DISTRICT SURVEY REPORT

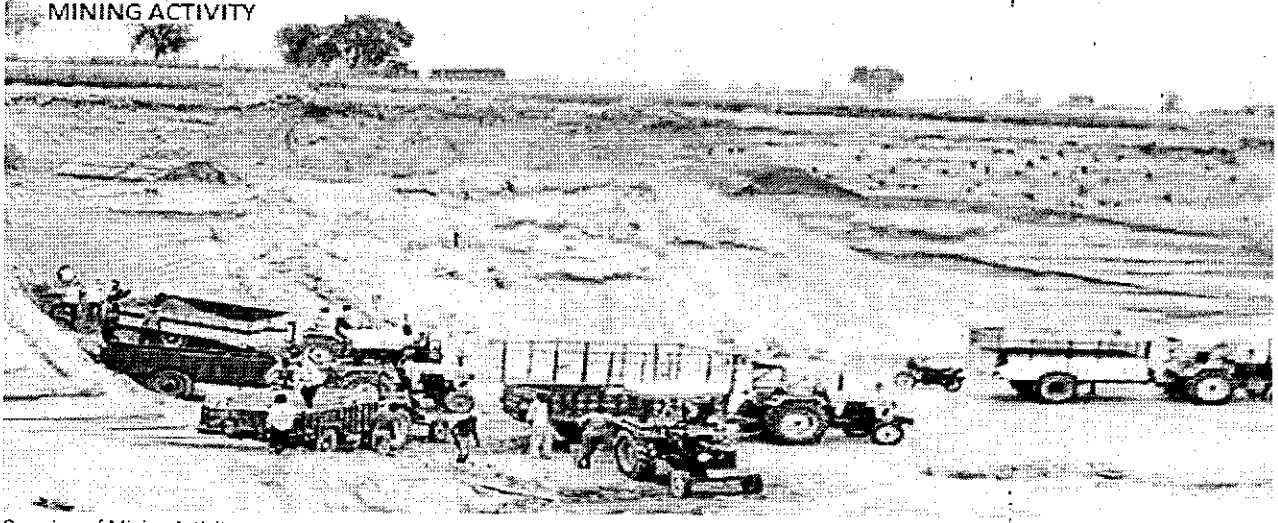
FOR SAND MINING

DISTRICT SHAMALI

PRERFACE

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 ACTIVITY



Overview of Mining Activity

SURVEY REPORT

OF

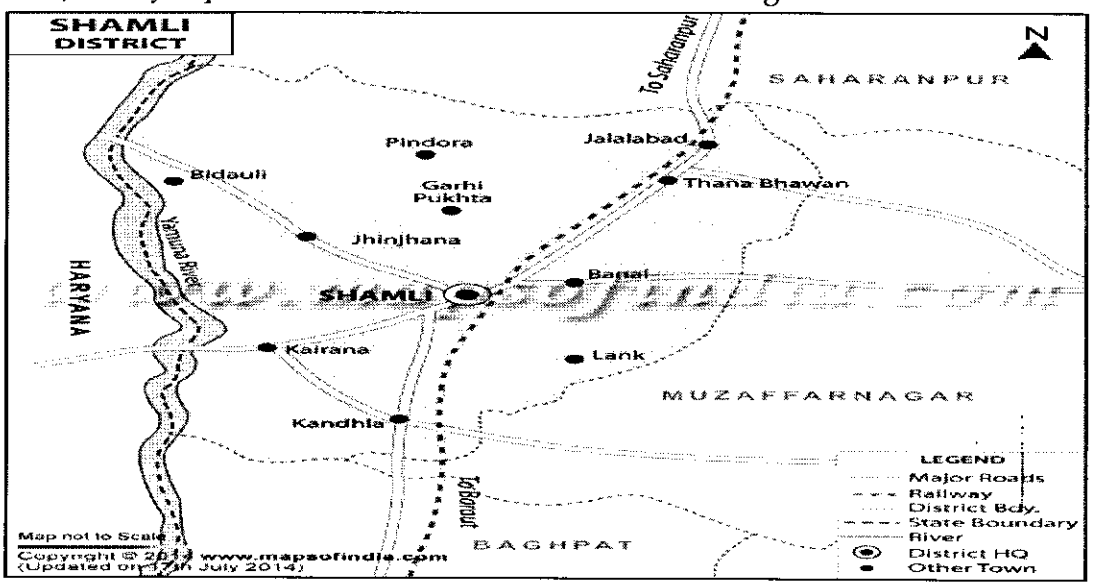
DISTRICT SHAMLI

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.

1. Introduction

Shamli is a district in the Indian state of Uttar Pradesh. This district was carved out from Muzaffarnagar District on 28 September 2011 as Prabudh Nagar and renamed Shamli in July 2012. Shamli is the headquarters of the district. Shamli is located along the Delhi–Saharanpur, Meerut-Karnal and Muzaffarnagar-Panipat Highways. The district lies in the fertile Doab region and hence the major occupation is agriculture. The district is known for its sugar mills and supplies sugar to neighbouring areas. Shamli is a land of farmers but youngsters from almost all the castes like Jat, Chamar, Prajapati, Gujjar, Brahmin, Rajput,[saini, Jain] etc. are also serving in Indian Army.



Villages of Shamli District Uttar Pradesh. There are 5 blocks in Shamli District Uttar Pradesh. The area was prominent during the first struggle for freedom against the East India Company in 1857, but the British army later recaptured the area. The town also witnessed important wars such as the first, second and third Battles of Panipat, and the battles during the rise of the Sikhs.

The district was also at the centre of the successful Green Revolution that helped India become self-sufficient in food production and gave the country confidence during the years after the end of British occupation. the good shamli.

List of E tender Cum E auction lease area

Name of Sub mineral	Teshil	Village	Gata No.	Area Ha.	Approval (From –To)	Quantity (If available)	Accusation
Ordinary Sand	Kairana	Mandawar	621, 622	84.469		8,44,690	
Ordinary Sand	Kairana	Nanglarai Ahatmal	19, 20, 21, 23, 24, 57, 58, 59, 61, 62, 63, 67, 68ख, 69म, 70, 71, 72घ,73घ, 75, 82ग, 83, 84, 314घ, 315ख, 86, 87, 88, 306, 310, 311, 312, 313, 314क, 317, 321, 322/39	35.444		3,54,440	
Ordinary Sand	Kairana	Mamor, Ahatmal Sabik	2/9, 2/10, 2/11, 3, 4मि, 5/2, 2/4, 19/3, 19/8, 19/2, 22, 9/4, 19/7, 21/1, 21/2, 21/3, 21/5, 23/2	15.818		2, 37, 270	
Ordinary Sand	Unn	Nainangla, Mangloor Jadid	108/1, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135	44.064		4, 40, 640	
Ordinary Sand	Unn	Bidauli	228	20.469		3, 07, 035	
Ordinary Sand	Kairana	Besheda Ahatmal	125 म, 126 म	4.002		96, 046	

Revenue of last three year

Mines and Mineral Name	2016-17		2015-16		2014-15	
	Rate(Lac)	Quantity	Rate(Lac)	Quantity	Rate(Lac)	Quantity
Ordinary Sand	36.35	55920	101.25	306814	98.35	298000
Ordinary Soil	123.92	412066	28.83	205928	-	-
Revenue (Lac)	548.90		259.00		266.00	

Permit discretion

Sub-Mineral Name	Teshil	Village	Gata No.	Area Ha.	Approval (From-To)	Quantity (If Available)	Accusation
Ordinary Sand	Kairana	Issospur Khurgan	553, 554	3.96	14.06.17 to 13.12.17	95040	
Ordinary Sand	Kairana	Issospur Khurgan	671, 674	4.22	14.06.17 to 13.12.17	101040	
Ordinary Sand	Kairana	Issospur Khurgan	1026म	4.17	14.06.17 to 13.12.17	100080	

Physical Features and Geographical Area

Shamli is located at 29.45°N 77.32°E. It has an average elevation of 248 metres (813 feet). It is around 92 km from Delhi, 38 km from Panipat,66 km from Meerut, 40 km from Karnal and 65 km from Saharanpur. It lies to the east of the Yamuna River, which marks the borders of two Indian states, Haryana and Uttar Pradesh. The district lies in the fertile Doab region between the Ganges and Yamuna. Shamli is main marketing centre for 40km surrounding circle. The total area of the district, 106,300 Hectares.

General Profile of District

NAME OF DISTRICT	AREA(PER SQ.KM)	POPULATION	DENSITY(PER SQ.KM)
SHAMLI	1063	147,233	1200

Tehsil

SR. NO.	NAME OF SUB-TEHSIL
1	SHAMLI
2	KAIRANA
3	UNN

Blocks

SR. NO.	NAME OF SUB-TEHSIL
1	SHAMLI
2	KAIRANA
3	UNN
4	KANDHLA
5	THANA BHAWAN

Population:

2011 is 107,266; of which male and female are 57,187 and 50,079 respectively.

As per provisional reports of Census India, population of Shamli in 2011 is 107,266; of which male and female are 57,187 and 50,079 respectively.

Hinduism is majority religion in Shamli city with 68.93 % followers. Islam is second most popular religion in city of Shamli with approximately 28.21 % following it. In Shamli city, Christinity is followed by 0.14 %, Jainism by 2.01 %, Sikhism by 0.62 % and Buddhism by 0.62 %. Around 0.00 % stated 'Other Religion', approximately 0.07 % stated 'No Particular Religion'.

Geography

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Uttar Pradesh is bounded Uttarakhand on the north-west, Haryana and Delhi on the west, Rajasthan on the south-west, Madhya Pradesh on the south, Chhattisgarh and Jharkhand on south-east and Bihar on the east. Situated between 23°52'N and 31°28'N latitudes and 77°3' and 84°39'E longitudes, this is the fourth largest state in the country in terms of area, and the first in terms of population. Uttar Pradesh can be divided into three distinct hypsographical regions :

The climate of the state is tropical monsoon. The average temperature varies in the plains from 3 to 4 °C in January to 43 to 45 °C in May and June. There are three distinct seasons - winter from October to February, summer from March to mid-June, and the rainy season from June to September.

Tropical monsoon climate marked by three distinct seasons:

Summer (March–June): Hot & dry (temperatures rise to 45 °C, sometimes 47-48 °C); low relative humidity (20%); dust laden winds.

Monsoon (June–September): 85% of average annual rainfall of 990 mm. Fall in temperature 40-45° on rainy days.

Winter (October–February): Cold (temperatures drop to 3-4 °C, sometimes below -1 °C); clear skies; foggy conditions in

LAND UTILIZATION PATTERN IN THE DISTRICT

All land used in Agriculture, Forest, Horticulture, and public utilization for residential purpose.

Availability of Major Minerals.

No Major mineral is available in the district

TOPOGRAPHY

From the point of view of health the climate of Shamli is very good. Especially 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

Geography and Mineral Wealth

alkaline earth

The alkaline earth metals are six chemical elements in group 2 of the periodic table. They are beryllium (Be), magnesium (Mg), calcium (Ca), strontium (Sr), barium (Ba), and radium (Ra).[1]The elements have very similar properties: they are all shiny, silvery-white, somewhat reactivemetals at standard temperature and pressure.[2]

Structurally, they have in common an outer s- electron shell which is full, that is, this orbital contains its full complement of two electrons, which these elements readily lose to form cations with charge +2, and an oxidation state of

All the discovered alkaline earth metals occur in nature. Experiments have been conducted to attempt the synthesis of element 120, the next potential member of the group, but they have all met with failure.

PROCESS OF DEPOSITION OF SEDIMENTS IN THE RIVERS OF THE DISTRICT

The deposition in a river bed is more pronounced during rainy season although the quantum of deposition varies from stream to stream depending upon numbers of factors such as catchment, lithology, discharge, river profile and geomorphology of the river course. where annual deposition is much more even two to three meters, but it is noticed that during flood season whole of the pit so excavated is completely filled up and as such the excavated area is replenished with new harvest of minerals.

In order to calculate the mineral deposits in the stream beds, the mineral constituents have been categorized as clay, silt, sand, bajri and boulder. However during present calculation, the waste material i,e silt which vary from 10 to 20% in different streams has also been included in the total production. Further the Survey of India Topo-Sheets are used as base map to know the extent of river course. The mineral reserves have been calculated only upto 1.00 meter depth although there are some portions in the river beds such as channel bars, point bars and central islands where the annual deposition is raising the level of river bed thus causing shifting of the rivers towards banks resulting in to cutting of banks and at such locations, removal of this material upto the bed level is essential to control the river flow in

its central part to check the bank cutting. While calculating the mineral potentials, the mineral deposits lying in the sub-tributaries of that particular stream/river has not been taken into consideration. Since these mineral deposits are adding annually to the main river, the mineral deposits will be much more.

Deposition is the processes where material being transported by a river is deposited. Deposition occurs when a river loses energy. This can be when a river enters a shallow area (this could be when it floods and comes into contact with the flood plain) or towards its mouth where it meets another body of water.

Rivers flood on a regular basis. The area over which they flood is known as the floodplain and this often coincides with regions where meanders form. Meanders support the formation of flood plains through lateral erosion.

When rivers flood the velocity of water slows. As the result of this the river's capacity to transport material is reduced and deposition occurs. This deposition leaves a layer of sediment across the whole floodplain. After a series of floods layers of sediment form along the flood plain.

Larger material and the majority of deposition occurs next to the river channel. This is the result of increased friction (with the flood plain) causing the velocity of the river to slow and therefore rapidly reduce its ability to transport material. This leaves a ridge of higher material next to the river channel on both banks of the river known as a levee.

Shamli is a district in the Indian state of Uttar Pradesh. This district was carved out from ... It lies to the east of the Yamuna River, which marks the borders of two Indian states, Haryana and Uttar Pradesh.

The Yamuna is the longest and the second largest tributary river of the Ganges (Ganga) in northern India. Originating from the Yamunotri Glacier at a height of 6,387 metres on the south western slopes of Banderpooch peaks in the uppermost region of the Lower Himalaya in Uttarakhand, it travels a total length of 1,376 kilometres (855 mi) and has a drainage system of 366,223 square kilometres (141,399 sq mi), 40.2% of the entire Ganges Basin, before merging with the Ganges at Triveni Sangam, Allahabad, the site for the Kumbha Mela every twelve years. It is the longest river in India which does not directly flow to the sea.

It crosses several states, Uttarakhand, Himachal Pradesh Haryana and Uttar Pradesh, passing by Uttarakhand and later Delhi, and meets its tributaries on the way, including Tons, its

largest tributary in Uttarakhand, Chambal, its longest tributary which has its own large basin, followed by Sindh, the Betwa, and Ken. Most importantly it creates the highly fertile alluvial, Yamuna-Ganges Doab region between itself and the Ganges in the Indo-Gangetic plain. Nearly 57 million people depend on the Yamuna waters. With an annual flow of about 10,000 cubic billion metres (cbm) and usage of 4,400 cbm (of which irrigation constitutes 96 per cent), the river accounts for more than 70 per cent of Delhi's water supplies. Just like the Ganges, the Yamuna too is highly venerated in Hinduism and worshipped as goddess Yamuna, throughout its course. In Hindu mythology, she is the daughter of Sun God, Surya, and sister of Yama, the God of Death, hence also known as Yami and according to popular legends, bathing in its sacred waters frees one from the torments of death.

The water of Yamuna is of "reasonably good quality" through its length from Yamunotri in the Himalayas to Wazirabad in Delhi, about 375 kilometres (233 mi), where the discharge of waste water through 15 drains between Wazirabad barrage and Okhla barrage renders the river severely polluted after Wazirabad. One official describes the river as a "sewage drain" with biochemical oxygen demand (BOD) values ranging from 14 to 28 mg/l and high coliform content. There are three main sources of pollution in the river, namely households and municipal disposal sites, soil erosion resulting from deforestation occurring to make way for agriculture along with resulting chemical wash-off from fertilizers, herbicides, and pesticides and run-off from commercial activity and industrial sites.

Drainage System with description of main rivers

S.No.	Name of River	Area Drained (Sq. Km)	% Area Drained in the District
1	Yamuna River	1376	3.2%

Salient Features of Important Rivers and Streams:

S.No.	Name of the River or Stream	Total Length in the District (in Km)	Place of Origin	Altitude at Origin
1	Yamuna	44	Yamunotri	$38^0 5'$ N, $78^0 27'$E

Portion of the River or Stream Recommended for Mineral Concession	Length of area Recommended for mineral concession (in Ha.)	Average width of area recommended for mineral concession (in meters)	Area Recommended for mineral concession (in square meter)	Mineable mineral potential (in metric tonne) (60% of total mineral potential)
44	216.616	250mtr	2166160	2782383.48

Mineral Potential

Boulder (MT)	Bajari (MT)	Sand (M^3)	Total Mineable Mineral Potential (MT)
Not available	Not available	2576281	4637305

GENERAL RECOMMENDATIONS/CONCLUSIONS

1. Abandoned stream channels or terrace and inactive floodplains may be preferred rather than active channels and their deltas and floodplains.

2. Stream should not be diverted to form inactive channel.

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

4. Large rivers and streams whose periodic sediment replenishment capacities are larger, may be preferred than smaller rivers.

5. Segments of braided river system should be used preferably falling within the lateral migration area of the river regime that enhances the feasibility of sediment replenishment.

6. Mining at the concave side of the river channel should be avoided to

prevent bank erosion. Similarly meandering segment of a river should be selected for mining in such a way as to avoid natural eroding banks and to promote mining on naturally building (aggrading) meander components.

7. Continued riverbed material mining in a given segment of the river will induce seasonal scouring and intensify the erosion activity within the channel. This will have an adverse effect not only within the mining area but also both in upstream and downstream of the river course. Hazardous effects of such scouring and enhanced erosion due to riverbed mining should be evaluated periodically and avoided for sustainable mining activities

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