

2014

**PRE-FEASIBILITY REPORT
PROPOSED EXPANSION OF PESTICIDE
TECHNICAL PROJECT
AT
SP-9(D-1), RIICO INDUSTRIAL AREA
VILLAGE: KHUSHKHERA, DISTRICT-ALWAR
(RAJASTHAN)**

**Project Proponent
M/s. HPM Chemicals & Fertilizer Ltd.**

**Submitted to
Ministry of Environment & Forests
New Delhi**

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1. Executive Summary

The agrochemicals industry is a significant industry for the Indian economy. The Indian pesticides and insecticide industry is fourth largest in the world and the second in the Asia-Pacific region only after China. Started in 2002, **M/s HPM Chemicals & Fertilisers Ltd.** (hence forth HPM) is now a formidable player in the market.

Insecticides are used to ward off or kill insects. HPM has proposed for expansion of their existing unit at SP-9 (D-1), RIICO Industrial Area, Village Khushkhera, Dist. Alwar, (Rajasthan). at.

As per EIA Notification dated 14.09.2006 and as amended on 01.12.2009, the project falls in Category 'A', S. No. - 5(b).

Table 1.1. Project at a Glance

1.	Name of the Industry	HPM Chemicals & Fertilizer Limited
2.	Products to be manufactured	3000 TPA Technical grade pesticides [Existing Capacity-900 TPA]
3.	Total Plot Area	6000 SqM
4.	Water Requirement	118 KLD
5.	Power Requirement	350 KVA
6.	Manpower Requirement	101 Persons
7.	Total Project cost	5 Crores
8.	Recurring cost/ annum for environmental pollution control measures	Rs. 25 Lac/ Annum

2. Introduction of the project

a) Identification of project

The role of the pesticides in the well-being of human race needs no emphasis. Pesticide usage has become essential in order to maximize agriculture production and reduce public health pestilence. The rapid changes in cropping patterns, increased fertilization and adoption of programs for high yielding varieties have all contributed to increased use of pesticides. Further, pest problems keep on changing with the changing environment. New physiological kinds evolve as a result of mutations to withstand new conditions in nature. Many pest species develop resistant strains when the same Pesticide is used far too often. The problems of pest resurgence and secondary pest out-breaks crop up with the indiscriminate use of pesticides. These associated problems offer a great scope for revolutionizing the use of pesticides. However, in India though the overall pesticide growth figures may appear impressive, the rate of consumption per hectare of cultivated land is very low in comparison per hectare of cultivated land is very low in comparison to other countries. India used 180 g of pesticides/ha. as against 10,790g, 1870 g and

1490 g/ha used in Japan, Europe and U.S.A. respectively. India spent just Rs. 2.15/ha. on pesticides while Japan and U.S.A spent Rs.110/ha and Rs.35/ha respectively during the same period. India consumed 12 gm. of pesticides per kg. of fertilizer used against 146 gm. in Japan and 19 gm in U.S.A in . This is one of the major factors that can be attributed to low per hectare yields in our country since the crops and especially the high yielding varieties cannot manifest their production potential in absence of proper pest protection. That the production potential remains suppressed for want of protection can be exemplified by considering how in wheat, a crop comparatively resistant to insect pestilence, we have had a “revolution” where as in paddy which is one of the most heavily infested crops, we have had no break-through. In case of wheat, the per hectare yield in India rose from 827 kg.into 1338 kg. inorresponding yields of paddy in India on the other hand was 1826 kg. as against 6185 kg. 5326 kg. , 5105 kg.and 4000 kg. in Japan, Egypt, USA and USSR respectively.

With in the country itself, there is a great imbalance between different regions with regard to the use of pesticides. Of the total of approximately Rs.5000 million spent on pesticides in at the farm level, south contributed for about 45 per cent of the total consumption in the rest of the country.

b) Project proponent

The project is for the manufacturing of technical grade pesticides by HPM Chemicals and Fertilizers Limited at SP 9(D-1), RIICO Industrial Area Vill. Khushkhera (District Alwar) Rajasthan.

c) Brief Description of nature of the project

HPM Chemicals and Fertilizer Limited (Previously known as HIM Pulverizing Mills Limited) is a well-known company in agrochemical industry. To the farmer community it is simply known as HPM. HPM is a popular name in agri-inputs industry over last four decades. It has been working extensively with the farming community to help them raise better and healthy crops. Today HPM's reach and impact has crossed geographical boundaries. Through extensive research in agricultural fields, the company has developed many successful products and services. This has largely helped farmers grow healthy crops and increase their productivity.

Being established among the frontrunners in the agri-inputs Industry, HPM stands as a major supplier for a spectrum of agri-input products catering across domestic and international markets. Its product range spans from Agro Chemical Technical & Formulations to Household and Public Health Chemicals and Fertilizers.

HPM lives to its commitment of prompt deliveries and adherence to promised delivery agenda. The organization works hand in hand with farming community to bring innovation linear to life, fulfilling its motto of “**Yielding Prosperity**”.

d) Production details and Product Specification

Manufacturing of Pesticides used for the pest control in the agriculture & public health. The raw materials and final products are synthetic organic chemicals and will be manufactured with latest modern technology which will be environment friendly.

e) Need for the project and its importance to the country and its region

Pesticides are essential input for agriculture and the project will provide adequate availability of the required products at cheaper rates and will also reduce the import quantities.

f) Production Gap

This would thus appear from the above that there is an unabridged major gap between the demand and supply of pesticides for both public health and agriculture. The investments involved in setting up of basic manufacturing plants as compared to formulation units is fairly high. It has been possible for small-scale entrepreneurs to go in for formulation business but financially not possible to invest in basic manufacturing facilities. In the country basic manufacturing are mostly with large-scale MN companies and, in some cases, may be wholly owned by them. In view of the fact that the present companies of these subsidiaries have sizeable capacities for the manufacture of basic chemical in their own countries, they are reluctant to invest money for basic manufacture in India. Also, these companies are reluctant to transfer technology and losing monopoly sales especially when these products are proprietary.

g) Demand Supply Gap

Since the requirement of Pesticides is increasing @ 10% to 15% every year, there is a huge gap between the demand and supply.

h) Import vs. Indigenous production

At present more than 50% requirement is fulfilled by Import and there is urgent need to create indigenous manufacturing facilities to provide better Quality at optimum cost.

i) Export Possibility

All the products have high potential of Export

j) Domestic/ Export Markets

The technical grade pesticides will be sold to many formulators all over the country. At the same time export will be done in containers.

k) Employment generation (Direct & Indirect) due to the project

Directly 101 people will be employed in the plant after expansion. Indirectly an equivalent amount of employment will be generated, in terms of man-hour

3. Project Description

a) Type of Project

Proposed Industrial project falls under 'section 5(b)' for Manufacturing of pesticides and their intermediates in 'Category A' because it comes under general condition (Haryana-Rajasthan State Boundary) as per EIA notification dated 14th September 2006 and its amendment on 1st December 2009.

b) Location (map showing general location, specific location, and project boundary & project site layout) with coordinates

The satellite view of the site can be revealed from the Figure 1.1

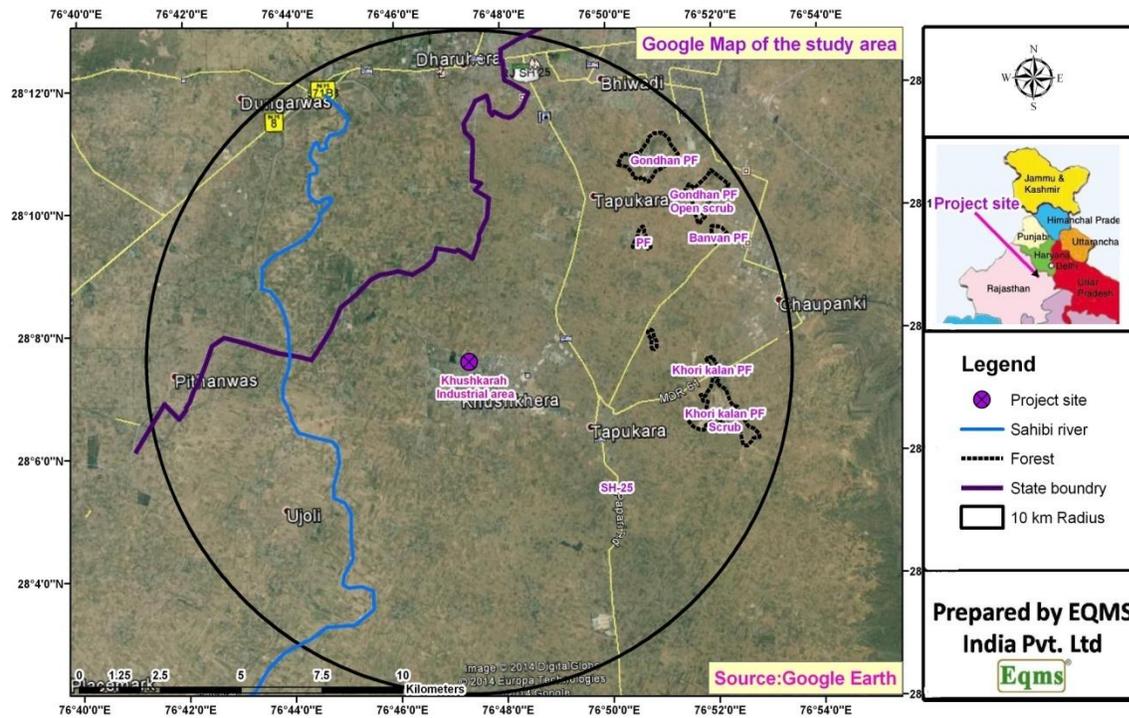


Figure 1.1 10 Km Google Map of Project Site

c) Salient features of Site

The project will be set up in an approved/ existing industrial zone where all required infrastructure is available. In addition all arrangements will be made to ensure environment protection inside the factory & surroundings.

d) Details of alternate sites

It is expansion of existing unit and as such no alternate sites were analyzed.

e) Size or magnitude of operation

The total plant installed capacity will be 3000 TPA.

Table 1.1 Product List with Capacity

Sl. No.	Particulars	Category	Sub-category	Installed capacity (TPA)	Proposed Capacity (TPA)
INSECTICIDES					
1	Acetamiprid	Insecticides	Neonicotinoids	60	200
2	Imidacloprid	Insecticides	Neonicotinoids		
3	Thiacloprid	Insecticides	Neonicotinoids		
4	Thiamethoxam	Insecticides	Neonicotinoids		
5	Novaluron	Insecticides (IGR)	Benzoyl phenyl urea	10	10
6	Lambda-Cyhalothrin	Insecticides	Synthetic Pyrethroids	30	30
7	Bifenthrin	Insecticides	Synthetic Pyrethroids		
8	Chlorpyrifos	Insecticides	Organo Phosphates	150	1350
9	Acephate	Insecticides	Organo Phosphates		
10	Profenofos	Insecticides	Organo Phosphates		
11	Fipronil	Insecticides	Others		
12	Buprofezin	Insecticides	Others	120	140
13	Cartap Hydrochloride	Insecticides	Others		
14	Pymetrozine	Insecticides	Others		
15	Abamectin	Insecticide	Fermentation Technology	50	75
16	Azoxystrobin	Insecticide	Fermentation Technology		
17	Emmamectin benzoate	Insecticide	Fermentation Technology		
18	Spinosad	Insecticide	Fermentation Technology		
BACTERICIDE					
19	Validamycin	Bactericide	Fermentation Technology		
FUNGICIDES					
20	Hexaconazole	Fungicides	Trizole	50	100
21	Tricyclazole	Fungicides	Trizole		
22	Propiconazole	Fungicides	Trizole		
23	Tebuconazole	Fungicides	Trizole		
24	Difencconazole	Fungicides	Trizole		
25	Epoxyconazole	Fungicides	Trizole		
26	Paclobutrazole	Fungicides	Trizole		
27	Myclobutanil	Fungicides	Trizole	NEW	

28	Thiophnate methyl	Fungicides	Benzimidazole (carbamate)	20	40
29	Metalaxyl	Fungicides	Others		
30	Isoprothiolane		Others	NEW	
HERBICIDES					
31	Imazethapyr	Herbicides	Imidazolinone	20	20
32	Metsulfuron Methyl	Herbicides	Sulphonyl Urea	35	35
33	Sulfosulfuron	Herbicides	Sulphonyl Urea		
34	Chlorimuron Ethyl	Herbicides	Sulphonyl Urea		
35	Pyrazosulfuron	Herbicides	Sulphonyl Urea		
36	Bensulfuron Methyl	Herbicides	Sulphonyl Urea		
37	ClodinafopPropargyl	Herbicides	Phenoxy	5	50
38	Butachlor	Herbicides	Organochlorine	100	350
39	Pretilachlor	Herbicides	Organochlorine		
40	Glyphosate	Herbicides	Others	250	600
41	Oxyfluorofen	Herbicides	Others		
42	Atrazine	Herbicides	Others		
43	Metribuzin	Herbicides	Others		
44	Bispyribac Sodium	Herbicides	Others	NEW	
TOTAL CAPACITY (TPA)				900	3000

f) Project description with process details

Manufacturing Process:

Stage 1: The raw materials and solvent samples are sent to QC lab for quality check.

Stage 2: If quality is approved, the material is charged in to the reaction vessel to produce crude pesticides in solvent. The crude pesticide is sent to laboratory to know the completion of the reaction and for quality check.

Stage3: The crude pesticide in solvent is ready for washing. As per the requirement of end product washing is carried out in batch.

Stage 4: After washing excess water is removed and the concentrated form of technical is sent to another vessel.

Stage 5: The concentrated technical is then sent for crystallization or epimerization (the process of converting one isomer to any other isomer).

Stage 6: After quality checks the crystallization form or the converted isomer is sent for filtration and drying.

Stage 7: The mother liquor is separated and the end product technical is sent for packing and dispatch.

Note: 1. The excess water removed at stage 4 is called aqueous layer which will be sent to ETP after detoxification.

2. The mother liquor separated at stage 7 is recycled and raw materials, solvent and products are recovered in recovery vessel. And rest waste material is sent to incinerator.

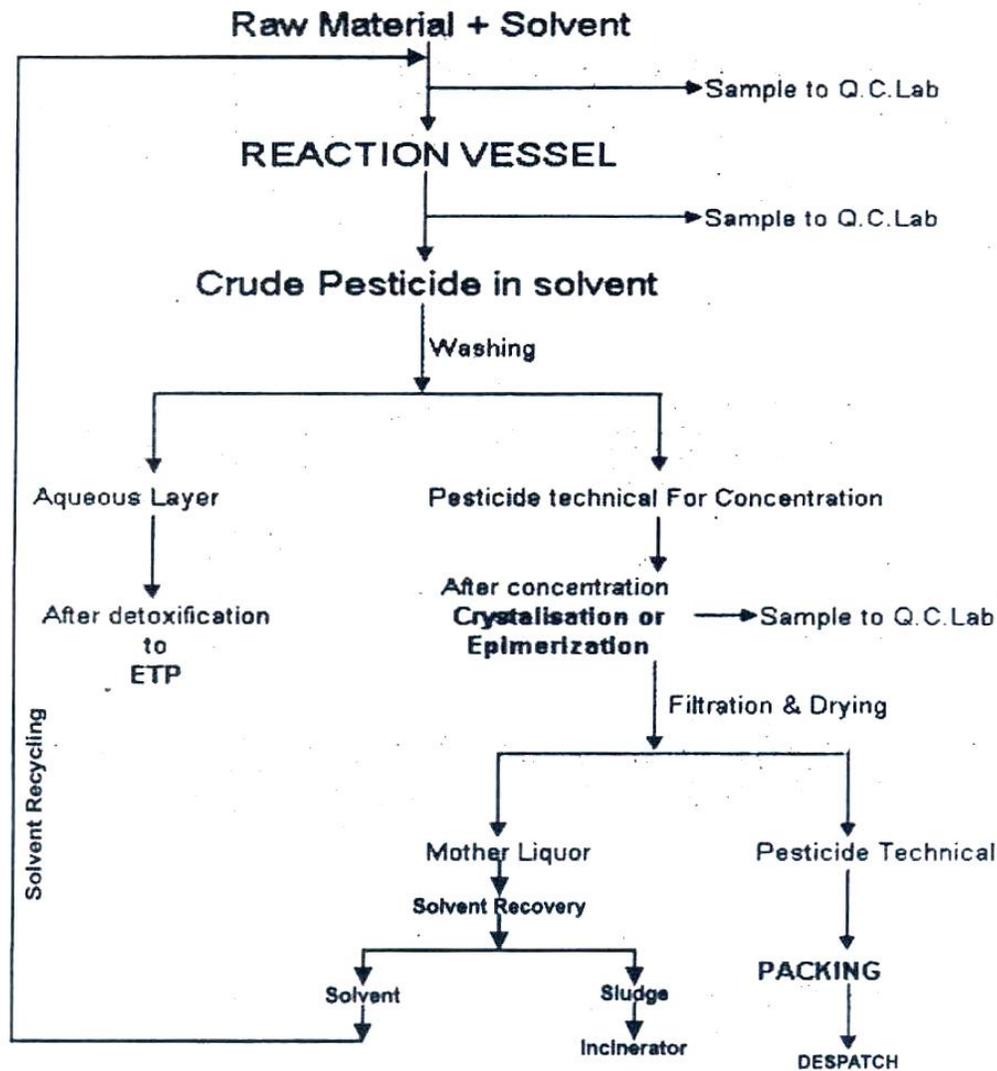


Figure 1.2 Manufacturing Process

g) Raw material required along, likely source, marketing area of final product/s, mode of transport of raw material and finished product.

Table 1.2 List of Raw material

1	2-Chloro-5-(Methylamino Methyl) Pyridine (CMPMA)
2	Methanol
3	N-Cyano Methyl Acetamidate (NCMA)
4	Thiopyrazole Derivative
5	Trifluoroacetic acid
6	Hydrogen peroxide
7	Monochlorobenzene
8	Methyl ester of cyhalothric acid
9	MetaphenoxyBenzaldehyde (MPB)
10	Thionyl chloride
11	Isopropylalcohol
12	Sodium hydroxide
13	Ammonium carbonate
14	Methoxy acetic acid
15	Methyl-2-chloro propionate
16	2,6-Dimethyl Aniline
17	Sodium iodide
18	Sodium bicarbonate
19	Dimethyl formamide
20	Benzene
21	Hexane
22	Sodium carbonate
23	1-bromo-2-propoxyethane
24	ChloroAcetylchloride In Triethylamine
25	S-Phenyl (I) In Hydrochloric Acid
26	Diethyl thiophosphoryl chloride
27	Dimethyl carbonate
28	6 Chloro 3 Pyridyl Methyl-N-Methyl Amine
29	N-Cyano Ethyl Acetamidate
30	2-Nitro Iminoimidazolidine
31	2 Chloro-5 ChloromethylPyridene
32	Dichloroethane
33	Sodium thiocyanate
34	Methyl cloroformate
35	N,Ndimethylaniline& Ortho Phenylene Di Amine

36	Phenyl N-(4,6-Dimethoxy Pyrimidine-2yl) Carbamate
37	2 (Methyl Formate) Benzene
38	Sulfonamide (2-Ethyl SulfonylImidazo [1,2-A] Pyridine-3-Sulfonamide
39	Di cloro methane
40	Iri ethyl amine
41	Hydrochloric acid 30%
42	Di isopropyl amine
43	M-phenoxybenzaldehyde
44	Lamdahalothric acid
45	Sodium salt of HTCP
46	Methyl 2 chloropropionate
47	Di isopropylmalonate
48	Carbon Di sulphide
49	2-Chloro-4,6-Dimethoxypyrimidine
50	2,9-Dihydroxy benzoic acid
51	4-Chlorophenylacetonitrile
52	1-Chlorobutane
53	Di Bromometane
54	1,2,4-Trizole
55	3-Cyanopyridine
56	1,3-pyridine carboxaldehyde

Sources:Local as well as Imported

Mode of transportation:Mainly by Road

h) Resource optimization/ recycling and reuse envisaged in the product

All the solvents used will be recovered and recycled for all products. Energy efficient equipment will be installed at all location. Waste water will also be reused after proper treatment. There will be no discharge from the site

i) Availability of water its source, Energy/ power requirement and source should be given

a. Water requirement:

Existing Water Consumption:50 KLD

After Proposed Expansion:118 KLD

Source:RIICO

Table 1.3: Water Requirement- Existing

	Purpose	Input (KLD)	Output as effluent /waste (KLD)
(a)	Boiler	20	2
(b)	Cooling Tower	14	1
(c)	Domestic	5	4
(d)	Reactor Wash/ Process Water	1	1
(e)	Horticulture &Others	10	8
	TOTAL	50	16

Table 1.4: Water Requirement- After Expansion

	Purpose	Input (KLD)	Output as effluent /waste (KLD)
(a)	Boiler	50	5
(b)	Cooling Tower	25	3
(c)	Domestic	15	10
(d)	Reactor Wash/ Process Water	3	2
(e)	Horticulture &Others	25	20
	TOTAL	118	40

b. Power requirement

The total power requirement for the project will be as follows:

Table 1.5. Power Requirement

Rajasthan State Electricity Board	D.G. Set (Stand By facility)
350KVA	125+ 160 KVA

The power requirement of the proposed project will be met with the power supply from State electricity board. To meet Emergency power requirement of critical operations for ensuring safety, DG set will be provided as standby power back up (2DG set of 125 KVA & 160 KVA capacities will be installed).

1 TPH Boiler will be required for process steam generation. Bio Briquette/ Husk/Furnace oil/ HSD/ Renewable source of energy will be used as fuel in Boiler.

c. Fuel Requirement

The following fuel will be used as mentioned below. The mode of Transport of Fuel to Site will be Trucks by road.

Table 1.6 Fuel Requirements

Fuel	Total Quantity	
	Existing	After Expansion
Husk Briquette	1 MT/hr.	1 MT/hr.
LDO/HSD	200 lt/hr.	600 lt/hr.

Note: * Currently boiler is running 5-6hr/day, after expansion 15-18 hr/day;
** Power cut is about 4-5 hr/month.

d. Manpower Requirement

The total manpower requirement is mentioned below:

Table 1.7 Manpower Requirements

S. No.	Details	Manpower Requirement
1.	Plant Manager	1
2.	Departmental Head	3
3.	Supervisor	12
4.	Operators	45
5.	Helper	40
Total		101

j) Quantity of wastes to be generated (liquid & solid) and scheme for their management / disposal

a. Solid Wastes

The solid wastes will be generated from the primary and secondary operations of ETP.

Table 1.8 Waste generation Quantity

Particulars	Existing (at 900 TPA)	After Expansion (at 3000 TPA)
Total Hazardous Waste Produced	96.47 MT/KL per annum	206.55 MT/KL per annum
Process Solid waste/ residue	3.75	7.5
Ash from incineration of hazardous waste, flue gas cleaning residues	3	7.5
Process Wastes/ residue	85	180
Chemical sludge from	4.5	11

waste water treatment		
Used / Spent Oil	0.22	0.55

b. Quantity of Effluent generated and its end use

Table 1.9 Quantity of Effluent generated

	Purpose	Input (KLD)	Output as effluent /waste (KLD)
(a)	Boiler	50	5
(b)	Cooling Tower	25	3
(c)	Domestic	15	10
(d)	Reactor Wash/ Process Water	3	2
(e)	Others	25	20
(f)	TOTAL	118	40

4. Site Analysis

a) Connectivity

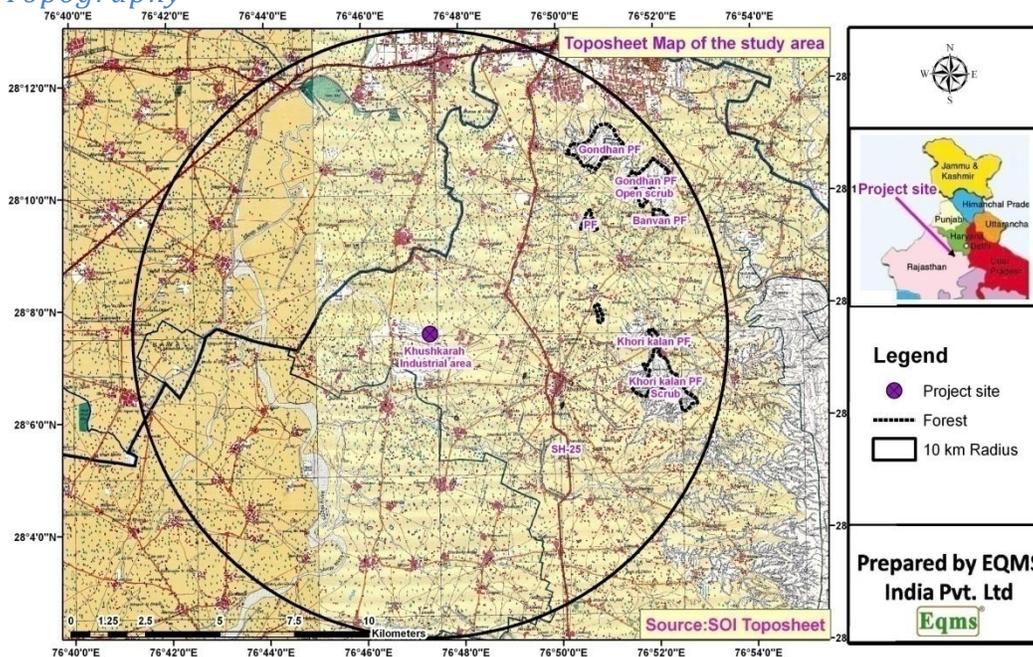
S.N.	Particulars	Description
1	Village District State	Khushkera Alwar Rajasthan
2	Coordinates	28 ⁰ 07'32.36"N 76 ⁰ 47'21.00"E
3	Most Populated Area	Karoli- 1.64 Km (S) Tapukara-4.71 Km (SE) Karmsiwas- 2.59 Km (SW)
4	Surface Water Source within 10 Km	Sahibi River- 5.53 Km (W)
5	Nearest Densely Populated Areas	Karoli- 1.64 Km (S)
6	Nearest Highway	SH-26 (NE)- 2.9 Km
7	Nearest Railway Station	Rewari
8	Nearest Village	Khushkhera
9	Nearest Town	Tapukara – 4.71 Km (SE)
10	Nearest Airport	Indira Gandhi International Airport – 57 Km (NE)
11	Nearest Forest	Protected Forest: Khorikalan – 7 Km (SE)

		Ranwan – 5.7 Km (E) Gohdhan – 8.3 Km (NE) Unknown- 6.13 Km(NE) Vanvan – 8.44 Km (NE)
12	Recorded Sensitive Places	There is no sensitive area in the study area.
13	Historical Places	There is no historical area in the study area.
14	Location of National Parks/ Wildlife Sanctuary within 10 Km radius of the project site	There are no National Parks/ Wildlife Sanctuary in the study area.

b) Land Form, land use and Land ownership

Plain land for industrial purpose and ownership is of our own company.

c) Topography



d) Existing Land use pattern

Land use / land cover map of 10 km study area is presented in Figure 1.4. The agricultural area and agri. fallow land represents around 57% and 31% of the whole land cover. Area under human settlement is 5% of the total study area. Water body represents the least land use class. Vegetation and land with Open Shrubs area also observed as 3% and 2% respectively.

- Agricultural land
- Agri. fallow land
- Vegetation

- Land with open shrubs
- Settlement
- Waterbody
- Barren land

Table 1.10 Classification of Land Use

Class	Area(Sq km)	Percentage (%)
Agricultural land	180.78	57
Agri. fallow land	98.41	31
Water body	0.04	00
Settlement	14.58	5
Vegetation	9.68	3
Land with open shrub	5.54	2
Barren land	5.17	2
Total	314.2	100

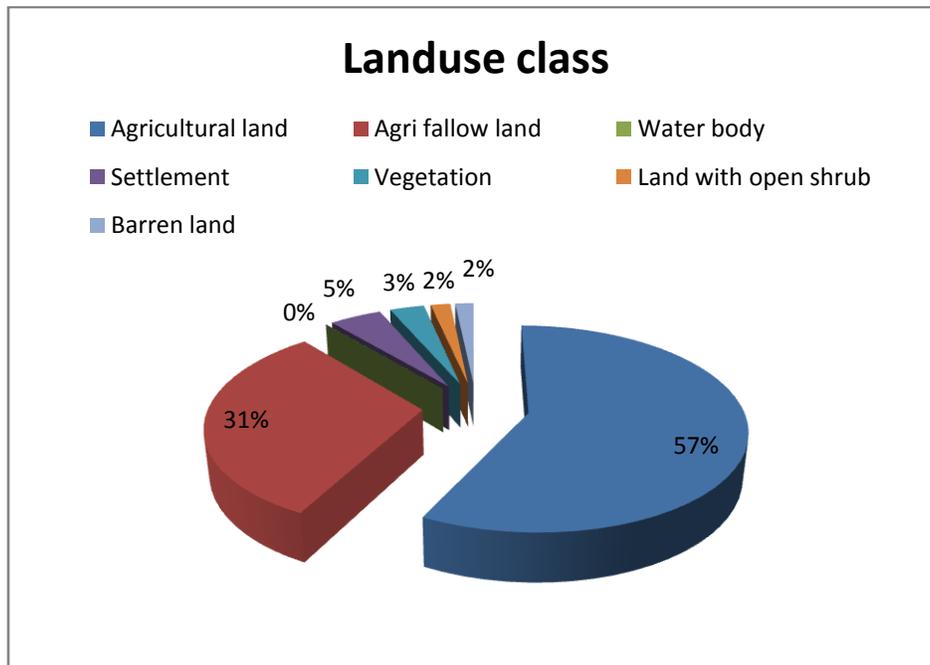


Figure 1.3 Land use Class

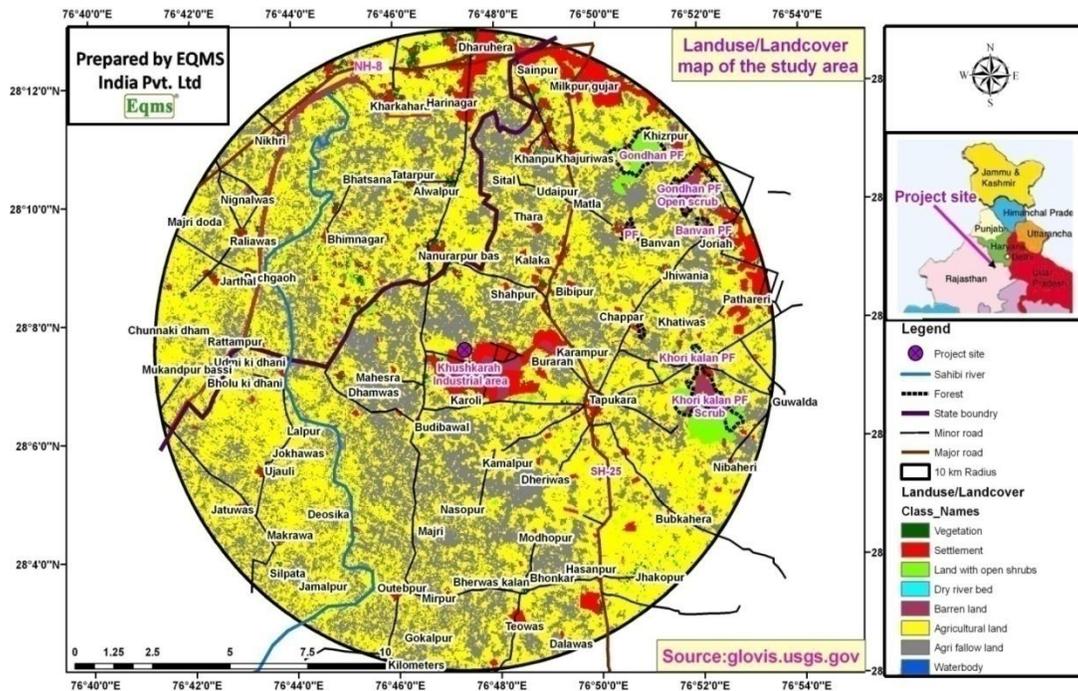


Figure 1.4 Land use map of project Site

e) Existing infrastructure

Refer to Annexure 1 Site Layout

f) Soil classification

The soil in western part of the district is brown, fine to loamy sand, deep, non-calcareous & belongs to Torripsamment great group. In eastern part soils are alluvial and this of good quality.

g) Climatic data from secondary source

Enclosed

h) Social infrastructure available

Project site is well connected with SH-26 (2.9 Km-NE). It is also connected with district Alwar (64 Km- NNE) where basic facilities like hospital, school etc. are present in the area.

5. Planning brief

(i)	Planning concept (type of industries, facilities, transportation etc) Town and Country Planning/Development authority Classification.	Medium scale existing industry well connected with all public transport facilities Site development is a continuous process at the existing location
(ii)	Land use planning (breakup along with the green belt etc).	Coverage up to 50% for production Green belts up to 33 % Remaining for warehousing, roads & other facilities.

(iii)	Assessment of infrastructure Demand (Physical & Social).	Existing unit. More infrastructures will be created as per the need.
(iv)	Amenities/Facilities.	Existing unit with all facilities.

6. Proposed Infrastructure

(i)	Total Area	6000 Sq m
(ii)	Green Belt.	1980 Sq m
(iii)	Social Infrastructure.	None
(iv)	Connectivity (traffic and Transportation Road/Rail/Metro/Water ways etc)	Good connectivity
(v)	Drinking Water Management (Source & Supply of water)	Source: RIICO Supply: 118 KLD
(vi)	Industrial Waste Management.	Existing ETP for wastewater treatment and other waste will be sent to waste management project facility.
(vii)	Solid Waste Management.	Will be sent to approved agency/ site for safe disposal
(viii)	Power Requirement & Supply / source.	350 KVA will be obtained from state power corporation. Also 2 DG sets will be installed.

7. Rehabilitation & Resettlement (R&R) Plan

Not Applicable

8. Project Schedule & Cost Estimates

a) Project Cost Estimation

The estimated cost of the proposed Project is 5 crores.

b) Cost towards Environmental Protection

The proposed project will require an investment of about Rs. 5crores including expenditure on environment matters of about Rs. 25 lacs for pollution Control measures.

c) Project Implementation Schedule

Existing unit already in production. Further construction and other infrastructure will be created as soon as environment clearance is obtained.

Public liability insurance plan policy will be obtained for suitable amount. On site & off site emergency plans will be prepared and enforced by continuous training to all concern.

9. Environmental Management Plan

a) Air Pollution Control

- Gaseous emission from fuel burning, consist of common pollutants like SO₂, NO₂, and PM would be discharged into atmosphere through Stack of suitable height.
- Green belt will be developed covering >33% of the total project area, around the plant boundary as dust preventive barrier.
- Odor Control System: All the vents of the batch tanks and solvents are connected to scrubber to absorb any odor producing gases and chemicals. Green belt around the plant boundary will absorb the odour to some extent.
- The operation of centrifuging/ filter will be done in closed equipment to avoid any vapors coming out in the local atmosphere. The vents of centrifuges / filters will be connected to scrubbers.
- The drying of the product is done in a closed type continuous Fluidized Bed dryer/ Nudge filter to avoid the exposure of any chemicals to human being.
- Volatile organic solvents are carefully handled in a closed system, thereby preventing any discharge of these chemicals into the air.
- Process emission quality will be maintained as per the following standards:
 - H₂S < 45 mg/Nm³
 - NH₃ < 175 mg/NM³
 - HCl <20 mg/NM³
 - SO₂ <40 mg/NM³
 - Cl₂ <9 mg/NM³
- Adequate systems shall be provided to capture the emissions from process plants & maintain the emission quality as per recommended guidelines with central scrubber having caustic solution, before venting it in to the atmosphere.

Table 1.11 Name of Equipment

S. No.	Name of Equipment	Nos. Required
1.	Stack	2 (Existing- 1 for Boiler and 1 for Incinerator)
2.	Scrubber/ Central Scrubbers	Existing-1, 1 (for the new plant)
3.	Dust Collector (Bag Filter)	1 Existing

All the above mentioned air pollution control measures shall be practiced to minimize air pollution in and around plant.

b) Waste Water Management

The domestic and industrial waste water generated is being treated in the Effluent Treatment Plant (ETP).

c) Noise Environment

- Installation of the plant machinery will be done after- due consideration to design noise levels and noise mitigation measures.
- The green belt developed helps in reducing noise levels generated due to plant operations.
- There will be no major sources of industrial noise; minor noise generated from the industrial operations will be controlled by proper maintenance.
- Proper mitigation measures will be taken in addition to above for the reduction of noise levels i.e. use of acoustic enclosures and providing personal protective equipment etc. to the workers.
- Periodical monitoring for noise is being carried out on regular basis.
- Proper maintenance, oiling and greasing of machines at regular intervals is done to minimize generation of noise at source.
- The D.G. sets will be provided with acoustic enclosures.

d) Solid Waste Management

- Minor quantities of construction waste will be generated in the form of packaging material and construction waste. Proper care will be taken for handling and reduction of the solid waste generated during construction phase.
- During the operation phase the solid waste is being generated in the form of Boiler ash, ETP sludge, incinerator ash etc..

e) Green Belt Development/Plantation

Green belt development in and around the project site will help in to attenuate the pollution level. Out of the total plant area of 6000 Sq M, 1980 Sqm approx. 33% land will be developed as green belt. Green belt will be developed as per Central Pollution Control Board (CPCB) Norms. The Avenue plantation will give priority to native species, and the periphery will be devoted to generation of green belt area.

- Green belt development in and around the project site will help in to attenuate the pollution level.
- Native species will be given priority for Avenue plantation.
- The periphery will be devoted to generation of green belt area.

f) Hazardous Waste Management

HAZARDOUS WASTES CATEGORY AS PER HAZARDOUS WASTE THE HAZARDOUS WASTES (MANAGEMENT, HANDLING AND TRANSBOUNDARY MOVEMENT) RULES, 2008

(As specified under hazardous wastes / management handling rules 1989) amendment rule 2003.

- Process wastes/ residue
- Chemical sludge containing residue insecticides
- Date expired and off-specification insecticides

All above waste are will be collected and stored at separate identified place and suitably disposed off to authorized agencies.

10. CSR Activities

The project activity and the management will support the local panchayat by providing of assistance for the development of public amenities in the region and will help in improving the overall infrastructure status of the area. Thus the proposed project of HPM Chemicals and fertilizer Limited will be proved beneficial to the local economy and society and will not lead to any adverse impact on the environment.