



**M/S. ASIAN PAINTS LIMITED**

**Executive Summary for Establishment of 6 Lakh KLPA capacity Paint& Resins / Water Based Polymers Manufacturing Plant at Immavu Village, Nanjanagud Taluk, Mysuru District, Karnataka**

**SEPTEMBER 2015**



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**Environment for Development**

## M/S. ASIAN PAINTS LIMITED

# Executive Summary for Establishment of 6 Lakh KLPA capacity Paint& Resins / Water Based Polymers Manufacturing Plant at Immavu Village, Nanjanagud Taluk, Mysuru District, Karnataka

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*Cover Page Photos: from left to right clockwise:*

*Centre of Project site, North side of Project site, NW of project site, North side of project site*

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## EXECUTIVE SUMMARY

*This executive summary follows the general arrangement of topics as required by the EIA Notification dated September 14, 2006 and is for the subject study, namely EIA / EMP and RA/DMP for proposed 6 Lakh KLPA Capacity Paints & Resins/Water Based Polymers Manufacturing Plant at Immavu Village, Nanjangud Taluk, Mysuru District, Karnataka.*

### Introduction and Background

#### **About Asian Paints Limited ('APL')**

Since its foundation in 1942, Asian Paints has come a long way to become India's largest and Asia's third largest paint company, with a turnover of Rs. 127.15 billion in FY 2013-2014. Asian Paints operates in 17 countries and has 23 paint manufacturing facilities in the world. Asian Paints has been a leader in the paint industry in India for many years now, pushing new concepts in India like Colour Worlds, Home Solutions, Colour Next and Kids' World.

APL has 6 manufacturing facilities in the states of Gujarat, Telangana, Uttar Pradesh, Tamil Nadu, Haryana and Maharashtra. To cater to the anticipated demand growth in South India over the next few years, Company plans to setup 6 Lakh KLPA production capacity Paint and Resins / Water Based Polymers manufacturing facility at Immavu Village, Nanjangud Taluk, Mysuru District, Karnataka.

### Project Description

#### **About the Proposed Project**

The proposed project is Greenfield and will be set up to manufacture Paints and resin / Water Based Polymers. The Total Production capacity is given in **Table 0-1**.

**Table 0-1: Production Details**

S.No.	Name of Products	Unit	Production capacity
1	Paint	KL/Annum	6,00,000
2	Resin & Water Based Polymers	TSR	3,00,000

Total requirement of land for this project is 175 acres and the same has been allotted by KIADB in Immavu Village, Mysuru Dist. Green belt would be developed over 33% of the plot area.

Company also plans to install solar power plant for captive consumption at this manufacturing facility with total capacity of about 8 MW, of which 6 MW (approx.) would be on rooftop.

#### **Cost of the Project**

The estimated cost of the proposed project is INR 2300 Crores (including working capital).

#### **Regulatory Framework**

As per the Schedule attached to the EIA Notification 2006, as amended till date, the proposed project is covered under Project or Activity, 5(h), namely, Integrated Paint Industry. Such activities are also listed as Category B under the said Notification, requiring prior Environment Clearance (EC) from the State Level Environment Impact Assessment Authority (SEIAA), Bengaluru, Karnataka.

### ***Utility Requirements***

#### **Water**

Total water consumption will be approx. 2500 KLD, out of which 2300 KLD water will be provided by KIADB and rest will be recycled from ETP.

#### **Power**

The CESCO (Chamudeshwari Electricity Supply Corporation Limited, Mysore (Mysuru)) will supply power. The peak power demand will be 12 MW. The DG sets will be installed and will be used in case of power failure. In addition to DG sets, the power back up will be provided by use of solar panels-the renewal energy source.

#### **Fuel**

HSD will be used as fuel and will be utilized in Boilers, DG sets (stand by), and Incinerator.

#### **Effluent Treatment Plant**

Industrial wastewater 180 KLD will be treated in Effluent Treatment plant (ETP) involving primary, secondary and tertiary treatment. In view of the large requirement of water for development and maintenance of green belt, treated effluent will be reused for gardening (outlet characteristics meeting to KSPCB Standards). However, during peak monsoon months, treated effluent will be reprocessed using RO and MEE. Domestic wastewater -120 KLD will be treated in ETP at secondary treatment stage and will be reuse after treatment.

### **Description of the Environment**

#### ***Study Period***

The study period for baseline environmental monitoring was summer season, 2015.

#### ***Study Area***

The study area is defined as the area under 10 Km around the proposed project site boundary.

#### ***Identification of Landuse and Landcover classes***

The Project site is located in Industrial landuse. The Kadakola, Adakanahalli, and Tandavapura, etc. industrial area are covering approx. 0.82%. The habitation area covers ~3.38% of the study area landuse pattern namely Nanjanagud city and other villages in study area. The scrub region was second most observed category in the region covering ~ 13.46% of the area. Open vegetation region was covered with mixed thorny species. On eastern side of the study area hillocks are covered by open vegetation (~3.97%) and Close vegetation region was only 0.55 per cent of the study area.

There were few water bodies in the region and major were Hadinaru and Dadadahalli. Dadadahalli water comes from Krishna Sagar dam which is used for irrigation and fishing. Kapila River flows on the southern side of the study area.

#### ***Climatology***

- Site specific meteorological data shows that average wind speed in summer season of year 2015 is 4.4 m/s and maximum wind speed of 11.6 m/s.
- It can be observed that in summer season, wind blows mostly from West of Southwest (WSW) sector. Calm wind contributes to about 2.54%.

- The recorded average temperature was 23.6°C with maximum temperature of 36.7°C and minimum of 12.2°C which is a characteristic of this study area.

### **Ambient Air Quality**

The ambient air quality monitoring was done at different eight locations within study area of 10 Km. A comparison of results obtained during monitoring with the range indicators provided by CPCB indicates the following shown in **Table 0-2**. Concentration of all pollutants are within limit prescribed by CPCB. VOC concentration were found below detectable limit.

**Table 0-2: Ambient Air Quality at Project site and within Study Area**

AAQM Station	Location Description	Distance in Km (approx.)	Direction	Average Result in µg/m <sup>3</sup> except VOCs which are in ppm					
				PM <sub>1.0</sub> (100) 24 hrs	PM <sub>2.5</sub> (60) 24 hrs	SO <sub>2</sub> (80) 24 hrs	NO <sub>x</sub> (80) 24 hrs	VOC (NS) 15 min	CO (4000) 01 Hr
AA 1	Nr. Project site, at Immavu Village	0.12	S	66	15	8.9	17.0	< 1	< 600
AA 2	At Thandavpura village	3.32	W	77	21	8.8	17.8	< 1	892
AA 3	At Kempasiddanahundi village	2.41	SW	61	19	8.8	17.1	< 1	709
AA 4	At Adakanhalli Village	1.62	NW	54	14	8.8	16.7	< 1	< 600
AA 5	At Hulimavu village	2.06	ENE	72	18	8.9	18.4	< 1	< 600
AA 6	At Immavu Hundi	0.54	S	78	21	8.9	17.0	< 1	< 600
AA 7	At Ayyarahalli Village	5.37	NNE	68	16	9.0	16.4	< 1	< 600
AA 8	At Hejjige village	4.81	SW	63	15	8.9	17.4	< 1	< 600

### **Noise Environment**

Noise readings were taken at eight different locations within the study area. Noise level during daytime & during nighttime, in Industrial area & Residential areas, were observed within CPCB standards i.e. Industrial area (75 dBA (d) & 70 dBA (n)) and residential area (55 dBA (d) & 45 dBA (n)). In residential area due to vehicle movement and construction work, baseline SLM monitoring was observed on higher side.

### **Geology**

Site is gently undulating covered by recent age alluvium and lateritic material. Rocky exposures in and near stream are weathered amphibolite exhibiting schistose and gneissose structures. Rocks are intruded by quartzite and quartzo-felspathic veins.

### **Topography**

Topography of site and surrounding area is undulating. NE and eastern sides of the site are highlands marked by elongated hills. Site is located into local depression having topographic divide running approximately midway in east-west direction. The northern half is rocky portion with drainage of 1<sup>st</sup> to 3<sup>rd</sup> order in midsection flowing toward east.

### ***Hydrogeology***

The area experiences rainfall for around 50 days in year and normal rainfall of Nanjangud taluk is 697 mm. As the area is typically hilly with sediment deposits in valley, the runoff behavior is entirely dependent on topography. The hill section, due to rapid runoff, due to rocky nature does not store water. The sediment bowls and weathered rock beneath accumulates water. The sediment bowls help for agriculture and vegetation and thus delayed runoff and maximum percolation below.

### ***Water environment***

#### **Surface Water**

The baseline quality of water based on the results of the surface water sampling at 10 locations/stations within the study area, it is observed that:

- All parameters are well within the permissible limits except total coliform and faecal coliform in pond water and raw water sample.
- The quality of Kabini River is matching with class C & class E as per their intended uses and it will be suitable for drinking and industrial purpose after suitable treatment.
- The Quality of stream water can be compared with class E and it will be suitable for irrigation and industrial use.
- Treatment of pond water is essential before its use for drinking purpose.

#### **Groundwater**

Groundwater sampling was carried out in the month of May-June 2015 (Pre-monsoon season) from eight different locations. Analysis results of the groundwater samples shows that the hardness of water is relatively high due to Ca and Mg salts. Occasional traces of iron content are noticed. This chemical effect is due to the laterite formation process during leaching. However, all chemical results falls into permissible limits.

### ***Soil Environment***

The project area falls under Agro-Ecological region. The predominant soils are red sandy loam, deep red & loamy and red & sallow soils. The soil samples at different eight locations from 0-15 cm depth were collected. Physical and chemical properties of these soil samples were evaluated. The soil pH values were around neutrality and below 8.5, which indicates that soils are neither saline nor alkaline. The observations for soil type of these samples were summarized in **Table 0-3**.

**Table 0-3: Soil sampling locations and soil type**

Code	Location	Date of Sampling	Distance from Project Site in Km	Direction w.r.t. Project Site	Soil Texture
ST01	At Project site	21.04.2015	-	-	Loamy Sand
ST02	At Thandavapura village	21.04.2015	2.54	WNW	Loamy Sand
ST03	At Imnavu Village	21.04.2015	0.44	S	Loamy Sand
ST04	At Adakanhalli village	21.04.2015	1.64	NW	Loamy Sand
ST05	At Hadinaru village	22.04.2015	3.39	ENE	Sandy Loam
ST06	At Kampasiddanahundi	21.04.2015	1.66	SSW	Sandy Loam
ST07	At Bokkarhalli village	22.04.2015	2.65	ESE	Sandy Loam
ST08	At Goddanapura village	22.04.2015	7.68	WSW	Sandy Loam

### ***Biological Environment***

The proposed site/ core zone is dominated by *Agave Americana*, *Euphorbia antiqorum*, *Barleria buxifolia*, *Barleria prionitis*, *Euphorbia hirta*, *Digitaria ciliaris*, and *Cyndon dactylon* species. Some



trees of *Acacia ferruginea*, *Albizia lebbek* and *Azadirachta indica* were also present on the boundary of the proposed site. While, a total of 183 species of flora were reported from the buffer zone of the study area in which, the maximum 60 species of herbs were reported followed by trees (55), Shrubs (37), climbers (18) and grasses (13).

Among faunal species, only five species of birds i.e. *Acridotheres tristis*, *Merops orientalis*, *Nectarinia asiatica*, *Saxicoloides caprata*, *Saxicoloides fulicata* were reported from the core zone. Whereas from the buffer zone of the proposed site at Mysore; overall 75 species of fauna were reported including maximum 61 species of Birds followed by Mammals (9) and herpetofauna (5).

There is no Protected Forest, Wild Life Sanctuary, Biosphere Reserve, Tiger / Elephant Reserve and Corridor falls in the project study area. No any threatened species of plants were reported from the project study area. Among reported fauna, most of the species falls under Schedule-IV of IWPA, 1972.

## **Socio-Economic Environment**

### ***Social Profile***

- The study area covers 112 habitations/villages in Nanjangud and Mysore taluka of Mysore district. Out of 112 habitations, census data are available for 65 villages only for year 2011.
- Total 44469 households are covering 191610 populations in the Study area. Out of the total population, male are 96108 (50.16%) and female population is 95502 (49.84 %).
- Average schedule caste population is 21.20 % and schedule tribe population is 11.83 % of the total population in Study area.
- Average literacy rate in the study area is 60.25 percent. Approx 39.75 % Population is illiterate in the study area.

### ***Basic Infrastructure Facilities***

- As per visual perception 2015, in less number of villages have at least sub-center level medical facilities. There is no major disease in study area. Villagers need to visit medical facilities in Nanjangud or Mysuru city in case of in-adequate medical facility in the villages.
- There are minimum primary level in most of villages and some villages are having middle level schools. Compare to average literacy ratio in the village people, new technology and knowhow on the same is unusual in core area. The schoolchildren have to go to the nearby city like Nanjangud or Mysore for higher secondary education or graduation/post-graduation.
- Government and gram panchayat funds helped to build sanitary facility in about 70-75% houses within study area villages.
- There are sufficient drinking water facilities available in the study area even through tap in some of villages.

### ***Economic Profile***

- According to Census Data 2011, there are total 40.73 % working population available. Out of the total population there are 35.51 % main workers and 5.22 % marginal workers in the study area. Approx 59.27 % of the population falls in non-working population category.
- Most of the Villagers are having animal husbandry to rear cows, buffaloes, goats and Ox etc. Private veterinary doctor visits on requirement basis.
- The major horticulture crops being produced in the study area are Rice and Ragi. The major vegetable and Fruit crops grown in the study area are Tomato, Mango, Sugarcane, Coconut and Papaya. Agriculture is mostly carried out by the water from bore wells and rainwater.

### ***Cultural Profile***

- The town is famous because of the huge temple dedicated to "Lord Nanjundeswara" also referred to as "Srikanteswara". It is believed that sage Gauthama stayed here for some time and installed a Lingam, the idol form of Shiva. Nanjangud is also known as "Dakshina Kashi or Varanasi" of the South.

### **Anticipated Environmental impacts identification, prediction and mitigation measures**

#### ***Landuse - Impacts, Mitigation Measures and Management Plan***

The present project is part of Industrial Area Development. The entire proposed paint unit will cover approx. 175 Acres of KIADB land. It has been anticipated that there will be lot of changes in land use and land cover. Since there will be site clearance due to industrial unit and roads construction. This would clear natural vegetation growing in the scrub region and agricultural land due to developmental activity. Also, development of road side shops will appear in years to come.

#### ***Ambient Air Quality***

##### **Impact Identification**

##### **Construction Phase**

During the construction phase of the project, the major activities will involve earth work excavation, transport of construction materials, building of structures etc. These activities would cause slightly increase in levels of dust and suspended particulate matter in the ambient air. However, this increase in concentration of pollutants would be of temporary in nature and localized.

##### **Mitigation Measures**

Mitigation measures for air quality impacts are:

- All vehicles delivering construction materials to the site shall be covered to avoid spillage of materials and maintain cleanliness of the roads
- Regular water sprinkling will be done at least twice a day (i.e. morning and evening) for dust suppression of the construction site and unpaved roads used by construction vehicles; etc.

##### **Operational Phase**

##### **Impact Identification**

Impacts on ambient air, during operation phase, would be;

- Flue gases emission due to operation of boilers, use of DG sets of various capacity & due to operation of Incinerator using HSD as fuel
- Particulate matter emission from exhaust / vent attached to silos which will store the Raw Material in powder form.

##### **Mitigation Measures**

General Mitigation Measures for Air Quality Control during Operation Phase:

- Greenbelt will be developed at the facility.
- Closed loop system will be proposed for transfer of liquid / solid raw material from storage / tank farm area to processing areas.
- Attenuation of pollution/protection of receptor through greenbelt/green cover.

- Suitable Air Pollution Control Equipments will be installed, like Dust collector (Bag filters), wet scrubbers, etc.
- Regular monitoring of air pollutant concentrations.
- All trucks shall be PUC Certified from time to time.
- DG Sets will be operated during power failure only.

### ***Noise Environment***

#### **Impact Identification**

During construction phase: Impact on noise quality is due to vehicle movements during site preparation, construction facility,

During Operation phase: due to operation of Boiler, reactors, etc. and Transportation of raw materials will lead to noise pollution.

#### **Mitigation Measures**

Following mitigation measures will be proposed to minimize impact of noise:

#### ***Construction Phase***

- Construction activities to be undertaken during regular working hours, Erection of temporary barriers
- Earplugs and Earmuffs will be provided to workers
- Periodic Maintenance and servicing of mechanized equipment and vehicles used. PUC certified vehicles will be used

#### ***Operational Phase:***

- SOP's will be followed. Earplugs and Earmuffs will be provided to workers.
- DG set will be used during power failure only. Proper acoustic enclosures will be provided

### ***Water Environment***

#### **Surface Water**

#### **Impact Identification**

For the proposed unit, the required water will be sourced from KIADB, Mysuru. The total water consumption will be approx. 2500 KLD which will reduce upto 2200 KLD by recycling and reused of treated water from the RO & MEE. Hence fresh water demand will be reduced and conserve the water resources.

The effluent generation from the proposed unit will be treated in proposed ETP followed by RO & MEE and treated will be completely recycled and reused in plant premises. Treated or untreated wastewater will be not disposed off outside plant premises.

#### **Mitigation Measures**

Following mitigation measures will be implemented to reduce surface water related impacts:

- Fresh water demand will be reduced by recycling and reuse of treated water and avoiding the leakage of raw water at various source.
- Explore the condensate recovery from the boiler which will reduce the overall fresh water demand.

- For greenbelt development, provide drip irrigation /sprinkler system to reduce the fresh water requirement.
- Proper operation and maintenance of effluent treatment plant will be done to ensure meeting specified standards.
- No discharge of untreated waste water on land to avoiding leakages;

### **Ground Water**

#### **Impact Identification**

During site preparation/ change in topography, there will be contribution reduction in natural groundwater recharge due to alteration in drainage pattern and runoff characteristics.

#### **Mitigation Measures**

It is suggested to carry out rainwater harvesting and groundwater recharge practices to improve groundwater conditions.

### ***Soil Environment***

#### **Impact Identification& Mitigation Measure**

No impact is likely to occur on the soil quality at the initial stages, however use of ETP wastewater will have impact on soil quality. For efficient use of ETP effluent liberal quantity of organic manures (@ 50 tons/ha) is required, which will improve permeability of soil. Periodical monitoring of soil EC (soil salinity), pH and ESP (exchangeable sodium percentage) and also EC, pH and SAR (sodium adsorption ratio) of effluent are required in pre and post monsoon

### ***Biological Environment***

#### **Impact Identification**

There is no Protected Forest, Wild Life Sanctuary, Biosphere Reserve, Tiger / Elephant Reserve and Corridor falls in the project study area. No any threatened species of plants were reported from the project study area. Among reported fauna, *most of the species* falls under Schedule-IV of IWPA, 1972.

Construction phase:

- Removal of shrubs, herbs and grasses during site cleaning.
- Defragmentation of habitats due to clearing of scrub cover and removal of top soil.
- Generation of Noise due to Vehicle movement for transportation of construction materials and equipment
- Effect on flora during Disposal of construction waste

Operational Phase:

- Contamination of nearby area due to Handling & Storage of Raw material, fuel, etc.
- Deposition of pollutants like PM, SO<sub>2</sub>, etc. during operation

#### **Mitigation Measures**

Mitigation measures will be suggested:

Construction phase:

- Reclamation of site with recommended species after site cleaning. Tree saplings and trees will be protected with mesh tree guards.
- All drivers will be advised to keep speed limit of 20-25 within the impact zone to avoid disturbance to biodiversity. Along with other operational controls, dense plantation along the fencing will be carried out to reduce noise levels due to various activities at the project site. Use of horn will be minimized.

Operational phase:

- Large trees will be planted around the periphery of the project boundary so that light will not penetrate outside. Animals will be protected by turning off lights during late nights.
- Air pollution control (APC) systems will be installed to control air pollutants. In addition to APC Systems, thick green belt will be developed around project site to avoid any such depositions.

***Solid & Hazardous waste***

**Impact Identification**

- Land / surface water contamination due to leakage / spillage of hazardous waste.

**Mitigation Measures**

Following mitigation measures will be implemented to reduce Solid/Hazardous waste related impacts:

- Use of spill control measures, mechanical handling, PPE's shall be mandatory while handling the chemicals as well as handling and treatment of liquid and solid waste.
- Separate drainage for storm water and effluent will be provided to avoid any contamination of surface water sources;
- All chemical and fuel storage and handling areas will be provided with proper bunds to avoid run-off contamination during rainy season.
- Solid Wastes will be properly handled in closed containers and properly stored in hazardous waste storage areas as per rules having suitable lining and also bunding for overflow of spillage waters which can contaminate the surroundings.
- Other solid and hazardous waste will be disposed as per rules given by KSPCB.

***Socio Economic Environment***

**Impact Identification**

The proposed plant will not have any potential negative impact on the habitations. The Social Management Plant (SMP), therefore, concentrates on mitigation of perceived impacts during the running of the plant

**Environmental Monitoring Programme**

Environment monitoring plan is given in **Table 0-4**.

**Table 0-4: Environment Monitoring Programme**

S. No.	Activity	Schedule
<b>A</b>	<b>Design and Planning</b>	
1	Clearance of shrubs at site / approach roads - As per Ecology & Biodiversity (EB) Management Plan	As per Ecology & Biodiversity (EB) Management Plan
<b>B</b>	<b>Air Pollution Monitoring</b>	

S. No.	Activity	Schedule
1	Ambient air monitoring of parameters specified by KSPCB in their air consents from time to time within the premises	Once every month or as per EC and CTE/CTO
2	Stack Monitoring of utility section(Boiler, Incinerator/DG) sets as given in air consent from time to time	Once every month
3	AAQM as specified by KSPCB in their air consents from time to time at stations outside the premises	Half yearly or as per EC and CTE/CFO
4	Work Place Monitoring	Once in six month
<b>C</b>	<b>Raw water and Wastewater Pollution Monitoring</b>	
1	Monitoring of water consumed in various activities and wastewater generated from various areas of plants	Daily
2	Monitoring of wastewater inlet and outlet at ETP plant for the principal parameters (such as pH, SS, TDS, COD, BOD).	Daily
3	Monitoring of other parameters as per KSPCB consent conditions	Weekly
4	Monitoring of surface and ground water samples at nearby area. Parameters are essential parameters as per IS: 10500:1991.	Once in a Season
<b>D</b>	<b>Noise Quality Monitoring</b>	
1	Work Place Noise Monitoring	Once in every month
2	Ambient Noise Monitoring	Once in every season
<b>E</b>	<b>Soil Quality Monitoring</b>	
1	Soil quality analysis	Once in a Season
<b>F</b>	<b>Solid Waste Generation Monitoring/Record Keeping</b>	
1	Monitoring of solid / hazardous waste generated from process and ETP area.	Quarterly
2	Records of generation of Solid / Hazardous Wastes	Daily
3	Record of storage, treatment, transportation and disposal of solid / hazardous wastes to recyclers, re-processors, and TSDF/Incinerator.	Daily
<b>G</b>	<b>Environmental Statement/Energy Audit</b>	
1	Environmental Statement, Form-IV under EP(Act) 1986	Once in a year

### **Additional Studies**

#### ***Risk Assessment***

Hazard analysis for estimation damage distances for failure scenarios is carried out using DNV Phast software. The following materials are considered significant for consequence analysis taking into account boiling point, flash point:

- Styrene
- Methyl methacrylate
- Butyl acrylate
- HSD

The effect distances for fire radiation and toxic vapour dispersion due to catastrophic failure of monomer/ solvent storage tank fall within the plant boundary.

It is observed that the monomer/ solvent tank farms are close to the western boundary. In some cases, pool fire radiation intensity in case of dyke fire extends upto the green belt area. This aspect is to be suitably considered in design of fire protection system for layout of hydrants and monitors.

### ***Onsite Emergency Plan***

An important element of mitigation is an emergency planning, i.e. identifying accident possibility, assessing the consequences of such accidents and deciding on the emergency procedures, both on site and off site that would need to be implemented in the event of an emergency.

The objective are:

- To outline the responsibilities and functions of the key members of the On-site emergency response team, to safeguard other employees, the people living in the surrounding area & environment
- To conduct regular emergency response drills to train employees as per the responsibilities assigned to them to ensure prompt emergency response
- To provide information to local authorities, local fire brigade, hospitals, factory inspectorate and all the concerned govt. agencies regarding the plant hazards and equipment, facilities and procedures provided by the management in case of any emergency.

### **Project Benefits**

The proposed paint plant will have manufacturing facility at village Immavu, Taluk Nanjangud, district Mysuru in Karnataka state, to cater to the anticipated demand growth in paint market of South India over the next few years.

There will be improvement in social infrastructure as follows:

- The proposed project will create direct and indirect employment within nearby areas, depending upon the availability of skilled and unskilled manpower.
- During construction phase about 3000 people will be employed on contract basis for construction activities.
- During operation phase around 900 persons are expected to be employed at full capacity which includes permanent and contract workers.

### **Environment Management Plan**

The Environment Management Plan (EMP) is prepared with a view to facilitate effective environmental management of the project, in general and implementation of the mitigation measures in particular. The EMP provides a delivery mechanism to address potential adverse impacts and to introduce standards of good practice to be adopted for all project works.

The expenditure to be incurred by M/s. Asian Paints Ltd. on environmental matters, the capital cost will be about Rs. 1200 Lakh while recurring cost will be about Rs. 100 Lakh for operation and maintenance of the safeguards proposed for control of pollution in air, water, soil, noise, etc.

With the view to support development of near by villages company plans to invest about Rs 1000 lacs on various initiatives in the area of CSR over the next few years. These initiatives could be in the area of Skill Development, Health & Hygiene, Education and Water Management.



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