Stationary items, (d) Accommodation facilities, and (e) Fooding and Logistic facilities

i. **School Fees:** The School fees of each child are paid by Adani Foundation under Financial Support for education of children.

ii. **Accommodation facilities:** The students are permitted residential facilities on annual basis for the duration of regular academic session.

iii. **Fooding and Logistic facilities**: The fooding and conveyance facilities are also provided for the children to gain access to schools coming from remote villages. Children are provided three times nutritious and healthy food keeping in safety and security as utmost priority.

iv. **Teaching Learning Tools and Materials** such as Books, Stationary items, and related needs are taken care of each children going to school under umbrella of Education Sponsorship Program.

v. **Skilled Teachers:** Highly qualified and well versed teachers in nutshell of teaching sector grooms' students towards their better and bright future.

Triggers of Adani Foundation

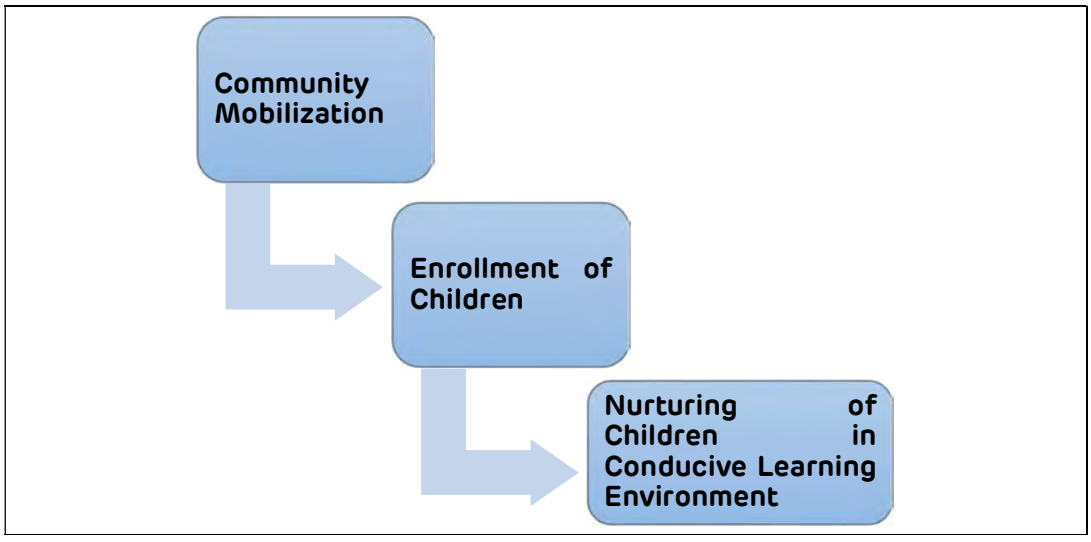


Fig. 2 Process of Intervention

I. **Community Mobilization:** The families were approached to inform, educate and sensitize on provisions and importance of Residential School Facility under this programme. The community were mobilized with support of Village Resource Person, Community Leaders and active persons which helped disseminate knowledge regarding the services.

II. **Enrolment:** On June 2016, the parents of 155 wards were convinced in each family to enrol their children in educational institutions who were further, admitted in reputed private schools fulfilling all amenities. In the first year, it was challenging to retain the enrolled students and attend regular classes, AF team put dire efforts to stabilize and continue the regular course.

VILLAGE WISE ENROLLED CHILDREN FROM PROJECT AFFECTED FAMILIES (PAF)				
SN	**Village**	**Enrolled (2018-19)**	**Shifted to new school (2019-20)**	**Total No. of Wards**
1	Dahubera	29	20	29
2	Pakeri	14	0	14
3	Dan agora	23	0	23
4	Dumarpalam	34	0	34
5	Jitpur	80	0	80
6	Kairajori	27	0	27
7	Paharpur	74	0	74
8	Sunder Pahari	9	0	9
9	Telvita	10	0	10
Total		**300**	**20**	**300**

Gradually, with quality learning pedagogy used by teachers and facilities provided to students helped hold children who attended classes with their own interest, effortlessly. It led to link more number of children in the succeeding years with enrolment of total 300 children from 300 families in current duration.

YEAR WISE PROGRESS IN ENROLLMENT OF TRIBAL CHILDREN UNDER EDUCATION SPONSORSHIP PROGRAM				
2016-17	**2017-18**	**2018-19**	**2019-20**	**2020-21**
155	275	300	300	**300**

9. Education Support to Palni

- **Story of Palni Kumari:** Palni Kumari of Simdega, Jharkhand is a teenager nurtured by her only mother in family. At her minor age of 1.5 years, she lost her father. However, Palni and her mother did not lose the courage and showed remarkable resilience in dealing with the difficult situations. It is righty said, age is just a number if we envision to achieve our ambitions debarring all the obstacles and hurdles in the path.

  Her perseverance and tenacity, led to pass the class 6th examination with 75% distinction marks and currently studying in 7th class standard. With a dream to fly high, she aspire to become Nurse and serve the poorer people along with the responsibilities of her mother in her shoulder. Together, Palni and her mother earn their bread and butter and paying school fees by selling chickpeas at the roadside of her locality

- **Adani Foundation Support for Palni's Education:** The Chairman of Adani Group, Hon'ble, Shri Gautam Adani has taken up the Noble work by taking the responsibilities of educating Palni, girl from a small town, Simdega to fulfil her dream of becoming a Nurse. For five years' of duration, Adani Foundation will discharge the duty of Educating Palni Kumari and nurture her in a healthy environment.

10. **Drinking Water Facility:** AF supported with **2 RO Water Purifier** of 50 Litre per hour and 20 Litre per hour water purification capacity in **Intermediate College, Mahagama.** It will serve to over 1100 students of Science, arts and commerce stream and staffs of college with availability of drinking water facility. It will also facilitate in improving the quality of education and academic results with better health and hygiene.

Capacity Building Programme

1. **Training on First-Aid Safety:** Training on First-Aid Safety was conducted by Adani Medical team on 22nd February 2021 among students of High school, Baksara. More than 100 students had participated in the training program and learnt the basic principles and measures during the uncertain circumstances happened to an individual or groups.

2. **Samman Samaroh for Meritorious students:** The entire event of Medhavi Chhatra Samman Samaroh day celebration was managed by Rastradharma organization E.D., Thakurgangti team by inviting 300 plus Guardian, Youths, Students from across the block of Thakurgangti for participation and Appreciation on December 2020. During the event, 25 students of Class 10th & 12th standard from Thakurgangti block of Godda district were appreciated and honored for doing outstanding Performance in various fields of Education.

3. **Under Gyan Jyoti Tuition Program,** top 5 students of Primary School, Amrakanoli were awarded with prizes on 10th February 2021.

Supporting Sports Events

1. **Sports Kit Distribution:** 38 Sports kit comprising of football, volley ball, cricket etc., were distributed to more than 20 youth groups under rural youth engagement program to promote recreational activity and sports events in core, railway line and pipeline villages of Godda, Boarijor, Mahagama, Thakurgangti, and Pathargama block of Godda district and Mandro block of intake area of Sahebganj district. It helped them in regular practice and a means of recreation. The distribution of kit help youth in more engaged in constructive activity.

Sports Kit Distribution					
Particulars	**Date**	**Village**	**Block**	**Quantity**	**No. Of Team**
Football Kit	29th Dec'20	Dhamni Simariya	Boarijor	1	1
Football Kit	29th Dec'20	Ranidih	Boarijor	1	1
Football Kit	29th Dec'20	Bahadurchak	Thakurgangti	1	1
Football Kit	29th Dec'20	Thakurgangti	Thakurgangti	1	1
Football Kit	6.01.21	Banskola	Mandro	1	1
Football Kit	6.01.21	Lahorbera	Mandro	1	1
Football Kit	9.01.21	Chunakhadi	Mandro	1	1
Football Kit	9.01.21	Mathadih	Mandro	1	1
Cricket Kit	4.01.21	Kauribihar (High School)	Godda	1	1
Cricket Kit	4.01.21	Motia (High School)	Godda	1	1
Cricket Kit	4.01.21	Baksara (High School)	Poreyahat	1	1
Cricket Kit	5.01.21	Bhagaiya	Thakurgangti	1	1
Cricket Kit	8.01.21	Ghat Gambhariya	Mahagama	2	2

Cricket Kit	12.01.21	Diyajori	Mahagama	1	1
Football Kit	12.02.21	Dayalpur	Mandro	2	2
T Shirt	12.02.21	Dayalpur	Mandro	15	1 (Winning team)
Football Kit	10.02.21	Nayabad	Godda	1	1
Cricket Kit	27.02.21	Motia	Godda	2	2
Volleyball Kit	27.02.21	Motia	Godda	2	2
Football Kit	08.03.21	Jageswar Ground	Littipara	1	1
Total				**38**	**23**

2. **Cricket Tournament:** Five cricket tournaments were organized covering 26 villages of core, and pipeline areas involving youths to instill with confidence, develop personality and motivate them for shaping bright future. It was held at Godda, Mahagama, Thakur Gangti (Intermediate Reservoir) and Podaiyahat block of core and pipeline areas, with participation of combined size of 286 players from 26 villages and audience size of more than 700 spectators from nearby villages maintaining safety protocols.

Cricket Tournament					
SN	**Date/Month/Year**	**No of Villages/ locations**	**No. of Participants**	**No. of Players**	**Average Audience Size**
1	3rd December'20	2	2 teams	22	90
2	7th December'20	2	2 teams	22	100
3	24th Dec'20- 26th December'20	4	4 teams	44	150
4	9th January'21	10	10 teams	110	250
5	26th January'21	8	8 teams	88	200
	Total	**26**		**286**	**790**

- **Cricket tournament at Sondiha: 3 days' Cricket tournament** was organized by Cricket Club Sondiha from **24th December 2020 to 26th December '20** in Sondiha village, TPP core area in the presence of Local MLA, and PRI members. Four cricket teams from Sondiha, Parasi, Jajajlpur and Muchaira

village had participated in cricket tournament on 24th Dec'20. The first winning team of Cricket tournament was Sondiha village who won **cash prize of Rs. 2100** and **trophy** followed by 1st Runner up, Parasi team who **won cash prize of Rs. 1100** and winning trophy.

- **Friendship Cricket Match on International Day of Persons with Disabilities (IDPD):** On the eve of International Day of Persons with Disabilities (IDPD) on 3rd December 2020, Friendship Cricket Match was held among Adani Power (Jh.) Limited and Divyang Cricket team of Godda District participated by 2 teams and 22 players. It was conducted to encourage and empower the disabled persons of the society and ensuring inclusiveness and equality. The program was presided by Honorable Chief Guest, Mr. Rahul Kumar, District Sports Officer, Godda with participation of officials of Adani Foundation and Jharkhand State Cricket Association. The cricket match was played at Budhwatrai stadium chaired by Divyang Ekadash by making score of 84 runs in 15 over of which, the Cricket team of Adani Power Limited defeated the opponent Divyang Cricket team of Godda by 5 wickets and won the tournament. The winning team were honored and awarded with prize, mementos and trophy.

3. **Football Tournament:** Twenty five football tournaments were held in 56 villages of core, and pipeline areas involving youths to instill with confidence, develop personality and motivate for shaping bright future. It was held at Pathargama, Mahagama and Boarijor, Thakur Gangti (Intermediate Reservoir) block of pipeline areas, Sunderpahari block in Jitpur Mines area, Podaiyahat block of core area, and Mandro block of Sahebganj district with participation of combined size of 5520 players from 56 villages and audience size of more than 12000 spectators from nearby villages maintaining safety protocols.

Football Tournament					
SN	**Date/Month/Year**	**No of Villages/ locations**	**No. of Participants**	**No. of Players**	**Average Audience Size**
1	30-31st October 2020	2	16 teams	240	700
2	10th November 2020	2	16 teams	240	450
3	25th-26th Dec'20	6	16 teams	240	680
4	Dec-20	2	16 teams	240	500
5	Dec-20	2	16 teams	240	500
6	Dec-20	2	16 teams	240	500

7	Dec-20	2	16 teams	240	500
8	Dec-20	2	16 teams	240	500
9	6th January 2021	2	4 teams	60	500
10	17th January 2021	2	16 teams	240	500
11	17th January 2021	2	16 teams	240	500
12	26th January 2021	2	16 teams	240	500
13	26th January 2021	2	16 teams	240	500
14	31st January 2021	2	16 teams	240	500
15	12th February'21	3	4 teams	60	500
16	21st February'21	3	16 teams	240	550
17	25th February'21	2	16 teams	240	350
18	28th February'21	2	16 teams	240	460
19	03rd March 2021	2	16 teams	240	250
20	04th March 2021	2	16 teams	240	700
21	04th March 2021	2	16 teams	240	640
22	05th March 2021	2	16 teams	240	480
23	05th March 2021	2	16 teams	240	520
24	08th March 2021	2	16 teams	240	450
25	25th March 2021	2	8 teams	120	400
Total		**56**		**5520**	**12630**

4. **Youth & Sports Development Programme at Gandhi Maidan, Godda: Netball tournament** was organized by the Netball Association at Gandhi Maidan, Godda in the month of January 2021 in which Adani Foundation had also supported to conduct the tournament successfully. Winning teams were awarded with shields and mementos. Their contributions in the society was also acknowledged and encouraged to continue participating and leading in Sports sector with full enthusiasm and dedication.

5. **Celebration of National Youth Day in Pipeline Area-Godda:** On the occasion of **National Youth day on 12th January 2021**, Adani Foundation had organized one day football tournament at Gudiya Ground. Gudiya is one of the Project Affected Village of Adani Power (Jharkhand) Limited which was dominated by Santhal Communities. The support and warm welcoming of Adani Company by this community in their area was outstanding.

COMMUNITY HEALTH PROGRAMME

Mobile Health Care Unit (MHCU)

In the Financial Year 2020-2021 (April 2020-March 2021), four Mobile Health Care Units have together catered to **40,043** patients so far from the Core, Periphery, Railway line and Pipeline villages. Adani Foundation runs its own MHCU in core and mines area villages while it has partnered with Helpage India and Wockhardt Foundation to extend primary medical services in Periphery and Pipeline villages respectively. All of these four MMUs provide services in the villages as per schedule through a team of a Doctor, a Pharmacist, an ANM, and a Social Protection Officer. AF supported mobile medical facilities goes a long way to ensure access of poor people to quality primary health care services at their doorstep. The services provided at doorsteps during COVID 19 has been instrumental in protecting the health of the individuals of all age group and gender.

- **Mobile Health Care Unit in Core villages:** During the Financial Year, 'April 2020- March 2021', Adani operated Mobile Health Care Unit in core villages of TPP Plant area have conducted 25 halts at 9 locations covering 13 villages along with for labourers working at Site office on weekly basis amidst Epidemic to cater medical needs of the villagers at grassroots.

  The camp was put on hold during April'20 to June'20 and in the month of August due to suspected COVID Cases and protecting from infection of COVID 19 to the villagers and medical team. Ambulance services were also provided for COVID 19 cases at Godda district. The MHCU in core villages was resumed from September' 20 with all preparation and adhering to safety protocols to operate before going into the field comprising of wearing of PPEs and Face masks, and use of sanitizers for cleanliness.

  Total **3067** patients including **1258** males, **1208** female & **601** children have been served in this year.

Patients treated by Adani Operated MHCU- Core on April-March 2021					
SN	**Month**	**Males**	**Females**	**Children**	**Total**
1	April	0	0	0	**0**
2	May	0	0	0	**0**
3	June	0	0	0	**0**

4	July	130	79	48	**257**
5	August	0	0	0	**0**
6	September	116	68	38	**222**
7	October	187	173	89	**449**
8	November	156	150	76	**382**
9	December	198	233	125	**556**
10	January	130	143	58	**331**
11	February	195	225	111	**531**
12	March	146	137	56	**339**
Gross Total		**1258**	**1208**	**601**	**3067**

- **Helpage India operated MHCU for Periphery Villages:** Helpage India operated MHCU delivered medical services in 26 periphery villages coming under buffer zone 1 and railway siding villages of Adani Power Plant. MHCU was operational at 16 sites covering 26 locations benefitting over total **9777** patients including **3880** male, **3885** female and **2012** children.

  Apart from sites visit, to cope up and mitigate the COVID 19 crisis, Ambulance services was made available for COVID 19 cases at Godda district. MHCU Godda transported 342 suspected Covid-19 patient from quarantine center to their home for home quarantine and also from different places to the Quarantine center (***Siktiya Quarantine*** centre).

Patients treated by Helpage India MHCU on April-March 2021					
SN	**Month**	**Males**	**Females**	**Children**	**Total**
1	April	0	0	0	**0**
2	May	156	173	0	**329**
3	June	236	343	0	**579**
4	July	0	0	0	**0**
5	August	187	122	0	**309**
6	September	559	462	0	**1021**
7	October	17	15	0	**32**
8	November	658	523	0	**1181**
9	December	596	570	523	**1689**
10	January	553	588	502	**1643**
11	February	534	591	544	**1669**
12	March	384	498	443	**1325**
Gross Total		**3880**	**3885**	**2012**	**9777**

- **Wockhardt Foundation operated MHCU for Pipeline Villages in Godda:** Adani supported Wockhardt Foundation MHCU team commenced its operation for pipeline area in the villages of Godda district since October '18. Total **16,261** patients including **5922** males, **6652** females and **3687** children were treated during April'20 to Mar'21, covering over 41 villages from 4 blocks namely, Mahagama, Boarijor, Pathargama and Thakurgangti. The camp was conducted maintaining social distancing and use of masks for protection of both Medical team and the community.

Patients treated by Wockhardt Foundation (Godda) MHCU on April-March 2021					
SN	**Month**	**Males**	**Females**	**Children**	**Total**
1	April	95	104	57	**256**
2	May	531	595	283	**1409**
3	June	526	549	324	**1399**
4	July	431	410	248	**1089**
5	August	408	424	259	**1091**
6	September	591	666	334	**1591**
7	October	604	705	404	**1713**
8	November	477	394	280	**1151**
9	December	603	753	414	**1770**
10	January	616	779	360	**1755**
11	February	537	678	357	**1572**
12	March	503	595	367	**1465**
Gross Total		**5922**	**6652**	**3687**	**16261**

- **Wockhardt Foundation operated MHCU for Pipeline Villages in Sahebganj:** Adani supported Wockhardt Foundation MHCU team commenced its operation for pipeline area villages of Sahebganj district since 21st September '18. Total **10,938** patients including **3835** males, **4871** females and **2232** children were treated on April-Mar'21 covering over 35 villages from 4 blocks viz. Mandro, Borio, Sahebganj and Taljhari (Boha village) in total 60 stoppages. Maintaining social distancing and use of masks.

Patients treated by Wockhardt Foundation (Sahebganj) MHCU on April-March 2021					
SN	**Month**	**Males**	**Females**	**Children**	**Total**
1	April	45	61	26	**132**
2	May	158	214	111	**483**
3	June	365	496	184	**1045**

4	July	169	185	89	**443**
5	August	157	163	81	**401**
6	September	439	516	241	**1196**
7	October	295	408	220	**923**
8	November	398	467	211	**1076**
9	December	501	672	322	**1495**
10	January	466	672	309	**1447**
11	February	456	584	205	**1245**
12	March	386	433	233	**1052**
Gross Total		**3835**	**4871**	**2232**	**10938**

2. Health & Wellness Center/Clinic in Motia: Wellness Center has been strengthened at Sub Health Center (SHC) at Motia village with an objective to provide primary health care facilities and disseminate knowledge to the poor people living at remote areas. Adani Foundation provides support to operate full-fledged Wellness Center with beautification work of the existing health infrastructure and equipped with basic medical equipment and administrative facilities. It caters to the needs of over 5000 populations of Motia & adjacent villages namely Dumaria, Rangania, Ranitikar, etc. where the beneficiaries of all age group, children, adolescents, women and elders gets their health checkup done and further proper counselling and prescription are given by doctors during afternoon and evening hours. The facility of medical treatment, referral services for critical cases are also provided by Medical team of Adani Foundation.

The function started in October 2020 which, treated and disbursed medicines to **3123 patients** (Males **985**, Females **1333** and **805** Children).

Patients treated in Health & Wellness Center/Clinic in Motia on April-March 2021					
SN	**Month**	**Males**	**Females**	**Children**	**Total**
1	October	69	123	76	**268**
2	November	203	202	164	**569**
3	December	290	422	201	**913**
4	January	153	207	120	**480**
5	February	170	221	123	**514**
6	March	100	158	121	**379**
Gross Total		**985**	**1333**	**805**	**3123**

3. Specialized Medical Camps: In this Financial Year, Adani Foundation endeavored to cater health needs in a specific health issues of the masses amidst Epidemic outbreak by adhering to safety protocols. Total of 10 Specialized Medical Camps were organized at 12 locations covering more than 30 villages from core, railway line and pipeline area. Specialized Medical Camps were organized with the objective to provide critical and specialized health care services in villages to cater untreated illness/ medical issues concerning women/ girls and children, elders, laborers and drivers of plant site and eye patients for whom access to safe and standard health services remains a challenge.

Patients Diagnosed and treated: Total **2315 patients** including **1768** males, **521** females and **26** children were diagnosed and treated for various ailments by doctors of respective specialization viz. Geriatric, ophthalmic and Homeopathic for boosting the immunity system of human body from protection of COVID 19 virus along with BP/ Sugar measurement and provision of medicines at free of cost at the camp site.

Details of Specialized Medical Camps

SN	Date	Block	Venue	Specialization	Patients treated			
					Male	Female	Children	Total
1	23.5.2020	Thakurgangti	Diara	Health Camp for Elderly: **Geriatric medicine**	40	30	0	**70**
2	24.5.2020	Godda	Baisari		40	34	0	**74**
3	30.5.2020	Thakurgangti	Chapri		38	60	0	**98**
4	31.5.2020	Godda	Kurmichak		38	49	0	**87**
5	05.06.2020	Godda	Adani Power (Jh) Ltd, Godda (Medical Centre)	**Homeopathic Health Camp**	676	0	0	**676**
6	05.06.2020	Godda	Adani Power (Jh) Ltd, Godda (Plant Canteen)		223	0	0	**223**
7	05.06.2020	Godda	Adani Power (Jh) Ltd, Godda (Bachelor Hostel)		221	0	0	**221**
8	21.06.2020	Pathargama	Lakhanpahadi	Health Camp for Elderly: **Geriatric medicine**	40	41	0	**81**
9	22.06.2020	Pathargama	Ghat Rampur		42	30	0	**72**
10	27.06.2020	Pathargama	Machhitand		45	33	0	**78**

11	28.06.2020	Pathargama	Amdiha		33	41	0	**74**
12	01.07.2020	Godda	Adani Power (Jh) Ltd, Godda (Motia site office)	Eye Camp for Drivers of Plant Area: **Opthalmic**	23	0	0	**23**
13	06.10.2020	Godda	Baksara	Mega Health Camp	87	53	26	**166**
14	07.11.2020	Boarijor	Telgama	Eye Camp	21	35	0	**56**
15	10.11.2020	Godda	Motia	Eye Camp	24	27	0	**51**
16	12.11.2020	Godda	Dumaria	Eye Camp	36	17	0	**53**
17	19.01.2021	Godda	Mali Ghat No-3, TPP Motia	Eye Camp	62	0	0	**62**
18	2.02.2021	Borio	Jirwabari Police Station, O.P., Sahebganj	Health Awareness Programme- National Road Safety Month + Eye Camp	38	7	0	**45**
19	3.02.2021	Mandro	Kauri Khutana	Eye Camp	14	21	0	**35**
20	9.02.2021	Mandro	Pindra	Eye Camp	16	24	0	**40**
21	13.02.2021	Mandro	Chunakheri	Eye Camp	11	19	0	**30**
Gross Total					**1768**	**521**	**26**	**2315**

4. Awareness Program on COVID 19: Adani Foundation operated Wockhardt Foundation had organized 'One-day Awareness Program on COVID 19' in Malnistara village of Pathargama block, Godda district. The villagers were informed about COVID 19, it's precautionary, preventive and curative measures; Nutritional Food Intake, its importance; Importance of social distancing and Importance of WASH.

5. Relief Program against Pandemic COVID 19: ***COVID Relief & Mitigation*** program was initiated by Adani Foundation for safety and protection of every individual and community from Pandemic CORONA Virus. Adani Foundation, District Administration & Nagar Nigam of Godda district is working jointly to fight battle against CORONA virus through engagement in activities such as:

1. Donation of Rs. 1 Crore in **CM Relief Fund** of Jharkhand state by APJL, Godda.

2. **Sanitisation programme (Fogging & Spraying)** running in entire area of Godda and 12 core villages. Disinfectants was applied in 12 rural outskirts of core area namely Motia, Patwa, Basantpur, Baksara, Choti Baksara, Sondiha, Rangania, Baliakitta, Petwi, Dumaria, Nayabad, Gangta and others Panchayats of TPP, Motia and overall targeted areas in town through Fogging/Spraying for 7 days benefitting over 2089 HHs and 8356 people.
3. **Temperature Screening:** All employees and staffs of Adani Group are screened and tested for detecting COVID-19 virus through measurement of body temperature by Security team members.
4. **Distribution of 30000 Soap** has been initiated in the community area.

5. **AF Supported Community Kitchen: Support program initiated by Team for safety from Pandemic CORONA Virus:** AF team in collaboration with District Administration initiated four Community Kitchen from 28th March 2020 till 31st May 2020, feeding two times (Lunch & Dinner) every day to more than 2000 Labourers, Contractors and Truckers in Town and Plant area which served more than 1 Lakh people. The Community Kitchen was led by four Women Self Help Groups in 4 key locations to provide access to hot cooked meals to the labourers and poorer people in the district.

SN	COMMUNITY KITCHEN CENTRE/ LOCATION
1	VIBAH BHAWAN, GODHI, GODDA
2	VIBAH BHAWAN, SHIVPUR, GODDA
3	HOSPITAL ROAD CENTER, GODDA
4	GODDA COLLEGE, GODDA

6. **Support of Essential Commodities for 700 Households:** In this adversities, team Adani Foundation and District Administration came along to reduce the plight and sufferings of most vulnerable groups of society such as women, BPL families, poor children of more than 700 migrant workers, truckers and labourers of our Plant area including 335 households of five tribal villages benefitting 1340 family members by Supporting through distribution of rations and essential grocery items such as Rice, Pulse, Oil, Vegetables, Salt etc. for their subsistence.

Material Support of Commodities to Tribal Villages			
SN	Village	Household	Beneficiary
1	Nayabad	55	220
2	Gangta	60	240
3	Karikado	20	80

4	Petbi Santhali	55	220
5	Gumma Santhali	145	580
Total		**335**	**1340**

7. **Installation of 25 Hands-Free Sanitisation Machine/Units (G-HanSa) at Public Places and Plant Premises in Godda:** On 6th April 2020, Adani Foundation team had initiated with knowledge and skills of 108 ASDC trainees proficient in Welder and Fitter trade in setup of an innovative Hands-Free Sanitisation Units which enables the commoners to access disinfectants via this simple and innovative tool. Total 25 Hands-Free Sanitisation Machine was produced and installed at various public places and plant premises for the citizens to prevent themselves from COVID-19 virus. They were also made aware and disseminated knowledge on pandemic, its precautionary measures and safeguarded the citizens.

PRODUCTION & INSTALLATION OF G-HANSA				
SN	**LOCATION**	**UNIT**	**DATE**	**REMARKS**
1	Government Premise	1	8.04.20	**Produced at ASDC**
2	Government Premise	1	12.04.20	
3	Government Premise	2	NA	
4	Government Premise	1	12.04.20	
5	Government Premise	1	12.04.20	
6	Government Premise	1	20.04.20	
7	Government Premise	1	25.04.20	
8	Government Premise	1	24.04.20	
9	Adani Office, Godda	1	May'20	
10	Adani Office, Mahagama	1	May'20	
11	Adani Office, Sahebganj	1	June'20	**Produced by APJL**

12	Government Premise	1	June'20	
13	Government Premise	1	June'20	
14	Government Premise	11	May-June'20	
	TOTAL	**25 G-HANSA**		

8. **E-Sewa App** has been installed in coordination with District Administration, Godda which provides home delivery services for essential grocery items and commodities benefitting over 1000 consumers at door steps.

9. **Medical Support** and **health checkup** services are carried out by Ambulance and Medical team of Adani Foundation, Godda providing immediate ambulance services in affected region of Godda district.

10. **Relieving the Migrants:** Under the aegis of District Administration, Adani Foundation and Municipal Corporation worked together with Red Cross Society in Godda district to provide relief support to the citizens.

    i. **Migrant labour Management:** Management of more than 45000 migrant workers coming from various parts of country was led by volunteers of Adani Foundation & District Administration in various Quarantine centres running in Godda district including Godda Krishi College, and Godda College.

    ii. **Distribution of Food Packets:** The volunteers of Adani Foundation had come forward and deputed themselves in managing the migrant labourers who had arrived on 3rd May from various states of country hailing from Godda and served them with free of cost food packets as refreshments and honoured with respect by the team. Also, Counselling session was held in order to rejuvenate them in this outbreak.

    iii. **AF Supported with Essential Food Grains for Quarantined Migrant Laborers** with support of District Administration through essential food grains in Quarantine centres of 5 blocks of Godda district namely Godda, Poreyahat, Pathargama, Basantrai & Sunderpahari to support migrant workers for their subsistence. It catered to over 4000 migrant workers coming from various states of country with essential food grains and commodities for 15 days.

iv. **AF supported with Water Bottles for Drinking Use:** Adani Power (Jharkhand) Limited & AF team provided support by supplying drinking water bottles for the migrants residing in Quarantine centre at Godda College. 600 water bottles have been provided to cope up with outbreak for Corona warriors in Godda College.

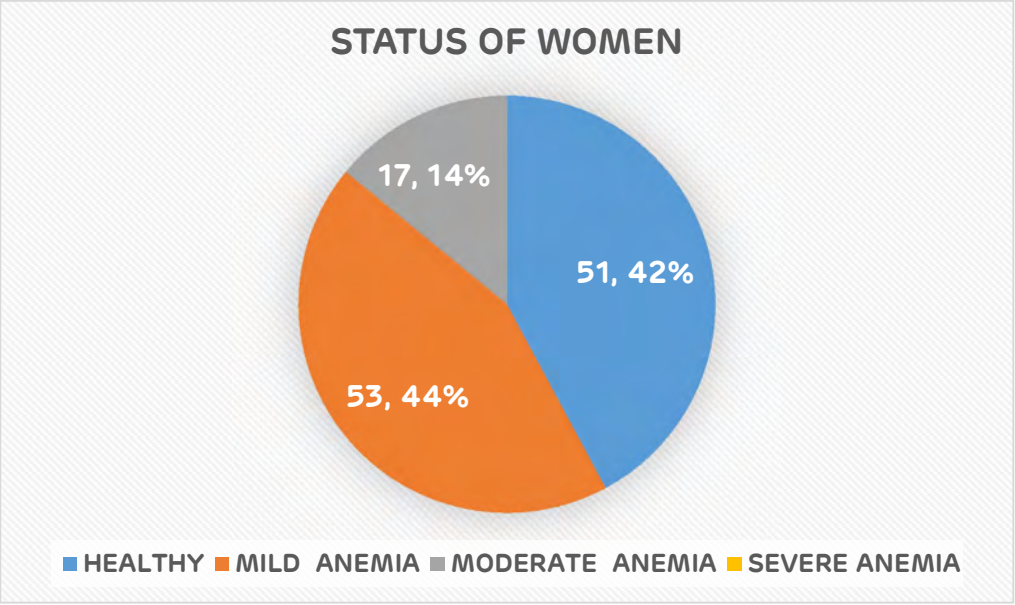
6. Spectacle Distribution: This year **134 Spectacles beneficiaries** out of total 395 eye patients have been provided support of spectacles covering four blocks; Godda & Boarijor of Godda district and, Borio & Mandro of Sahebganj district on March 2021. Spectacles have been distributed to beneficiaries who were prescribed power by doctor during eye check-up in specialized medical camps. Poor people who cannot afford to buy spectacles and continue to neglect their eye-sight problem are supported by Adani Foundation through this initiative.

Details of Spectacles Distribution Camp Wise					
SN	**Block**	**Village**	**Date of Eye Camp**	**Total Patients**	**Total Beneficiary - Spectacles**
1	Godda	Lakhanpahadi (Plant Drivers)	01.07.2020	23	0
2	Boarijor	Telgama	07.11.2020	56	11
3	Godda	Motia	10.11.2020	51	29
4	Godda	Dumaria	12.11.2020	53	33
5	Godda	Mali Ghat No-3, TPP Motia	19.01.2021	62	0
6	Borio	Jirwabari Police Station, Sahebganj	2.02.2021	45	18
7	Mandro	Kauri Khutana	3.02.2021	35	13
8	Mandro	Pindra	9.02.2021	40	11
9	Mandro	Chunakheri	13.02.2021	30	19
Total				**395**	**134**

7. Anemia Detection cum Hemoglobin Screening Camp in TPP Core Area: Anemia Detection cum Hemoglobin Screening Camp was organized at two locations namely at **Sub Health Centre (SHC), Motia** on 1st

March 2021 and at ITI Siktia on 8th March 2021 on the occasion of International Women's Day.

Output: Total **121 women** from 22 villages of core and railway line area were screened during the camp supported by Medical and Adani Foundation team. Out of 121 women, no women falls under severe anemia status, 17 women under moderate anemia range, 53 women under mild anemia range and 51 women are healthy.



8. **Street Light at TPP Core area**: Installation of 100 street lights in the villages and road side point of TPP core area, 8 (2 installed) in pipeline villages of Mahagama block while 10 is remaining to be installed near to Motia school. Installation of street light was done for the electrification for community and their upcoming generation throughout lifetime. Street light will lighten up the villages and assist the poorer households to commute from one place to another with safety. Health and Life of each individual will be safeguarded and less incidence of road accidents and other turbulence. The children, women and elders will be benefitted serving largely to the community.

Health Awareness Programmes

9. Suposhan Program

Support Program for Sustained Health and Nutrition (SuPoshan): SuPoshan programme, a flagship programme of Adani Foundation, was launched in Godda in January '17 with an objective to reduce the occurrence of malnutrition & anemia amongst children, adolescent girl, pregnant & lactating women within three years of implementation period, Suposhan project has reached out to over 8000 direct beneficiaries. Malnutrition among children of 0 to 5 years has reduced by over 90% i.e. 271 children out of 299 became healthy while Anemia has reduced by more than 46 % i.e. over 813 out of 1758 adolescent girls of 10 to 19 years and women in reproductive age group have become healthy as per Universal HB screening and rest falls under Moderately Anemic Range.

The program has been able to achieve set goals by administering program inputs with target groups such as regular focused group discussions, awareness events, family counseling on topics to bring about change in behavior pattern within the community and raise awareness on various related issues like feeding practices for newborn, introduction of complementary feeding, pregnancy care, health and hygiene, facts and myths related to menstruation cycle, diet and care during sickness, effective methods and habits of cooking, etc. Activities like Hb screening, promoting IFA tablet to anemic girls and women, check-up by pediatrician and MHCU doctor, immunization in VHND, vegetable seeds support too contributed to bring about improvement in health status of malnourished children, girls and women.

Achievement in Malnutrition Identification and Reduction

Site	Total targeted children (0-5yrs)	Anthropometric (15th Nov 2020 to 30th Feb 2021)	Anthropometric on Feb, 2021	Status of under-nutrition (15.11.20 – 27.02.21)					
				Wasting			Underweight		
				Total no of SAM	Total no of MAM	Total healthy	Total no of SUW	Total no of MUW	Total healthy
Godda	1500	1524	527	37	17	188	67	3	127
Jitpur	712	562	103	0	10	30	18	19	30
Total	**2212**	**2086**	**630**	**37**	**27**	**218**	**85**	**22**	**157**

Awareness Programmes

- **Telephonic Follow up & Counselling:** Due to epidemic, telephonic mode has been started to counsel the target groups including Children, Adolescent Girls, Pregnant Women on topic such as Anaemia, Nutrition & Hand wash; Immunisation, Importance of MCP Card, etc.

- **Follow-up of Sanginis: -** Sanginis were taught through telephonic communication for creating awareness on management of COVID 19 situation and family counseling of target groups. Also, counselled on dietary requirements for the adolescent's health and improve the anaemic ratio during using the home base available product like Sprouted seeds, Moringo leaf, using Pulses and other iron reached vegetables.

- **Importance of Hand wash and Social Distancing: -** Sanginis took a lead to guide their community on various measures to fight and tackle with Covid 19, manage social distancing, local measures to boost immunity system, and made aware about hand wash practice through demonstration.

- **E- Learning Course: -** Due to lock down effect of Covid pandemic Suposhan team along with Sangini did E–Learning Courses for time utilization and knowledge purpose.

Awareness Events

The community level events were postponed due to COVID 19 suspected cases in the region. Social distancing was maintained along with no social gathering comprising of maximum 4-5 participants during the event. Various awareness events like celebration of world breastfeeding week, national nutrition month, world environment day, New Born Care Week, etc. were conducted spreading the message in the community. Various competitions were organized under SuPoshan which play an effective role in spreading the message for care of pregnant lady, signs of malnutrition, right food and care for malnourished child and importance of hygiene/ sanitation and timely vaccination for good health of child and family to masses as it easily draws attention of public and conveys messages through Banner on MHCU, Slogan writing, Pamphlet, etc. in local language. Activities to stimulate thinking among participants were also conducted on topics such as significance of nutrition and its constituents in regular diet, vitality and method of hand washing, pregnancy care, proper latching and breastfeeding, nutritional requirement and its impact on newborn health, etc.

SN	Event Name	Mode	Date/Duration	Villages Covered	Audience Size
1	**World Environment Day**	Community level	5th June 2020	2	10
2	**World Breastfeeding Week**	Telephonic and Village level	1st Aug'20-7th August'20	5	20
3	**National Nutrition Month (along with plantation)**	Telephonic and Village level	1st-30th September 2020	25	285
4	**Global Hand Washing Day**	Community level	15th October 2020	6	300
5	**Celebration of World Food Day**	Community level	16th October 2020	8	160
6	**Celebration of New Born Care Week**	Community level	22nd November'20 to 28th November'20	4	30
Total				**50**	**805**

**Conducted with precautions and safety face masks and sanitizer*

Type of activities carried out during Poshan Maah										
Name of Site	**Rangoli making**	**Slogan Writing**	**Drawing/ Quiz competition**	**Tele Counselling**			**Moringa Plantation**	**Follow-up of SAM**	**Cooking Demo**	**Any training attended**
				Children (0-5)	**Adolescent**	**Women**				
Godda	9	1	10	30	21	25	150	32	13	16
Jitpur	4	1	2	25	23	25	135	23	3	0
Total	**13**	**2**	**12**	**55**	**44**	**50**	**285**	**55**	**16**	**16**

10. Village Swachhata Abhiyan- Adarsh Swachh Gram: Village Swachhata Abhiyan-Adarsh Swachh Gram, program aims to create a culture of cleanliness among rural tribes by inculcating the youth and community with sense of sensitivity, ownership and responsibility to change the prevalent condition of cleanliness in the villages. The program aims to contribute towards Sustainable Development Goal 6 which iterate Universal, affordable and sustainable access to WASH (Water, Sanitation and Hygiene). The program is operational on pilot basis in five core and tribal villages namely Motia, Dumaria, Patwa, Nayabad, and Gangta falling under proximity of Thermal Power Plant area wherein cleaning activity is under progress with efforts of village volunteer and timely monitoring of Adani Foundation team.

11. Nutrition Garden (Poshan Vatika) Programme

- **Context:** Godda district is one of the aspirational districts of Jharkhand which falls under state of underdevelopment and backwardness with respect to less scope of employment, restrained economy, with the prevalence of stereotype and societal taboos in the remotest of the villages. The socio-economic limitations in the villages of Godda district has been a major reason of poor health condition. The financial Inabilities of rural households to find a sustainable source of income to meet the subsistence needs of the households results into occurrence of both chronic and acute diseases and the cases of high range of malnutrition. Due to knowledge gap and lack of awareness about importance of balance diet and proper food intake in daily routine in the villages results into improper growth & development of children, and adolescents.

- **Triggers of Adani Foundation:** Adani Foundation endeavors to transform the lives of deprived and marginalized groups of community by mainstreaming to the entitlements and provisions of poorer rural and tribal households from the periphery. It aligns its activities with Sustainable Development Goals (SDGs) by envisaging its interventions with NITI Aayog, Planning Commission of India. The flagship programme Suposhan is a modified term of development which implies development with an approach of gender equality and equity, women empowerment, improvement of health & well-being, and capacitating with skills and knowledge base to supplement livelihood in a sustainable manner.

- **Nutrition garden**, also spelled as Poshan Vatika is a sustainable model which provides all micronutrients with an availability and access of all households to all varieties of green leafy vegetables, and fruits rich in Vitamin, Minerals, Iron, Proteins and other Macro and micronutrients throughout the year. It helps to mitigate the challenges of food resources and provides an equitable amount of food availability to the households. The programme alleviates the problems of food scarcity and nutritional gaps in the households and enhances the standard of living through improved health and well-being of each individual in the family.

Methodology

- **Baseline Survey, Need Assessment and Root Cause Analysis Of Problems of Households:** The village volunteers and the community mobilizers of Adani Foundation rigorously conducts baseline survey to find out the socio-economic condition of the villagers followed by collection and collation of their various needs and selection of one root cause of the problems. After completion of the

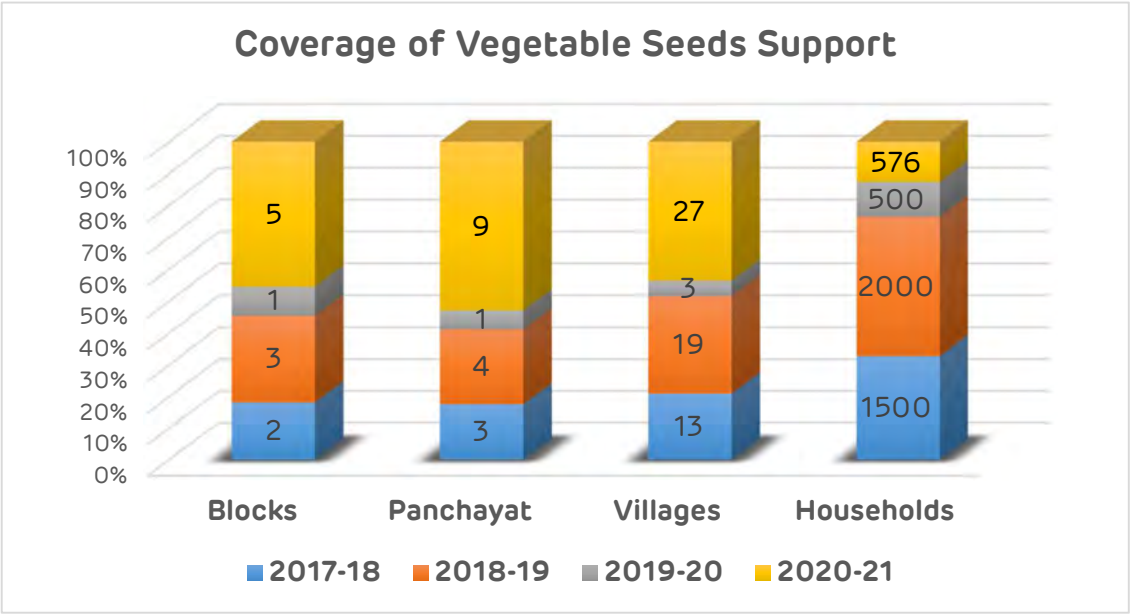
survey, project planning is done for doing the interventions to change the circumstances. Further, list of the beneficiaries are prepared village wise of core, railway line and pipeline areas and accordingly, proposed activities are executed as per timelines.

- **Intervention**

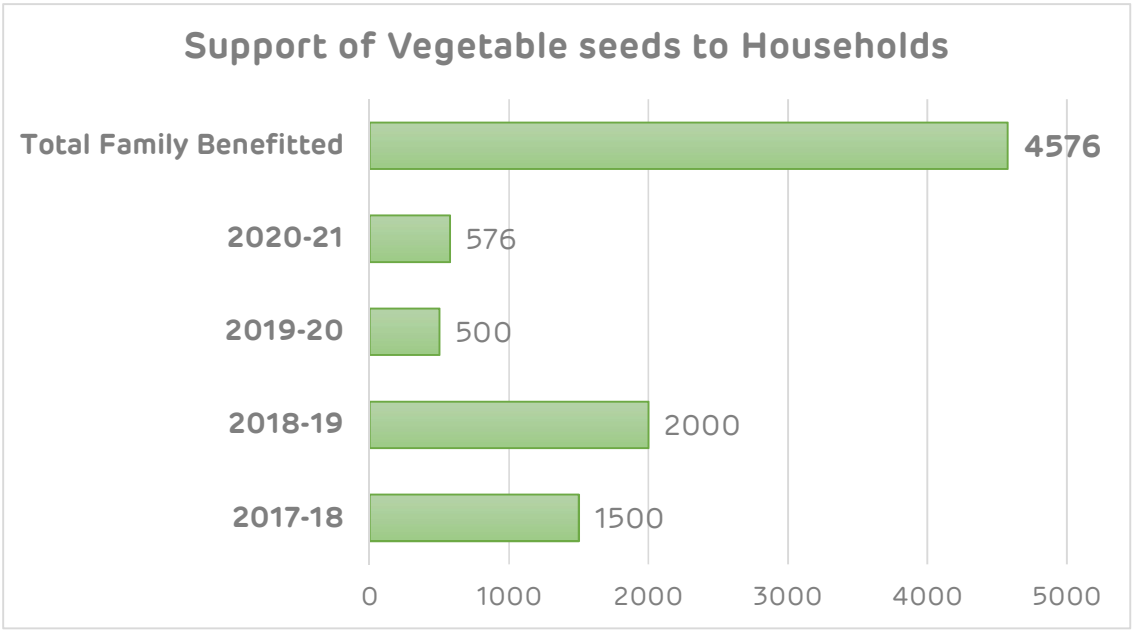
  i. **Vegetable Seeds Distribution** to selected households including children, adolescents and women
  ii. **Training** to women and farmers on establishing Poshan Vatika, its importance and advantages
  iii. **Exposure Visit** to Krishi Vigyan Kendra for Capacity Building on Poshan Vatika and its benefits
  iv. **Setup of Poshan Vatika Model for Demonstration** in selected villages with higher reach and accessibility by the villagers including school going and out of the school children, adolescents, women, elders and frontline workers viz. ICDS functionaries, SHG, PRI members, village volunteers, etc.

❖ **AF Supported with Vegetable Seeds:** Adani Foundation has been consistently supporting to poorer and deprived families since 2017-18 which has benefitted to more than **4500 families** belonging to **27 villages** of core, railway line, pipeline and Jitpur mines area with coverage of **nine gram panchayats** and **five blocks** of Godda district to meet the nutritional requirement of women and children as well as the entire family through inclusion of green nutritious vegetables in their daily diet.

Input Support of Vegetable seeds				
Year	**Blocks**	**Panchayat**	**Villages**	**Households**
2017-18	2	3	13	1500
2018-19	3	4	19	2000
2019-20	1	1	3	500
2020-21	5	9	27	439 (Phase I)
2020-21	2	3	7	137 (Phase II)
Total	**5**	**9**	**27**	**4576**



- **Twelve varieties of green and leafy vegetables seeds** are provided consisting of micro and macro rich nutrients viz. iron, minerals and vitamins such as spinach, amaranthus, radish, French bean, ladies finger, bitter gourd, ridge gourd, carrot, bottle gourd, tomato, etc. The objective of distributing vegetable seeds to **576 households** in this year 2020-21 of core, railway line, pipeline and Jitpur mines villages was to promote establishment of nutrition garden in the homestead land or the backyard area to have access to vegetables for whole year with nutritional security for the needful poorer children, adolescents and women.



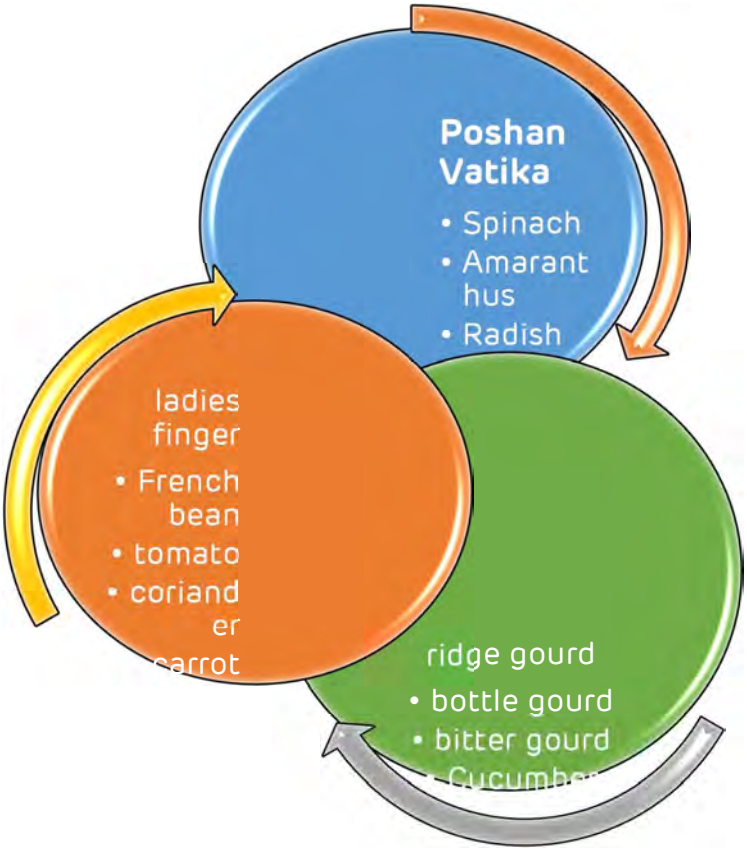


Fig Distribution of varieties of vegetable seeds to improve nutritional status

- **Demonstration Model of Poshan Vatika:** During 2018-19, Adani Poshan Vatika demonstration plot was developed at Basantpur village which was developed by self-initiative of beneficiary at another three village's viz. Rangania, Purvedih and Choti Buxara in presence of community leaders and villagers. It has led to improvement in health status of children, adolescent girls, and women along with rest family members. This initiative was much appreciated by community, however, a need was felt for demonstration and training of participants for correct placing and sowing of seed since some of the vegetable seeds like beetroot, carrot, etc. were planted for the first time by the beneficiaries. During this participants were explained about Ganga Maa model, its significance and utility and all measurements of Ganga Maa Model.

Poshan Vatika Demonstration Model				
Year	**Blocks**	**Panchayat**	**Villages**	**Poshan Vatika (Unit)**
2018-19	1	1	4	4
Phase I (Ganga Maa Model & Traditional Method)- Oct'20-Nov'20				
2020-21	3	6	14	31
Phase II (Machan System)- March'21				
2020-21	1	2	2	8 (Under Progress)
Total	**3**	**6**	**16**	**43**

- **Extension of Ganga Maa Model in 2020-21 (Phase I):** Post successful intervention of Ganga Maa Model in the year 2018-19, Poshan Vatika programme was extended in this year 2020-2021, to increase the reach of benefits to more target rural dwellers of core, railway line and pipeline area comprising of traditional method and Ganga Maa Model of Nutrition garden. It was implemented in the month of Oct'20-Nov'20 with an objective to cater dual purpose of nutritional security and Climate Based Smart Agriculture Practices among small & marginal farmers. It was the first phase of Poshan Vatika model in which t**otal 31 Poshan Vatika model** was established this year at household level including **Ganga Maa Model (10)** and **Traditional/Rectangular Shaped Nutrition Garden (21)** in **14 villages of core (9), railway line (2) and pipeline area (3).** It showed a positive response and good impact in the lives of project beneficiaries with significant enhancement of consumption pattern with an addition of number of healthy and nutritious foods in their meal.

- **MULTILAYER FARMING (Phase II):** On March 2021, Machan system has been initiated in Motia and Dumaria villages of TPP Core area on pilot basis to grow more quantities of vegetable crops throughout the season for food, nutrition and livelihood security after successful accomplishment of Ganga Maa Model. Multilayer farming or Machan system refers to growing different varieties of vegetables on the same plot of land at a same time. This helps smallholder **farmers** grow various seasonal vegetables and horticultural crops throughout the year while ensuring food and nutritional security for the household. This time, **MACHAN SYSTEM** has been introduced to the farmers with an objective to capacitate them with practical knowledge and exposure of adopting **'3 Layer Farming Method'** to enhance the vegetable production in a lesser area of land and supplement their livelihood with improved socio-economic condition. Out of target 10 Multilayer farming model, 08

models have been implemented in villages of core area namely, Motia (05) & Dumaria (03).

Details of Poshan Vatika Model (2020-21)- Phase I		
SN	**Location**	**Unit**
CORE AREA		
1	Nayabad	1
2	Motia	4
3	Ranitikar	1
4	Sondiha	3
5	Patwa	3
6	Rangania	2
7	Baliakitta	2
8	Gangta	1
9	Basantpur	5
RAILWAY LINE AREA		
10	Kauribihar	1
11	Dumaria	5
PIPELINE AREA		
12	Chitarkothi	1
13	Dakaita	1
14	Rampur	1
Total		**31**

Output & Outcome of Poshan Vatika Programme

Over the past four years', the Poshan Vatika programme has impacted in the lives of over 4500 families directly and 18000 beneficiaries indirectly. Under **Poshan Vatika,** we promoted it to propagate the concept of diet diversity, household availability of fresh vegetables and fruits such as papaya, banana, etc. round the year which contain vitamins and minerals; gave pride to women/ adolescent girls to manage the NGs and help the families to save the money which they would otherwise spend on purchasing vegetables and also earned income from sale of vegetables after consumption. The earnings were utilized in doing livelihood activities and bearing expenses on education and health of children and other family members. KGs are developed on 900 to 1200 square feet piece of land adjacent to houses where the solid and liquid waste from kitchen and farm waste is used to made NADEP and Vermicomposting; water from nearby Hand pumps, wells, and Kitchen waste is used to water the plants and grow

vegetables, which is the base of sustainability of Nutrition Garden, and this is a very low cost model for self-consumption only for the poorest of the households.

It also brought changes with respect to availability and access to green and leafy vegetables (chemical free), increased dietary diversity, improved daily food intake, availability of micronutrients in the meals and decline in diseases and health complications, especially of women and adolescents with improved hemoglobin level, energy built, healthy body of mother and child and their active roles and participation in every spheres of life such as school, workplace and home. They have become empowered and self-sustained to amplify their lifestyles and reduced dependencies on market for getting vegetables.

Capacity Building Programmes

Need based capacity buildings Programmes were organized by Suposhan team members to develop skills of Sanginis by educating them about ways to combat malnutrition.

- **Skill Enhancement of Suposhan Functionaries:** One day on campus training was organized on the topic "Nutritional Security" at Kriffco supported Gramin Vikas Trust (GVT) led Krishi Vigyan Kendra (KVK), Godda on 07.09.2020 for extension Suposhan functionaries for their skill enhancement.

- **Suposhan Sanginis Training Program** in the month of November 2020 on usage of weight machine, Infantometer, Stadiometer , MUAC measurement, Benefits of Local food, drumstick consumption

Medical Services

- **Health Awareness:** with collaborative efforts of Adani Foundation & Helpage India in Peripheral & Railway Line village area to provide support for better community health. Health Awareness Program are organised in area to aware rural people about harmful diseases, maintenance of cleanliness, direction for balance diet which help them to fight from diseases and the COVID 19 virus affecting the populations at large scale followed by all safety norms. School children and community persons have become more vocal with active approach towards curbing diseases and sharing of such valuable information among community.

- **Critical Health cases:** Diagnosis of critical cases of laborers working in TPP (site office) is done by CSR Medical Team regularly in an emergency manner.

- **Ambulance Facility to Poor Patients**: Families from 13 core villages have been benefitted from this initiative of Adani whose families remain loyal and grateful to company for the support provided by us in times of distress. Ambulance service is given to poor people belonging to TPP area in times of medical emergency or for transfer of critical patients to higher centre and also for COVID health check-up, doing home quarantine and quarantine center and treatment like Bhagalpur, Deoghar, Ranchi, and Patna & Other nearby hospitals.

Seasonal Assistance

- **Assistance to tribal in Sohraye festival:** Lungi-Panchi are traditional costume of tribal for festivities. AF distributed Lungi-Panchi to the tribals on the occasion of Sohrai festival to over 150 tribal women in three tribal villages of core area namely Petwi Santhali (70), Nayabad (40) and Gangta (40) of Godda and Poreyahat block.

- **Assistance to Widows:** On 11th March 2021, under Welfare Support, Adani Foundation supported the Widows with one set of Saree to 50 women in Kaudi Khutna village of Kaudi Khutna panchayat, Mandro block, Sahebganj district

- **Support for drinking water facility in Hospital:** AF supported with 2 RO Water Purifier of 100 Liter per Hour (LPH) purification capacity for clean and safe drinking water facility for the patients and hospital staffs of Thakurgangti Hospital and Mahagama Hospital, of pipeline area, Godda district with potential to benefit more than 40,000 patients & hospital staffs in each hospital.

- **Relief Materials to Affected Families from Natural Hazards (Tarpaulin Distribution):** Under Welfare Support, Relief Materials are distributed to support families affected from natural hazards or manmade calamities for the safety of their health and lives. Five poorer households of Motia village were assisted with tarpaulin to live in the shelter with safety during rainy season and protect themselves from uncertain circumstances.

- **Poor Assistance Programme-Medicated Mosquito Net:** Adani Foundation believes in assisting the community who are marginalized and deprived from basic facilities for survival. The health of the villagers is made secure and protected from several diseases which leads to fatalities and death cases in the villages. Assistance of Mosquito Net to the poorer households will help them from getting affected from any vector-borne epidemic and common occurring water borne diseases such as Dengue, Malaria, and etc. **440 Mosquito Net** were distributed to over **427 families** of core and Jitpur mines villages. In core area, 77 Households

were assisted with 90 Mosquito nets comprising of two unit for joint family of Nayabad, and Karikado village of Core Area and 350 families of seven Jitpur Coal Mines block villages namely Jitpur (155 families). Dahubera (43), Dandagora (11), Dumarpalam (23), Paharpur (77), Kairojori (31) and Sunderpahari (10) respectively.

- **Material Support to Community:** The distribution of these materials has helped us to build positive image of Adani amongst people of Godda as well as strengthen our ties with key stakeholders during Pandemic. During the year, Adani Foundation distributed various materials and reach out to more than **3000 beneficiaries directly** and **12,000 beneficiaries indirectly.**

Seasonal Assistance to Community							
SN	**Project Area**	**Distribution duration**	**No of Villages/ locations**	**Name of block**	**No. of block**	**No of HHs/families**	**No. of Beneficiaries**
Material Support to Community: Tarpaulin (Rain Affected Families)							
1	Core Area	25.09.2020	1	Godda	1	5	20
Total (a)			**1**		**1**	**5**	**20**
Material Support to Community: Mosquito Net Distribution							
1	Jitpur coal mines	Sep '20	7	Sunderpahari	1	350	1399
2	Core Area	October'20	2	Godda	1	77	308
Total (b)			**9**		**2**	**427**	**1707**
Material Support to Community: Blanket Distribution							
1	Core Area	Dec'20	1	Poreyahat	**1**	100	400
2	Jitpur coal mines	Dec'20	6	Sunderpahari	**1**	500	1500
3	Pipeline area-Godda	Dec'20	5	Boarijor	**1**	500	1450
4	Pipeline area-Godda	Jan'21	4	Boarijor ,Pathargama, Mahagama, Thakurgangti	**4**	150	450
5	Pipeline area-Sahebganj	Jan'21	5	Borio, Mandro	**2**	210	630
6	Jitpur coal mines	Jan'21-Feb'21	9	Sunderpahari	**1**	431	1724
7	Pipeline area-Godda	Feb'21	6	Boarijor ,Pathargama, Mahagama, Thakurgangti	**4**	70	280
8	Pipeline area-Sahebganj	Feb'21	5	Mandro	**1**	90	270
Total (c)			**41**		**8**	**2051**	**6704**
Total (a+b+c)			**51**		**9**	**2483**	**8431**

- **Team Participation in cultural event:** Adani Foundation supported the local villagers in organizing festivals and social events to strengthen ties and build relation with community. It emphasizes to celebrate the cultural program with huge joy and enthusiasm among the rural people. Social occasion program such as Baha Festival, Sohray festival, Saraswati Puja, Harinam Sankirtan, etc.

Welfare Support

- **Assistance in Health, Marriage and Death:** Adani provides financial support to poor people for such events which require huge expense such as marriage ceremony, educational needs, major illness including hospitalization of patient, death of a person. **265** beneficiaries from 20 villages have been extended financial support to the tune of **Rs. 32,54,752.3/-**

SN	Support Cause	No. of beneficiaries	Supported Amount
1	**Health Support**	77	743646.9
2	**COVID/Others Support**	36	1153035.4
3	**Marriage Support**	4	19000
4	**Death Support**	37	184000
5	**Education Support:** Community Resource Centre, Financial Support To Orphanage	32	607670
6	**Social Occasion Support**	79	547400
	Total	**265**	**32,54,752.3**

- **COVID Support:** Donation of Rs. 1 Crore in **CM Relief Fund** of Jharkhand state by APJL, Godda.

SUSTAINABLE LIVELIHOODS

1. **Adani Skill Development Centre:** Adani Skill Development Centre- ASDC, Godda was inaugurated by Executive Director AF- Education and Skills on 27th September 2018. Total Eight trades viz. Welder, Fitter, Mason and Bar bender, General Duty assistant, Hospitality, Electrical, industrial Sewing Machine Operator, and Digital Literacy classes is operational in which over **2673** candidates were trained and benefitted till Financial Year 2020-21.

Trainees Enrolled and Benefitted in Various Trades at ASDC					
Sr. No	Trade	Year 18-19	Year 19-20	Year 20-21	Total
		No. of trainees benefitted in 1st Batch	No. of trainees benefitted in 2nd Batch	No. of trainees benefitted in 3rd Batch	
1	Fitter (2 year)	29	91	64	184
2	Welder	30	35	43	108
3	Ass. Electrician (2 year)	30	50	65	145
4	Hospitality	30	65	55	150
5	Digital Literacy	257	985	432	1674
6	G.D.A.	30	175	72	277
7	Bar Bending	30	80	25	135
Total		**436**	**1481**	**756**	**2673**

- **Free Training Model:** Due to outbreak, online classes on Business Trades at ASDC was initiated to continue imparting trainings for the interested and willing candidates in a particular domain of interest. Free training model was initiated to impart online classes for the candidates who are economically incapable to afford to pay training fees as per new provision amidst Epidemic. The online classes enabled the students to learn under the Free Online Training Session in the remotest areas to access the classes at home with safety and protection from COVID virus.

- **Enrollment in New Batch in 2020-21:** In this year, new training batch of Domain and Non-Domain Business trades was started amidst COVID 19 from August'20. Total **1112 candidates** were enrolled and trained in **10 business trades** till March'21. Under **seven domain business trades**, **678 candidates** were trained from Bar-Bender (25), Fitter (64), GDA (72), SMO (354), Welder (43), F&B (55), and Asst. Electrician trade (65). While, in **non-domain business trades**, **434 candidates** were trained in Digital Literacy trade (432), **GST with Tally** (1) and **Financial Literacy** (1). Out of 10 business trades, highest proportion of enrolled and trained candidates falls under **Digital Literacy trade (38.85%)**, **SMO trade (31.83%),** followed by GDA trade (6.47%), Assistant Electrician trade (5.85%) and Fitter mechanical assembly trade (5.76%).

ADMISSIONS APRIL '20 TILL MARCH '21											
SN	TRADE	Aug'20	Sep'20	Oct'20	Nov'20	Dec'20	Jan'21	Feb'21	Mar'21	Total	Enrollment (%)
NON- DOMAIN											
1	Digital Literacy	3	0	23	0	76	243	87	0	**432**	38.85
2	GST with Tally	1	0	0	0	0	0	0	0	**1**	0.09
3	Financial Literacy	1	0	0	0	0	0	0	0	**1**	0.09
DOMAIN											
4	Bar-Bender	25	0	0	0	0	0	0	0	**25**	2.25
5	Fitter mechanical assembly	27	0	0	16	11	10	0	0	**64**	5.76
6	GDA	25	0	0	0	45	2	0	0	**72**	6.47
7	SMO	30	0	68	183	56	13	4	0	**354**	31.83
8	Welder	15	0	0	15	10	3	0	0	**43**	3.87
9	F&B	22	0	0	0	18	11	0	4	**55**	4.95
10	Asst. Electrician	25	0	0	15	5	15	0	5	**65**	5.85
Grand Total (Domain + Non-Domain)		**174**	**0**	**91**	**229**	**221**	**297**	**91**	**9**	**1112**	**100.00**

- **Saksham Certificate Distribution at ASDC:** Saksham trainees were awarded merit certificate after completion of trainings and their assessment of performance are per set standards in hospitality, welder, Digital Literacy and other business trades.
- **Conduction of Guest Lecture:** Guest Lecture was given by Experienced Professionals in specialized trade for the candidates via Online Mode. Training was given on topics Soft skill (Fitter Mechanical Assembly), Hand washing (GDA), Steel and its types (Bar-bending), etc.

- **On Job Training & Placement of Saksham Trainees at ASDC**

  During last year 2019-20, 34 trainees of 4 business trades imparted trainings in ASDC namely General Duty Assistant (GDA) (4), Bar Bending (19), Hospitality (9) and 2 in Welder trade were selected and placed at reputed organizations with decent annual package enabling to achieve higher dreams and secure bright career and better standard of living.

This year also the candidates got the offer and placed at different organization of their domain field. However due to Epidemic the opportunity ratio for the trained candidates got decreased and put on hold their dreams for the time being. Total **395 candidates** of Hospitality (13), Fitter (18), and bar bending (13), GDA (2), Welder (8), SMO (341) trade joined the organization with decent package. The candidates are thankful to ASDC and have expressed gratitude to Adani for such an opportunity

Placement of Trainees at ASDC (April'20-March'21)						
S No	**Trade**	**No of Trainees**	**Location**	**Company Name**	**Salary per Month**	**CTC (In lakhs)**
1	Fitter	5	Ahmedabad	JBM	15200	1.82
2	Bar bender	9	Ahmedabad	JBM	15200	1.82
3	Welder	6	Ahmedabad	JBM	15200	1.82
4	Food & Beverage	2	Ahmedabad	JBM	15200	1.82
5	Food & Beverage	5	Ahmedabad	Sodexo	8500	1.02
6	Food & Beverage	2	Pune	Sodexo	11800	1.42
7	Food & Beverage	4	Pune	Sodexo	15000	1.8
8	GDA	2	Bengaluru	Nightingale Home Health Care	11800	1.42
9	SMO	341	Godda	Phoolo Jhano Saksham Aajeevika Sakhi Mandal SHG Group	8000	0.96
10	Fitter	2	Godda	IPL under Adani Power	12000	1.44
11	Fitter	1	Godda	Adani Power (Jh.) Ltd. (Horticulture dept.)	12000	1.44
12	Fitter	3	Godda	Dutta Computech	8000	0.96
13	Fitter	1	Godda	Sanjeevani hospital (Supervisor)	7000	0.84
14	Bar bender	4	Godda	Hardeo Construction	7500	0.9
15	Welder	2	Hyderabad		9500	1.14
16	Fitter	4	Godda	Self Employed	9000	1.08
17	Fitter	2	Bharuch, Gujarat	Industrial Engineering Co.	12000	1.44
	Total Trainees Placed 395 (341 SMO +54 Others)					

- **Production of Medical (Patient) Bed for COVID Centre by ASDC Trainers:** The Master trainer of Fitter & Welder trade of ASDC Saksham have designed and made Beds which is convenient and comfortable for the COVID positive patients quarantined in COVID Centre.

2. Saksham Training Centers:

Total 17 Saksham training centres is operational including 4 core and 13 outreach centres in Godda district. This year two batches (Batch VI and VII) have completed training and one batch have commenced training (Batch VIII) at Saksham Training Centres amidst COVID 19. Due to Epidemic, the admission of new candidates got slowed down but was restarted gradually in Saksham training cum sewing center at core and outreach areas, from Aug-Sep, 2020 maintaining social distancing and use of face masks for safety and protection from infection.

So far, more than **2500 women** have been trained and benefitted in Sewing Machine Operator/Self Employed Tailor vertical who are engaged in producing school uniforms as well as are self-employed in stitching cloths of individual orders assisting them to uplift their socio-economic conditions. The women are becoming more aware and leading themselves in catalyzing change in their life situations and uplifting themselves toward a better change and holistic development of society. It has created huge impact in the lives of over **10,000 marginalized and oppressed rural women indirectly** from National Skill Development Programme.

SN	Centre	1st Session	2nd Session	3rd Session	4th Session	5th Session	6th Session	7th Session	8th Session	Total
		(Nov 16-May 17)	(June 17 -Nov 17)	(Dec 17-May 18)	(June 18-Nov 18)	(Dec 18 - May 19)	(June 19 - Nov 19)	(Dec 19-May 20)	Sep'20-Mar'21	
		Enrolment in SMO Trade at Core & Outreach Center								
		142	260	248	191	193	483	688	354	2559
1	Rangania	26	31	22	35	21	25	21	25	**206**
2	Dumaria	X	60	39	26	21	15	15	20	**196**
3	Sondiha	30	34	31	32	30	15	20	25	**217**
4	Basantpur	X	58	47	50	31	27	30	50	**293**
5	Motia	53	37	57	34	28	11	20	X	**240**
6	Ranitikar	21	X	x	x	X	x	x	X	**21**
7	Patwa	X	40	x	x	X	x	10	25	**75**
8	Sarba	X	X	17	14	11	x	x	X	**42**
9	Bahuriya	X	X	35	x	X	x	18	30	**83**

10	Thakurgangti	X	X	x	x	21	33	NA	29	**83**
11	Nayabad	12	X	x	x	X	x	x	X	**12**
12	Sundarpahari	x	X	x	x	X	128	19	X	**147**
13	Ranidih	x	X	x	x	x	14	NA	10	**24**
14	Pathargama	x	X	x	x	x	37	40	28	**105**
15	ITI Siktia	x	X	x	x	x	40	339	X	**379**
16	Gangta Govindpur/ Maniyamore	x	X	x	x	x	24	33	X	**57**
17	ASDC Godda	x	X	x	x	30	30	123	52	**235**
18	Padra	x	X	x	x	x	23	NA	30	**53**
19	Bhartikitta	x	X	x	x	x	29	NA	X	**29**
20	Jitpur	x	X	x	x	x	32	NA	X	**32**
21	Bahadurchak	x	X	x	x	x	x	x	30	**30**
Total		**142**	**260**	**248**	**191**	**193**	**483**	**688**	**354**	**2559**

Admission in Core & Outreach Centres
Non-Operational during June 20-Aug 20 due to Lockdown

3. **Adani Supported Digital Learning Centres:** Under this program, total 1346 rural youths and children got benefitted and developed their knowledge and personality through digital learning from Rangania, Motia, Pathargama, Sunderpahari, and Jitpur centre till last year 2019-20. During the year 2020-21, two batch of Digital Literacy classes were commenced via online mode amidst COVID 19, for the candidates of educational qualification, up to matriculation of Kerobazar School (133 trainees) in Pathargama block (Batch from 04th February 2021 to 20th March 2021) and Rajabitha School (88 trainees) in Mahagama block (Batch from 08th January 2021 to 20th February 2021) of Godda district.

Total 221 candidates have been benefitted in the **year 2020-21** with **total 1,567 beneficiaries** are benefitted since program inception (2017-2018). It's a boon for marginalized and poorer children and distressed rural youths who are now capacitating their abilities and igniting themselves with knowledge of digital education. The program has benefitted the tribal and poorer school going children and college students of the region.

Trainees at Saksham Computer/Digital Learning Centres								
Sl. No	Name of Centers	Year 17-18		Year 18-19		Year 19-20	Year 20-21	Total Trainees Benefitted
		Batch I	Batch II	Batch III	Batch IV	Batch V	Batch VI	
		Trainees	Trainees	Trainees	Trainees	Trainees	Trainees	
1	Rangania	42	22	39	20	25	0	148
2	Motia	60	36	87	0	98	0	281
3	Pathargama	0	0	0	0	375	133	508
4	Sunderpahari	0	0	0	0	512	0	512
5	Jitpur	0	0	0	0	30	0	30
6	Mahagama	0	0	0	0	0	88	88
Total		**102**	**58**	**126**	**20**	**1040**	**221**	**1567**

***Digital Learning Classes operational in College & Schools at Pathargama block (Kerobazar School) and Mahagama block (Rajabitha School) respectively.*

4. Skill and Entrepreneurship Development -AF Supported with Sewing Materials in the Center: Adani Foundation has set up a mass production Centre with total 274 Sewing Machines comprising of 107 domestic sewing machines, 154 electric operated machines and rest 13 are Kaj, Button and Interlocked machines in Core and Outreach centers to support these women to fulfill their commitment with District Education Department.

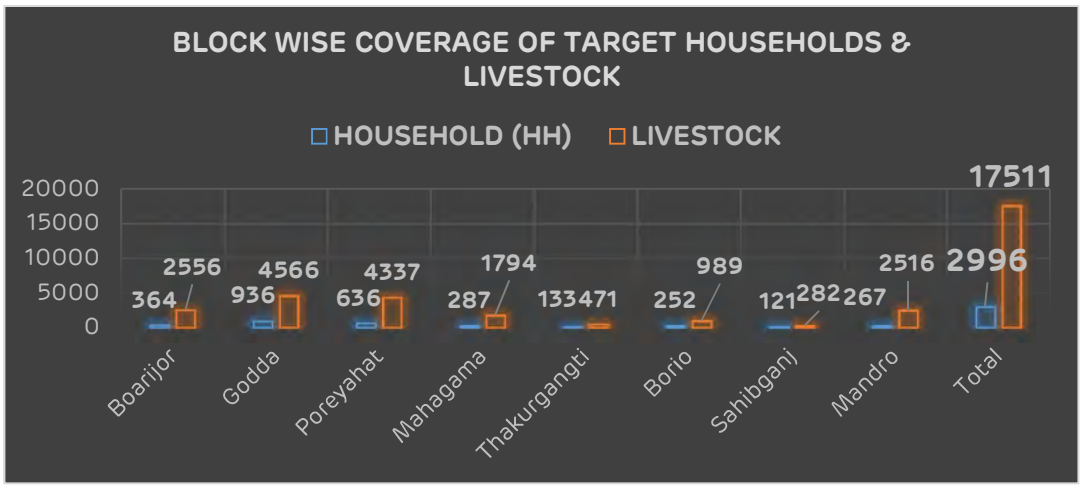
S.N	Sewing Machine Details	Total no. of existing Machines		Kaj	Button	Interlock
		(Domestic)	(Electric)			
1	Motiya	10	0	0	0	0
2	Ranganiya	8	0	0	0	0
3	Sondiha	8	0	0	0	0
4	Ranitikar	3	0	0	0	0
5	Patwa	1	0	0	0	0
6	Basasntpur	10	0	0	0	0
7	Dumariya	8	0	0	0	0
8	Sarba	1	0	0	0	0
9	Bahuriya	4	0	0	0	0

10	Bahadurchak	3	0	0	0	0
11	Gangta	2	0	0	0	0
12	Pathargama	0	24	0	0	1
13	ITI	0	114	3	3	2
14	ASDC	0	15	1	1	1
15	Sundarpahari	29	1	0	0	2
16	Govindpur	10	0	0	0	0
17	Ranidih	5	0	0	0	0
18	Thakurgangti	5	0	0	0	0
Total		**107**	**154**	**4**	**4**	**5**

5. Veterinary Health Camp in Godda & Sahebganj

- **Specialized Medical Camp for Livestocks** was organized in association with Animal Husbandry Department, Godda from *'23rd May 2020 to 19th June 2020'* in first phase with mutual guidance and needful support of Dr. Swapan Rajjak- District Animal Husbandry Officer (DHO) in the intervention villages including core, periphery, railway line and pipeline areas of Thermal Power Plant.

  In 2nd Phase, the camp was conducted from *'24th September 2020 to 9th October 2020'*, in Sahebganj in facilitation with Dr. Abhimanyu Singh, Dr. Piyush Singh and Dr. Shivnarayan Kisku -District Animal Husbandry Officer (DHO), Sahebganj and from *'13th October'20 to 25th March'21'*, it was conducted in core villages of Godda and Sahebganj. With an objective to treat and cure the diseases occurring in the cattle's and livestock's to prevent them from fatalities and strengthen the financial status of poor and needful households during the outbreak.



Block Wise Details of Household and Livestock covered during the Camp

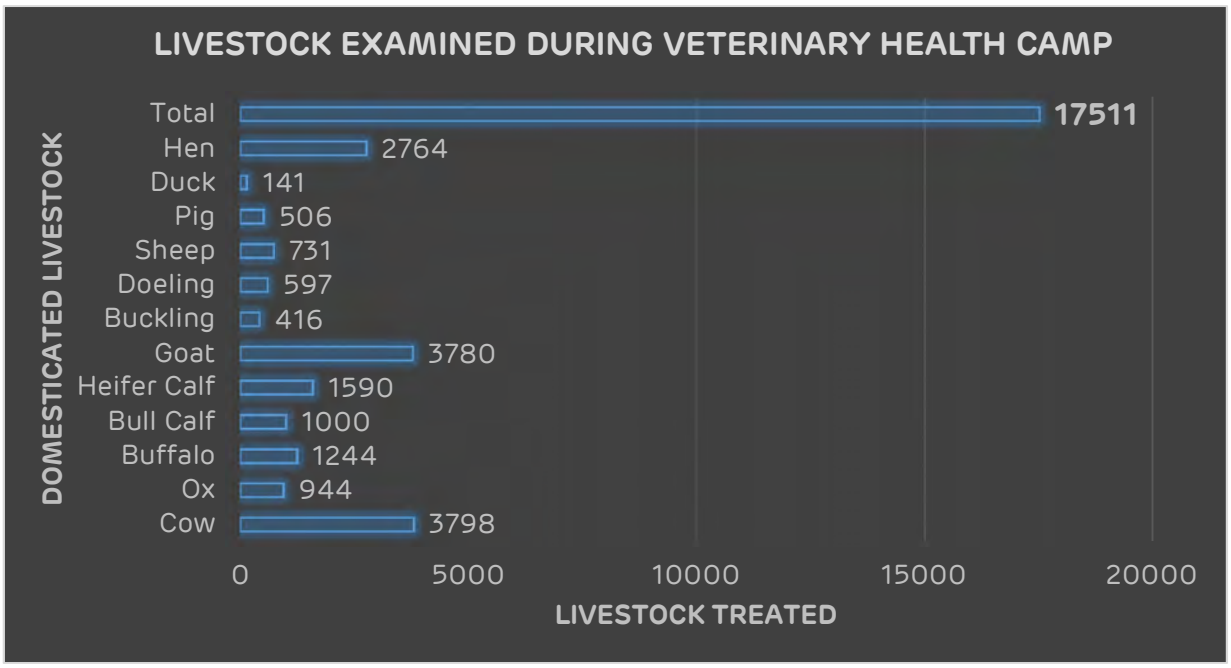
- **Coverage: Total 53 Veterinary Health Camps** including 34 Veterinary Health Camps in Godda district and 19 Camps in Sahebganj district at village level was conducted in which 33 villages were covered of five blocks namely Godda, Poreyahat, Thakurgangti, Boarijor, and Mahagama and 19 villages were covered in 3 blocks of Sahebganj district namely Borio, Mandro & Sahebganj benefitting over **2,996 households directly** and more than **12,000 people indirectly** by providing door to door services to the farmers. **Total 17,511 cattle and Livestock** were screened and treated during the camp.

DAY WISE VETERINARY HEALTH CAMP (1st Phase)					
SN	**DATE**	**BLOCK**	**VILLAGE**	**HOUSEHOLD (HH)**	**LIVESTOCK**
1	23.05.2020	Thakurgangti	Samda	43	**216**
2	23.05.2020	Godda	Dumariya	113	**752**
3	24.05.2020	Thakurgangti	Bahdur Chak	41	**161**
4	24.05.2020	Godda	Motia	104	**377**
5	25.05.2020	Godda	Motia	174	**832**
6	26.05.2020	Poreyahat	Sondiha	105	**681**
7	26.05.2020	Godda	Patwa	76	**510**
8	26.05.2020	Thakurgangti	Niamatchak	49	**94**
9	27.05.2020	Boarijor	Goradih	74	**424**
10	27.05.2020	Poreyahat	Baliakitta	72	**675**
11	27.05.2020	Poreyahat	Petwi	82	**558**
12	28.05.2020	Poreyahat	Basantpur	94	**452**
13	28.05.2020	Poreyahat	Baksara	102	**551**
14	29.05.2020	Godda	Gangta	43	**436**
15	29.05.2020	Godda	Nayabad	33	**352**
16	29.05.2020	Boarijor	Dhankunda	28	**169**
17	30.05.2020	Boarijor	Jirli	38	**228**
18	30.05.2020	Godda	Kauribahiyar	116	**487**
19	30.05.2020	Poreyahat	Belbarna	37	**324**
20	30.05.2020	Poreyahat	Gumma	39	**412**
21	09.06.2020	Mahagama	Amdiha	26	**171**
22	09.06.2020	Mahagama	Kaithiya	20	**134**
23	10.06.2020	Mahagama	Gudiya	48	**289**
24	10.06.2020	Mahagama	Jiyajori	101	**639**
25	19.06.2020	Mahagama	Karnu	62	**362**
26	19.06.2020	Mahagama	Maniyamore	30	**199**
Total				**1750**	**10485**

DAY WISE VETERINARY HEALTH CAMP (2nd Phase)					
SN	**DATE**	**BLOCK**	**VILLAGE**	**HOUSEHOLD (HH)**	**LIVESTOCK**

1	24.9.2020	Borio	Chanan	83	205
2	25.9.2020	Sahibganj	Dihari	75	185
3	26.9.2020	Borio	Lohanda	32	218
4	26.9.2020	Borio	Goghi	20	119
5	28.9.2020	Borio	Satichouki Pangro	25	57
6	28.9.2020	Borio	Nirapara	28	124
7	29.9.2020	Borio	Bara Pangro	26	155
8	29.9.2020	Borio	Chhota Tetriya	38	111
9	3.10.2020	Sahibganj	Mahadev Ganj	46	97
10	5.10.2020	Mandro	Betona	27	208
11	5.10.2020	Mandro	Sriram Chouki	22	102
12	6.10.2020	Mandro	Bhawani Chouki	21	91
13	7.10.2020	Mandro	Banskola	16	91
14	7.10.2020	Mandro	Lahurbera	27	343
15	8.10.2020	Mandro	Chunakheri	55	647
16	8.10.2020	Mandro	Hathmari	44	332
17	9.10.2020	Mandro	Jabdi Bhagia	14	136
18	9.10.2020	Mandro	Kouri Khutana	24	248
19	9.10.2020	Mandro	Mathadih	17	318
20	13.10.2020	Godda	Kauribahiyar	125	261
21	13.10.2020	Godda	Gumma Santhali	65	200
22	14.10.2020	Godda	Nayabad	42	201
23	14.10.2020	Godda	Karikado	45	158
24	10.02.2021	Boarijor	Ranidih	67	771
25	11.02.2021	Boarijor	Dhamni Simriya	85	200
26	12.02.2021	Boarijor	Goradih	72	764
27	25.03.2021	Poreyahat	Sondiha	105	684
Total				**1246**	**7026**
Grand total				**2,996**	**17,511**

Number of Village, Households and Livestock covered during Camp



Livestock wise treatment during Veterinary Camp

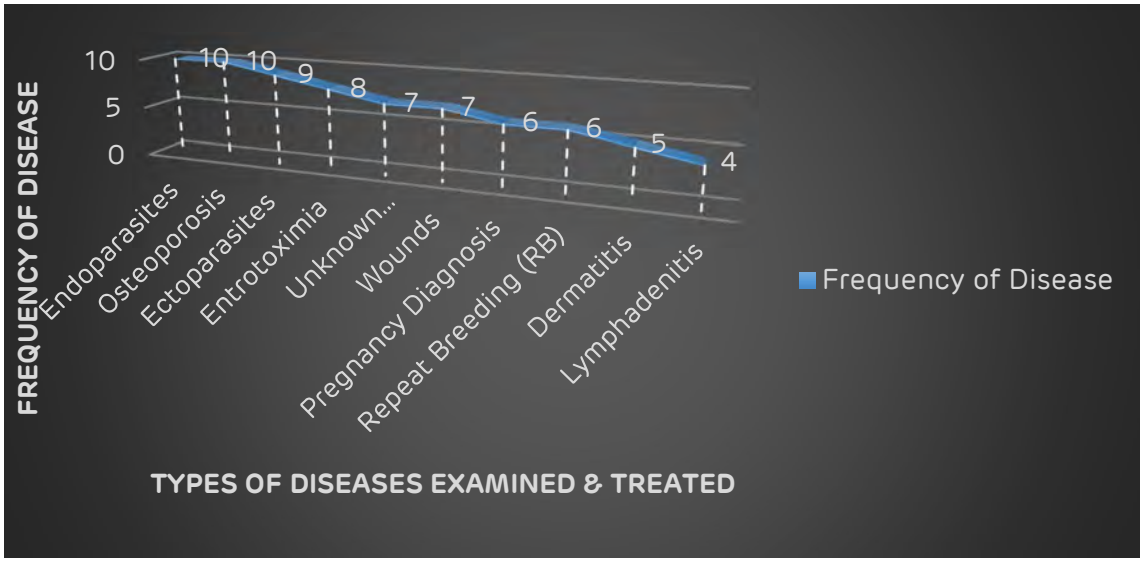
- **Examination and Treatment of Livestocks:** Animals were examined by Dr. Ranjit Soren, Dr. Dhananjay Yadav, Dr. Chandrakant, Dr. Baleswar Meera & Dr. Virendra Kishore and assisted by field animators of Adani Foundation in delivering their services during the camp. It catered to the needs of small & marginal farmers irrespective of caste, creed, and religion through diagnosis of health complications of their Livestocks.

- **Treatment of Domesticated Livestock:** Total **17,511 domesticated cattle and Livestock** were screened including 3798 Cow, 3780 Goat, 1590 Heifer Calf, 1000 Bull Calf, 1244 Buffalo, 731 Sheep, 597 Doeling, 416 Buckling, 2764 Hen, 944 Ox, 506 Pig, and 141 Ducks, respectively during the camp.

- **Diseases Identified and Diagnosed:** The screening and health check-up included Vaccination, Deworming, Ticks, and Parasites, Demolition, Infertility Check-ups, Weakness treatments and General treatment to the animals. The most common diseases were found to be Endoparasites, Osteoporosis, Ectoparasites, Enterotoxaemia, and Unknown Fever/Pyrexia of Unknown Origin (PUO), Wounds, Pregnancy Diagnosis, Repeat Breeding (RB), Dermatitis, and Lymphadenitis. The farmers were advised to do routine deworming and vaccination along with feeding of supplemental mineral-vitamin mixture to improve their body nutrient status and overall health.

FREQUENCY OF DISEASES DIGANOSED DURING VETERINARY HEALTH CAMP		
DISEASE	**RANKING OF DISEASE**	**SYMPTOMS**
Endoparasites	10	Worms inside the rumen
Osteoporosis	10	Swelling infacial bones, weakness
Ectoparasites	9	Ticks and mites on the body of the animal
Enterotoxaemia	8	Diarrhoea, Dysentery, running animal
Unknown Fever/Pyrexia of Unknown Origin (PUO)	7	Fever
Wounds	7	Any Part of the body
Pregnancy Diagnosis	6	Detecting the pregnancy of cattle
Repeat Breeding (RB)	6	Animal is not conceiving/Infertility
Dermatitis	5	Scratching, swelling in the skin-generalized
Lymphadenitis	4	Swelling in lymph node, conjunctivitis

**Qualitative information as per disease pattern diagnosed by Veterinary Doctors*



**Ranking of Diseases in Descending Order (Highest Frequency to Moderate Frequency of Diseases)*

- **AF supported with Medicines:** The medicines were procured from Maruti Drug Agency, supplier of medicines. The medicines consisted of DE wormer, Animal Feed Supplements, Antiseptic lotion, Antibiotic and Vaccines for treatment of common pandemic and epidemic diseases occurring to domesticated Livestocks in intervention villages. Total 17 kinds of medicines and animal feed supplements were arranged for treatment of various species of animal's including cattle, buffalo, bull,

goat, poultry, and pig and distribution to needful farmers during the camp. Medicines and nutrient supplements was also distributed to concerned livestock owners.

VETERINARY MEDICINE LIST		
S.N	**MEDICINE NAME**	**USAGE**
1	**Sulphacure**	Treatment of ring worm infection and different forms of mange in camels, equines, cattle, sheep, goats & small animals. It kills biting and sucking lice.
2	**Amoxirum Forte**	Treatment of Mastitis & other Bacterial infections
3	**Curemox Bolus**	Treatment of Infections
4	**Nil Tik**	Effective solution against Ectoparasites
5	**Worned**	
6	**Curemin Prenium**	Feed Supplement for Veterinary
7	**Vetzole 1.5 Bolus**	DE wormer for Cattle
8	**Himax Oint**	Animal Feed Supplements
9	**Ictoliv Forte**	Animal Feed Supplements
10	**Neblon Powd**	Acute, Subacute or Chronic Diarrhoea and Dysentery, Symptomatic relief to animals suffering from Rinderpest and other specific diseases
11	**Enrostrong 10%**	Animal Feed Supplements: Calves, goats and sheep
12	**Zobid_M**	Pneumonia, Broncho pneumonia, Pleuritis, Mastitis, Prolapse of Uterus, Sprain, Laminitis, Myositis, Arthritis, surgical interventions and Otitis.
13	**Zydacef 3GM**	• Antibiotic for severe infections: Infection of the brain • Respiratory tract infections (Pneumonia and COPD) • Ear infections • Abdominal infections • Infection of urinary tract • Bone and joint infection • Skin and soft tissue infections
14	**Intacef**	• Antibiotic for severe infections: • Infection of the brain • Respiratory tract infections (Pneumonia and COPD) • Ear infections • Abdominal infections • Infection of urinary tract • Bone and joint infection • Skin and soft tissue infections
15	**Vetzole tab**	• Treat tapeworm infection
16	**Betadin Lotion**	• Antiseptic
17	**Bandyes**	• Teat wounds, prevent swelling

6. **Vermicomposting production by Farmers:** Vermicomposting production has been started with an objective to enable farmers to become Vermi-Entrepreneurs to boost their income and uplift their socio-economic condition and promotion of Sustainable Livelihood practices among farmers in TPP core and railway line areas

   i. **Village level training on Vermicomposting:** Six village level training (Theoretical & On-Field Demonstration) on Vermicomposting production was conducted from 17th May 2020 to March 2021 in core and railway line villages namely Motia, Dumaria, Baksara, Badi Baksara, and Kauribihar, to promote organic farming through Vermicomposting and benefitted more than 200 farmers from 14 villages. The organic step emphasises on capacitating the farmers with technical knowledge of organic farming, its significance and importance on improving socio-economic and ecological conditions. The farmers are encouraged to become *Vermi-Entrepreneurs* to supplement their livelihood with increased monetary income on annual basis in a sustained manner.

Details of Village level training on Vermicomposting			
SN	**Date**	**Venue**	**Farmers/SHG Women**
1	17th May 2020	Motia, Kauribihar	50
2	5th Oct 2020	Motia	30
3	Dec, 2020	Panchayat Bhawan, Baksara	25
4	27th February 2021	Panchayat Bhawan, Baksara	75
5	March 2021	Middle School, Dumaria	25
6	March 2021	Badi Baksara	22
	Total Farmers benefitted from Training		**227**

   ii. **Installation of Vermicomposting Units:** The trained farmers have been encouraged to set up vermicomposting units for agriculture and entrepreneurship. In three phase (Feb'20–Feb'21) of Vermicomposting production, out of **227 trained farmers**, **88 farmers (38.76%)** from **14 villages** have installed total **111 Vermicomposting units** in their backyards or shaded area at their home. Phase wise installation of Vermicomposting units is mentioned below in following points:

   - The **first phase** of Vermicomposting production was initiated by 16 farmers with installation of 24 Vermicomposting units during **February to June' 20** in a small scale at household level in five villages namely Motia, Baliakitta, Dumaria, Amrakanoli and Kauribihar.

- In **second phase** of vermicomposting production from **November'20 to January'21,** more number of farmers were mobilized including women members to initiate vermicomposting production as an entrepreneurship. 42 farmers from nine villages of core area have setup 50 vermicomposting unit with support of Adani Foundation.

- The **third phase** of vermicomposting production is started from **February 21 onwards** in which 37 Vermicomposting units has been set up by 30 farmers of 6 villages of core area. These prepared vermicomposting are used by farmers for their agricultural production for cultivation of all seasonal crops and vegetables.

iii. **Vermicomposting Production: Total Production of 48 Metric tonnes** of Vermicomposting in first phase which is utilized by farmers in their farm land for increasing agriculture production and rest are sold in neighboring villages.

iv. **Livelihood generation from Vermicomposting:** Estimated Production of **174 Metric tons** of Vermicomposting from remaining installed 87 vermicomposting units by 72 farmers from 12 villages of core area in 2nd and 3rd phase respectively. The ongoing production of vermicompost in the villages is maintained, managed and monitored by farmers and Adani Foundation team. The farmers are utilizing the vermicomposting in their own farm land and sale to the neighboring farmers and local market.

Summary Of Phase Wise Vermicomposting Production				
Panchayat	**Village**	**Farmer**	**Unit**	**Production (MT-Metric Tons)**
Phase I Feb'20-June '20				
Sondiha	Amrakanoli	2	2	4
Baksra	Balia Kita	1	1	2
Dumaria	Dumaria	1	1	2
Pairdih	Kauribaihar	8	8	16
Motia	Motia	4	12	24
Total (I)		**16**	**24**	**48**
Phase II Nov'20- Jan 2021				
Sondiha	Amrakanoli	4	4	**ONGOING**
Baksara	Baksara	3	3	
Baksara	Birniya	1	1	
Dumaria	Dumaria	5	8	
Motia	Motia	16	17	
Motia	Nayabad	1	1	
Motia	Patwa	3	3	

Sondiha	Purvedih	2	6	
Sondiha	Sondiha	7	7	
Total (II)		**42**	**50**	
Phase III Feb'21 Onwards				
Baksara	Baksara	13	13	**ONGOING**
Urban	Godda	1	1	
Podaiyahat	Podaiyahat	1	2	
Amlo	Bahuria	2	3	
Dumaria	Dumaria	6	8	
Motia	Motia	7	10	
Total (III)		**30**	**37**	
Grand Total (Phase I+II+III)		**88**	**111**	**48**

7. Livelihood Security from System of Rice Intensification (SRI)

i. **Village level training & On-Field Demonstration on System of Rice Intensification (SRI):** A Village level training was conducted on 20th June 2020 facilitated by technical experts of Krishi Vigyan Kendra (KVK) in Motia village to promote organic farming through SRI with participation of over 50 small & marginal farmers. Objective of training: The organic step emphasises on capacitating the farmers with technical knowledge of organic farming, its significance and importance on improving socio-economic and ecological conditions. The trained farmers were encouraged to supplement their livelihood with increased monetary income on annual basis. Social Distancing was also maintained.

ii. **AF Supported with Paddy Seeds for SRI:** Enabling Farmers to Promote Organic Farming and Increase their Annual Earnings. 56 farmers were supported with 2 kg average seeds of paddy (Improved Samba Mahsuri Rice) - BPT-5204 CSIR CCMB, supported by Agriculture department of Godda Sadar block.

iii. SRI Paddy Cultivation –Empowering the Tribals and Women farmers

The small & marginal farmers have got the skill to cultivate paddy through SRI Technique thereby enabling livelihood security. 60 farmers of core, railway line and pipeline-Sahebganj villages have gained courage to implement SRI in their farm land of 54.96 acres. Line sowing of paddy plant was done by the women

farmers of households empowering the women from *'Ek Ropa Dhaan'*. Out of which 5 tribal farmers hailing from Santhal belt in Sahebganj district, were mobilized to initiate the line sowing process of paddy crops in their total 5 acres of land. The paddy production from SRI technique of tribal farmers in Sahebganj was total 164.1 quintal from 5 acres of land. It implies average yield of paddy per acre from SRI technique ranges between 17 quintals to 22 quintals. SRI method of paddy production also benefitted the farmers in doing savings of Rs 13000 per acre on an average due to differences in expenditure incurred between traditional method (Rs. 28,000) and SRI technique (Rs 15000).

8. Plantation on World Environment Day: World Environment Day was celebrated on 5th June'20 in plant premises and ITI Siktia centre among the community. AF team encouraged the women group of Phoolo Jhano Saksham Aajeevika Sakhi Mandal (PJSASM) to promote afforestation to preserve our Planet, Earth.

- **Saplings of Ornamental trees and Shade trees:** More than 150 saplings of Shade trees and flowery plants, i.e. Gulmohar tree (Delonix regia) was planted by Phoolo Jhano Women on the roadside of ITI Siktia, one of uniform production hub near to plant area. Pledge was taken to conserve plant species. Social Distancing was also maintained during plantation of saplings.

9. Environment Protection Programme- Promoting Afforestation, Nutrition and Ecological Preservation in project villages and plant premises to conserve the Planet, Earth and its biological creatures. The Self Help Group (SHGs), teachers and community were encouraged to plant saplings in their home garden for nutritional and ecological security.

10. Plantation of Horticulture plants: 352 saplings of horticulture plants of nutritional value namely banana, lemon, drumstick, and guava, was planted in seven villages by 141 families of TPP area. The community praised Adani Foundation for its continued support for Plantation of trees helps to make the environment cleaner and ensure fresh air around us. Also, the women and adolescents were made aware and sensitized to include nutritional diet in daily routine to reduce occurrence of malnutrition among children and anaemia in adolescents.

11. Financial Support for Volunteers and Project Affected Families: This year Jitpur mines has continued to support 370 families project affected families at the rate Rs. 1440/- per month towards livelihood engagement. Also, Rs.1, 65,201 Monthly Honorarium payments for Volunteer was continues this year.

These volunteers help the Adani team for field mobilization and also help to maintain positivity in the Project affected Villages.

12. Uniform Production Center Visit

- **Visit of Vice President NICDC/OSD, NITI Aayog:** On 30th October 2020, Sh. Abhishek Chaudhary, OSD cum VP, NITI Aayog had visited Women Led Self Help Group (SHG) Uniform Production Center at ITI Siktia. He appreciated the concept and innovative model of Livelihood generation from Uniform Production at large scale at village level. Moreover, he expressed his views on the opportunities for the women to uplift their socio-economic condition and amplify their standard of living. They were motivated from the inspiring words of the delegates on their achievements from skills of entrepreneurship and financial independence and stability. The model is paving way for rural growth and economic development of the district creating opportunities to replicate the model all over Jharkhand state.

13. Visit of Chairman, Adani Group & Chairperson, Adani Foundation:

Grand Celebration in the honor of Welcoming Chief Guest, Honorable Chairman, Adani Group, Shri Gautam S. Adani and Honourable Chairperson, Adani Foundation, Dr. Priti G. Adani with delegates of District Administration, Adani Power (Jharkhand) Limited, Godda and Adani Foundation on 24th January 2021. Reviewed landmark project of CSR showcasing Women Empowerment under Uniform Stitching Project of Self Help Group at Uniform Production Center, ITI Siktia. The women members of SHG expressed their heartfelt gratitude to Honourable **Dr. Priti G. Adani** for giving them a platform to improve their self-esteem and become self-dependent financially in their family and society. Honourable **Dr. Priti G. Adani** delivered speech on the innovation of the project sustaining the livelihood of women and put her imagination and valuable thoughts on changing the scenario of malnourishment of Godda district. Ms. Anjali Yadav, DDC Godda also appreciated the endeavor of the women.

She also interacted with the students of Gyanodaya and gave her blessings to the children for better, bright and secured career. The Gyanodaya teacher and team facilitated in doing orientation of the program. Various cultural programs was also organized by community and Adani Foundation team and made it memorable.

14. Awareness cum Training Program on International Day of Persons with Disabilities (3rd December'20)

was organized in Primary Health Center (PHC)/Wellness Center, Motia in collaboration with SABAL - Centre

for Abilities located at Noamundi in Jharkhand, a unit of Tata Steel Rural Development Society (TSRDS), Jamshedpur. It was participated by over 150 disabled persons, their parents, Sanginis from Motia, Sondiha, Baksara and Baliakitta village of TPP core area.

- **Aims** to create a life of dignity for people with disabilities and to empower PwD's through qualitative training and promotion of inclusiveness.
- To disseminate knowledge among disabled persons, their parents and the community on livelihood opportunity, importance of digital literacy to empower them socially and economically.
- To link them with social security entitlements through awareness program.

Theme of Program

a. Ideation of livelihood opportunities for person with physical disabilities in Rural and Urban spaces
b. Importance of digital literacy in the life of PWD's
c. Understanding the includability quotient and inclusive ecosystems for PWD'S
d. Creating aspirations to build a positive attitude in life

e. <u>Added learnings</u>

- Basic Alphabet of Indian Sign Language
- Basic Schemes for PWD

15. Shaping Women Leader in a New Normal- Fire & Safety Training Program: Fire & Safety Training Program was organized on 6th February 2021 by Fire & Safety team at ITI Siktia for training the Phoolo Jhano Women on safety precautions and usage of fire extinguishers. The women members were demonstrated on the usage of appliances with full precautions and appropriate safety norms. The women were also honoured with prizes as a motivational command in the family and society.

16. Celebration of International Women's Day on 8th March at ITI Siktia & Pipeline- Godda: International Women's Day was celebrated on 8th March 2021 at ITI Siktia with presence of dignitaries of District Administration, Ms. Sushri Phoolmani Khalkho, District Superintendent of Education (DSE), Sushil Kumar Das, District Programme Manager (DPM), JSLPS, Sambhudatta Mishra, Addl. Dist. Program Officer (ADPO), Santosh Kumar, NITI Aayog, DRDA, Adani Foundation and members of PJSASM Group. It was organised to recognise consistent efforts and honour the women folks and employees who contribute their valuable effort in development of organisation and society. Theme: "Women in leadership: Achieving an equal future in a COVID-19 world". During the occasion several cultural activities were organised on Theme: "Women in leadership: Achieving an

equal future in a COVID-19 world" with participation of adolescent girls, SHGs members, teachers and Suposhan Sanginis such as Welcome Song, Tribal Dance, Nukkad Natak on prevailing social evils and exploitation faced by women gender such as Beti- Bachao, Beti Padhao, Female Feticide, Act on Phoolo Jhano, Song on Women Empowerment, Suposhan Act on Anaemia and Dance by Adolescents. Social message was spread to reduce its occurrence and rejuvenate the broken society. Anaemia screening of over 73 women and adolescents of ITI Siktia sewing center was also done. Total 450 women including trainees of Saksham, 17 Suposhan Sanginis of core and railway line area and other associated programme women were awarded by certificates, gifts, and momentos as a token of appreciation and gratitude. Phoolo Jhano Saksham Aajeevika Sakhi Mandal, Suposhan Sanginis, Teachers and entire team were Awarded 'ATMANIRBHAR NARI SAMMAN' by Adani Foundation for their best contribution in the society.

17. **Training Program On Mahua Laddoo At with Krishi Vigyan Kendra (KVK), Godda:** To cater to the dual needs of nutrition and livelihood security of the households', training program was organized on 23rd March 2021 in coordination with Krishi Vigyan Kendra for enhancement of skills of Self Help Group (SHG) and tribal women on Value Addition and Food Processing of Minor Forest Produces (MFP) such as Mahua Laddoo from Mahua and other MFPs for Nutrition and Livelihood Security.

PARTICIPANTS: The participants of training program were 20 women members of Self Help Group (SHG) and tribal women belonging from Baksara, Patwa, Petbi and Nayabad village.

METHODOLOGY

1. **Awareness Meeting** was conducted in the selected villages for this project and finalized beneficiary list from this meeting

2. **On Campus Training:** Organized one day theoretical plus practical training for preparation of Mahua Laddoo to women groups at Krishi Vigyan Kendra, Godda.

3. **Batch of 20 women** were allocated different work from initiation of roasting Mahua to grinding Kaju and Makhana followed by preparation of Mahua Laddoo by all women participants during training.

RURAL INFRASTRUCTURE DEVELOPMENT

Water Conservation, Ground water recharge

1. **Deepening work of Ponds:** Pond Deepening work of five ponds in four villages of core area has been carried out in the Financial Year 2020-21. More than 400 farmers are getting benefits from pond deepening for doing irrigation in their agricultural land of 607.5 acres along with enhanced soil fertility and restoration of ecology. Impact Assessment was conducted in aspirational villages including short documentary, and Pani Chaupal was organized to assess the impact leveraged to farmers, and community.

   Moreover, pond cleaning work was also carried out in three villages for three ponds namely Mularsa Tank Pond, Kajhiya Pond and Bathing Ghat in Godda for channelizing the domestic, cultural and religious activities by villagers and the community.

Sr No.	Name of Pond	Village	Net Increase in storage area (In Cubic Meter)	Potential Water Recharge (2.5 times of increase in storage)	Farmers benefitted	Land Benefitted in Acres
1	Baisari Pond	Baisari	2855	7137.5	70	105
2	Motia Pond	Motia	6072	15180	120	180
3	Sikatia Pond	Sikatia	2594	6485	65	97.5
4	Motia Pond	Motia (near Liljhi river-Dumaria Bridge)	8164	20410	150	225
5	Lakharjora Pond	Gaighat	(Ongoing)	-	0	0
	Total				**405**	**607.5**

2. **Cleaning of ponds**

Sr No.	Name of Pond	Village	Nature of work
1	Mularsa Tank Pond	Godda	Pond Cleaning
2	Kajhiya Pond	Godda	Pond Cleaning
3	Bathing Ghat	Godda	Pond Cleaning

Drinking Water Facility

1. **Drinking water facility in villages –Borewell, Community Well etc.:** 19 Deep Boring was done near to Government premise, Sahebganj, Mahagama, Kauribihar and Baliakitta village of core and pipeline area. Renovated 37 no. of Community Wells in 12 villages of core and pipeline area in Godda, Thakurgangti, Mahagama, and Boarijor block for drinking and domestic use. Out of 37 renovated community wells, 8 wells were renovated along with installation of hand pumps in seven villages of pipeline area. The work will facilitate the government functionaries and community during the summer season and all of the year.

2. **Installation, Renovation & Repairing Work of 197 Hand pumps & Hand pump Platform:** Hand pumps are primary source for drinking water and other domestic need in the TPP area. Adani Foundation has been taken up the hand pumps maintenance and repairing work of hand pumps, its installation and construction of hand pump platform in 6 blocks including core, railway line and pipeline villages. With this work, we are ensuring 100% functionality of the hand pumps in the area. This year we have renovated and repaired 195 hand pumps in villages of Godda, Podaiyahat, Thakurgangti, Mahagama, Mehrama & Boarijor blocks in core, railway & pipeline area and 2 hand pump installation in Gumma & Motia villages. Branding of hand pumps repaired by Adani Foundation are also been done for its recognitions and better monitoring.

3. **Drinking Water facility in Hospital:** The health & wellbeing of human body depends on nutrition, and sanitation (WASH) with healthy mind and mental strength which also implies proper management of hygiene. Due to lack of proper tools and knowledge people fall under prey of severe diseases leading to sicknesses and serious health complications. We strive to protect the community and citizens with adequate facilities to ensure development of individuals and family of the tribe. In the pipeline area of Mahagama block, one government Hospital is operated in which large number of patients are treated and proper counselling is also given. However,

there is lack of proper drinking water facility due to which the patients and other medical staffs suffers with chances of various water borne diseases such as diarrhoea, cholera, dysentery, typhoid, and polio, and other water contaminated diseases. Therefore, one 'R.O Water Filter' of 100 Litre per Hour (LPH) each was provided in Thakurgangti and Mahagama hospital for the Welfare of people and public enabling access to clean and safe drinking water.

Educational infrastructure Development

1. **Renovation of School-**Primary school at Amrakanoli village of TPP core area for quality learning of students. It will provide better learning ambience for the rural children who cannot afford to avail education in private schools due to low household's income. Ongoing Construction of Gate at +2 School at Baksara village.

2. **Construction of 06 Class room** is going on at High School, Motia to provide infrastructure for students to learn in a proper proximity. Also it is helpful to create a better educational environment in the campus. Ongoing.

3. **Renovated & Beautified with BALA painting** for learnings of the children (3-5 years) in **six Anganwadi Centre** in 4 villages of core area. Anganwadi is the source of several benefits for child and maternal health and well-being. It will help facilitate enhancement of nutrition level/Suposhan of community of our TPP area, particularly of children (0-5 years), adolescent girls, pregnant women and lactating mothers supported by Sanginis and Suposhan team members. In addition to this, it will help District Administration, ICDS functionaries for continuous and proper functioning of Anganwadi Centres to provide needful benefits.

SN	ANGANWADI CENTRE	VILLAGE
1	MOTIA, HARIJAN TOLA	MOTIA
2	GANGTA	GANGTA
3	BARI BAKSARA, LAIYA TOLA	BARI BAKSARA
4	MOTIA, KAHAR TOLA	MOTIA
5	MOTIA, CHAPOTA TOLA	MOTIA
6	BIRNIYA	BIRNIYA

4. **Construction of Library at Madhuri village & Renovation of Laboratory** at +2 School, Godda of our core area to provide a common platform for the students to access educational resources for improvement of academic performance and attain quality of education.

5. **Renovation of Laboratory of +2 School, Godda and High School, Motia:** To improve the standard of higher education of Godda district, one of the aspirational districts of Jharkhand.

6. **Renovation of +2 School and Construction of Gate at +2 School at Baksara:** To provide better rural infrastructure to enable access to educational institutions for rural children

7. **Construction of Canteen at Police Line**, Gumma village of railway line area to provide better infrastructure for the government functionaries and delegates. Ongoing.

8. **Construction work of Main Gate, Security Room & Approach Road at ITI Siktia & Renovation of Community Hall** for Saksham Training at Bahuria village for smooth functioning of Skill Development training in SMO trade in which all nearby tribal and rural women prepare dress for school children.

Health and Sanitation infrastructure Development

Good Health and Well-being is an important indicator of development of individuals, groups, family and society. It also contributes towards achievement of Sustainable Development Goals, ***SDG*** *3 "Ensure* ***healthy*** *lives and promote well-being for all at all ages".* However, due to weakened health institutions, the people faces many difficulties and challenges in availing the public health care services. Ultimately, it results into miserable health conditions and other uncertain situations for whole family due to low household income to afford medical expenses of private hospitals. Similarly, due to defunct and damaged health infrastructure, the operational deliverables in line gets adjourned, affecting the health of the people.

1. **Renovation of Hospital Building at Thakurgangti Hospital:** Renovation work of hospital building at Thakurgangti was done to channelize the functioning of hospital at the earliest to serve the public of pipeline area in large number. It will benefit all stakeholders including the patients, hospital staff and other indirect stakeholders. It will also build more trust and solidarity among public and community.

2. **Construction of Waiting Shade at Mahagama Hospital:** The infrastructure of hospital at Mahagama was in a poor, and defunct condition. There was no seating arrangement facility for the indoor and outdoor patients, and medical and supporting staffs due to which the people suffers in manifolds. Construction of Waiting Shed at Mahagama Hospital helped them to operate all health services in a better manner.

Other Village development structures

1. **Construction of 31 Model Bathroom & Soak pit near Handpump:** As we are working towards creating awareness for cleanliness and hygiene by our program named "SWACCHAGRIH" with aim to aware and engage people in creating cleanliness culture. Some time ago people had not toilets facility in their village and they were using open places for toilet which invites unhygienic condition and diseases among the people. To get rid of from this issue we have constructed with soak pit near hand pump in 12 villages of three blocks namely Mahagama, Boarijor, and Thakurgangti of pipeline area to provide better rural infrastructure in the villages and educational institutions.

Model Bathroom & Soak pit - 2021				
Sl No	**Block**	**Duration**	**Village**	**No. Of Bathroom**
1	Mahagama	January'21	1	2
2	Boarijore	January'21	3	5
3	Mahagama	February'21	1	1
4	Boarijore	February'21	1	1
5	Mahagama	February'21	1	1
6	Mahagama	February'21	1	1
7	Mahagama	March'21	1	1
8	Boarijor	March'21	1	16
9	Boarijor	March'21	1	2
10	Thakurgangti	March'21	1	1
Total			**12**	**31**

2. **Construction of 20 Seating Place (Chabutra) in TPP villages:** Construction of 20 Seating place has been done comprising of 2 in Gumma & Kauribihar railway line villages, 2 in pipeline villages at Bhawani Chowki, and Sriram Chowki village in Sahebganj, Intake Point area and 16 seating place in 12 villages of Thakurgangti,

Mahagama, Boarijor, and Podaiyahat block of our pipeline and core area. Normally village not having common places in the village for seating purpose for elders and senior citizens. This is being used by the common people in the village for seating purpose.

3. **Renovation of 2 Community Hall for Community Programs** for Promotion of cultural activity and local events at village level for community. It helps share peace and harmony among community. As we are committed to provide better community structures to the village, we have renovated 2 community halls in Karikado village, and Markhan village of core area. This hall is also being used for community purpose.

4. **Renovation of Panchayat Bhawan** at Lobhanda to provide better rural infrastructure in the villages and doing better planning and implementation of village development work.

5. **Renovation of Kitchen at Satsang Bhawan, Patwa** to provide a suitable infrastructure to the villagers to perform various important rituals and social activities throughout the year.

6. **Construction of 2 Drains:** Construction of 2 Drains (100 m) at Motia, Uttar tola and Construction of Drain (125 m) at Sondiha Village. To provide better rural infrastructure in the villages.

7. **Renovation of Stadium at Ramgarh Road:** To provide better infrastructure facilities to the villagers.

8. **Construction of Pipe Culvert at Rangania Village:** To provide better infrastructure facilities to the villagers. In Rangania village, there was a problem of drainage blockage which affects the socio-economic and environmental conditions with occurrence of pollutants, passage of polluted water in the roads, agriculture land and other areas, impacting the economic activities of the villagers. Therefore, a pipe culvert was constructed to minimize the drudgery and problems of the villagers and benefiting the stakeholders at manifold.

9. **Renovation and construction of 36 community structures:** We have taken up the renovation of community structures like Temples/Puja Sthal/ Manjhisthan/ Satsang Bhawan/Sidhu Kanhu Shade etc. in core, railway line and pipeline villages. People of our area having big faith for these temples and other places. So many people are visiting daily for religious purpose at the temple.

Annexure – III

Green Belt Development

Green Belt Development

Green Belt

Green Belt Development

Green Belt Development in Progress

Road Side Plantation (Outside the Plant)

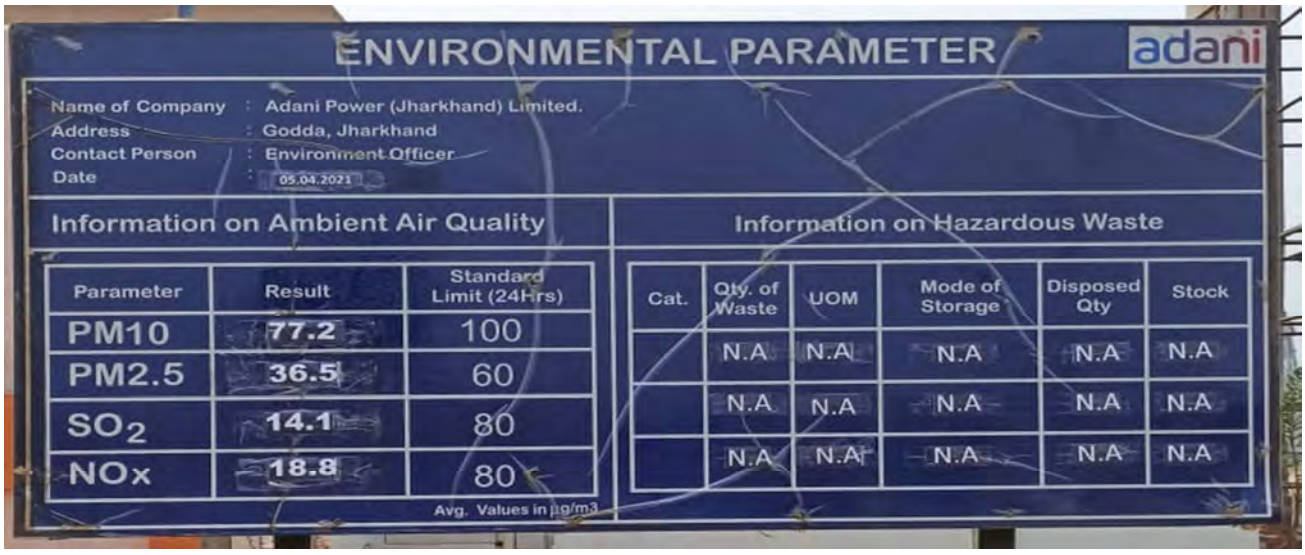
Water sprinkling on road to reduce fugitive emission

Water sprinkling on road to reduce fugitive emission

Water sprinkling on road to reduce fugitive emission


Concrete Road which help to reduce fugitive emission

Concrete Road which help to reduce fugitive emission



Display Board at Main Gate

भारत सरकार /GOVERNMENT OF INDIA
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE
एकीकृत क्षेत्रीय कार्यालय, राँची / INTEGRATED REGIONAL OFFICE, RANCHI
BUNGALOW NO.A-2, SHYAMLI COLONY, RANCHI - 834002
TEL: 0651-2410007, 2410002, E-mail: ro.ranchi-mef@gov.in

No. FP/JH/Others/32773/2018/ 4489 Date: 29.1.2021

To

The Addl.Chief Secretary,
Department of Forests, Environment & Climate Change,
Government of Jharkhand,
Nepal House, Ranchi - 834002.

Sub: **Final (Stage-II) approval of Central Government under Forest (Conservation) Act 1980 for proposed diversion of 13.3293 ha of forest land for lying of Underground Water Pipe Line in favour of M/s Adani Power (Jharkhand) Limited in Sahibganj and Godda districts of Jharkhand - reg.**

Sir,

I am directed to refer to the State Govt. letter No. Van Bhumi-18/2019-2258/Va.Pa. dated 21.6.2019, wherein prior approval of Ministry of Environment, Forest and Climate Change for diversion of 13.3293 ha of forest land for lying of Underground Water Pipe Line in favour of M/s Adani Power (Jharkhand) Limited in Sahibganj and Godda districts of Jharkhand, was sought in accordance with Section-2 of the Forest (Conservation) Act, 1980. After due consideration of the proposal of the State Government, the 'in-principle' approval of the Central Government for diversion of the said forest land was accorded vide this office letter of even number dated 28.6.2019 & 25.11.2019 subject to fulfillment of certain conditions. The State Government of Jharkhand vides their letter No.Van Bhumi-18/2019-226/Va.Pa. dated 25.1.2021 have furnished compliance report in respect of the relevant conditions stipulated in the in-principle approval for grant of final approval.

In this connection, on the basis of the compliance report under reference, the **final approval** of the Central Government under Section 2 of the Forest (Conservation) Act, 1980 is hereby accorded for diversion of 13.3293 ha of forest land for lying of Underground Water Pipe Line in favour of M/s Adani Power (Jharkhand) Limited in Sahibganj and Godda districts of Jharkhand, subject to the following conditions and stipulations:-

(1) Legal status of the forest land diverted shall remain unchanged.

(2) **Compensatory afforestation:** Compensatory afforestation shall be taken up by the State Forest Department over 14.02 ha. non-forest land (Site - Baridih and Gomot, Thana - Ghagra, Thana No.100 and 99 in Gumla district under Gumla Forest Division) at the cost of the User Agency. As far as possible, a mixture of local native species shall be planted and monoculture of any species should be avoided.

(3) The non-forest land which is transferred and mutated in favour of the State Forest Department for the purpose of Compensatory Afforestation shall be declared as Reserved Forest under Section-4 or Protected Forest under Section-29 of the Indian Forest Act, 1927. The Nodal Officer must report compliance within a period of 3 months from the date of grant of final approval and send a copy of the original notification declaring the non-forest land as R.F. under Section-4 or P.F. under Section-29 of the Indian Forest Act, 1927 or under the relevant section of the local Forest Act as the case may be, to this Ministry for information and record.

(4) User Agency shall restrict the felling of trees to minimum number in the diverted forest land and the trees shall be felled under the strict supervision of the State Forest Department, and the cost of felling of trees shall be deposited by the User Agency with the State Forest Department.

(5) The boundary of the diverted forest land shall be demarcated on the ground at the project cost, by erecting four feet high reinforced cement concrete pillars, each inscribed with its serial number, DGPS coordinates, forward and back bearing and distance from adjoining pillars etc. The pillars should be spaced at about 50 meter and each pillar should be clearly visible from pillars on both sides.

(6) The pipeline shall be laid down 1.5 m below the ground surface and proper leveling will be done after installation of the pipeline.

(7) The alignment and layout plan of the proposed water pipeline through diverted forest land shall not be changed without prior approval of Central Government.

(8) a) No additional or new path will be constructed inside the forest area for transportation of construction materials for execution of the project work.

b) No labour camp shall be established inside the forest land.

c) The User Agency shall provide alternate fuels preferably LPG to the labourers and the staff working at the site so as to avoid any damage and pressure on the nearby forest areas.

(9) a) The diverted forest land shall not be used for any purpose other than that specified in the project proposal.

b) The period of diversion under this approval shall be co-terminus with the period of the project life.

c) The diverted forest land shall under no circumstances be transferred to any other agencies, department, or person without prior approval of the Central Government.

(10) The Conservation Action Plan on Dolphins & other Aquatic Biodiversity in River Ganga at Sahibganj developed by expert team shall be implemented by the User Agency at their own cost.

(11) The User Agency and the State Government shall ensure compliance to provisions of all the Acts, Rules, Regulations, Guidelines, Hon'ble Court Order(s) and National Green Tribunal Order(s) pertaining to this project, if any, for the time in force, as applicable to the project.

(12) Violation of any of these conditions will amount to violation of Forest (Conservation) Act, 1980 and action would be taken as per the MoEF&CC Guideline F. No. 11-42/2017-FC dt 29/01/2018.

(13) Any other condition that the Ministry of Environment, Forest & Climate Change may stipulate from time to time in the interest of conservation, protection and development of forests and wildlife.

2. As has been mentioned at Para-2 of the Stage-II approval, this approval for diversion of forest land is subject to the fulfillment of stipulated conditions mentioned in this approval letter. Therefore, in the event of non-compliance of any of the conditions laid out in this approval letter, the Regional Office of Ministry of Environment, Forest & Climate Change may withdraw the said approval for diversion of the forest land and stop the non-forest activity being carried out in the forest land besides initiating the legal action as per provisions of Forest (Conservation) Act, 1980.

Yours faithfully,

Sujoy Dutta
29/11/2021

(Sujoy Dutta)
Technical Officer (Forestry)

Copy to:-

1. The Director (ROHQ), Ministry of Environment, Forests and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi - 110 003.
2. The Principal Chief Conservator of Forests (HoFF)/ The PCCF-cum-Nodal Officer (FC), Deptt. of Forests, Environment & Climate Change, Govt. of Jharkhand, Doranda, Ranchi.
3. The Divisional Forest Officer, Sahibganj and Godda Forest Division, Jharkhand.
4. The Head of Environment, Adani Power (Jharkhand) Limited, 3rd Floor, Lake View Tower, Doranda, Ranchi.
5. Guard File.

Sujoy Dutta
29/1/2021

Technical Officer (Forestry)