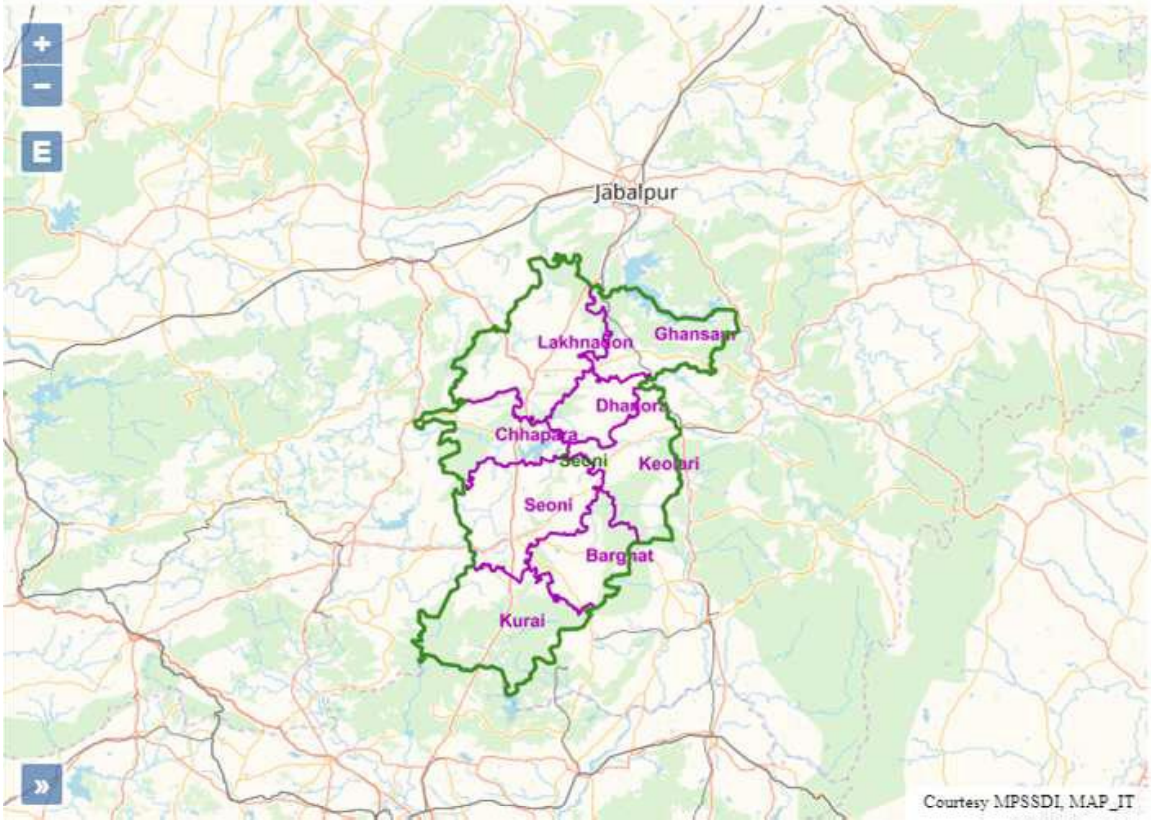
DISTRICT SURVEY REPORT



MINERAL RESOURCE DEPARTMENT

DISTRICT SEONI

IN COMPLIANCE OF MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANNGE, NOTIFICATION DATED15.01.2016

CONTENTS

1. INTRODUCTION

The Seoni District came into existence in its present form on 1st November 1956. It lies in the Southern part of Madhya Pradesh state between the parallels of latitude $21^0 36'$ to $22^0 57'$ and $79^0 19'$ to $80^0 17'$ East Longitude falling in Survey of India toposheets Nos. 55N, 0 and 64B. It is bounded by the district Jabalpur in North, Mandla in Northeast, Balaghat in the East, Narsinghpur in Northwest, Chhindwara in West and Nagpur- Bhandana in South.

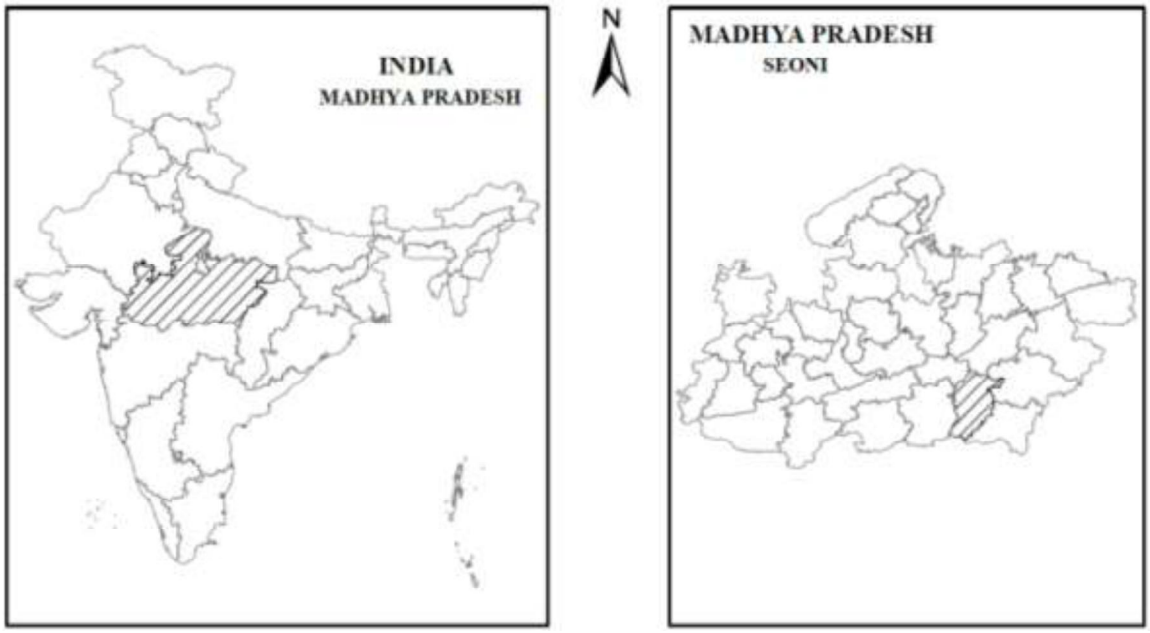
The district name has been originated from the word "SEONA", a species of tree belonging to the verbanaleal family which was commonly found in this area. The wood of this tree is used in manufacture of " DHOLAK".The District is situated Satpura plateau in the South of Jabalpur Division. The District is divided into 08Thesils and 08 Blocks. There are 1593 Villages and 08 Towns in the District.

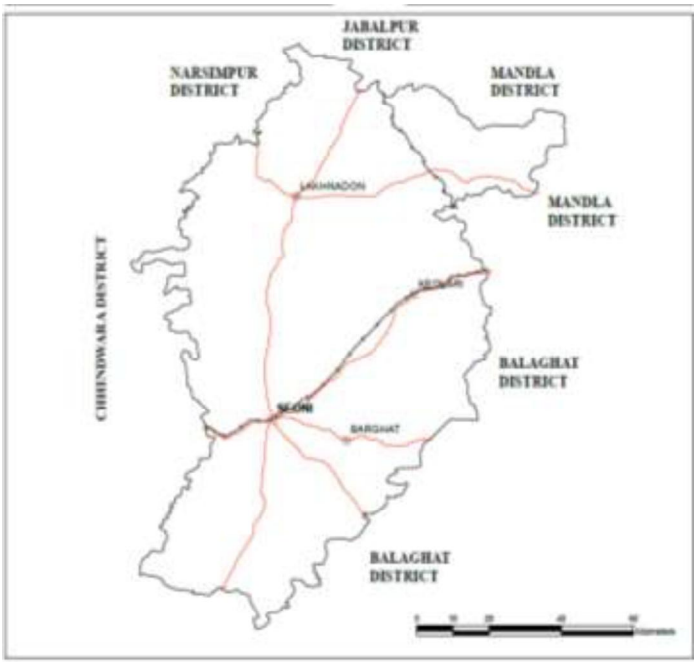
Table – 1: Administrative Divisions, District SEONI, (M.P).

S.No.	Tehsil	Area Sq.Km
1.	Seoni	1363
2.	Kurai	1783
3.	Lakhnadon	1704
4.	Ghansor	963
5.	Keolari	827
6.	Barghat	720
7.	Chhapara	731
8.	Dhanora	667

Location:

The Seoni has the origin from the word Seona (Gundina arborea) a spicy of tree belonging to the verbena leal family commonly found in this area. The wood of this tree is specially used for making trumpet (Dholak). Seoni,one of the sounthern districts of Madhya Pradesh, is located between 21°35' to 22°58’ N latitude and 79°12' to81°18’ E longitude. This district covers 8752 sq.km. It was formed as a separate district after the annexation of this tract to the British Territory in 1818. Later in December 1931, Seoni district was abolished and annexed to Chhindwara district. Seoni was reborn as a district after the formation of new state of Madhya Pradesh on 1st November, 1956. It is bordered by Jabalpur, Narsinghpur and Mandla districts in North, Balaght in East,Chhindawara in West and Nagpur district of Maharashtra, in South.





1. OVERVIEW OF MINING ACTIVITY IN THE DISTRICT

Reserves of Important Minerals of Madhya Pradesh

(Source : Indian Bureau of Mines Mineral Year Book 2011)

S.No.	Mineral	Unit	Reserves (Proved + probable)		Percentage of Country's Reserves
			India	Madhya Pradesh	
1.	Diamond	Thousand Carats	1045.31	1045.31	100%
2.	Pyrophyllite	Million tones	23.27	14.64	62.91%
3.	Diaspore	Million tonnes	28.59	1.45	5.07%
4.	Copper Ore	Million tonnes	394.37	198.319	50.28%
5.	Dolomite	Million tonnes	738.18	82.43	11.16%
6.	Rock Phosphate	Million tonnes	34.77	18.14	52.17%
7.	Manganese Ore	Million tonnes	141.97	34.99	24.64%
8.	Coal	Million tonnes	251472.70	21063.03	8.37%
9.	Limestone	Million tonnes	14926.39	1651.82	11.06%
10.	Coal Bed Methane #	Bcm	1434.00	144.00	10.00 %

Note : The reserve figures include all grades of deposits.

Coal Bed Methane- ONGC Task Force Report 1997.

Mineral Based Industries In Madhya Pradesh

S.No.	Industry	No.of Units	Location
1.	Cement	9	Rewa, Satna, Damoh, Katni, Sidhi & Neemuch
2.	Thermal Power	10	Shahdol , Umaria, Sidhi, Satna, Betul, Damoh, Katni, Rewa, Ujjain
3.	Coal Washeries	3	Narsinghpur, Anuppur, Chhindwara
4.	Asbestos Cement Sheet	1	Katni
5.	Ceramics	2	Ratlam, & Jabalpur
6.	Hydrated Lime	25	Katni & Satna
7.	Slate Pencil	155	Mandsour
8.	Potteries	2	Ujjain
9.	Refractories	3	Katni, Ratlam & Jabalpur
10.	Roofing (Manglore)Tiles	8	Hoshangabad & Balaghat
11.	Marble cutting& polishing	4	Katni
12.	Granite cutting& polishing	5	Chhatarpur, Tikamgarh
13.	Flagstone cutting & polishing	150	Shivpuri, Gwalior, Panna & Vidisha

As Per DGM M.P. Website.

AVAILABILITY OF MINERALS:-

PRODUCTION OF MINERAL 2010-11

S.No.	Name Of Mineral	Production
2010-2011		
MAJOR MINERAL	Data not available	
MINOR		
1.	Stone/ Gitti	1177637 Cub. Metre.
2.	Murum	2175126 Cub. Metre.
3.	Sand	330391 Cub.Metre.
SOURCE:- DEPT. OF MINES & GEOLOGY.		

The district is endowed with mineral resources as given below.

Minerals	**Area**
Bauxite	Amargarh, Dulal, Kamkasur, Khapa and Potta
Copper	Antarwani
Gold	Pachdhor and Bavanthadi rivers
Iron	Jatama, Silari
Manganese	Antarwani, Piparwani
Meterite	Piparwani
Mica	Khandasa

As per report no.1020 of National Bureau of soil survey & land use planning
(Indian Council of Agricultural Research)

3. THE LIST OF MINING LEASES IN THE DISTRICT WITH LOCATION, AREA AND PERIOD OF VALIDITY

Sl. No.	Application Date	Name & Address of Lessee	Minerals	Mine Area Details	Area(in Hect.)	Sanction Order No. & Date	Period for Granted	Status
1	01/01/1900	MAHESH SHIVHARE-SHRI CHOTE LAL SHIVHARE - KOSTIPURA, SITABARDI NAGPUR (MS)	Dolomite,	(1) Tehsil : KURAI-Village : JATTAAMAA (P.H 0109)- Khasra No. : 132- Plot No. :- Area :1.157,	1.157	3-272/93/12/2,Date 04/07/1994	19/10/1994-18/10/2014	Lapse
2	01/01/1900	KASAL TAILAS-SHRI DHARMENDRA - DHANENDRA TACIJ COMPUND, WARASEONI DIST.BALAGHAT	Dolomite,	(1) Tehsil : KURAI-Village : BAAVALII (P.H 0104)- Khasra No. : 151- Plot No. :- Area :1.770,	1.770	3-106/92/12/2,Date 31/08/1994	23/07/1995-22/07/2045	Non-Working
3	01/01/1900	RAM KUMAR THAKUR-SHRI RAM KHILAVAN THAKUR - DUNDA SEONI, DIST-SEONI (MP)	Dolomite,	(1) Tehsil : KURAI-Village : BAAVALII (P.H 0104)- Khasra No. : 152- Plot No. :- Area :1.620,	1.620	3-104/95/12/2,Date 22/12/1995	02/02/1996-01/02/2046	Non-Working
4	01/01/1900	NARAYAN PALIWAL-SHRI BADRIPRASAD PALIWAL - GANJ WORD, SEONI (MP)	Dolomite,	(1) Tehsil : KURAI-Village : JATTAAMAA (P.H 0109)- Khasra No. : 153- Plot No. :- Area :1.090,	1.090	3-29/95/12/2,Date 23/03/1996	04/06/1996-03/06/2016	Lapse
5	01/01/1900	LINKSON MARBLE & GR PVT LTD - FORTH FLOWR, POONAM PLAZA, CIVIL LINE, NAGPUR (MS)	Dolomite,	(1) Tehsil : KURAI-Village : JATTAAMAA (P.H 0109)- Khasra No. : 29,30- Plot No. :- Area :1.000,	1.000	3-30/96/12/2,Date 23/03/1996	12/09/1996-11/09/2046	Non-Working
6	01/01/1900	ANIL KUMAR MODI-SHRI SHRI MEGHRAJ MODI - MAIN ROAD, BALAGHAT (MP)	Dolomite,	(1) Tehsil : KURAI-Village : HAATTHIIGADDH (P.H 0109)- Khasra No. : 59/1,60,62- Plot No. :- Area :1.960,	1.960	3-47/97/12/2,Date 26/09/1997	24/12/1996-23/12/2046	Non-Working
7	01/01/1900	ALFA MINERALS - KATANGI, DIST-BALAGHAT (MP)	Dolomite,	(1) Tehsil : KURAI-Village : AAGARII (P.H 0108)- Khasra No. : 138/2,138/5- Plot No. :- Area :3.580,	3.580	3-101/98/12/2,Date 25/02/1999	24/03/1999-23/03/2049	Non-Working
8	01/01/1900	RAM KISAN KHANDEWAL-SHRI KISAN KHANDELWAL - RP STIRT JUNI OLI, KAMPTEE, DIST-NAGPUR (MS)-441001	Dolomite,	(1) Tehsil : KURAI-Village : PARAASAPAANII (P.H 0109)- Khasra No. : 19/2- Plot No. :- Area :2.000,	2.000	3-250/97/12/2,Date 19/03/2002	07/08/2002-06/08/2052	Non-Working

9	01/01/1900	DHARMENDRA KUMAR MODI-SHRI PREM CHAND MODI - SM-50 PADMNABHPUR, DURG (CG)	Dolomite,	(1) Tehsil : KURAI-Village : JATTAAMAA (P.H 0109)- Khasra No. : 154,146,147- Plot No. :- Area :1.934,	1.934	3-232/97/12/2,Date 28/07/2003	08/08/1986-07/08/2036	Non-Working
10	01/01/1900	SANJAY KASAL-SHRI DANENDRA KASAL - WARASEONI DIST-BALAGHAT (MP)	Dolomite,	(1) Tehsil : KURAI-Village : PARAASAPAANII (P.H 0109)- Khasra No. : 330,331- Plot No. :- Area :3.890,	3.890	3-102/98/12/2,Date 11/04/2005	03/12/2005-02/12/2055	Non-Working

4. GENERAL PROFILE OF THE DISTRICT

General Characteristics of the District

Seoni is primarily a tribal dominated district formed on 1st November 1956. The district name has been originated from the word "SEONA", a species of tree belonging to the verbanaleal family which was commonly found in this area. The wood of this tree is used in manufacture of " DHOLAK".The District is situated Satpura plateau in the South of Jabalpur Division.

Topography:

The area has undulating topography comprising hills of Satpura plateau from South to North. While the North Eastern part covered by Deccan plateau and falls at the altitude in between 325 to 740 m above MSL. The general trend of hills in the district is North-south with some isolated hillocks.
Physiographically the area is divided into five parts.

1. Lakhnadon Plateau.
2. Upper Wainganga Valley.
3. Lower Wainganga Valley.
4. Sagar and Hirri River Valley.
5. Southern Lower Land.

FOREST:-

Seoni is one of the forest rich districts in Madhya Pradesh. The total forest area in this district is 3,28,200 hectare. There are two territorial divisions, two production divisions, one social forestry division and one forest development corporation division in Seoni district. There are 1612 villages in Seoni district, out of which 1375 villages are either in forest areas or nearby forest boundary.

Administrative set up.

The District is under Seoni division of MP. There are 05 Sub Division, 06 Tehsils, and 08 Development Blocks in the district. The District Headquarter is Seoni.

Existing Status of Industrial Areas in the District SEONI

S. No.	Name of Ind. Area (In hectare)	Land acquired (In hectare)	Land developed Sqm hectare)	Prevailing Rate Per Plots	No of Plots	No of allotted Plots (In Rs.)	No of Vacant Plots	No. of Units in Production
1	Semi urban Industrial Estate Seoni	28.809	28.809	20/- per sq meter	84	77	03	33
2	Industrial Area Khursipar Seoni	14.290	----	20/- per sq. meter	--	----	14.290	---
3	Industrial Area Bhurkalkhapa Seoni	390.931	----	375	---	34	---	01
Total	**434.03**	**28.809**	**84**	**111**		**17.290**		**34**

Source: DIC Seoni

Industrial Scenario of Umariya

Industry at a Glance

EXISTING STATUS OF INDUSTRIAL AREA IN SEONI DISTRICT

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
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3	Industrial Area Bhurkalkhapa Seoni	390.931	----	375	---	34	---	01
	Total	**434.03**	**28.809**		**84**	**111**	**17.290**	**34**

Source: DIC Seoni

Climate and Rainfall

The Climate of Seoni District, M.P. characterized by a hot summer and general dryness except during the southwest monsoon season. The year may divided into four seasons. The cold season, December to February is followed by the hot season from March to about the middle of June. The period from the middle of June to September is the southwest monsoon. October and November form the post monsoon or transition period.

The normal annual rainfall of Seoni district is 1323.7 mm. Seoni District received maximum rainfall received during southwest monsoon period i.e. June to September. About 86.3% of the annual rainfall received during monsoon season. Only 13.7% of the annual rainfall takes place between October to May period. Thus, surplus water for ground water recharge is available only during the southwest monsoon period.

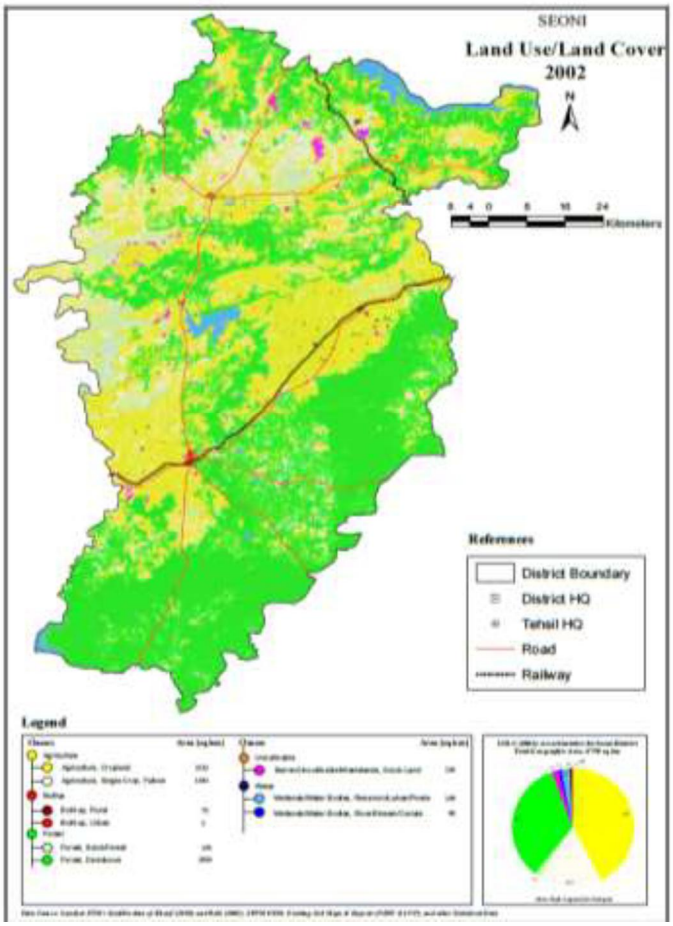
The maximum rainfall received at Roomal i.e. 1600.1 mm and minimum at Lakhnandan i.e. 1289.9 mm. The normal maximum temperature received during the month of May is 40.3^0 C and minimum during the month of December is 11.3^0C. The normal annual means maximum and minimum temperatures of Seoni district are 31.3^0C & 18.9^0C respectively.

During the southwest monsoon season the relative humidity generally exceeds 88% (August month). In the rest of the year it is drier. The driest part of the year is the summer season, when relative humidity is less 34%. May is the driest month of the year.

The wind velocity is higher during the pre monsoon period as compared to post monsoon period. The maximum wind velocity 7.7 km/hr observed during the month of June and minimum 3.9 km/hr during the month of December.

The average normal annual wind velocity of Seoni district is 5.9 km/hr.

5. LAND UTILIZATION PATTERN IN THE DISTRICT: FOREST,AGRICULTURE, HORTICULTURE, MINING



Forest Treasure:

Seoni is one of the forest rich districts in Madhya Pradesh. The total forest area in this district is 3,28,200 hectare. There are two territorial divisions, two production divisions, one social forestry division and one forest development corporation division in Seoni district. There are 1612 villages in Seoni district, out of which 1375 villages are either in forest areas or near by forest boundary.

Agriculture:

Rich in forest and minerals resources, the district with added irrigation can also yield better agricultural returns, particularly in the respect of paddy.

Land utilization			
i) Total Area	**2010-11**	**Hectare**	**535887**
ii) Forest cover	**2010-11**	**“**	**328437**
iii) Non Agriculture Land	**2010-11**	**“**	**60934**
v) cultivable Barren land	**2010-11**	**“**	**20272**

Mining

Seoni district have Stone, Murum, , Sand are the minor Minarels are available in the District.

PRODUCTION OF MINERAL 2010-11

S.No.	Name Of Mineral	Production
2010-2011		
MAJOR MINERAL	Data not available	
MINOR		
1.	Stone/ Gitti	1177637 Cub. Metre.
2.	Murum	2175126 Cub. Metre.
3.	Sand	330391 Cub.Metre.
SOURCE:- DEPT. OF MINES & GEOLOGY.		

6. PHYSIOGRAPHY OF THE DISTRICT

The Seoni district lies on a section of the Satpura plateau covering 8758 sq.km with elevation of 760 m to 430m above mean sea level. The plateaus generally lower down towards the east and marks the hill ranges along the southern scarps in Seoni district but the plateaus along north western boundary are crowded with the hills.The district is divided into five natural divisions such as 1) Lakhanadon plateau, 2) Upper Wainganga valley, 3)The valley of Sagar and Hirvi River, 4) The lower Wainganga valley, and 5) The southern lowland (Guru,1989).

The Lakhanadon plateau between the Narmada and the Wainganga slopes towards the North with ridges of residual hill stands in between the North flowing tributaries of the Narmada. The Southern hill range starts from the undulating plateaus of Chaurari on Chhindwara district and shoulders the town of Seoni from Mohgaon, known as Kariapahar.

3.1. Extent and Types of Landforms

The landform map for reconnaissance soil survey on 1:50,000 scale covering twenty one toposheets was used to generate the land form of Seoni district. The landforms identified and codified with respect to geology and relief types existing in the area.

Fourteen land forms are delineated and described (Fig.2 & Table 6). The land forms are:

i) Structu ral plateaus (2697.92 ha)
(ii) Middle level plateaus (71594.59 ha)
(iii) Narrow inter-hill basin (81457.45 ha)
(iv) Structural hills and ridges (152667.92 ha)
(v) Undulating plateau (6.85%)
(vi) Rolling pedilains (6.68%)
(vii&viii) Upper and lower denudational plateaus (37.22 percent of total area) (ix,x,xi) Steeply sloping denudational escarpments,
(xii,xiii,xiv) Valleys, Broad interhill basins, gently sloping plains and floodplains (8.91 percent of total area).

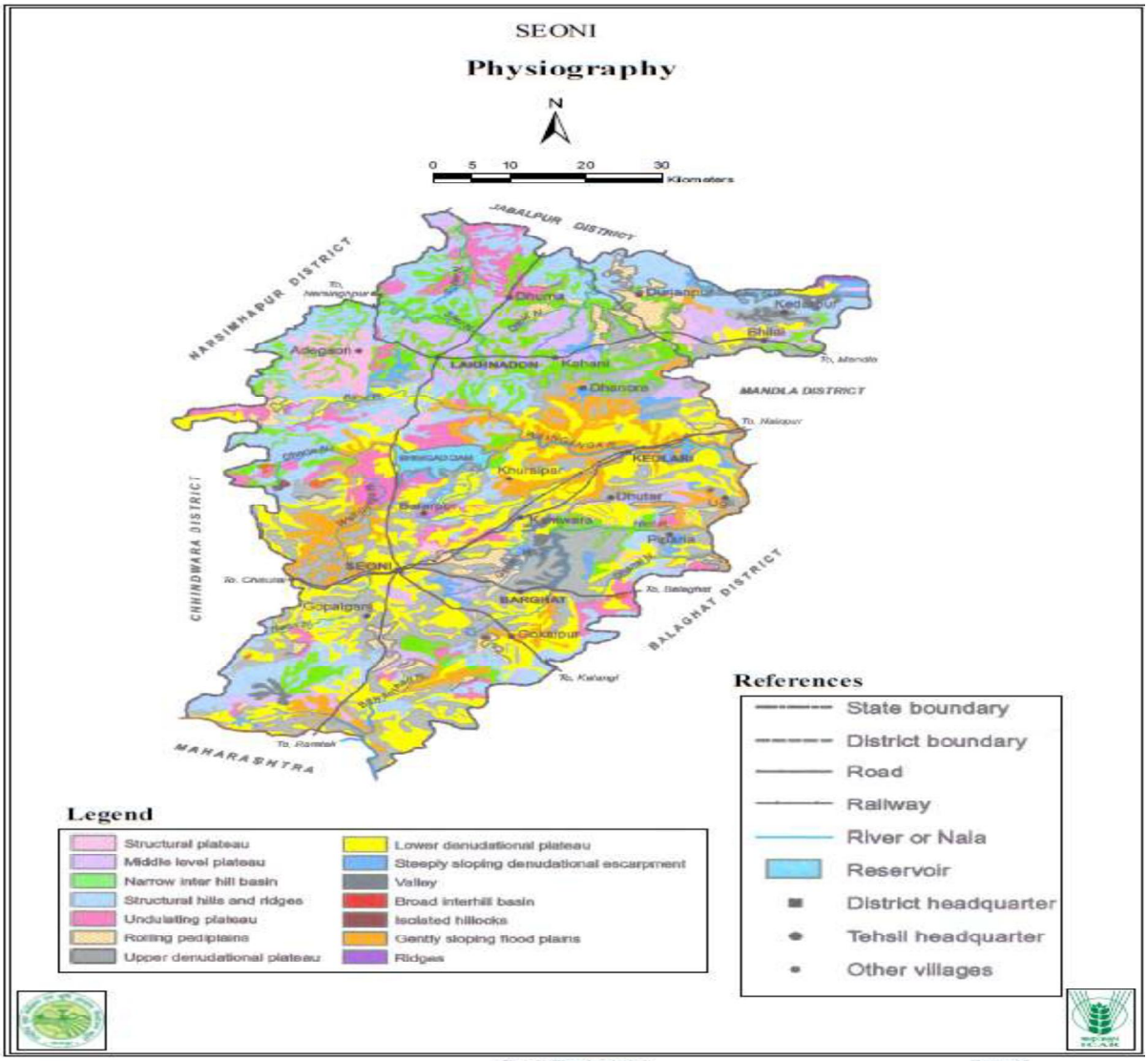


Fig. 2: Physiography

7. RAINFALL

The normal annual rainfall of Seoni district is 1323.7 mm. Seoni District received maximum rainfall received during southwest monsoon period i.e. June to September. About 86.3% of the annual rainfall received during monsoon season. Only 13.7% of the annual rainfall takes place between October to May period. Thus, surplus water for ground water recharge is available only during the southwest monsoon period.

8. GEOLOGY AND MINERAL WEALTH

Geology:

Seoni is a part of ENE-WSE trending Central Indian Tectonic Zone (CITZ) limited by Sone-Narmada South Fault (SNSF) in the north and Central India Suture (CIS) in the north and Central India Suture (CIS) in the south, while Tan Shear Zone (TSZ) is located midway between the two. Geologically, the district comprises of Tirodi Biotite Gneiss (TBG) and Supracrustal Sausar Group (SSG) in the south eastern parts while major parts are covered with Deccan Traps with few outcrops of lameta, intertrappean beds, laterite cappings and alluvium ranging in age from Meso-Proterozoic to Recent. TBG forms the base mand of the Sausar Supracrustal and comprises grey stromatic and/or streaky gneisses with enclaves of high grade metamorphites, pink gneiss with migmatites and amphibolites. SSG is represented by Lohangi Fm, Mansar Fm, Chorbaoli Fm, Bichua Fm. Lithologically, cratonic assemblage consists of metamorphosed quartzite, pelites and carbonate and intrusive syntectonic strongly foliated granite and post-tectonic massive granite. The basement-cover contact was largely obliterated due to intense shearing and /or migmatitic foliation of TBG. Late cretaceous (Maestrichtian) strata includes the Lameta Group occurring as thin bands and discontinuous patches in the south-eastern parts of the area. These are represented by cherts, cherty modular limestone,variegated clay and shale, deposited in a lacustrine environment,Along the eastern margin, the Deccan Traps overlie the Lameta sediments and along the southern margin, they are found above gneisses. The cumulative lava pile (430 m) comprise twenty four number of flows which are classified under Amarkantak group. Based on the variation in lithological, textural and physical characteristics, the group is divided into formations such as Mandla, Dhuma, Pipardahi, Linga, Multai, Amarwara and Khamla formations. The thickness of individual flow varies from 5 m to 30 m. The basalt flows are traversed by basic dykes and are separated by wide spread persistent/impersistant fossiliferrous to non-fossiliferrous intertrappeans.

Extensive laterite cappings of varied thickness between 10 to 40 m on flow tops are exposed over an area of 100 sq.km. around Batwri, Amarpur and Chhiriya. The laterite of Kareligarh hill is a capping over boitite gneiss and extends in a NNE-SSW direction of about 3 km length and the width is around 300 m. The average thickness of laterite capping in this locality is about 70 m. The brief description of lithology and characteristics is presented in Table 1.

Lithology, group and age with its nature and characteristics

Lithology	Strtigraphic status	Group	Age	Nature and characteristics
Alluvium			Quaternary	Soft and unconsolidated sediments
Laterite				Medium to hard, brick red to yellowish brown, ferruginous, consolidated rock
Basic Dykes			Cainozoic	Dark grey, fine to medium grained, hard, compact massive rock
Four basaltic lave flows, simple and compound pahoehoe flows with megacryst flow unit	Khamla Fm	Amarkantak (Deccan trap)	Upper cretaceous to Palaeogene	Dark grey, fine to medium, hard, compact, massive, non-porphyritic to moderately porphyritic
Five to seven simple and compound pahoehoe flowswith megacrystflow at base	Amarward Fm			Dark grey, fine grained hard, compact, massive, non-porphyritic to porphyritic
Two basaltic flows, simple to compound pahoehoe type	Multai Fm			Dark grey, medium grained hard, compact, massive, mega porphyritic in nature
Four basaltic flows , simple to compound type	Linga Fm			Dark grey, fine to medium grained hard , compact, massive, moderately to highly porphyritic:
Two simple basaltic flows	Pipardhi Fm			Dark grey, fine grained hard , compact, massive, ono porphyritic to sparsely porphyritic
Eight basaltic flows, simple and compound, pahoehoe flows with megacrys flow unit	Dhuma Fm		Upper Cretaceous to Palaeogene	Dark grey, fine to medium grained hard , compact, massive, porphyritic in nature
Four basaltic flows, simple to compound pahoehoe flows with megacryst flow unit	MandlaFm			Dark grey, fine to medium grained hard, compact, massive, and moderately to sparsely porphyritic.
Simple and compound basaltic flows	Unclassified	Amarkantak (Deccan trap)		Dark grey, fine grained hard , compact, massive and amygdalodal
Chert, cherty limestone and shale	Intertrappean			
Chert, cherty nodular limestone, variegated clay and shale	Lameta group		Late Cretaceous (Maestrichtian)	Hard, laminated and friable rocks
Granite	Intrusive		Late Meso Proterozoic	Hard, compact, massive porphytic rocks
Foliated granite	Intrusive			Hard, Compact, Foliated rock
Crystalline limestone anddolomite	Bichua Fm			Hard and compact rocks
Muscovite-biotitic schistband quartzitic biotitegranite	Junewani Fm			Soft and flaky rocks, hard and compact rocks
Quartzites and quartze muscovite schist'	Chorboli Fm			Hard and flaky rocks
Muscovite-biotite schist	Mansar Fm	Sausar group	Meso Proterozoic	Soft and flaky rocks
Calc-silicate rocks	Lohangi Fm			Hard and flaky rocks
Grey stromatic and/or streaky gneiss with enclaves of high grade metemorphites/pink gneisswith migmatite/Amphibolites	Tirodi Biotite gneiss			Hard and compact , foliated and banded rocks/hard and compact banded, foliated to massive pink megacrystic K.- feldspar bearing rocks, Hard and compact, dark greenish grey, massive to moderately foliated rocks

- **Details of river or stream and other sand source of the district**

The drainage of the district forms parts of the Narmada and the Wainganga river systems. Narmada occupies about a quarter of the area in the north and the Wainganga occupies about three quarters of the area in the south.The main water dividing lines run from west to east.

The Narmada: This is a westward flowing primary river which forms the north-eastern boundary of the district.It rises from Amarkantak hills in the Shahdol district on the Maikal ranges. It flows through Satpura hills in a zigzag manner and forms the boundary between Seoni and Mandla district. The total length of the river is 1290km of which a section about 35 km lies along the district boundary.

The Sher: The Sher river rises at Batka 7 km south-east of **Lakhanadon** and flows to the north east. It is joined by the Gurha, the **Kanera**, the Macharewa, the Berurewa and Umar belore it joins the Narmada at Ratikarar in Narsinghpur. Its total length is 113 km.

The Wainganga: The Wainganga is the most important river of the district. It rises from the hill above

Pratappur. It forms a semicircular course in the district flowing first to the north, bending east and finally to the south along the south eastern boundary. The river flows on a lower plain along the Seoni-Balaghat boundary.

b. Availability of sand or gravel or aggregate resources of the district _

Seoni district having huge replenisable sand resources owing to the presence of Narmada and the Wainganga river systems covering major part of the district.

c. District wise detail of existing mining leases of sand and aggregates

Total running lease are 10no's.

9. CONCLUSION

After doing all exercise it can be say that Seoni district have good mineral potential as well as variety of minerals. Geological studies of the area indicate that many mineral like laterite, Stone, Murum. Geologically district have Sausar group of meso preterozoic, amarkantak group of deccan trap of upper cretaceous and laterite and alluvium of quaternary age.

Seoni is a part of ENE-WSE trending Central Indian Tectonic Zone (CITZ) limited by Sone-Narmada South Fault (SNSF) in the north and Central India Suture (CIS) in the north and Central India Suture (CIS) in the south, while Tan Shear Zone (TSZ) is located midway between the two.

So with preventive measure, skilled, systematic and scientific mining, district has rich mineral resources to contribute for growth of state as well as nation.

10. REFERENCES

1. Official site of Mineral resource department, Govt. of M.P.
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