

# CHAPTER - 1.0 INTRODUCTION

## 1.1 INTRODUCTION

M/s. Kohinoor Pulp & Paper Pvt. Ltd. (KPPPL), Assam belongs to the Kohinoor Group. As Assam is a rich source of raw material (Bamboo) for Pulp & Paper industry, the group has decided to set up a Pulp & Paper industry in the same state on India.

The proposed Greenfield Project is being considered to manufacture pulp and paper. The Project would be set up in the Industrial Growth Centre (IGC) of Assam Industrial Development Corporation at Matia in Goalpara District of Assam.

The units proposed to be installed with rated capacity per annum are presented in Table - 1.1.

Table 1.1  
Proposed Project

Sl. No.	Facilities	Proposed Capacity
1.	Natural Fiber / Wood based Pulp Plant	250 TPD
2.	Paper Plant for Writing, Printing and Copier Paper	250 TPD
3.	Co-generation Power Plant	10 MW

The proposed project shall be accommodated within already procured land (200 acres) within the Industrial Growth Centre of Assam Industrial Development Corporation (AIDC) at Matia, district Goalpara.

## 1.2 SITE LOCATION

The proposed plant site is situated at Industrial Growth Centre (IGC), Plot Block C, Village Mornoi, Matia, District Goalpara, of Assam. The project site is located between latitude 26°05'45.61"N and longitudes 90°43'51.28"E.

Kohinoor Pulp & Paper Pvt. Ltd.	Environmental Impact Assessment for Proposed Greenfield Project of 250 TPD Pulp Plant, 250 TPD Paper Plant along with co-generation Power Plant at Industrial Growth Center, Matia, District Goalpara, Assam	C1 - 2
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The proposed site area is well developed and has necessary infrastructure facilities such as motorable road upto the plant site, nearness to rail head, telephone telefax facilities etc. The nearest town Goalpara, district Head Quarters is situated around 16 kms in NW direction from the project site. Guwahati city is around 115 kms in east side from the project site. River Brahmaputra is flowing towards north direction w.r.t the proposed project site. Sri Surya Pahar, a hillock located near the banks of the Brahmaputra river, about 12 kms from Goalpara town on the Debapara Road towards Sainik School Goalpara & Dudhnoi.

A Sainik School is located very close to the project site and 18 kms away from Goalpara town in Mornoi, near Rajapara village, on the Goalpara-Matia-Dudhnoi road.

The nearest airport is Lokpriya Gopinath Bordoloi International Airport, Borjhar, Guwahati which is about 105 kms from the project site in East direction. Distance from Kolkata to the project site is about 460 kms. The project site has good connectivity with sea port of Kolkata and Haldia.

The location of proposed project site is presented in Figure 1.1.

### 1.3 KNPL - An Overview

M/s Kohinoor Pulp & Paper (P) Ltd., Assam belongs to the Kohinoor Group which is a joint venture of T.M. Dugar Group of Nepal and Bothra group of India. As Assam is a rich source of raw material (Bamboo) for Pulp & Paper industry, it is natural to think about this industry for any industrial group. With this view the group has decided to diversify their activities to the Pulp & Paper industry.

T.M. Dugar Group is one of the leading business houses in Nepal, which is having a history of over 135 years of business. The group has set up manufacturing facilities for Food Processing, Oil Processing, Mineral Water, Cold Storages and Plastic etc. in Nepal. The group has also promoted Banking & Life Insurance business in Nepal and is the major promoter of Sunrise Bank & Gurans Life Insurance in Nepal. The group also commands a lion's share in Nepal's trading activities representing more than fifty different companies for their products in Nepal like Confectioneries,

Kohinoor Pulp & Paper Pvt. Ltd.	Environmental Impact Assessment for Proposed Greenfield Project of 250 TPD Pulp Plant, 250 TPD Paper Plant along with co-generation Power Plant at Industrial Growth Center, Matia, District Goalpara, Assam	C1 - 3
---------------------------------	--	--------

Fertilizer, Oil seeds, Stationeries, Hardware etc. Beside these, TM Dugar Group is the biggest Automobile distributor in Nepal representing Nissan, Ford, Mahindra, John Deere as country distributor for same. They are also executing 170MW Hydro Power Project which will be the first mega Hydro Power Project developed by any private sector in Nepal. The group has surpassed the turnover of Rs. 2500 Crores providing employment to over 5000 workforce.

In India Kohinoor Group's operation consists of following establishment:

Kohinoor Steel (P) Ltd. was established in 2005 in the State of Jharkhand. The unit is the fastest implemented integrated Steel Plant in India having Sponge Iron, 17 MW Captive Power Plant, Coal Washery, Induction Furnaces, Billet Caster and Rolling Mill producing finished steel of 1,50,000 tonnes per annum. Kohinoor Steel is the biggest private sector investment after formation of State of Jharkhand.

Kohinoor Paper & Newsprint (P) Ltd. was established in 2007 in the State of West Bengal. The unit has a manufacturing capacity of 70,000 tonnes of Newsprint & writing & printing papers. Kohinoor Paper has used state of art equipment imported from world's top European Manufacturers to make these quality papers. Further it has its own 6 MW Power plant.

The T.M. Dugar Group has given livelihood to the many unemployed tribal youth of the Nepal and Eastern states of India. The Group is presently giving employment to more people both directly and indirectly.

The T.M. Dugar Group is a combination of financial strength, quality product, experience in the line of activity, experience in operating in the region and has a strong marketing network and always strives towards consumer satisfaction and quality control.

Kohinoor Pulp & Paper Pvt. Ltd.	Environmental Impact Assessment for Proposed Greenfield Project of 250 TPD Pulp Plant, 250 TPD Paper Plant along with co-generation Power Plant at Industrial Growth Center, Matia, District Goalpara, Assam	C1 - 4
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## 1.4 NEED FOR THE PROJECT

There are rapid changes occurring in the Indian paper industry. The per-capita paper consumption is increasing though it is still significantly below the global average. Demand for paper & paper board is linked to overall economic growth. While the Indian financial intermediaries did not witness the kind of fragility witnessed in more developed countries, the global financial crisis had an adverse effect on India as well and economic growth also witnessed a slowdown. With GDP growing at 5.8 per cent in the Oct-Dec 2008 quarter and the Jan-Mar 2009 quarter, annual GDP growth reduced to 6.7 per cent in 2008-09. This is a significant slowdown from the 9 per cent growth witnessed in 2007-08. Clearly, compared to the last five years, there has been a slowdown in the Indian economy. Having said that, it is also important to note that the macro-economic fundamentals of India continue to be strong and most experts estimate that in the foreseeable future, the country will grow between 6.5 per cent and 7 per cent annually. Compare this with the global picture and one finds that India will continue to be one of the fastest growing economies of its size in the world. And, since May 2009, there has been renewed optimism right across the Indian economy. Industrial output has started showing positive signs, inflation is well under control, consumer sentiments are positive and there is renewed investor confidence in India. Clearly, India remains a country with several opportunities.

As far as the writing and printing paper industry goes, India is still at a very nascent stage with one of the lowest per capita consumptions in the world. With increased stress on education and economic development, there continues to be large opportunities for growth in this sector. Yes, there is increased use of the internet and similar mediums that have an adverse impact on paper consumption, but this usage is still minimal and not widespread. The market remains widespread and fragmented.

The Indian economy has grown by 7.9% in the second quarter (July-Sept.2009) as against 6.2% growth in the first quarter (April-June 2009). Packaging board is dependent on end user industry performance i.e. FMCG, Pharma etc which is also showing promising upward trend.

Kohinoor Pulp & Paper Pvt. Ltd.	Environmental Impact Assessment for Proposed Greenfield Project of 250 TPD Pulp Plant, 250 TPD Paper Plant along with co-generation Power Plant at Industrial Growth Center, Matia, District Goalpara, Assam	C1 - 5
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India has witnessed phenomenal development in the field of education both in quantitative and qualitative terms, since independence. After Sarva Shiksha Abhiyan for elementary education, the Govt. has, in 2008, introduced Rashtriya Madhyamik Shiksha Abhiyan for secondary education giving the required boost to the demand in paper. UNICEF and other organizations are undertaking great efforts to achieve 100% literacy by 2012-15. India is slowly becoming a hub of global publishing and printing industry, so the demand for paper would go on increasing in times to come, immaterial of the recessionary trends.

In addition, rising income, aspirations, explosive growth in infotainment (knowledge plus entertainment combined) provide huge opportunities for the growth of Indian paper industry.

## 1.5 PURPOSE OF THE EIA/EMP REPORT AND SCOPE OF THE STUDY

As per EIA Notification 2006, published on 14<sup>th</sup> September 2006, all projects or activities, including expansion and modernization of existing projects or activities or change in Product Mix, falling under Category 'A' in the Schedule shall require prior Environmental Clearance from Ministry of Environment & Forests, Govt. of India.

The proposed green field project under the mentioned category of Paper Plant fall under Category 'A' project and therefore, shall require prior Environmental Clearance from Ministry of Environment & Forests, Govt. of India. In this connection, M/s. Kohinoor Pulp & Paper Pvt. Limited submitted an application along with filled up 'Form 1' in the prescribed format and Detailed Project Report to MoEF for seeking prior Environmental Clearance for its proposed project vide Letter dated 26<sup>th</sup> August, 2010. Subsequently, the proposal was considered by the Expert Appraisal Committee (Industry) in its 15<sup>th</sup> meeting, held on 27<sup>th</sup> October, 2010 to determine the Terms of Reference (TOR) for undertaking detailed EIA study for obtaining Environmental Clearance in accordance with the provisions of the EIA Notification 2006. Accordingly, MoEF issued one letter (Ref. F. No J-11011/464/2010-IA II (I)) dated 18<sup>th</sup> November, 2010 with mention of the finalized Terms of Reference (Table - 1.2).

Kohinoor Pulp & Paper Pvt. Ltd.	Environmental Impact Assessment for Proposed Greenfield Project of 250 TPD Pulp Plant, 250 TPD Paper Plant along with co-generation Power Plant at Industrial Growth Center, Matia, District Goalpara, Assam	C1 - 6
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As advised, this Draft EIA/EMP Report has been prepared, accommodating all the components, based on finalized TOR for its submission to State Pollution Control Board, Assam for the conduct of Public Hearing/Consultation.

This EIA Report is prepared on the basis of the available secondary data/literature along with the on-site data collected during the three months' period (October, 2010 – December, 2010), generated through on-site monitoring of relevant environmental components and parameters.

TABLE - 1.2

FINALISED "TERMS OF REFERENCE" AND THEIR REFERENCE IN EIA REPORT		
Sl. No.	Finalised "Terms of Reference"	Reference in EIA Report
1	Executive summary of the project.	Prepared
2	Photograph of the plant area.	Annexure - II
3	A line diagram / flow sheet for the process and EMP	Chapter - 2 Section - 2.4.2
4	Present land use should be prepared based on satellite imagery. High-resolution satellite image data having 1m-5m spatial resolution like quickbird, Ikonos, IRS P-6 pan sharpened etc. for the 10 Km radius area from proposed site. The same should be used for land used/land-cover mapping of the area.	Chapter - 3 Section - 3.3
5	Location of national parks / wildlife sanctuary / reserve forests, if any, within 10 km. radius should specifically be mentioned. A map showing landuse / landcover, reserved forests, wildlife sanctuaries, national parks, tiger reserve etc. in 10 km of the project site.	Chapter - 3 Section - 3.0
6	Project site layout plan showing raw materials, fly ash and other storage plans, bore well or water storage, aquifers (within 1 km.) dumping, waste disposal, green areas, water bodies, rivers/ drainage passing through the project site should be included. Present land use based on satellite imagery. Study area should be 10 Km radius from the boundary of the plant.	Chapter - 2 Section - 2.16 Figure - 2.7
7	A list of industries containing name and type in 10 km radius should be incorporated.	Chapter - 3 Section - 3.2
8	List of raw materials required and source along with mode of transportation should be included. Raw material preparation chapter should include: proper dust handling system to maintain good house keeping & dust free atmosphere; dust masks to workers of concerned area and provision of proper fire fighting equipment etc.	Chapter - 2 Section - 2.3

Kohinoor Pulp & Paper Pvt. Ltd.	Environmental Impact Assessment for Proposed Greenfield Project of 250 TPD Pulp Plant, 250 TPD Paper Plant along with co-generation Power Plant at Industrial Growth Center, Matia, District Goalpara, Assam	C1 - 7
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9	Manufacturing process details for all the plants should be included. Chapter on Pulping & Bleaching should include: no black liquor spillage in the area of pulp mill; no use of elemental chlorine for bleaching in mill. Chapter on Chemical Recovery should include : no spillage of foam in chemical recovery plant, no discharge of foul condensate generated from MEE directly to ETP; control of suspended particulate matter emissions from the stack of fluidized bed combustion & heat recovery boilers through the installation of ESP.	Chapter - 2 Section - 2.4.2
10	Action plan to ensure that all equipments like pumps, motors & other electricals are energy efficient. Program for energy efficient lighting should also be incorporated.	All equipments like pumps, motors & other electricals shall be energy efficient. Energy efficient lighting shall also be adopted.
11	Mass balance for the raw material and products should be included.	Chapter - 2 Section - 2.3 Figure - 2.1
12	Energy balance data for all the components of paper plant including proposed co-generation power plant should be incorporated.	Chapter - 2 Section - 2.4.2.4
13	Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall should be collected.	Chapter - 3 Section - 3.6
14	Data generated in the last one year i.e. air, water, raw material properties and analysis (major, trace and heavy metals), ground water table, seismic history, flood hazard history etc.	Not applicable as it is a green field project.
15	Data on existing ambient air quality, stack emission, fugitive emissions data, water requirement and water balance cycle; generation, re-utilization and disposal of solid / hazardous waste for the existing plant and predicted increase in pollution load (GLCs) due to proposed expansion should be incorporated.	Not applicable as it is a green field project.
16	Point-wise compliance to the specific and general conditions stipulated in the environmental clearance and consent to operate for the existing plant.	Not applicable as it is a green field project.
17	Ambient air quality at 8 locations within the study area of 10 km., aerial coverage from project site with one AAQMS in downwind direction should be carried out.	Chapter - 3 Section - 3.5
18	Chemical characterization of RSPM and incorporating of RSPM data.	Annexure - IV
19	Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features.	Chapter - 4 Section - 4.3.1

Kohinoor Pulp & Paper Pvt. Ltd.	Environmental Impact Assessment for Proposed Greenfield Project of 250 TPD Pulp Plant, 250 TPD Paper Plant along with co-generation Power Plant at Industrial Growth Center, Matia, District Goalpara, Assam	C1 - 8
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20	Air quality modelling for paper plant & power plant for specific pollutants needs to be done. APCS for the control of emissions from all the sources should also be included to control emissions within the prescribed limits.	Chapter – 4 Section – 4.5.2
21	<p>Ambient air quality monitoring modelling along with cumulative impact should be included for the day (24 hrs) for maximum GLC alongwith following :</p> <ul style="list-style-type: none"> <li>i) Emissions (g/second) with and without the air pollution control measures</li> <li>ii) Meteorological inputs (wind speed, m/s), wind direction, ambient air temperature, cloud cover, relative humidity &amp; mixing height) on hourly basis</li> <li>iii) Model input options for terrain, plume rise, deposition etc.</li> <li>iv) Print-out of model input and output on hourly and daily average basis</li> <li>v) A graph of daily averaged concentration (MGLC scenario) with downwind distance at every 500 m interval covering the exact location of GLC.</li> <li>vi) Details of air pollution control methods used with percentage efficiency that are used for emission rate estimation with respect to each pollutant</li> <li>vii) Applicable air quality standards as per LULC covered in the study area and % contribution of the proposed plant to the applicable Air quality standard.</li> <li>viii) No. I-VII are to be repeated for fugitive emissions and any other source type relevant and used for industry</li> <li>ix) Graphs of monthly average daily concentration with down-wind distance.</li> <li>x) Specify when and where the ambient air quality standards are exceeded either due to the proposed plant alone or when the plant contribution is added to the background air quality.</li> <li>xi) Fugitive dust protection or dust reduction technology for workers within 30 m of the plant active areas.</li> </ul>	Chapter - 4 Section – 4.5.2
22	Impact of the transport of the raw materials and end products on the surrounding environment should be assessed and provided.	Chapter – 4 Section – 4.5.2.3
23	One season data for gaseous emissions other than monsoon season is necessary	Not applicable as it is a green field project.
24	Presence of aquifer(s) within 1 km of the project boundaries and management plan for recharging the aquifer should be included.	Chapter - 3 Section – 3.1
25	Source of surface/ground water level, site (GPS), cation, anion (Ion Chromatograph), metal trace element (as above) chemical analysis for water to be used. If surface water is	Chapter - 3 Section – 3.1

Kohinoor Pulp & Paper Pvt. Ltd.	Environmental Impact Assessment for Proposed Greenfield Project of 250 TPD Pulp Plant, 250 TPD Paper Plant along with co-generation Power Plant at Industrial Growth Center, Matia, District Goalpara, Assam	C1 - 9
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	used from river, rainfall, discharge rate, quantity, drainage and distance from project site should also be included.	
26	Action plan for the tertiary treatment of mill effluent before discharge to any water body, which should also be specified.	Chapter - 2 Section - 2.12
27	Ground water analysis with bore well data, litho-logs, drawdown and recovery tests to quantify the area and volume of aquifer and its management.	Chapter - 3 Section - 3.7
28	Ground water modelling showing the pathways of the pollutants should be included	There is no toxic effluent generation from the plant.  There is no chance of any leaching of the solid wastes into the ground as proper management system of the same will be in place. For details, please refer Chapter - 2.
29	Column leachate study for all types of stockpiles or waste disposal sites at 20°C-50°C should be conducted and included.	There is no chance of any leaching of the solid wastes into the ground as proper management system of the same will be in place. For details, please refer Chapter - 2.
30	Action plan for rainwater harvesting measures at plant site should be submitted to harvest rainwater from the roof tops and storm water drains to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources. Rain water harvesting and groundwater recharge structures may also be constructed outside the plant premises in consultation with local Gram Panchayat and Village Heads to augment the ground water level.	Chapter - 2 Section - 2.14
31	Permission for the drawl of surface water from the State Irrigation Department and water balance data including quantity of effluent generated, recycled and reused and discharged is to be provided. ETP should be equipped with tertiary stage of treatment. Methods adopted/to be adopted for the water conservation should be included.	Chapter - 2 Section - 2.6 Figure - 2.5 & 2.6
32	Commitment that fresh water consumption will not be more than 75 m <sup>3</sup> /T of paper.	Shall be complied.
33	A note on the impact of drawl of water on the nearby River	Chapter - 4

Kohinoor Pulp & Paper Pvt. Ltd.	Environmental Impact Assessment for Proposed Greenfield Project of 250 TPD Pulp Plant, 250 TPD Paper Plant along with co-generation Power Plant at Industrial Growth Center, Matia, District Goalpara, Assam	C1 - 10
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	during lean season.	Section – 4.3.2
34	A chapter on efforts made to minimize use of ground water; impact of ground water drawl on the surrounding area, ground water table and impact of treated waste water usage for irrigation should also be included. A detailed hydrological study carried out by the State Govt. with reference to drawl of ground water should also be included. A detailed action plan for mitigative measures should be included. Ground water monitoring minimum at 8 locations should be ensured.	Chapter - 3 Chapter - 4 Section – 3.0 & 3.7 Section – 4.3.2
35	Surface water quality of nearby River (60 m upstream and downstream) and other surface drains at eight locations must be ascertained.	Chapter – 3 Section – 3.7
36	A note on treatment of wastewater from different plants, recycle and reuse for different purposes should be included.	Chapter – 2 Section – 2.12
37	Provision of traps and treatment plants are to be made, if water is getting mixed with oil, grease and cleaning agents.	Chapter – 2 Section – 2.12
38	Performance report of effluent treatment plant to accommodate the additional effluent generated during expansion.	Chapter – 2 Section – 2.12
39	If the water is mixed with solid particulates, proposal for sediment pond before further transport should be included. The sediment pond capacity should be 100 times the transport capacity.	Chapter – 2 Section – 2.12
40	The pathways for pollution via seepages, evaporation, residual remains are to be studied for surface water (drainage, rivers, ponds, lakes), sub-surface and ground water with a monitoring and management plans.	Chapter – 2 Section – 2.12
41	Ground water monitoring minimum at 8 locations and near solid waste dump zone, Geological features and Geo-hydrological status of the study area are essential as also. Ecological status (Terrestrial and Aquatic) is vital.	Chapter – 3 Section – 3.7
42	Action plan for solid/hazardous waste generation, storage, utilization and disposal from all the sources including fly ash. Copies of MOU regarding utilization of ash should also be included. Fly ash disposal plan on land owned by the mill should be included.	Chapter – 2 Section – 2.12
43	A note on the treatment, storage and disposal of all type of solid/hazardous wastes should be included. Identification and details of land to be used for solid/hazardous wastes disposal should be included. Details of secured land fill as per CPCB guidelines should also be included.	Chapter – 2 Section – 2.12
44	End use of solid waste and its composition should be covered. Toxic metal content in the waste material and its composition should also be incorporated.	Chapter – 2 Section – 2.9
45	Acton plan for the green belt development plan in 33% area should be included. The green belt should be around the	Chapter – 2 & 7

Kohinoor Pulp & Paper Pvt. Ltd.	Environmental Impact Assessment for Proposed Greenfield Project of 250 TPD Pulp Plant, 250 TPD Paper Plant along with co-generation Power Plant at Industrial Growth Center, Matia, District Goalpara, Assam	C1 - 11
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	project boundary and a scheme for greening of the traveling roads should also be incorporated. All rooftops/terraces should have some green cover.	Section – 2.16 Section – 7.2
46	Detailed description of the flora and fauna (terrestrial and aquatic) should be given with special reference to rare, endemic and endangered species.	Chapter – 3 Section – 3.9
47	Socio-economic development activities need to be elaborated upon.	Chapter – 7 Section – 7.4
48	Disaster Management Plan including risk assessment and damage control needs to be addressed and included.	Chapter – 6
49	Occupational health:  a) Details of existing occupational & safety Hazards. What are the exposure levels of above mentioned hazards and whether they are within Permission Exposure Level (PEL). If these are not within PEL, what measures the company has adopted to keep them within PEL so that health of the workers can be preserved.  b) Details of exposure specific health status evaluation of worker. If the worker's health is being evaluated by pre designed format, chest x rays, Audiometry, Spirometry, Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre placement and periodical examinations give the details of the same. Details regarding last month analyzed data of abovementioned parameters as per age, sex, duration of exposure and department wise.  c) Annual report of health status of workers with special reference to Occupational Health and Safety.	Chapter – 7 Section - 12
50	At least 5% of the total cost of the project should be earmarked towards the corporate social responsibility and item-wise details along with time bound action plan should be included. Socio-economic development activities need to be elaborated upon.	Chapter – 7 Section – 7.4
51	Total capital cost and recurring cost / annum for environmental pollution control measures should also be included.	Chapter – 2 Section – 2.17
52	Public hearing issues raised and commitments made by the project proponent on the same should be included separately in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.	Public hearing is yet to be conducted.
53	Any litigation pending against the project and / or any direction / order passed by any Court of Law against the project, if so, details thereof.	No litigation / court case against the project.