DISTRICT SURVEY REPORT

FOR SAND MINING

DISTRICT MUZAFFARNAGAR

PREFACE

In Compliance to the Notification Issued by the Ministry of Environment, Forest and Climate change Dated 15.01.2016, the preparation of District survey report of River bed mining and other minor minerals is in accordance appendix 10 of the notification. It is also mentioned here that the procedure of preparation of District Survey Report is as per notification guidelines. Every efforts have been made to cover sand mining locations, areas & overview of Mining activity in the district with all it's relevant features pertaining to geology & mineral wealth in replenish able and non-replenish able areas of rivers, stream and other sand sources. This report will be a model and guiding document which is a compendium of available mineral resources, geographical set up, environmental and ecological set up of the District and is based on data of various departments, published reports, and websites. The data may vary due to flood, heavy rains and other natural calamities. Therefore, it is recommended that Sub Divisional Level

Committee may take into consideration all its relevant aspects / data while scrutinizing and recommending the application for EC to the concerned Authority.

MINING IMAGE

Overview of Mining Activity

SURVEY REPORT
OF
DISTRICT MUZAFFARNAGAR

As per Gazette notification of 15th January 2016 of Ministry of Environment, Forest and Climate Change a Survey shall be carried out by the District Environment Impact Assessment Authority (DEIAA) with assistance of irrigation department, Drainage department, Forest department, Mining department and Revenue department in the district for preparation of District Survey Report as per the sustainable Sand mining guidelines to ensure identification of areas of aggradations or deposition where mining can be allowed; and identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited and calculation of annual rate of replenishment and allowing time for replenishment after mining in that area.

Every efforts have been made to cover sand mining locations, areas & overview of Mining activity in the district with all it's relevant features pertaining to geology & mineral wealth in replenish-able and non-replenish-able areas of rivers, stream and other sand sources. The mineral potential is calculated based on field investigation & geology of the catchment area of the river or streams. Also as per the site conditions and locations, depth of minable mineral is defined. The area for removal of the mineral in a river or stream is decided depending on geo-morphology & other factors, it can be 50% to 60% of the area of a particular river or stream. Other constituents like clay and silt are excluded as waste while calculating the mineral potential of particular river or stream. This District Survey Report shall form the basis for application for environment clearance, preparation of reports and appraisal of projects. The report shall be updated once every five years.

INTRODUCTION:-

The district is named after its headquarters town, Muzaffarnagar, which was founded in the reign of Shahjahan at the site of an old town known as Sarot or Sarwat. Abdul Muzaffar Khan, a minister of the emperor Shahjahan, received from him in jagir forty villages in Parganas Khatauli and Sarwat, along with the title Khan-i-Jahan Shah-Jahani. In pages of history and revenue records SARVAT was known as pargana which was given as JAGIR to one of the chieftains named SAIYED MUZAFFARKHAN by emperor SHAHJHAN. He founded the city of Muzaffarnagar in 1633 with lands of KHERA & SUJRU. His project was completed by his son MUNAWAR LASHKAR KHAN who in turn named the city after his father MUZAFFARKHAN.

But recent finding of archeological site at village MANDI (Tehsil SADAR) in west of river KALI takes the roots of district Muzaffar Nagar to HARAPPAN civilization. Hordes of gold ring like objects and other precious stones prove that the site was the part of mature HARAPPAN culture and also important center of trade during ancient times. More excavations are being carried out by Archeological Survey of India and in near future better picture will emerge from these findings.

Location & Geographical Area.

Muzaffar Nagar is located at northern part of Uttar Pradesh. The district of MuzaffarNagar forms a portion of division Saharanpur, and

situated in the DOAB of the Ganges and the Jamuna, between the districts of Meerut on the South and Saharanpur on the North. On the west, the Jamuna separates it from the Panipat and Thaneswar tahsil of the Karnal district of Haryana; and on the east the river Ganges forms the boundary between this district and the Bijnor tahsil of the district of same name. It is roughly rectangular in shape, lying between north latitude 29º 11' 30" and 29º 45' 15" and east longitude 77º 3' 45" and 78º 7'.

The greatest length of district from east to west is sixty-one miles, and its greatest breadth from north to south thirty-six miles. The average length and breadths are about fifty-three and thirty-one miles, respectively. The total area in 1901 amounted to 1,963,662 acres, or 1,662 square miles and in 2000 amounted to 4049 square k.m.. The district is well connected by road and railway network. National Higway-58 passes through Muzaffar Nagar city. Upper Ganga & Lower Yamuna canal lie in this district.

The total area of Muzaffar Nagar District is 4008 square km.

Topography

From the point of view of health the climate of Muzaffar Nagar is very good. Specially from November to March months the climate of the district is very pleasant due to western northern airflow. Here summer starts very early. The temperature of the district is varies from 2º C in winter to 46º C in summer. The wet session normally starts

in the end of June month. The average rainfall is 753 mm; the winter months are virtually dry.

Revenue of last three year

Mines and Mineral Name	2015-16		2016-17		2017-18 (till October)	
	Income	Quantity	Income	Quantity	Income	Quantity
Brick Kiln	108.31		194.66		131.70	
Ordinary Soil	36.21		2.64		7.93	
Other Income	167.93		363.4		151.67	
Total Income	312.45		560.70		291.30	

PHYSICAL FEATURES & GEOGRAPHICALAREA:

Muzaffar Nagar district lies in the northwest of Uttar Pradesh, covering an area of 4008 sq. km. It is bounded by the Saharanpur district in the north, Haridwar district of Uttaranchal in the northeast, Bijnor district in the east, Meerut district in the south and river Yamuna separates it from the adjoining state of Haryana in the west. The eastern boundary of the district with Bijnor district is formed by river Ganga. The district falls in Survey of India Toposheet No. 53C, covering north latitudes 29001'50" and 29044'20" and east longitude 77002' and 78007'.

Muzaffar Nagar district is demarcated by river Ganga in the east and by river Yamuna in the west. In fact, the drainage pattern of the district is strictly governed by these two major rivers. Both the rivers in their respective course flow more or less north to south. Major tributary of Ganga is Solani river. Yamuna has the tributaries named Hindon, Krisni and Hari rivers and the Katna nala

BRIEF DETAIL OF MUZAFFARNAGAR DISTRICT

NAME OF DISTRICT	AREA (PER SQ. KM)	POPULATION	DENSITY(PER SQ. KM)
MUZAFFARNAGAR	4008	575548	3800

Sub Tehsils (Total : 4)

SR. NO.	NAME OF SUB – TEHSIL
1.	SADAR
2.	BUDHANA
3.	JANSATH
4.	KHATAULI

Blocks (Total : 9)

SR. NO.	NAME OF SUB – TEHSIL
1.	MUZAFFARNAGAR
2.	BUDHANA
3.	BAGHRA
4.	SHAHPUR
5.	PUQUAZI
6.	CHARTHAWAL
7.	MORNA
8.	JANSATH
9.	KHATAULI

Municipal Councils (Total :10)

SR. NO.	NAME OF MUNICIPAL COUNCIL/ NAGAR PANCHAYAT
1.	MUZAFFARNAGAR
2.	KHATAULI
3.	SHAHPUR
4.	PURQUAZI
5.	SISAULI
6.	JANSATH
7.	BHOKERHERI
8.	CHARTHAWAL
9.	MEERAPUR
10.	BUDHANA

Population :

As of the 2011 census, Muzaffar Nagar municipality had a population of 392,451and the urban agglomeration had a population of 494,792.The municipality had a sex ratio of 897 females per 1,000 males and 12.2% of the population were under six years old.Effective literacy was 80.99%; male literacy was 85.82% and female literacy was 75.65%.The city has 55.79% Hindus, 41.39% Muslims, 1.5% Sikhs, 0.5% Christians and 2% Jains.

Muzaffarnagar city is governed by Municipal Corporation which comes under Muzaffarnagar Urban Agglomeration. Although Muzaffarnagar city has population of 392,451; its urban / metropolitan population is 494,792 of which 261,338 are males and 233,454 are females. The majority of the population speaks Hindi.

PHYSIOGRAPHY

The district is named after its headquarters town, Muzaffarnagar, which was founded in the reign of Shahjahan at the site of an old town known as Sarot or Sarwat. Abdul Muzaffar Khan, a minister of the emperor Shahjahan, received from him in jagir forty villages in Parganas Khatauli and Sarwat, along with the title Khan-i-Jahan Shah-Jahani.

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DRAINAGE PATTERN

Muzaffar Nagar district is demarcated by river Ganga in the east and by river Yamuna in the west. In fact, the drainage pattern of the district is strictly governed by these two major rivers. Both the rivers in their respective course flow more or less north to south. Major tributary of Ganga is Solani river. Yamuna has the tributaries named Hindon, Krisni and Hari rivers and the Katna nala.

GEOMORPHOLOGY

The entire Muzaffarnagar district underlains by the quaternary alluvium deposited by Ganga and Yamuna river system. Lithologically the alluvial sediments comprise of sand, silt, clay and kankars in varying proportions. The entire Muzaffarnagar district is a flat terrain falling in middle Ganga plain. The highest point in the district is 201.00 mamsl in the north and lowest in the south is 222.00 mamsl giving rise an average slope of about

0.40 m/km. north to south. The district can be sub divided into 5 geographic units.

***a. Sand Bars**:*
Along the courses of Ganga and Yamuna rivers, the sand bars are characteristic which dynamically change during floods.

b. Flood Plain:
The flat, low lying poorly drained area adjacent to Ganga and Yamuna rivers forms the flood plains frequented by floods during monsoons.

c. Ravines:
In the western part of the district, this unit is characterised by the gullies along the rivers Kari, Hindon and Krishni. This is probably due to the erosion of unconsolidated material by localised surface run off forming channels and ultimately giving rise to undulating topography and hence the formation of ravines.

d. Younger Alluvial Plains:
The gently sloping (southward) and slightly undulating terrain having ox-bow lakes, back swamp and paleo-channels forms this geomorphologic unit along the western bank of Ganga and eastern bank of Yamuna river in the district. This unit is also called Khadar. In the western part of the district, the Yamuna Khadar in the east of Yamuna river spreads about 12 kms. in the north and narrows down towards the south. In the eastern part of the district the Ganga Khadar (west of river Ganga) is widest (about 20 Kms.) in the north and gradually narrows down to 2 km width around the place called Bhokerhedi.

e. Older Alluvial Plain:
Older alluvial plain may be divided into three parts-

(i) Tract between Ganga canal and Kali river: This is upland with general east to west slopes more considerable than the regional slope of the area *i.e*. north to south. It is marked by natural levees as sand belt stretching north south with heights ranging 3-18 m.

(ii) Tract between Kali and Hindon rivers: Between these two rivers, the upland slopes down to both rivers side and marked by broken grounds which is more in southern part of the district than that in the northern part.

(iii) Tract between Hindon and Yamuna: Between the Yamuna Khadar and Hindon river there is an elevated plateau, where topography along the rivers is uneven due to poor soil character. The area is drained by Yamuna canal and Katna Nala.

SOIL

The soils in this area are originated from Siwalik Belt of Himalaya. Generally sandy, clay-loam and light loam soils are found. These soils are low-medium in P2O5, medium-high in K2O and higher in organic matter and available sulphur is marginal. Zinc deficiency also found. The soils are naturally fertile and owing to its inherent capabilities, the accumulated deposit of the centuries of grass and foliage has contributed to the enrichment of the humus contents of the soils.

HYDROGEOLOGY

The entire Muzaffar Nagar district underlains by the quaternary alluvium deposited by Ganga and Yamuna river system. Lithologically the alluvial sediments comprise of sand, silt, clay and kankars in varying proportions. The perusal of all available lithological logs of the tubewells in the area reveal the complex configuration of alluvial sediments showing quick alteration from finer to coarser lithology. By and large the four distinct groups of permeable layers occurs in the area down to 450.00 mbgl.

DEPTH TO WATER LEVEL

Ground water occurs in pore spaces and interstices of unconsolidated alluvial sediments under phreatic to semi confined to confined conditions. The near surface aquifer is under unconfined / water table condition. The shallow phreatic aquifer is tapped by dugwells. The depth to water ranges from 5.20 to 12.95 mbgl in pre monsoon period whereas it ranges from 3.50 to 10.95 mbgl in post monsoon period.

RIVERSYSTEM

District Muzaffarnagar is situated between two major rivers viz. Yamuna and Ganga. Other small rivers such as Hindon, Krishna, Kali and Solani also flow through this district. Flood Protection works are mainly constructed on Yamuna, Ganga & Solani Rivers.

YAMUNA :

7.0 lacs cusecs has been the Highest discharge of river Yamuna in year 1978. Earthen marginal bunds are constructed almost all along 55 km. length of the river along district Muzaffarnagar which have safeguarded approx. 7830 hectares of culturable land and hundreds of villages from devastating floods and land erosion. 372 Nos. anti-erosion works have also been constructed almost all along the marginal bunds except the few reaches where works are under construction/investigation. Anti-erosion works comprising of spurs, studs and dampners are constructed with stone boulders. Photograph marked 'A' shows the packing of boulders in stud under construction while 'B' shows a completed stud.

Another anti erosion work viz. Balla Spur is constructed by pilling of Eucalyptus ballies packed with sand bags and surrounded by stone packing Photograph 'C' shows the construction of a balla spur. Main quarry sites for procurement of stone boulders are in the vicinity of Hardwar and Badshahi bagh.

Drainage Division have raised Marginal Bund on the left bank of river Yamuna which is 1.80 meter higher than HFL of year 1978. On this raised Marginal Bund a mattled road of length 54.00 km. has been constructed from Village Barhi Muslim of Block Un to Village Dundukhera of Block Kandhla.

This road will provide transport facility for villagers to carry their agriculual products

Yamuna is the second highest problematic river in the whole of state after Gandak as far as erosion is concerned. It has steeper slope and high velocity which caused abrubt erosion. Danger level and highest flood level at Kairana Bridge are 231.00 M and 232.80 M respectively.

GANGA:

5.0 lacs cusecs so far has been the highest discharge of this river. It has less steep bed slope and less velocity, hence it is lesser devastating and does not cause much problems in this district 2.5 km. long marginal bund is constructed for safeguarding the religious village Shukartal. One flood protection scheme for constructing marginal bund in Ramraj Khadar Area is under investigation. Danger level and highest flood level at Shukartal are 226.50 and 227.30 respectively.

SOLANI :

1.30 Lacs cusecs is the estimated discharge of this river. The escape water from upper ganga canal at Dhanori escape added to the runoff from river catchment causes flooding of approx 9860 hectare of culturable land and 60 villages of district Hardwar and Muzaffarnagar. One flood protection scheme for constructing marginal bund along river Solani is under investigation.

Marginal bunds are designed for in 25 years flood frequency discharge while anti-erosion works are designed for predominant discharge. Flood Protection Scheme are taken up for execution only after clearing from technical advisory committee of the state flood control board. Working season for execution of works is allowed between 15th October to 15th June.

A well developed basin wise drainage system exists in the district. Drainage systems in the command of Ganga Canal and Yamuna Canal are looked after the respective units. Drains of Yamuna and Ganga river basins are being maintained by this unit. Presently Irrigation Department has accepted the programme of restoring internal section of some big drains which are known as trunk drains. Internal section of one such drain viz. Katha Nala Trunk drain is being resorted by this unit in the current year after which approx. 37,000 hectare of land of this district will be benefitted.

CLIMATE AND RAINFALL

The average annual rainfall is 753.2 mm. The climate is sub humid and it is characterised by general dryness except in the brief monsoon season, a hot summer and pleasant cold season. About 80% of rainfall takes places from June to September. During monsoon surplus water is available for deep percolation to ground water. There is a meteorological observatory at Meerut, which may be taken as representative of meteorological condition. May is the hottest month. The mean daily maximum temperature is about 400C, mean daily minimum temperature is about 240C and maximum temperature some time rises to 440C. With the onset of southern monsoon by the end of June, there is appreciable drop in temperature. January is the coldest month with mean daily temperature at about 200C and mean daily minimum at 70C. The air is dry during the year. In south-west monsoon season, the air is very humid and April and May are usually driest months. The mean monthly relative humidity is 67%. The mean wind velocity is 6.70 km.p.h. The potential evapotranspiration is 1545.90 mm. The climatological data of Muzaffarnagar district is given in

Climate Data of Muzaffarnagar District

month	1	2	3	4	5	6	7	8	9	10	11	12
mm	37	18	23	5	11	62	317	264	197	56	6	12
°C	14.0	16.5	21.8	27.4	31.8	32.4	29.6	28.6	28.2	24.7	19.1	15.3
°C (min)	7.6	9.4	14.2	19.3	24.1	26.3	25.7	25.1	23.8	18.1	11.1	7.9
°C (max)	20.5	23.7	29.4	35.6	39.5	38.6	33.5	32.2	32.6	31.3	27.1	22.7
°F	57.2	61.7	71.2	81.3	89.2	90.3	85.3	83.5	82.8	76.5	66.4	59.5
°F (min)	45.7	48.9	57.6	66.7	75.4	79.3	78.3	77.2	74.8	64.6	52.0	46.2
°F (max)	68.9	74.7	84.9	96.1	103.1	101.5	92.3	90.0	90.7	88.3	80.8	72.9

Source: Wikipedia

LAND USE/LAND COVER MAPPING USING SATELLITEDATA

Land Use Pattern

The land use pattern (2005-06) in the State has been indicated in the Table 2.6. The total cultivated area of the state is 166.83 lakh ha. And the gross cropped area is 255.24 lakh ha. The cropping intensity in the state is 153 %. The area sown during rabi is more as compared to area sown in kharif. The area under sugarcane which is an annual crop is 0.38 lakh ha

Availability of Minerals.

No major mineral is found in the district. Sand and ordinary clay is the only minerals found in the district. Sand area lies with in eco sensitive zone. Hence no sand mining is allowed in the district. The revenue is generated from soil mining and brick kilns.

FOREST

There is 27992 Hectare of land coves in the forest.

Administrative set up.

For administrative convenience, the district of Muzaffar Nagar has been divided into five tehsils and these tehsils are further divided into 14 blocks.

DISTRICT AT A GLANCE

S.No	Particular	Year	Unit	Statistics
1	**Geographical features**			
(A)	Geographical Data			
	i) Latitude			029.30.N
	ii) Longitude			077.42.E
	iii) Geographical Area	2001	Sq. Km.	4008
(B)	Administrative Units			
	i) Sub divisions	2010-11	No.	5
	ii) Tehsils	2010-11	No.	5
	iii) Sub-Tehsil/ Blocks	2010-11	No.	14
	iv) Patwar Circle	2010-11	No.	NA
	v) Nyay Panchayat	2010-11	No.	112
	vi)Nagar nigam	2010-11	No.	0
	vii) Nagar Palika	2010-11	No.	5
	viii) Gram Panchayats	2010-11	No.	687
	xi) Revenue villages	2010-11	No.	893
	x) Assembly Area	2010-11	No.	9
2.	**Population**			
(A)	Sex-wise			
	i) Male	2011	No.	2194540
	ii) Female	2011	No.	1944065
(B)	Total Population	2011	No.	4138605
3.	**Agriculture**			
A.	Land utilization			
	i) Total Area	2010-11	Hectare	421498
	ii) Forest cover	2010-11	"	27992
	iii) Non Agriculture Land	2010-11	"	57142
	v) cultivable Barren land	2010-11	"	9467

4.	**Forest**			
	(i) Forest	2010-11	Hectare	27992
5.	**Livestock & Poultry**			
A.	**Cattle**			
	i) Cows	2007	Nos.	229872
	ii) Buffaloes	2007	Nos.	824260
B.	**Other livestock**			
	i) Goats	2007	Nos.	68748
	ii) Pigs	2007	Nos.	30000
	iii) Poultry	2007	Nos.	491785
	iv) **Railways**			
	i) Length of rail line	2010-11	Km.	85
	V) **Roads**			
	(a) National Highway	2010-11	Km.	73
	(b) State Highway	2010-11	Km.	229
	(c) Main District Highway	2010-11	Km.	186
	(d) Other district & Rural Roads	2010-11	Km.	2328
	(e) Rural road/ Agriculture Marketing Board Roads	2010-11	Km.	1316
	(f) Kachacha Road	2010-11	Km.	NA
	(VI) **Communication**			
	(a)Telephone connection	2010-11	Nos.	32899
	(b) Post offices	2010-11	Nos.	326
	(c) Telephone center	2010-11	Nos.	01
	(d)Density of Telephone	2010-11	Nos./1000 person	9.285
	(e) Density of Telephone	2010-11	No. per KM.	8.208
	(f) PCO Rural	2010-11	Nos.	497
	(g) PCO STD	2010-11	Nos.	1089
	(h) Mobile	2010-11	Nos.	NA
	(VII) Public Health			

	(a) Allopathic Hospital	2010-11	No.	22
	(b) Beds in Allopathic hospitals	2010-11	No.	930
	(c) Ayurvedic Hospital	2010-11	No.	35
	(d) Beds in Ayurvedic hospitals	2010-11	No.	215
	(e) Unani hospitals	2010-11	No.	1
	(f) Community health centers	2010-11	No.	16
	(g) Primary health centers	2010-11	No.	82
	(h) Dispensaries	2010-11	No.	14
	(i) Sub Health Centers	2010-11	No.	446
	(j) Private hospitals	2010-11	No.	NA
	(VIII) **Banking**			
	(a) Commercial Bank	2010-11	Nos.	188
	(b) rural Bank Products	2011-12	Nos.	34
	(c) Co-Operative bank products	2011-12	Nos.	44
	(d) PLDB Branches	2011-12	Nos.	7
	(IX) Education			
	(a) Primary school	2010-11	Nos.	3695
	(b) Middle schools	2011-12	Nos.	1317
	(c) Secondary & senior secondary schools	2011-12	Nos.	273
	(d) Colleges	2011-12	Nos.	29
	(e) Technical Institute	2011-12	Nos.	8

Source:- District Stat. & Eco. Office, Muzaffarnagar

Existing Status of Industrial Areas in the District Muzaffar Nagar

S. No.	Name of Ind. Area	Land acquired (In hectare)	Land developed (In hectare)	Prevailing Rate Per Sqm (In Rs.)	No of Plots	No of allotted Plots	No of Vacant Plots	No. of Units in Production
1	Suzadu I/A	8.582	8.582	1000	59	59	-	53
2	Mini Industrial Area,	2.048	2.048	800	46	33	13	4

	Kandhla							
3	Mini Industrial Area, Shahpur	2.025	2.025	800	47	47	-	2
4	Begrajpur I/A	46.105	31.556	1500	238	196	42	127
	Total	65.722	51.173		443	388	55	222

Source:- DIC, Muzaffarnagar

Irrigation Potential Created:

The irrigation potential from Minor Irrigation works at the start of 1st five year plan was only 14.44 lakh ha. As per 3rd Census of Minor Irrigation Works Conducted by Govt. of India in the base year 2000-01, the actual irrigation potential created through Minor Irrigation Works came to 158.97 lakh hectares. The position expected at the end of 10th Five Year Plan, after taking into consideration the depreciation of minor irrigation works at 1% as per 3rd Census of Minor Irrigation works, is given in Table 2.18 which brings out that the State has made considerable progress through various five year plans and the 10th plan provided a boost to the development efforts; yet, there remains a tremendous scope for further development in every sub-sector of the agriculture sector including crops, horticulture, animal husbandry and pisciculture. The eleventh plan effort based on district level development plans is envisaged to boost the sectoral growth significantly.

Rain water harvesting:

In this scheme Roof top rain water harvesting, ponds and percolation tanks will be constructed for study purpose on model basis. Inter departmental co-ordination for monitoring and implementation of Rain Water Harvesting / Recharging activities in the State. Impact assessment of rain water harvesting/recharging activities and

schemes on ground water regime (ground water level and quality) are to be carried out. An outlay of Rs. 96.00 Lakh is proposed for this work.

Availability of Ground Water:

As per available data Zone-wise ground water recharge, exploitation and stage of development in different regions of the state is given in Although overall water balance situation appears to be positive yet, 37 blocks at present are overexploited, 13 blocks are critical and 88 blocks are semi-critical and 675 blocks are in safe categories as per stage of ground water development. The available ground water balance in the State is 2.13 million hectaremeter (M ha-m) and out of this 1.95 M ha-m is available for irrigation purposes.

Agricultural Land

Dissemination of technical knowledge is a very important task. Agriculture Universities and other agencies are involved in the development of new techniques for the benefit of farmers in improving crop production. The knowledge of such techniques has to be transferred to the farmers who are the ultimate users. Through agriculture extension, this information is being disseminated to the farmers. For this purpose, Agriculture Technology Management Agency (ATMAs) has been set up in 32 districts of U.P. and it is proposed to cover the entire state in the near future. ATMA provides a strong platform for convergence of all extension activities for holistic development of agriculture sector. ATMA has proved to be an effective medium of extension where programmers have been prepared in consultation with stake holders and implemented with their participation

GENERAL RECOMMENDATIONS/CONCLUSIONS

1. Mining below subterranean water level should be avoided as a safeguard against environmental contamination and over exploitation of resources.

2. Mining area should be demarcated on the ground with Pucca pillars so as to avoid illegal unscientific mining.

3. This environmental clearance does not create or verify any claim of applicant on the This environmental clearance does not create or verify any claim of applicant on the proposed site/activity.

4. Any mining activity shall be undertaken only after valid permission from Mining Department/District Administration and written agreement with land owner from where earth excavation is proposed.

5. No change is mining technology and scope of working shall be made without approval of Authority.

6. Personnel working in dusty areas shall be provided with protective respiratory devices and they shall also be imparted adequate training and information on safety and health aspects.

7. The Authority reserves the right to revoke the clearance if conditions stipulated are not implemented. The Authority will also be entitled to impose additional environmental conditions or modify the existing ones, if necessary.

8. In case of any deviation or alteration in the project proposed from those submitted to this Authority for clearance, a fresh reference should be made to the Authority to assess the adequacy of the condition(s) imposed and to add additional environmental protection Measures required, if any.

9. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

A. Specific Conditions:

1. This environmental clearance does not create or verify any claim of applicant on the proposed site/activity.
2. The Environmental clearance will be co-terminus with the mining lease period
3. This environmental clearance shall be subject to valid lease in favour of project proponent for the proposed mining proposals. In case, the project proponent does not have a valid lease, this environmental clearance shall automatically become null and void.
4. The brick earth mining work will be open-cast and no machine shall be used for excavation work. The mining will be opencast type and carried out manually
5. Top soil should be adequately preserved and should be used for landscaping.
6. Excavated soil should be properly stored in a manner not to increase surrounding SPM level.
7. Water sprinkling should be exercised during excavation and storage of soil for suppression of fugitive dust.
8. Excavated area should be properly reclaimed and ensured that no open bore hole is left.
9. Safety measures for the people working at the site shall be duly taken care of as per law.
10. The excavation work shall be done in day time only.
11. The project boundary shall be properly covered to restrict dust dispersion.
12. Precautionary measures during soil excavation for conservation and protection of rare and endangered flora and fauna found in the study area.
13. Equivalent Level of Noise level shall be maintained as per standards for both day and night.
14. The route map for soil transportation from excavation plots to work site should be firmed up and necessary permissions shall be sought from District Administration.
15. Vehicles hired for the transportation should be in good condition and should have Pollution Check Certificate and should conform to applicable air and noise emission standards.
16. Approach road will be maintained periodically.
17. Personnel exposure monitoring for respirable mineral dust shall be carried out for the workers and records maintained including health records of the workers. Awareness program for workers on impact of

mining on their health and precautionary measures like use of personal protective equipments etc. shall be carried out periodically. First aid facilities and adequate sanitary facility in the form of temporary toilets/septic tanks.

18. Solid waste material viz gutkha rappers, plastic bags, glasses etc. to be generated during project activity will be separately stored in bins and managed as per Solid Waste Management Rules.
19. Project proponent should maintain daily register for information of (a) collection of soil/clay, (b) manpower & (c) transportation purpose.
20. Six monthly compliance reports of condition stipulated in the Environment Clearance should be submitted to the DEIAA Baghpat, Regional Office, MoEF&CC, GoI, and UPPCB as per provision of Gazette Notification No. S.O. 1533(E) dated 14.9.2006, as amended
21. Adequate drinking water and sanitary facilities should be provided for construction workers at the site. Provision should be made for mobile toilets. Open defecation by the laborers is strictly prohibited. The safe disposal of waste water and solid waste generated during the construction phase should be ensured.
22. 2% of project cost should be earmarked for CSR activities. Firm up plan should be submitted to District Administration and to DEIAA with proposed activities and time schedule. A copy of resolution as above shall be submitted to the authority along with list of beneficiaries with their mobile nos./address.
23. CSR plans as per need also including mosquito net and blanket distribution. CSR audit report will be maintained and shall be submitted.
24. Project proponent shall ensure compliance to provision of all Acts, Rules, Regulations and Guidelines, for the time being in force, as applicable to the project.