

**SOCIAL AND ECONOMIC STRUCTURE
OF BAGHELKHAND**

(A Spatial Analysis)

A dissertation submitted in partial
fulfilment of the degree of Master
of Philosophy in Geography

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1979

DECLARATION

I HEREBY DECLARE, that with the exception of guidance and suggestions received from Dr.R.C.SHARMA, former Professor and Head of the Department of Geography, School of Environmental Sciences, North-Eastern Hill University, this dissertation is entirely my own piece of research. It is based on the research work carried on in the Department of Geography, School of Environmental Sciences, North-Eastern Hill University, Shillong.

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The dissertation entitled 'Social and economic structure of Beshelkhand (A spatial analysis)' submitted by Shri Jai Singh Chauhan in fulfilment of 9 credits out of the total requirements of 24 credits for the degree of Master of Philosophy(M.Phil) of the Department of Geography, School of Environmental Sciences, North-Eastern Hill University, Shillong is an original and bonafide piece of work, according to the best of our knowledge. It may be placed before the examiners for their consideration.

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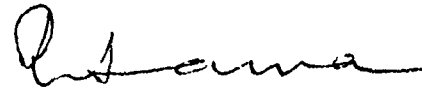
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It is certified that Mr. J. S. Chauhan, M.Phil./Ph.D. student in the Department of Geography, School of Environmental Sciences, North-Eastern Hill University, Shillong, has completed his M.Phil. dissertation under my supervision. I have gone through his complete draft and I certify that this is his work based on researches. The present dissertation may kindly be placed before the examiners for its evaluation for the award of M.Phil. degree of the university.



(R. C. Sharma)
formerly, Professor and Head
Dept. of Geog., NEHU, Shillong.

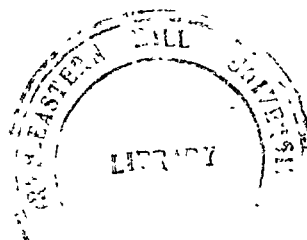
ACKNOWLEDGEMENT

I seize upon this opportunity to express my deep sense of gratitude towards Dr. R.C. Sharma, former Professor and Head of the Department of Geography, Dean, School of Environmental Sciences, North-Eastern Hill University who was a constant source of guidance and inspiration, making suggestions and observations from time to time.

I am grateful to Dr. M. Husain, Reader and Head of Department of Geography, School of Environmental Sciences, North-Eastern Hill University for providing me with all possible assistance.

In the end, I would also like to express my gratitude towards Mrs. S. Khongji, Mr. R. Sahu, Mr. P.C. Panda, Mr. S. Chatteraj and Mr. S.N. Patnaik for without their assistance, it would have taken longer for completion.

J. S. Chauhan
JAI SINGH CHAUHAN

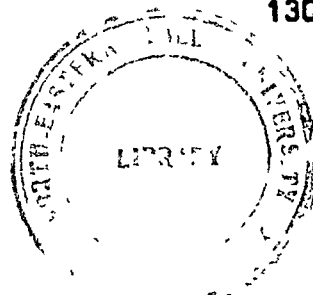


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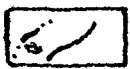
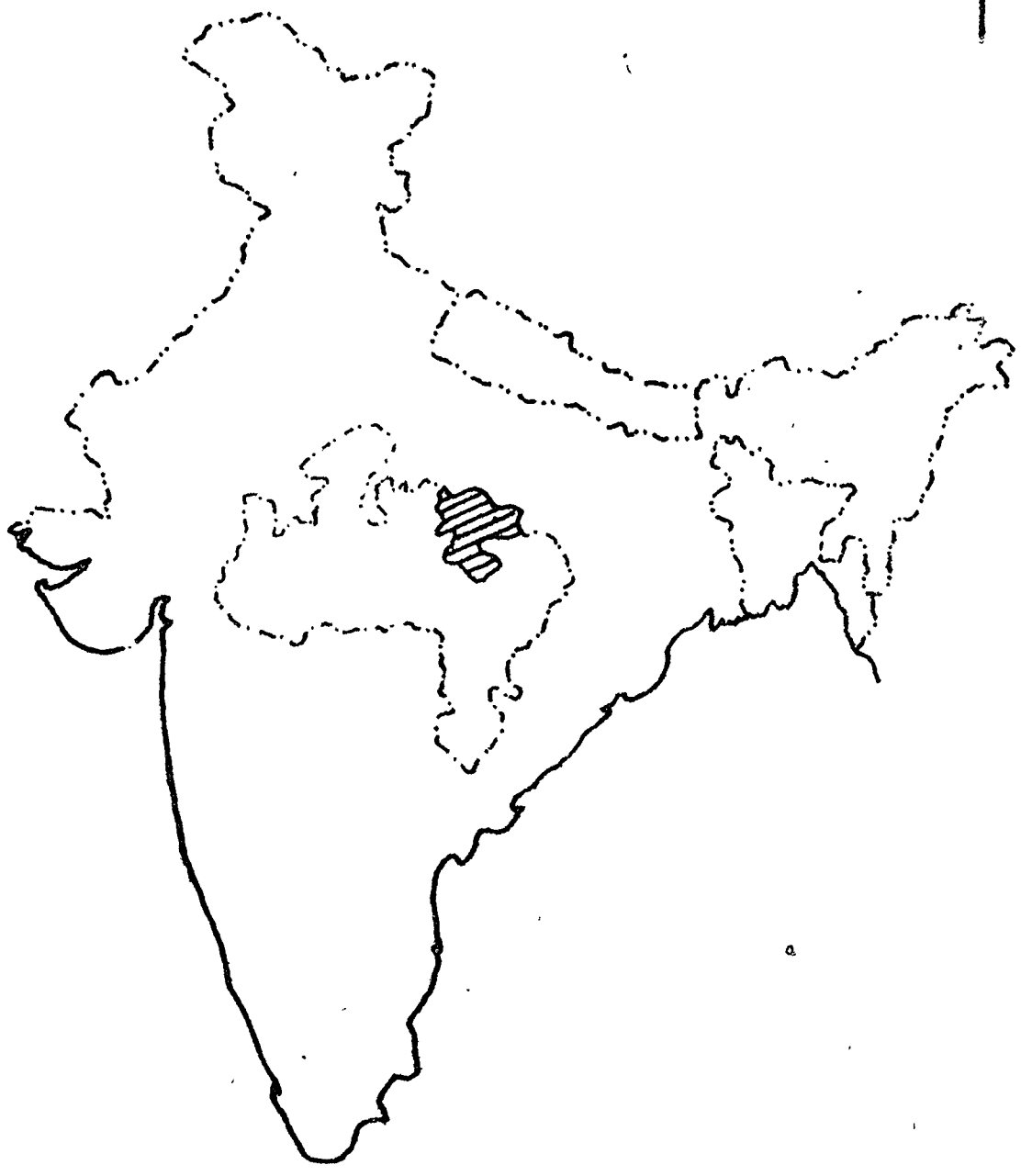


Baghelkhand, the region of ^{the} our present study, lies roughly between the latitudes $22^{\circ}40'$ and $25^{\circ}0'$ north, and $80^{\circ}30'$ and $82^{\circ}57'$ east longitudes. The region is situated in the northeastern corner of Madhya Pradesh and formed the eastern wing of the erstwhile Vindhya Pradesh. The region takes its name after the Baghel Rajputs, who till 1947 since the 13th century were the rulers of this area, with varying degrees of sovereignty.

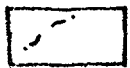
In 1971, its total population stood at 3698050 which was 8.9% of the state of Madhya Pradesh with a total area of 38370 sq.kms. which is about 8.6 percent of the total area of the state of Madhya Pradesh.

BAGHELKHAND

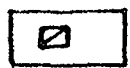
REGIONAL SETTING



INTERNATIONAL BOUNDARIES



STATE BOUNDARIES



THE REGION

The regional sex-ratio was 959 females per 1000 males and the density was 96 person per sq.km. as compared to 94 persons per sq.km. of the state. The total urban population of the region in 1971 was 2,9,5,051 which stood upto just 4.3 percent of the states' total urban population.

The Baghelkhand region, as under study now, comprises of the entire Rewa division, and administratively to-day it covers the districts of Rewa, Satna, Sidhi and Shahdol. While Rewa, Sidhi and Shahdol were all carved out of the erstwhile Treaty state of Rewa, the Satna district was formed out of a part of the Raghura jnagar tehsil of Rewa state and the Sanad States of Sohawal, Baraundha, Paldeo, Pahra, Kanta Rajaula, Taraon, Nagod, Jasso, Maihar and Kothi.

In the past, administrative pattern in the different merging units was different and it was only after independence that the pattern more or less on the lines of the former British India districts was adopted. Now, the administrative pattern in all the four districts of the region Baghelkhand is similar to that obtained in the other districts of the State.

The present study aims, at analysing the social and economic structure of this region, Baghelkhand. It is one of the most backward region of the country, inspite of being fairly rich in natural resources and suffering no dearth of manpower. One cannot just at random the nature of this regions' static equilibrium. The reason probably lies, in its low level of connectivity, lack of skilled man-power, capital and investment etc. etc. So the main thrust of our study is to analyse the social and economic constraints which have persisted and evolved through time and space leading to the present dilemma of abject poverty and underdevelopment.

To analyse this from the spatial view-point we have to take into account the physical basis, historical evolution, the social and economic environment and then only can we, under this spatial scheme of study conclude effectively.

The existing literature on the geography of Baghelkhand deals mainly with topical subjects such as history, physical geography, landuse etc. and regional studies. In the field of historical geography D. C. Sirkar's and P. K. Bhattacharya's work on the Historical Geography of Madhya Pradesh from early records needs special mention. The regional aspect has been well covered by O.H.K. Spate and A. T. A. Learmonth in 'India and Pakistan', R.K. Singh -

'India - A regional Geography', S.D. Mishra - "The Geographical regions of Vindhya Pradesh" besides this, a lot of research work has been carried out. For instance, Dr. K. P. Dhurander's work on 'landuse in Madhya Pradesh' etc. However, by and large, most of the work that has been done on the region is topical and therefore, is limited in extent and application, for most of the work deals with the region at the Meso- level at best. The present study as mentioned before is aimed at examining the bases of the society and economy for the sole purpose of arriving at some definite conclusions with respect to the utterly low level of development.

The term socio-economic structure, as used in the context of the present study, refers to the spatial arrangement of economic, demographic and social characteristics in the region. And its significance lies in as far as it identifies Baghelkhand as a regional entity and analyses its various characteristics with a view to suggest measures for regional development.

DATA BASE:

The sources of information for this dissertation, has exclusively been of secondary character. Nevertheless, there exists a wide variety, as each aspect in such a spatial frame of study as this, requires a separate base.

For instance, the physical aspect is based upon data provided by, Geological Survey of India through their maps, the Meteorological Department of India for climate, the Central Ground water Boards for drainage and incorporated in the Economics and Statistical handbook of Madhya Pradesh. Similarly for the Historical aspect, Imperial Gazetteers, Aine-Akbari and certain other references have formed the base. On social and economic aspects, the Census of India Publications, M.P. Techno-Economic Survey, District Economic and statistical Handbook etc. have been the analytical base.

The base map of the region was prepared keeping in view the physical, historical and cultural factors. Statistical data from sources mentioned above forms the base of the represented thematic maps.

METHODOLOGY:

This study is aimed at analysis, synthesis, evaluation and interpretation of the available statistics, in relation to the objectives of our study. The effort here is to marshal all available data concerning the physical, historical, social and economic aspects of the region.

A macro-socio-economic approach has been adopted where-after an integration of our findings makes for holistic interpretation of the regions social and economic behaviour.

Such a wide approach, allows for the utilization of a whole array of statistical tools of various description, within the realm of descriptive - techniques and inferential techniques.

However, for the most part of social structure descriptive statistics has been used i.e., to find out growth rate, population densities, sex-ratio, age-structure, literacy rate language structure, religion structure etc. But as regards the caste - analysis, we have utilized Ranking method and the weaver's crop-combination method to find out the dominant caste and the caste-associations respectively.

Ranking method, entails finding out the standard Deviation SD and then adding it to \bar{X} (mean) - The formula

$$\text{used is, - S.D} = \sqrt{\frac{(\bar{X}-\bar{X})^2}{n}}$$

Then, for the purpose of 'Ranking'

$$\bar{X} + SD_1 = \text{Third ranking caste}$$

$$\bar{X} + SD_2 = \text{Second ranking caste}$$

$$\bar{X} + SD_3 = \text{First ranking caste}$$

\bar{X} =) Arithmetic mean

SD_1 =) S.D. once

SD_2 =) S.D. twice

SD_3 =) S.D. thrice

The weaver's crop combination method

$$\sigma^2 = \frac{(X_1 - \bar{X})^2}{N}$$

σ^2 = stands for combination index

X_1 =) is the actual percentage of each caste

N =) is the No. of castes

\bar{X} =) is the theoretical percentage

For instance in

Mono - caste regions

$$\sigma^2 = \frac{(X_1 - 100)^2}{N}$$

two caste regions

$$\sigma^2 = \frac{(X_1 - 50) + (X_2 - 50)}{N}$$

and so on:

and when the σ^2 (index) gets minimum then that would be the best fit.

The section on urbanization has been based on the Location Quotient exercise -

$$Q = \frac{X_j}{X} \div \frac{Y_j}{Y}$$

$$= \frac{X_j \times Y}{Y_j \times X}$$

Where Q = stands for location Quotient index, while X_j is the jth population in the Jth tehsil, while X is the total population in tehsil, similarly Y_j is the jth population in the region, while Y is the total population in the region.

Further to determine the demographic determinants of urbanization, a correlational exercise was executed with density of population, concentration of schedule castes, scheduled tribes and literacy.

The correlation formulae is -

$$r = \frac{\sum XY - \frac{\sum X \sum Y}{N}}{\sqrt{\frac{\sum X^2 - (\sum X)^2}{N}} \times \sqrt{\frac{\sum Y^2 - (\sum Y)^2}{N}}}$$

Further, for testing its significance 't' values were computed

$$t = r \sqrt{\frac{n - 2}{1 - r^2}}$$

If the 't' value of the computed data is greater than the tabulated values, then only the relationship is significant.

Now for the chapter on economic structure, weaver's crop-combination method has been utilized again for determining crop-associations in the region. Correlation exercises have also been done to determine the strength of relationship between participation rate and intensity cropping, per-capita land availability, carrying capacity of land, ratio of arable land, ~~ratio of Agricultural laborers to cultivators and crop-combination.~~

Then in the section of Urban Economy, Nelson's functional classification has been used. Infact, it is the same as the Ranking Method, explained earlier. For the concept of, Functional specialization of a town is a relative notion and is determined in relation to the percentage distribution of different activities in all other towns.

This method is not mutually exclusive, in the sense that a town may provide more than one function in outstanding proportion. And those towns which do not

figure high in any occupation are considered as diversified.

The transportational aspect has been exposed to various statistical techniques such as -

Beta index

$B = \frac{e}{V}$ where e denotes edges, and V denotes vertices.

Alpha index

$\alpha = \frac{U}{(2V-5)}$ U here is the cyclomatic number, and then there is the average edge length index = n.

$$n = \frac{M}{e}$$

M is the total network length. We also have the DC index =) $\frac{M}{d}$, here d is for the diameter, in the sense, that the total area served is divided by the No. of vertices to find out the average dimension of one vertex. Then assuming it to be circle, the diameter or axis is determined. Then the total net-work length is divided by this d.

Beta and Alpha indices give the degree of connectivity while the n index gives us the geographical comparability. TC index is the most essential tool of analysis of compactness. Higher the B index, greater the connectivity, while in the case of index variation between 0 and 1 has to be taken into account and 1 being maximum connectivity.

In both the others it, n and TC indices, higher values indicate higher level of network (closely knit net-work)

In the chapter on settlement structure, A.B. Mukerji's spacing technique for rural settlement was used.

The formulae : -

$$S = 2\sqrt{\frac{A}{N \times TC}}$$

Where s denotes spacing be, A =) area of the units, N =) number of settlements, TC = 22/7.

It is assumed here that in a hypothetical sense, the entire rural area is divided into hexagonal spatial structures, and a hexagon in its extreme form is a circle, the area of the circle = $TC n^2$, then, the area of an average village would be equal to $TC n^2$. So to find out the distance from its centre to its periphery, the radius has to

be found out, two radii makes for the distance between two average settlements. In effect, the dispersion index thus arrived at speaks for the whole unit of area, rather than of specific areas within the unit as was done under the nearest neighbour analysis.

However, the nearest neighbour analysis has also been done in this study for the Urban centres exclusively. So as to determine the nature of distribution of urban centres in the two sub-regions of Baghelkhand i.e., the northern elevated plain and in the southern Hilly area, on a continuum of 0-1 and 1-2.15 i.e., of the situations approaching cluster or approaching uniformity in the two diverse physiographic regions.

Nearest Neighbour Analysis = R

$$R = \frac{\bar{D}_o}{\bar{D}_e}$$

Where D_o , is the straight line distances observed between nearest neighbours, D_e implies, of the distance expected and is calculated as follows

$$1/2 \sqrt{\frac{A}{N}}$$

Where N=no. of settlements x A-total area of the unit.

Then we have also applied the Gravity model method, in order to determine the level/strength of spatial interaction between Urban centres.

The method followed, is a modification of the Newton's gravitational principle regarding two heavenly bodies.

$$g = \frac{M_1 \times M_2}{D}$$

Where g denotes the level of interaction, $M_1 =$ population of town 1 while $M_2 =$ population of town 2 and D is the distance between them, assuming that distance has an interaction decay function.

We have also exposed the urban structure in the region, to rank-size analysis. The formulae is

$$P_r = P_1 \times \frac{1}{r} = P_1 r^{-1}$$

When P_1 is the population of the city ranked 1 and P_r is the population of the city ranked r . For instance if the largest city's population is 6000 - the population of the next city should be -

$$P = \frac{600,000}{2} = 300,000$$

This rule has not been found to be fitting the Indian situation, and thus its utilization.

Then we come to the cartographic technique employed. By and large, we have stuck to simple cartographic technique so as to allow for confusion and thus choropleths, pie-diagrams and ~~map~~-graphs have been utilized.

SCOPE AND PLAN OF THE STUDY :

The text has been divided into six chapters. Starting off with introduction in the first chapter, we come to the physical setting in chapter II, where in we discuss geology, relief, climate soil and hydrology. Chapter III deals with historical evolution and delimitation aspects of the region. Chapter IV is on the economic structure, which throws light on the rate of participation in different sectors and on the nature of the regional economy. Chapter V is on the demographic and social structure dealing with population, density, growth, sex-ratio, caste, religion schedule caste and tribes etc. Chapter VI deals with the settlement aspect.

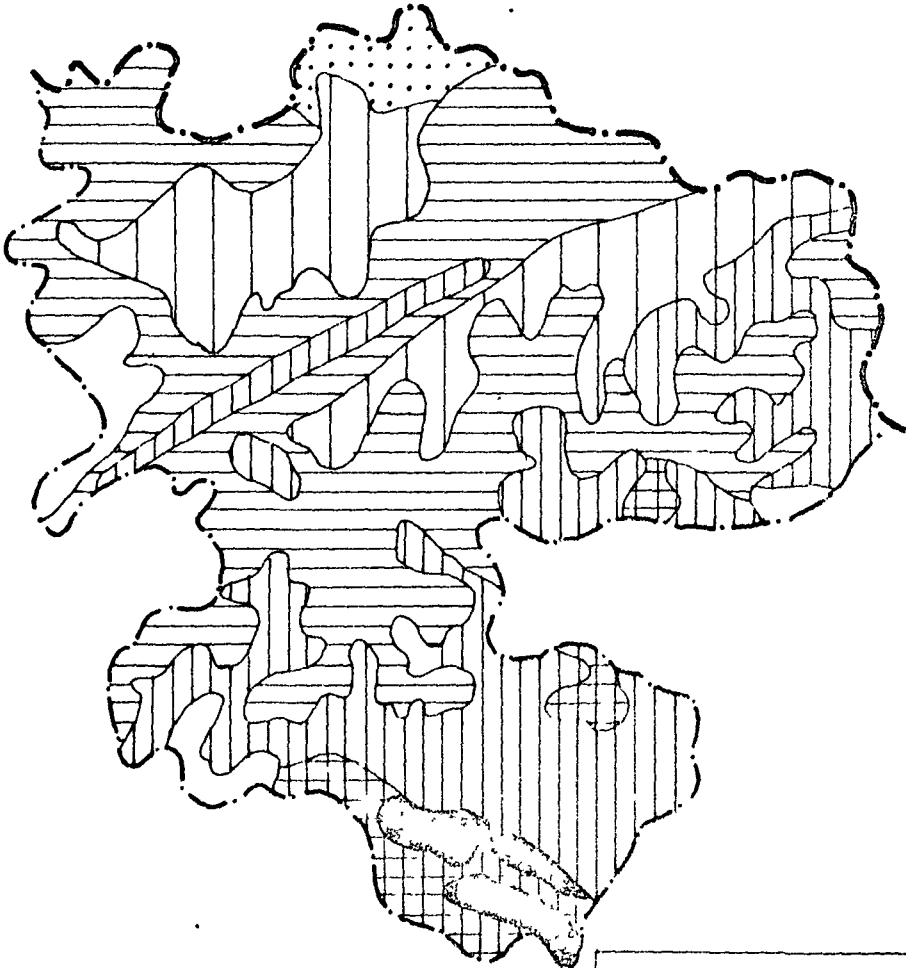
The last chapter deals with conclusions and regionalization based on the study.

In this chapter, an attempt has been made to provide for this study, the physical basis of Baghelkhand. The realm of physical base extends to cover the diverse disciplines of geology, pedology, hydrology and climatology. This existing diversity, in the nature of our study constrains our analysis at best to a brief report on each subject under the physical base or environment.







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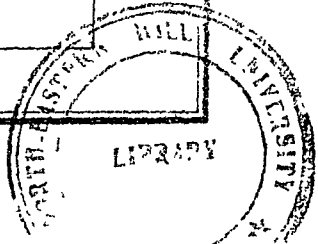
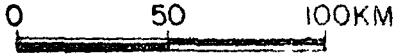
The Baghelkhand region falls naturally into two primary divisions separated by the Kaimur strike with a south west - north east direction. To the north of this strike is a wide elevated plain belonging to the great sand-stone formation called the Vindhyan system, covering almost the entire districts of Satna & Rewa. The general elevation is about 1100' reaching a peak in the Nagod area where certain hill features exist on the plateau reaching

BAGHELKHAND
RELIEF



INDEX

FEET	
	< 150
	150-300
	300-450
	450-600
	600-900
	900 & >



upto 1800' from the Amarpatan area starts almost a chain of hilly ranges that run eastwards sometimes attaining an altitude of 2000' and over along the northern bank of the Sone Valley, which runs along a structural dislocation zone. Otherwise the slope is gentle on this elevated plain with a pronounced north-easterly direct, which culminates at the Vindhganchal, from where the relief drops suddenly to 650' above sea level and is locally known as the 'tarihar' area, while the elevated area south of it is called the Uparihar Illaqa.

The southern hilly area comprises of the districts of Sidhi and Shahdol i.e. falling to the south of the Kaimur scarp. The entire region is characterized by parallel ranges running east to west and generally enclosing wide open valleys in the northern parts and plateaus in the southern. Individual peaks of these hills have been observed to rise up beyond 2000' reaching up to even 3372' like the Mahora peak and the general elevation of this area is between 1000' to 1750'.

However, the Pushprajgarh Tehsil occupies a plateau with a general elevation of about 2750' to 3000'. The Johilla river cuts a groove across this plateau. South of the Johilla is the Maikal range which averages slightly above 3000' with Amarkantak the Narmada source being 3463' high.

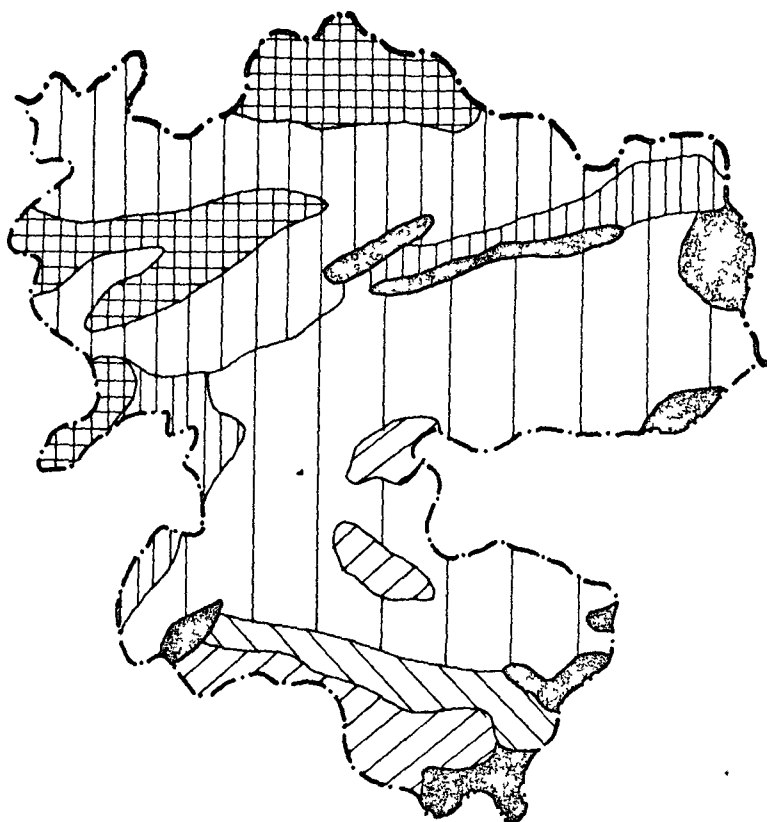
However, in the eastern portion of the southern hilly region the Waidhan area to be precise is a plain area and there the general slope is towards the north, while in the rest of this sub-region the slope is north-east.










(2) Geology :-

Geologically, the region is so varied as to completely epitomise the important formations met within the entire peninsula - The Vindhyan, Deccan traps, Gondwana, Archaens, Cretaceous etc. etc.

Vindhyan ; the general distribution of Vindhyan outcrops covers almost the entire northern elevated plain of the region. This great sandstone formation in this area rests upon a deposit of a much younger character, with no visible discordance.

**BAGHELKHAND
GEOLOGY**



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	PLEISTOCENE RECENT
	DECCAN TRAP
	CRETACEOUS
	GONDWANA
	VINDHYAN & CUDDAPAH
	DHARWAR
	GRANITES & GNEISS INCLUDING ARCHAEOAN
	STATE BOUNDARY
	REGIONAL "

The deposit underlying this formation has been termed as the Sone series belonging to the lower Vindhyan system, while the overlying succession comprises the Kaimur, Rewah and Bhanrer series of the upper Vindhyan system. About the age of the Vindhyan nothing definite is known, but one can place them as being older than the Gondwana and younger than the Dharvans. An assumption is that the lower Vindhyan is equivalent to perhaps the upper Cambrian. Thus the choice is between late Puranas and early Palaeozoic. Over almost the entire Vindhyan outcrop we find traces of slight disturbances, for instance in the Kaimur scarp the sandstone dips northwards at an angle which does not exceed 20° and is not below 5° . Northwards, the dip dies out a few miles from the cliff's edges to become horizontal. This irregularity in the dip is thought to be the result of underground solution of the Rohtas limestone, and consequent subsidence. Regarding the lower Vindhyan their outcrops are confined to the margin of the irregular Vindhyan Basin and are exposed at the base of the Kaimur scarp for 240 miles along the Sone valley, disappearing at the Sone-Narmada water-shed;

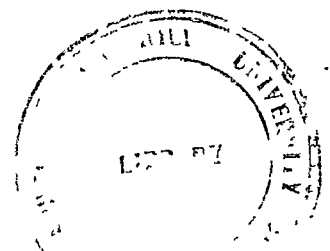
where the upper Vindhyan sweep across into contact with Purana rocks. There is no definite classification of these lower Vindhyan due probably to the Vulcanicity and Oscillatory earth movements that preceeded the general regular subsidence, which accompanied the steady accumulation of the Kaimur, Rewah & Bhandar sediments. The lower Vindhyan rocks in Baghelkhand are to be seen along the denuded northern flank of a syndinoriam in which the chief rocks involved are of Bijawan and Archaen Gneiss. The river valley itself is occupied by a narrow bank of lower Vindhyan beds, which underlie the upper Vindhyan Kaimur sandstone, forming the conspicuous scarp to the north.

Now the upper Vindhyan exposure is well marked off from the surrounding country, both by greater elevation of its plateau and the clearly cut escarpment which bounds it almost on all sides. The southern declivities overlooking the Sone are abrupt and precipitious forming that long line of escarpment to which the name Vindhya is more peculiarly applied. Over the edges of this plateau, the drainage makes its way through numerous gorges and waterfalls.

However, throughout Baghelkhand, the Upper Vindhyan are unconformably lying on either Bijawar or Gwalior schists, both of the supposed Dharwar age. Nevertheless, the upper Vindhyan outcrops are generally made up of several thick masses of sandstone with alternations of shale, the calcareous element is deficient, being represented only by a single limestone of importance.

Gondwana :

The general distribution of the Gondwana formation in the region restricts itself to the southern hilly area comprising of the Sidhi and Shahdol districts. This great sediment formation occurs in the form of a large continuous outcrop extending from Jabalpur to the Tatapani coal fields of Surguja; and from Sone river valley in the north through Sehagpur to Korba coal fields. There exists a general tendency to a northerly dip throughout the western part of the area and again in the tract of Damuda rocks in Singrauli on the north-side



of the main upper Gondwana outcrop. The northern boundary of the outcrop swinging an almost parallel course to the Sone river, and exhibiting clearly the characteristics of a fault, exhibits at the junction fragments of both Damuda sandstone and crystalline rocks. Higher rocks than the Damuda occupy the area near the upper sone. The total length from west to east of this broad continuous exposure of higher rocks, consisting for the most parts the upper Gondwana rocks, is about 200 miles. In the western parts, the lower Gondwana division rests upon Bijawans or Vindhyan rocks. On the south, is a large spread of talchirs. Cretaceous and deccan traps overlying the lametas and the gneiss. The manner in which their formations disappear beneath the traps, confirms the position that this formation continues beneath the igneous rocks and that, this region and the Satpura region as on continuous tract of Gondwana sediments.

In effect the Talchirs, Damuda, Mahadev and Jabalpur series of the Gondwana system are all represented in the region. The Talchirs occupy a

large crescent-shaped tract on the Rihand river, the length along the curve of the crescent is about 50 miles, in the Sui-grauli region. Damudas on the other hand are represented by the Barakans throughout the region and this group is economically quite important for its coal-bearing quality. In the western Sohagpur and Johilla sector, there are incidences of higher Damuda horizons which are not in accordance with the Barakans. Nevertheless on the southern side these Barakans occupy a very large area in the valley of the upper Sone in Sohagpur. From the Sone valley, the Damuda outcrop extends continuously to the east as far as the Jhilmili coalfields south of the main expanse of upper Gondwana. Mahadev and Jabalpur series occur in the region exclusively in patches - their importance lies in their usual grits and pebbles. Conglomerates with hard quartzose sandstone and they lie essentially unconformably upon the older Gondwana system.

Deccan trap :

Pushprajgarh tehsil is about the only area exhibiting this extensive lava formation, charac-

teristic of a low and partial volcanic energy, with long periods of intermission throughout this area - the usual rock is some form of basalt or dolerite. Nevertheless, there is a wide degree of variety in the textural characters presented by the beds. And throughout their range the deccan traps may be recognized by the occurrence of amygdaloidal basalts with green earth or of the porphyritic rock with crystals of glassy felspar. In addition to the simple surface flows intrusions in the form of dykes and sills are plentiful. In spite of this wide variety of textural characteristics, there exists a remarkable uniformity in both macroscopic characteristics and mineral composition. The geological age of this formation however varies from Pre-Cambrian to Recent. In texture, it varies from a very dense glassy variety with the semi-resinous lustre of tachylitic basalt, through very fine-grained forms which are the commonest to doleritic types of vary coarseness. Besides there exists definite evidence in the region that both dykes and flows have been disturbed due to block-faulting though of a small throw. This faulting may have been due to the upward-

warping of the great rigid shield of Indian peninsula, caused by the Himalayan movement, at points in time prior to or after the Deccan-trap period.

Regarding the thickness of this lava-formation, it is greatly inferior to the two main formations discussed before. Its maximum thickness in the region is 670 feet.

Pleistocene & Recent :

The post-tertiary and recent formations of the region cover a considerable extent of the area lying north of the Sone trough. Such formations are to be met within the Teonthar and Maikhar allagar along the Tons and Satna river. The thickness of these alluviums is about 100' in the Teonthar area and slightly under 40' in the other areas. However, the impression produced in the Teonthar allaga is that of a deposit banked up against a steep cliff to the south, formed probably by a fault and thins out gradually north-wards in the Maikhar section the faults affecting the region confirmed by

the straightness of the southern boundary of the alluvium in contrast to the winding and involute outline of its northern limit - the deposits are essentially of the river plain origin.

Archaen :

The most conspicuous feature of the ancient rocks of the Indian peninsula is a profound unconformity separating a highly compressed and metamorphosed assemblage from an over-lying set of beds which generally speaking are not appreciably folded and have undergone comparatively little mineral change. The term archaen is applied to all rocks which lie stratigraphically below this great archaen discordance, the beds which normally succeed, being described as 'Purana'. Exposures of the oldest rocks forming the Archaen complex covers a vast area in the peninsula. But in the region, they occur in patches along the Sone through Rihand valley and around the Deccan trap exposures. Of the Archaen complex only the gneissose and schistose is to be met with throughout the entire region.

Podology:

Soil studies made so far in region, help us in identifying seven broad soil groups, according to the 'Traditional Classification'. Under this scheme of soil study, the pedological principles are based on geological formations or as one might say - the parent rock material.

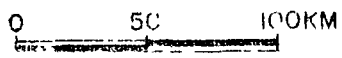
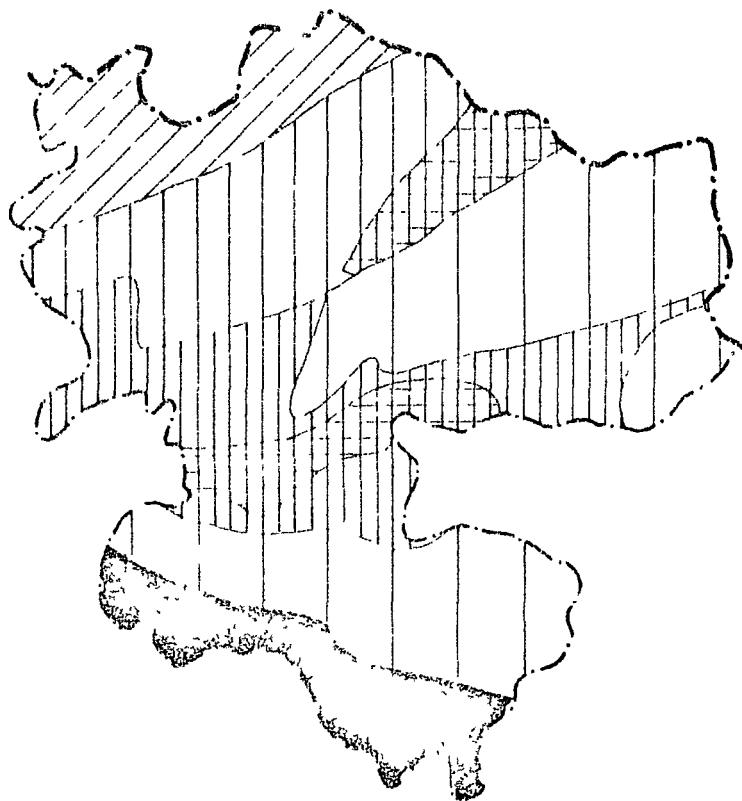
So according to this classification there are seven soil groups in the region:-

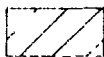



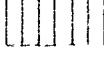
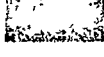
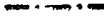
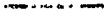
(1) Black Cotton Soil:- Derived from rocks belonging to either the Gondwana or the Vindhyan systems. General characteristic of this soil are therefore more or less similar to the ones of this category found over Deccan trap (1), except that it is generally poor both in total and exchangeable calcium, and due to this and generally higher moisture conditions in the region, it is not suited for cotton cultivation. The main area of distribution of this soil is in the Southern parts of the Shahdol district.

(11) Red and Brown Sandy Soils on Sand stones and Shales:-

Vast areas of such soil formation is to be met with on the Gondwana and the Vindhyan geological formation. This soil group is generally deficient in

**BAGHILKHAND
SOILS**



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	Forest soil Red and Brown
	Mixed Red, Black and Yellow Soil
	Calcareous soil on Limestone
	Mixed Black, Red, Yellow soil on Archaean and Dharwars
	Red Brown sandy soil on sandstone and shales
	Black cotton soil
	State Boundary
	Regional "

phosphoric acid which usually ranges from 0.2 to 0.7% while the PH value lies between 5.4 and 8.4%. The humus content is variable but in most cases it accumulates over and affects till the first six inches. However, this soil group is the main rice-growing soil and with a little bit of irrigation, sugarcane cultivation is possible. There are large tracts in the districts of Rewa, Satna and Sidhi.

(111) Lateritic Soil :-

This group is not confined to any locality, but appears in their covering almost everywhere. It is a thin gravelly reddish loam, usually with a profile not exceeding six inches. The redness of soil is due to the oxides of iron and aluminium consists of free quartz, acid, lime and magnesia. Latenites are denuded of humus and exchangeable bases and left with only acidic reaction. Their fertility is low because of this and they are generally not moisture retentive.

(IV) Mixed Black Red and Yellow Soils on Archeans and Dhar Variants:-

This group covers various type of rocks under the Archean system and is mainly a function of granites and greisses in the region. The red colour of the soils is due to the iron content derived originally from ferromagnesium silicates. Thus due to varying iron content

and also due to imperfect hydration there exists a wide variety of colour in this soil group. Except for Potash content, this group is deficient in humus, lime, magnesia, alkalis nitrogen and phosphorus . Their soluble base exchange capacity is extremely low. The soil are usually silicious, argillaceous and aluminous with much free quartz in the form of sand which results in their inadequate clay fractions. Shahdol and Sidhi districts are the areas of this groups occurrence.

(V) Forest Soils:-

Generally forest soils are formed under two conditions, firstly acid conditions and secondly less acid conditions - which results in the formation of brown earth that later on undergoes laterization, and it is a typical soil formation met with in the Teak forests of the region specifically in Sidhi, Shahdol and Satna regions. Agriculturally it is a destructive soil group, for when it is washed down from the high slopes it renders the region of its accumulation with low in fertility.

(VI) Mixed Black Red and Yellow Soils, Redeposited in Valleys:-

Such deposition are found in the sone and tones valley chiefly. Deficiency in potash and high level of

fertility is their usual characteristics. The old alluvium is usually red in colour and deficient in lime, phosphoric acid and humus. Its occurrences are fairly heavy in the southern areas of Rewa and Satna while in Sidhi, its in the northern tract. Areas of new alluvium as such do not exist in the region.

Calcerous Soil or Lime stone:

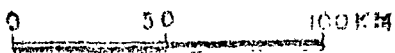
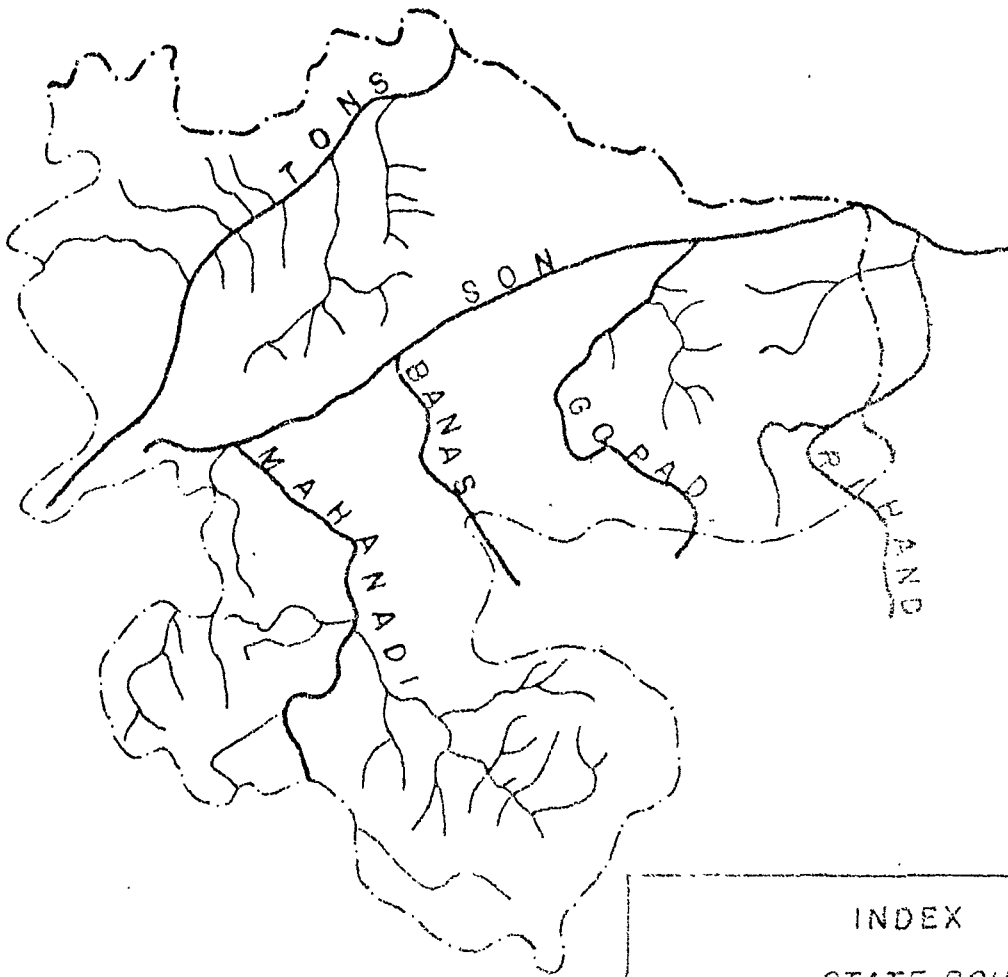
Calcerous soil of lacustrine origin is well developed on lime stone rock in the southern part of Rewa and South - eastern part of Satna district. The soil is rich in carbonate of lime but deficient in phosphoric acid and humus. Its not very fertile and usually is the millet region in the area.

Drainage Pattern:

The region is drained by mainly the twin systems of Tons and Sone river system. Encrochions by the Ken and Narmada river systems too have been observed in the Baraundha and Pushprajgarh areas respectively.

The tons system dominates the northern elevated plain and flows for a total length of about 1095 km in the region, with an annual discharge average of 1800 cusecs.

BAGHELKHAND DRAINAGE



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-----	STATE BOUNDARY
-----	REGIONAL "
~~~~~	RIVERS

The course of this river as well as all its affluents tributaries is ravinous and characterized by waterfalls, especially when it leaves the elevated plain (Upanihar) for the alluvium plains of Teenthat (Tarihar).

The Drainage pattern is dendritic in character, exhibiting thus strong lithological control and supporting the fact, of the slope being gentle. The drainage density keeping the regional perspective is of medium category (0.94 km. per sq.kms).

The sone system similarly dominates the southern hilly area covering the districts of Sidhi and Shahdol, and with a total stream length of 2170 km. flows out of this region to joins the Ganges at Patna. Its annual discharge average is 985000 cusecs.

The course of this river, after leaving the Anarkantak plateau, where it makes a fall, is through valley and hills following for the most part a channel, till it reaches the structural dislocation zone between the Gondwana formation and the Vindhyan formation, commonly referred to also as the sone-Narmada trough.

However, as the river flows over diverse geological formations, so no one pattern of drainage emanates, so a whole plethora of drainage patterns is observed. For instance in the Gopad basin, annular drainage is observed, thus the predominant impress upon this region is of relief and geology. While higher up in the Banas basin region, radial pattern is distinguished, thus in this sub-area relief is the dominating influence. The drainage density in this areas is in the lowest category - (0.88 Km. per Sq.Km.).

While the Sone system in the upper reaches exhibits a totally different drainage pattern, trellis in the eastern Sahagpur tehsil, and radial in the Bandhogarh region. Structurally, as exhibited by the drainage pattern, the Bandhogarh region is not much different from the Banas basin. Nevertheless, a distinct trellis pattern is observed displaying an area of faults and fractures, for such drainage develops in only those areas where rock structure plays an important part. As regards the drainage density in Sone upper basin, it conforms to the medium category (0.92 Km. per Sq.Km.).

Now, for the purpose of drainage density analysis we have, after computing the density for each drainage basin clubbed them under three categories namely high, medium and low* seen in the universal perspective, the region is very poorly drained, for even the low drainage density areas have 5 to 7 Kms. of channel per Sq.Km. However, the spatial pattern emerging is far from uniform. Certain basins such as the Rihard basin, Ken basin and Sone lower basin are at the lowest spectrum, while in contrast to it is the Narmada basin. Around the median density the basins are of Sone upper, Tons and Mahanade.

Drainage as is believed to be, is a structural and pedological response to climate expressions. The region is known for its great sandstone formation - the Vindhyan system and the great sediment formation the Gondwanas which are heavily forested are the primary reasons for this low drainage density, coupled with a coarse soil structure.

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* Strahler A.N. - Physical Geography, P.491

$$\text{Drainage Density} = \frac{\text{Total length of stream}}{\text{Area of the Basin}} \quad D = \frac{ELK}{AK}$$

DRAINAGE DENSITY TABLE

Sone Lower Basin	-	0.88
Sone Upper Basin	-	0.92
Tons Basin	-	0.94
Rihand Basin	-	0.71
Kon Basin	-	0.86
Narmada Basin	-	1.17
Mahanadi Basin	-	0.98

Thus, Baghelkhand is a region with a hard resistant rock structure such as granite, gneiss and sandstone, which makes stream erosion extremely difficult and so only the larger channels are able to maintain themselves. And as a result of this, the first order-basins in the region it will be observed are large.

Besides, this is an area where a higher level of permeability exists, so not much of run-off surplus is available.

Another factor is that the southern hilly area is a forested tract which again restricts channel formation.

Thus the low level of drainage density.

Climate

Baghelkhand experiences an essentially transitional climate being situated between the eastern maritime climate and the western continental climate both of the tropical category. Hence the region is characterized by a hot dry summer and a cold dry winter punctuated by lengthy wet monsoon spell. Three seasons can thus be identified - winter from October till February, summer from March to mid-June and monsoon from mid-June till September.

Climatically, the region has two prominent mero regions; Rewa and Satna districts fall into one, while the districts of Shahdol and Sidhi fall into another; as a glance at the table given below would suffice to clear :-

	Rainfall	Max. Temp.	Mean Temp
Baghelkhand	1174.0 mm.	37.3°C	11.8°C
Rewa	1167.7 "	40.0°C	7.8°C
Satna	1157.1 "	47.4°C	3.2°C
Shahdol	1314.7 "	31.4°C	18.0°C
Sidhi	1076.4 "	32.3°C	18.3°C

That in the northern elevated plains, the difference in temperatures of both winters as well as summers is greater than the southern hilly area. In other words, the range is greater, thus the extreme character of climate is more in evidence in this region than in the southern hilly area. And here, January is the coldest month in the year with both mean maximum and mean minimum temperatures having the least average values. However, by February the temperature rises up to declare summer in the month of March and by May-June, the mean maximum and mean minimum temperatures attain their average peak values. However, June days on an average are warmer than May days but the reverse is the case with nights, which are relatively cooler in June than in May. After June, mean-minimum temperature starts falling; while the mean maximum temperature falls suddenly due to the onset of rains and continues to fall till September. The mean maximum temperature goes beyond to continue dropping till October, for in this period the transition from rainy season to cold season gives rise to oppressive heat during day time and cooler nights, thus the disparate rates of fall.

Nevertheless, after October the mercury resumes its downward trend creating December and January as the coldest months. The lowest temperature has often been observed in this part of the region during the last ten days of January. Similarly, highest temperature has often been reached in June second week.

Now in the southern hilly areas, January and December are the coldest months, the former being cooler by day while the latter having cooler nights. From February onwards, the temperature begins its upward trend culminating in May when the highest mercury levels are attained. The rise is equal in both the maximum and minimum means. But then the mean minimum temperature keeps rising till June; thus the nights of June are generally warmer than May nights. The downward trend begins by June end to continue till August due to the onset of monsoon, whereafter it registers again a small increase in September - October mean maximum temperature while the mean-minimum temperature continues to decrease till December to remain relatively stable so that is why days are warmer in December than in January; nights are warmer in January than December. However, the lowest temperature

is generally reached in January.

\ Rainfall :-

The rainy season sets in from the third week of June to culminate by the 1st week of September. The down-pour as well as the number of rainy days are maximum in the months of July and early August.

However, it is the Arabian sea branch of monsoon that contributes to the only form of precipitation in the region, and the general gradient is from south-west to north-east i.e. from a peak in Shahdol and Satna (1314 mm & 1167 mm respectively) to a depression in Rewa and Sidhi (1137 mm & 1076 mm) respectively. In fact, precipitation in this region is greatly controlled by relief and altitude.

However, the difference between the two relief units- the northern elevated plain and the southern hilly area is that the peak monsoon area hits the northern elevated plain around July-mid while in the southern hilly area it takes effect only in the beginning of August.

### Natural Resources

An evaluation of the biotic and a-biotic resources becomes essential, especially in a chapter such as this, which is to form the basis of social and economic analysis of the region. We shall however, exclude human resources, for it has been dealt with at length in the chapter on Social Structure. So, at best, our discussion here gets restricted to the vegetation and minerals.

The vegetation of Baghelkhand is of unusual variety, from grass to deciduous types i.e. from moonj to teak, sal, haldu etc. Nevertheless, six broad categories of forests have been specified in this region for revenue purposes namely :

- 1) Dry Deciduous teak forest
- 2) Kardhan forests
- 3) Bamboo forests
- 4) Salai forests
- 5) Sal forests
- 6) Mixed forests

The teak forests are usually found in Rewa, Satna and Sidhi - occurring along the hill slopes, the

specie however is not of a very good quality and it is usually stunted in growth due to the adverse temperature and water regimes. Nevertheless, it is of a very high value. The sal forests are usually a phenomena of rugged hilly terrain that essentially characterized Sidhi and Shahdol region. Tendu, Haldu and Bamboo forests dominate the shelter valleys and are more of the cultured variety now. However, about 50% of the forested areas in the region are in the reserved category and therefore it constitutes an important source of revenue for the region.

Mineral exploitation in the region is restricted to non-metallic ores like coal, limestone, building stones etc, though new pockets of zinc and copper though not of a very high quality have been discovered. Coal is by far the most important mineral produce of the region and is chiefly mined in the Tehsils of Singrauli, Sohagpur and Bandhogarh. The coal is not of a very high quality, though its utilization after being processed by washeries in the thermal plant at Obra ensures its appropriateness for being termed as not inferior. However, the Sidhi - Shahdol axis along accounted for

over 20% of the State's production in 1974.

Limestone is another important mineral found in abundance in the entire northern elevated plain area, and is of an exceptionally high quality, vouched also for by the establishment of a cement factory at Satna.

Building stones are also an important quarry industry in the region, and almost all formations met within the region, (Lower Gondwana, Vindhya, Deccan Traps etc.) provide ample scope for its further development.

Other non-metallic ores of minor, but recently becoming important are bauxite, clay, fire-clay and felspar.

Barytes and Kaolin are other extractable minerals to be found in the sandstone formation of the northern elevated plain, while iron-ore, copper and galena have been found to exist in sizeable quantities in the Sidhi area of the region, specifically in the Deosar and Singrauli tehsils.

Thus, minerally, the region is quite rich, but as yet, it has remained unexploited and therein lies the key to its development.

## HISTORICAL EVOLUTION AND DELIMITATION: CHAPTER - III

The spatial and temporal factors that have accumulated over time to account for the distinct personality of the region have been analysed here. For convenience the temporal spectrum has been divided into Ancient, Medieval, Modern and contemporary periods.

### ANCIENT PERIOD:

In the ancient period, it is really hard for one to distinctly delimit the region, not only because of a lack in the written records but also in the difficulty of accurate dating of archaeological finding. However it would not be out of place to mention here of the rock-shelters at 'itar-pahar' in Rewa district dating back to 6000 B.C. and of the cave painting on the Sone banks in Sidhi District, of the 5th century A.D.⁽¹⁾ The region

# EVOLUTION OF THE REGION

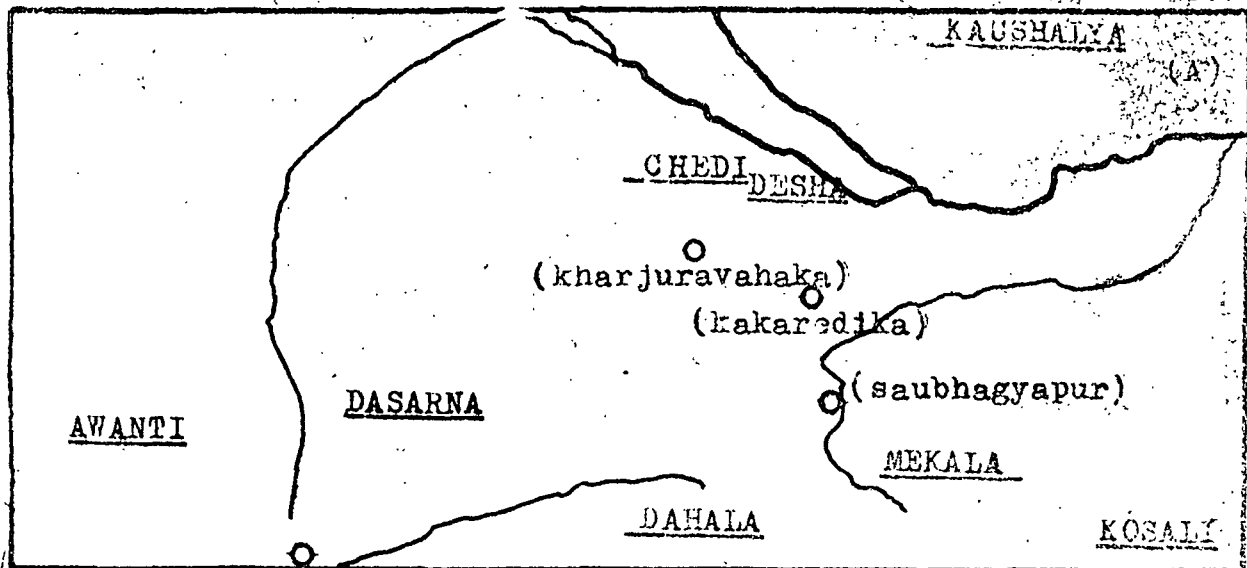


Fig. 3.5

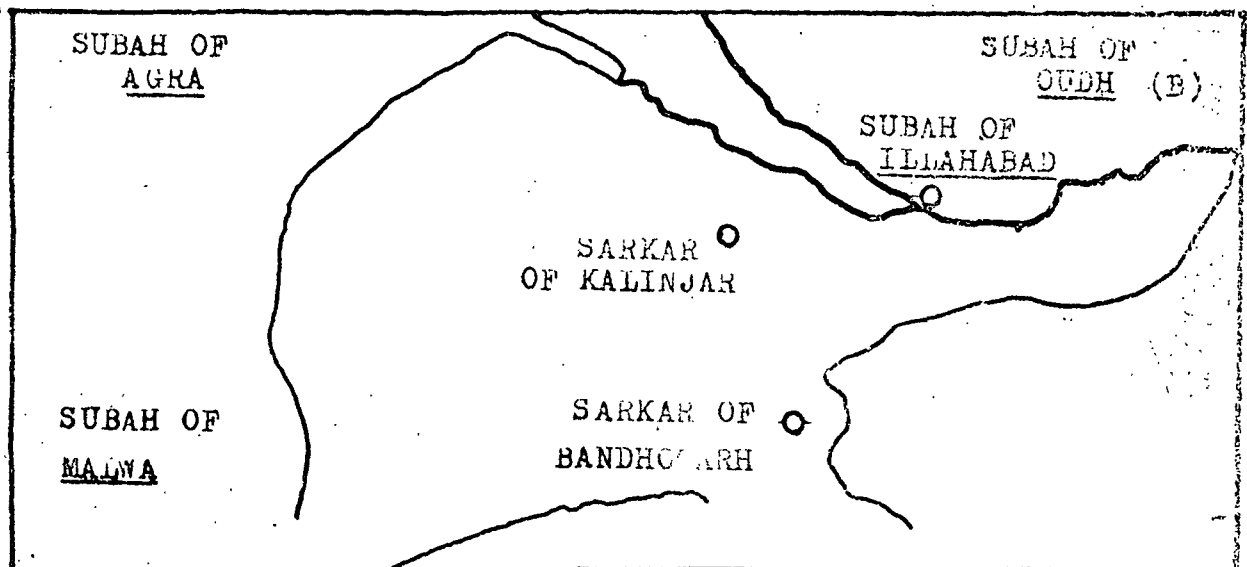


Fig. 3.6

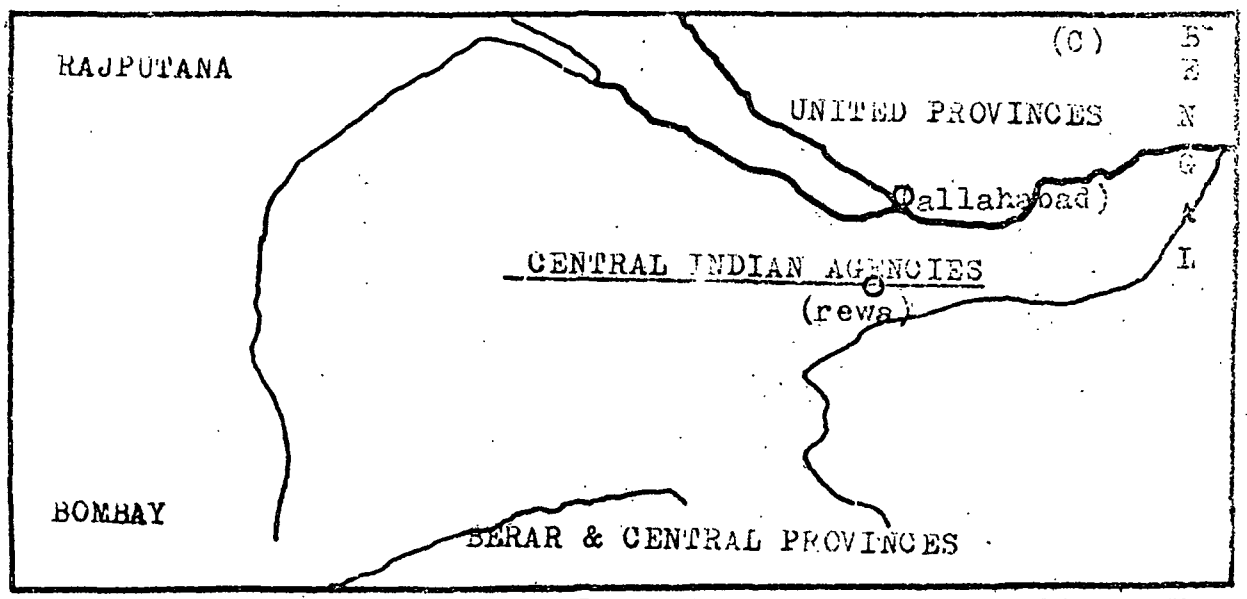


Fig. 3.7

A=Ancient ; based on Mahajanapads. B=Medieval; based on Aino- Akbari  
 C=Modern; based on British records.

is however loaded with similar antiquities - thus certifying the general impression, that this area was humming with life even before the Rig Vedic aryan came on the scene. Further, the level of cultural attainments of these people were in no way inferior to contemporary regions - as vouched for, by the archaeological findings in places adjacent to this area, like Sagar, Amarkantak, Jabalpur and even Saubhagjapur which is modern Sohagpur. (2)

Their mention however is neither to be found in Ptolemy's geography nor in Panini, probably due to the limited extent of the aryan perceptual world - which extended from Sindh in the west to Bengal in the east and from Himalayas in the north to the Vindhya in the south. Nevertheless according to the Pali Text - 'Suttanipat', there were a great many brahman anchorites to the south of the Vindhya. (3)

During the Mahabharata, this region was occupied by a king named Kaira, after whom the Kaimur range has been named and consequently the area was called 'Karusha Desha'. The area between rivers Sone and Tons seems to be the

extent of the region, as the southern parts were too heavily forested and thus impossible for human habitation, notwithstanding the case of ascetics and the like.

Another Pali text - 'Anguttar nikaya', introduces to the students of historical geography a list of - "Solahsa Mahajanapads", along with a list of 18 forest kingdoms.

The present Rewa Division falls under partly the Chedi Desha ⁽⁴⁾ and partly under the forest kingdom of the Dahala.⁽⁵⁾

These janapads were supposed to be socially and culturally homogenous areas, and were equivalent to the present day provinces in terms of language etc.. The Chedis it seems, according to the above-mentioned source had connections with the Kashis of Varanasi, Matsyas of Trans-Chambal and were distinguished from the Dhasanas and the Dahalas of the forest domains.

Further up on the temporal scale, during the Magadhan ascendancy the region was annexed by the Sunga dynasty with their capital at Vidisha, who were later thrown by the Kanvas and the Satvahanas. By 249 A.D. the Mahaya Vansh ⁽⁶⁾ of the Chattisgarh region established themselves at Kalinjar and subsequently annexed the territories that now comprise Baghelkhand. But owing to

the diverse physiography the centralized authority could not contain the usually fissifarious tendencies of the fondatory chiefs and thus the Haihaya Vansh gave way to Panerijah and Uchchkalpa dynasties. The imperial guptas by this time has established their paramountacy⁽⁷⁾ in the region. In fact there is heavy speculation about the route of Samudra Gupta's south Indian expedition, as supposing to have passed through the present Rewa Nagpur axis. A mention of the haihaya chiefs has also been made by Samudra Gupta while detailing his conquests. In the 6th century Karchuli - a haihaya sub-clan rose in importance and by the 7th century had entrenched themselves in power. During the same period, the chandels in Bundelkhand, Rathauas in Kannauj, Chalukyas in Gujrat and South-India were the powerful clans among whom there existed the full paraphernalia of international code of conduct.⁽⁸⁾ In the 10th century the Karchuli dynasty came to an end following their defeat at the hands of Chandels, but nevertheless, till the 12th century they continued to remain in power. The muslim invasion in north India caused a large - scale dislocation in the political mosaic and which in turn affected large-scale mobilization of troops and men causing thereby a state of extreme political instability in the northern part of the country and due to which minor

principalities mushroomed up. However the Baghelkhand region, came under various peoples - the chief of which were Baghels, ⁽⁹⁾ Bhar, Chauhan, Sengar, and Gonds. And this instability lasted till about the 13th century, after which Baghels climbed up in the power structure with the help of marriage alliances ⁽¹⁰⁾ between them and the Karchulis.

Thus there were three important changes i.e., from chedis to chandels and then to Baghels. Under the chedi administration, at the highest level we had the Desha unit, followed by Pradesha, Mandala, Ahara, Bhoga and then Grama. It may be mentioned here that Desha was often used in the sense of a kingdom or a country and roughly corresponded to the present day provinces. The regional extent under the chedis was from Maikal in the south to the river Ganges and Yamuna in the north. From the Malvan plateau in the west to the Dudhi basin in the east. Thus the Chedi Desha roughly covered the entire erstwhile Vindhya Pradesh covered by both Bundelkhand and Baghelkhand. And it is only later developments that resulted in the break-up of this unity into two distinct regional personalities.

Agriculture was the economic pivot of the region, apart from mining and other extractive industries, but

inspite of all this the economy was highly subsistence oriented, for during this entire period, this area was at best an adjunct to the present Bundelkhand as the main urban centres existed in that part, of course with the exception of Saubhagypur, sometimes also said as the present Sohagpur. And besides, the nature and character of agriculture to day not only corroborates but also supports, as to the nature of agriculture then. However, inspite of its negative agricultural position, there existed a definite full faction operating from the region, for it provided a sanctuary to the vanquished people - thus explaining the immigration of people into this agriculturally negative area.

Under the chandels and Kanchulis the regional structure remained much the same,⁽¹¹⁾ but as no written records exist, therefore only monuments etc have to be relied upon, and they speak volumes, of a society based on feudalistic mode of production within the caste structure.⁽¹²⁾ And feudalism by any shade, indian or european is essentially a surplus acquisitive organism, and thus if one does say that in this area there existed a feudalistic mode of production, then one has to make allowance for surplus production etc.. However, given the nature and condition

of the area under discussion it is hard to imagine of the area, being ever of commercial importance, as even in those days the connectivity was nothing to speak of, as compared to Bundelkhand, the adjacent region. However, this political structure stood in the way of, the development of a distinct regional personality. For while the self-sufficiency of each feudal unit was exacted, no inter-feudal unit relationship could develop except with Kalinjar on account of political rivalry. This situation however underwent a change when the capital shifted from Kalinjar to Bandhogarh under the Baghels.

Nevertheless, as mentioned before, that the chief full factor operating in the region was its cul-de-sac nature, forested valleys - which afforded a sanctuary of the vanquished and the hunted. Resulting consequently in social instability and further characterized by roving bands of dacoits and robbers.

The settlement expression as a result of this took the shape of clusterings around feudal centres, as these feudal centres were the sources of protection. The density of population was not very high, for neither the

economy nor the society could afford expansion on account of meagre resources of existence. No definite figures are available, but one can easily generalise based on the situation which has remained permanent till to-day that the southern parts of the Baghelkhand region due to extensive forests was uninhabitable, while the northern plateau was under occupation - as mentioned by Samudra Gupta in his conquest^{adit.} at Allahabad. (13)

#### Medieval Era:

The advent of the Mohammedans broke up the Karchuli power structure and the region fell to Baghels, Sengars, Chauhans and Gondis. However there is no proof that Baghels entered the scene before the 13th century, and it is quite probable that only after the destruction of their kingdom in Gujarat by Ulugh Khan in 1296, the younger brother of the Solanki king Vyaghra Deo established himself at Fort Marpha, about 18 km north-east of Kalirjar. And with the marriage of his son Karan Deo to the Karchuli princess the baghel power crystallised into what we know as Baghelkhand to-day, with its capital at Bandhogarh.

The spatial extent at the zenith of the Baghel power extended from the Maikal range in the south to gangetic plain in the north and from Ajaigarh plains in the west to the Dudhi plains in the east. Nevertheless till the 15th century the Baghels were engaged in extending and consolidating their territories and possessions, with the result they came to get political attention from Delhi only in 1494 when sikandar lodhi advanced against Panna ( by then a Baghel Kingdom) almost reaching uptill Bandhogarh. In 1498 again, the Baghels were exposed to the wrath of sikandar lodhi, though again the Bandhogarh fort remained intact. However, in 1597 due to internal intrigues Akbar's forces had to subdue this indomitable baghel fortress, to be restored back in 1658 when Maharaja Ajit Singh made his submission to the Mughal court. In the mean-time the territory of Bandhogarh was attached as the Sarkar of Bhatkhora to the subah of Allahabad. It had 39 mahals⁽¹⁴⁾. The agricultural situation was still much the same, in that it was essentially subsistence oriented, with a density of population far lower than either Bundelkhand, Gadha or Ranthambhor. Even the Surguja area was much better off agriculturally, while the Subah of Allahabad (minus of course the Sarkar of Bhatkhora) was obviously better off

population density, agriculturally, social stability wise⁽¹⁵⁾. The pattern of habitation as a consequent of this remained the same, however as the Baghels singularly famous for not having kept any records, therefore one cannot say much about the society except, that in this part of the country there was a curious mix of culture and economy between the Rajput system and the existent tribal system. The case of Rajvanshi Gonds is a classic case in point, to elaborate the point made above. And it is in this era only, that the so-called tribals of the region were exposed to the culture of the plains. Thus it became a Rajput Tribal cultural complex.⁽¹⁶⁾

However, after the decline of the Mughal empire, i.e., around the 18th century, in 1796 the region was attacked by Marathas and the territory of Bandhogarh and its surroundings were sized and in 1812 the region acknowledged the paramountcy of the British, under Raja Jai Singh, and due to this and due to the support rendered by the Rewa throne in quelling in 1857 war of independence, the areas of Bandhogarh (Sohagpur and Amarkantak) were given back, while the Gahora area was never restored back. From then on, nevertheless, Baghel Kings continued to rule the Rewa Territory as a treaty state till August 1947.

Modern Period:

The modern period commences, for the purpose of this study from 1857-58 onwards, as this stretch of 90 odd years, has attributed to this region, a politically peaceful era in which intra-regional linkages grew up and have come to stay till today, otherwise how come one justify the breaking down of the Rewa Division of 1961⁽¹⁷⁾ to Rewa and Sagar Divisions of 1975, when the Bundelkhand territories were put under Sagar Division, while the Baghelkhand territories were left under Rewa. So it is in this period when the region crystallized into our present Baghelkhand.

There were a total of 104 castes between four primary religions, namely hindus, muslim Animists and jains. With hinduism as the primary religion followed by Animism, Islamism and then Jainism. Further, Islamism and Jainism were essentially urban religions. The total population in 1881 stood at 13,50,124 in 1891 - 16,05,624 and in 1901 - 15,55,024.⁽¹⁸⁾ And at that time (1901) the distribution of population according religion was -

Hindus	-	77%
Animists	-	20%
Muslims	-	2.5%
Jains	-	0.2%

The density of population was 102 persons per Sq.Mile - though vast local differences existed in the sense that in the northern elevated plain, the density was 176 p.p. Sq.Mile while in the southern hilly tract only 72 persons per Sq.Mile existed. In 1901, there were a total of 5965 villages, with eight towns - Rewa, Satna, Unania, Nagod, Maihar, Sohawal and Kothi, with a total population of 15,55,024. The total revenue yielded was Rs.33,17,500 and the total extent of the area in 1901 was 14,706 Sq.Miles.

The chief castes were Brahmins, Kunnis, Chamars, Telis and Rajputs. The Telis, it is said in eastern times were the principal land-holders and in fact, till the 15th century were even the rulers in the northern parts of the region. Kols and Gonds are the principal tribal groups.

Further, as per the 1901 census, 94% of the population speak Bagheli, and 64% of the population is directly supported by agriculture, while another 8% was in the general labour force category. 21.6% of the total area was under cultivation, the principle crops being Rice, Maize and Kodon in the autumn, wheat-gram

and Barley in the spring and the only commercial crop being til and linseed. Grain, forest products and mineral constituted the main export items of this State. Connectivity however, was a negative factor, primarily because of terrain and the State's political category, of a treaty state under the British and the only route worth the name was Allahabad - Nagpur road system which ran through Rewa and Maihar, (19)

The general social and economic situation prevailing in Baghelkhand region during the modern period was one of peace and stability, though 72% of the total land holdings constituted the alienated land category. (20) However, it is this political stability that gave impetus to the organic growth of intra-regional linkages, which metamorphosed the region lying between Maikal and Gangetic plain, and between Ken river and the Dudhi plain of Rihand etc. into one distinct regional personality known today as Baghelkhand.

#### Contemporary period

This period commences from 1947 onwards, and

in fact is the tale of independent Baghelkhand, when the State of Rewa was broken up into four districts, Rewa and Satna north of river Sone which Sidhi and Shahdol to the south of river Sone. To the district of Satna was attached eleven sanad States - namely, Maihar, Nagod, Jaso, Baraundha, Sohawal, Kothi and five Chaube Jagir. And then these four districts were divided into 15 tehsils, four each with Rewa, Satna and Shahdol while Sidhi has merely 3 tehsils. The total area in terms of Sq.Km. is 38,370.0 Sq.Kms. with a total population of 3,698,050 and an urban population of 2,95,051 at present i.e. according to the 1971 census.

The region in 1975 has been accorded with a Divisional Status, which hitherto was being shared with Bundelkhand districts of Madhya Pradesh with the divisional headquarters at Rewa. In an all India spectrum, the region is one of the most backward areas of the country, the items exported out still continues to be heavily agro-forest and mineral based. However, with the establishment of a cables and a cement factory at Satna, the economic eclipse is

undergoing an imperceptible change. Then with the opening up of the Bansagar multipurpose⁽²¹⁾ project on the Sone river immense investment potentialities have been exposed, apart from of-course the coal mines at Singrauli and Morba, and a thermal power station at Obra. The region thus, though dormant for about 30 years of independence is now poised for a sustain economic growth.

#### Summary

Thus, the historial evolution of Baghelkhand exposes to the students of historical geography, the slow and steady crystallization of this region into one unique regional personality, and which grew really active in the colonial era, for this time span had an isolating effect upon the region as all the other surrounding states and provinces were directly or indirectly controlled by the British, while here the region was left under the category of a Treaty State. Thus, during this period of relative isolation the region metamorphosed into what we have termed as Baghelkhand.

### Delimitation

Now with the historical background before us, further buttressed by the physical setting, the delimitation of the region Baghelkhand should pose no problem. For since the 13th century, the evolution of the politico-cultural mosaic in this part of the country has been such⁽²²⁾ that Baghelkhand as a distinct socio-political entity stands out distinctly different not only in terms of physiography and history but also culturally.

Physiographically, it has already been ascertained that the Region Baghelkhand is distinct from the northern plains, the eastern and southern Chattisgarh region and the western Bundelkhand region. The Baghelkhand region is a combination of two separate physiographic tracts - the northern elevated plain also referred to as Uparihar capped by Tarihar i.e. referring to the Teonthar Tehsil lying beyond the Binjh Pahar and the other southern hilly tract which stands out distinctly different from the northern plateau and yet is different from the eastern Dudhi plain, the southern Chhattisgarh tract etc.

Historically, the isolation of this region caused by the British rule in the colonial era coupled with a unified political command stretching over from the 13th century till 1947 resulted in the growth of intra-regional cohesive elements which have been aptly expressed in the cultural indicators. Culturally, the distinction lies in the dialect spoken, caste structure and the tribal complex.

According to the 1901 census, over 94% of the people returned themselves as Bagheli speakers, while in the western tracts i.e. the area bordering Bundelkhand, the dialect spoken is distinctly mixture of Bundeli and Bagheli, while east of Pushpajgarh, the Chattisgarhi dialect predominates northwards of Reva and Sidhi area the dialect is Brajbhasha. The speaker-gradient is sharpest in the north and highest in the west as the area of Panna is an intermediary zone between Bindeli and Bagheli regions.

Caste concentrations form another indicator as the dominant caste in the region is Brahmin, followed by Chamars in the northern elevated plain

and by tribal groups in the southern hilly tract. In the Chattisgarh area it is the tribal groups that form the dominant group. While in the northern plain it is the Chamars that are the dominant caste⁽²³⁾. Thus this region is a caste-wise transition zone between the northern plain and the southern Chattisgarh tracts, between the Bundelkhand tract in the west (where Chamars are a dominant group) and the Dudhi plains.

Tribal concentration is really very high in the southern hilly tract and shows a generally increasing gradient towards the south east to reach the Surguja and Mandla area where they are numerically superior.

Economic distinction too can be a possible category, for this region though at the door-step of development now, has remained at the stage of under-developed-ness in comparison with the surrounding areas since times immemorial. Primarily due to its remote location, in terms of the perennial nuclear regions of the country, its inhospitable terrain, and a paucity of economic resources, minerals or agriculture. The low-level of connectivity too would effectively

demarcate off this region from the surrounding regions whether it be the eastern plains and the Chattisgarh region or it be the northern plains or for that matter the Bundelkhand - Jabalpur and Mandla regions.

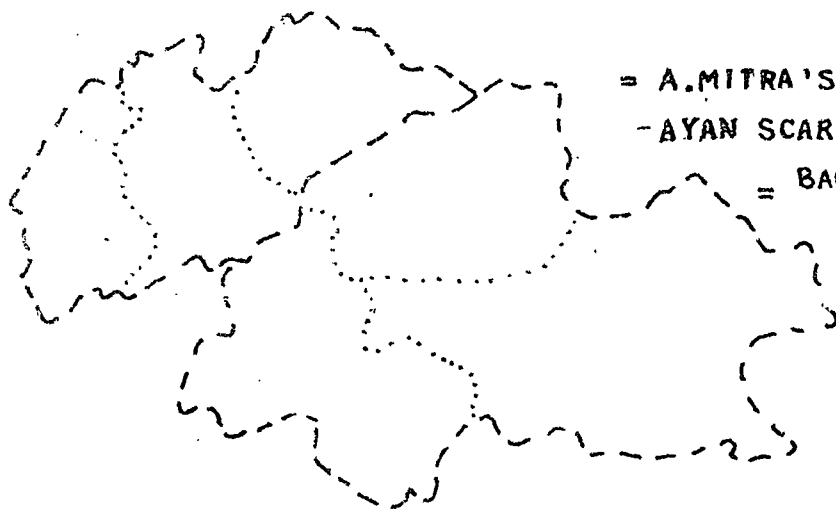
### Contemporary Views

Various attempts have been made in recent times to identify the region of Baghelkhand, the chief of which are P. Sengupta and Sadasyuk - on the basis of natural resources⁽²⁴⁾, O.H.K. Spate - on the basis of geographical regions⁽²⁵⁾, R.L.Singh - on the basis of geo-social complexes⁽²⁶⁾ and Ashok Mitra³ - on the basis of natural region⁽²⁷⁾. But with each different criterion, a different set of regional structures emerge - resulting in a wide variety of regional grouping. This is so because each criterion demands a separate set of weightages. Nevertheless, consensus seems to prevail regarding the northern boundary of the region, because of Geomorphological reasons. Another point of consensus is that the two sub-regions of the present study, the northern elevated plain and the southern hilly

# CONTEMPORARY VIEWS ON THE BOUNDARY OF BAGHELKHAND

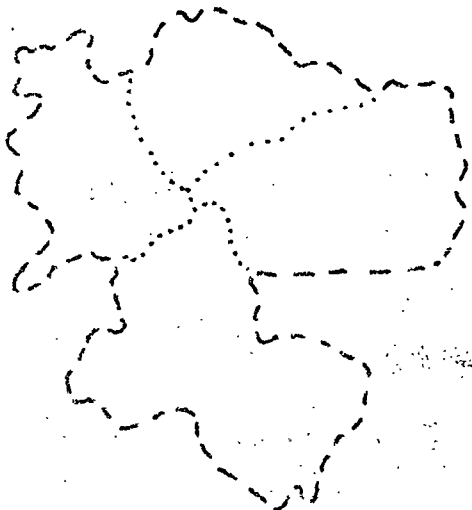


= SPATE'S REWA  
PLATEAU



= A. MITRA'S VINDH-  
-AYAN SCARPLAND

= BAGHELKHAND  
PLATEAU



= ACCORDING TO THE  
PRESENT STUDY  
- BAGHELKHAND.

tracts are two different regions. But beyond this, there hardly seems to be any further convergence for indicator - specific studies, shorn-off historical roots, have contributed to a large level of confusion in the delimitation of the region's southern and western boundaries. Prof. Spate allocates only three districts to the Baghelkhand region - Panna, Rewa and Satna. Similarly, Prof. Ashok Mitra and P. Sengupta and G. Sadasyuk club these three districts under the Rewa Plateau and Vindhyan scarplands respectively. While the districts of Sidhi, Shahdol and Surguja are clubbed together as the Baghelkhand Plateau by both Prof. Ashok Mitra and P. Sengupta and G. Sadasyuk, while these areas have been completely overlooked by Prof. O. H. K. Spate. So according to these three studies, two areas of controversy arise i.e. Panna and Surguja. But on the cultural plain where the language/dialect plays an all-prevailing role, there, their exclusion for the purpose of the present study stands justified.

Prof. R. L. Singh's delimitation of the region is not exclusively for Baghelkhand, as such the level of

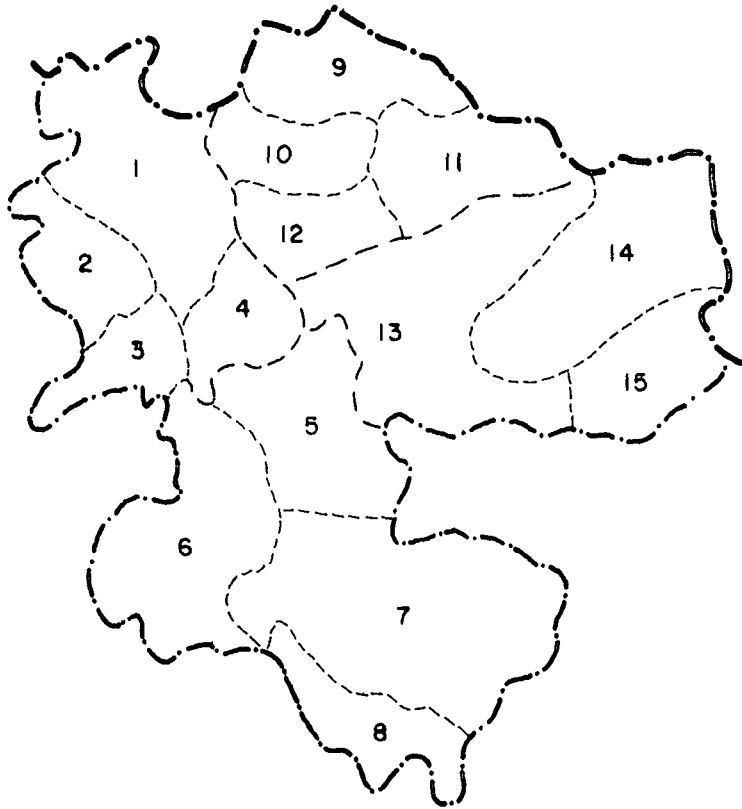
ambiguity is rather high, for in this study the region of Baghelkhand has been clubbed together with Vindhyanchal. This brings into play a fresh dimension in the regionalization of the area - the dimensions of an exclusive culture area - The Rajput - Tribal cultural complex.

Therefore, the fabric of Prof. R.L.Singh is too big for cognitive comprehension in the present study plan. Out of his whole complex, we have carved out four districts which have fortunately never seen any controversy for the purpose of the present study. They are Rewa, Satna, Sidhi and Shahdol, supported of course by the variables of our own choosing in the field of economy, society besides history and physiography.

So the delimited area has 4 districts,  
15 tehsils.

# BAGHELKHAND ADMINISTRATIVE REGIONS

0 50 100KM



INDEX			
1 RAGHURAJNAGAR	] SATNA DISTRICT	9 TEONTHAR	] REWA DISTRICT
2 NAGOD		10 SIRMOUR	
3. MOIHAR		11 MAUGANJ	
4 AMARPATAN		12 REWA HUZUR	
5 BEOHARI	] SHAHDOL DISTRICT	13 GOPAD BANAS	] SIDHI DISTRICT
6. BANDOARM		14 DEOSAR	
7 SOHAGPUR		15. SINGRAULI	
8 PUSHPRAJGARH			
<p>— · — · — STATE BOUNDARY</p> <p>— · — · — REGIONAL " "</p> <p>— — — — DISTRICT " "</p> <p>— — — — ADMINISTRATIVE " "</p>			

	AREA	POPULATION	DENSITY	URBAN POPULATION	URBAN DENSITY
<u>SATNA</u>	7495.0	913531	122	94673	1817
Raghurajnar	3230.0	412117	128	62162	1520
Magod	1815.9	178707	98	17334	19924
Amarpatan	1252.9	180749	144	-	-
Maihar	1125.7	141958	126	15177	1465
<u>REWA</u>	6315	977894	155	69182	1316
Teonthar	1584.8	190621	120	-	-
Sirmour	1504.5	235004	156	-	-
Hauganj	1865.9	255460	137	-	-
Huzur	1332.3	296809	223	69182	1316
<u>SHAHNOL</u>	14028.0	1029839	73	121832	768
Boohari	2627.5	169825	65	8124	300
Bandhogarh	3629.7	203863	56	19834	457
Sohagpur	5839.2	547578	94	93874	1053
Pushprajgarh	1763.7	108573	62	-	-
<u>SIDHI</u>	10532.0	776786	74	9364	2054
Gopad Banas	4718.4	440869	93	9364	2054
Deosar	3768.5	196746	52	-	-
Singrauli	1903.9	139371	73	-	-

Source - Census of India, General population  
Tables 1971. M.P.



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Part V.  
Level of Development.

The economic structure is that aspect of a society, which deals with man's exploitation of nature, for the production of material surplus,⁽¹⁾ that ensures social evolution. In this exploitation, both man and nature participate and man organizes his exploitation in terms of technology and institution. This, calls into play the division of labour,⁽¹⁾ especially in the context of contemporary situations, and making exchange the essence of the economic process.⁽²⁾

Now, for the purpose of the present analysis in a spatial scheme of things, the primary thrust is towards an analysis of the productive force and specifically the occupational structure⁽³⁾ of the population

in the region. For this manifests the term, 'division of labour' and in effect the basis of exchange economy.

The region Baghelkhand is an under developed area of the state and consequently of the country with a massive agricultural sector, a weak industrial sector and a heavy ~~massive~~ ^{TERTIARY} sector. According to the 1971 census 52.6% of the total population answered to the 'worker' category 86.7% of this category was engaged in the primary sector with 5.5% in the secondary sector and 8.08% in the tertiary sector.

This character of an economic structure - a massive primary sector a weak secondary sector and a fairly heavy tertiary sector, reflects a dysfunctional relationship between the secondary and the primary sectors and an exploitative relationship between the primary and the tertiary sectors. This is saying in effect, that industrialization or urbanization has not been able to create a harmonious economic relationship, i.e., the growth of one does not lead to the growth of the other. This a - symbiotic nature of growth

leads to growth disparities between urban centres and their rural hinterland, creating enclaves of affluence in oceans of poverty.

And such an urban rural relationship does not result in increasing the productive capacity of the rural hinterland. So whatever little surplus the rural hinterland is able to produce, is quickly syphoned out by the urban - enclaves with the only spill - back effort being in the provision of either services on consumer goods. Thus, bringing about a change in the consumptional style of rural areas without effecting a positive change in the productive capacity of the rural area. This is a typical relationship of almost all urban - rural areas, which have in some point of time been under colonial rule.⁽⁵⁾ This results in the pauperization of the rural hinterland, effects a change in the cropping - pattern, introduces monetary system into the rural areas, creates a class of agricultural capitalists as distinct from feudalists and opens up the rural peasantry to international economic fluctuations.

This again, is true of the colonial system. Baghelkhand being a part of this system, was also affected, if not to this extreme situation then certainly towards it. Therefore under this understanding, let us take a look at the occupational structure specifically, at each sector.

The district - wise data under the three sectors is :

TABLE IV . I

Participation rates as % of Total work-force 1971.

<u>District</u>	<u>Primary</u>	<u>Secondary</u>	<u>Tertiary</u>
Satna	80.25	8.2	11.6
Rewa	81.00	5.5	13.5
Shahdol	90.75	3.5	5.8
Sidhi	92.60	3.0	4.4

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Source: 1971 Census of India, General Population  
Tables Pt. II A.M.P.

The primary sector is evidently the predominant area of activity with over 87% of the total-work force under it. It is however lower in the districts of Satna and Rewa, on account of a higher participation in other sectors. While in the districts of Shahdol and Sidhi, the participation in primary sector is over 90%. In the secondary and tertiary sectors, Rewa and Satna top the list followed by Shahdol and Sidhi. The main industrial expression of the region is in Satna district, while Rewa districts conforms best to the administrative expression and thus the high level of participation in tertiary sectors.

In contrast to this, Sidhi and Shahdol are both agricultural areas with mining as the insignificant secondary function in the primary sector.

Thus keeping in view the nature of development the entire districts of Sidhi and Shahdol conforms to the term, hinterland of primary production, while Satna and Rewa specifically the urban centres, conforms to the term, 'Enclaves of affluence', though in the case of Satna,

this does not hold good, for a whole chain of secondary urban centres have sprung up, namely, Nagod, Uchehra and Maihar. And Rewa stands in direct contrast to this, as not one Urban Centre has been able to come up besides Rewa in the entire district.

The development profile of Shahdol as well as Sidhi is also at present undergoing transformation, especially with the coming up of Morba and Singrauli coal mines in Sidhi and the establishment of a whole chain of urban settlement on the Umamia, Shahdol and Kotma axis. The entire urbanization is however based primarily upon the mining industry in the region.

Now before an analysis of the spatial distribution of the activity - specific participation starts, one should take note of the distribution of participation.

#### Spatial Variations in the Total Work force

In a study where, occupational structure forms the crux of the analytical frame, there^{fore}, an analysis of the spatial pattern of work-force distribution becomes the basic foundation. Not only as a first-level

indicator of development, but also in so far as it reflects upon the resource base and technology.⁽⁵⁾

The total work-force in its comparative connotation is the participation rate. And more often than not a higher participation rate is an index of economic backwardness; and similarly is also an indicator of low density of population.

Table IV.II

Participation Rate as % of Total Population - 1971

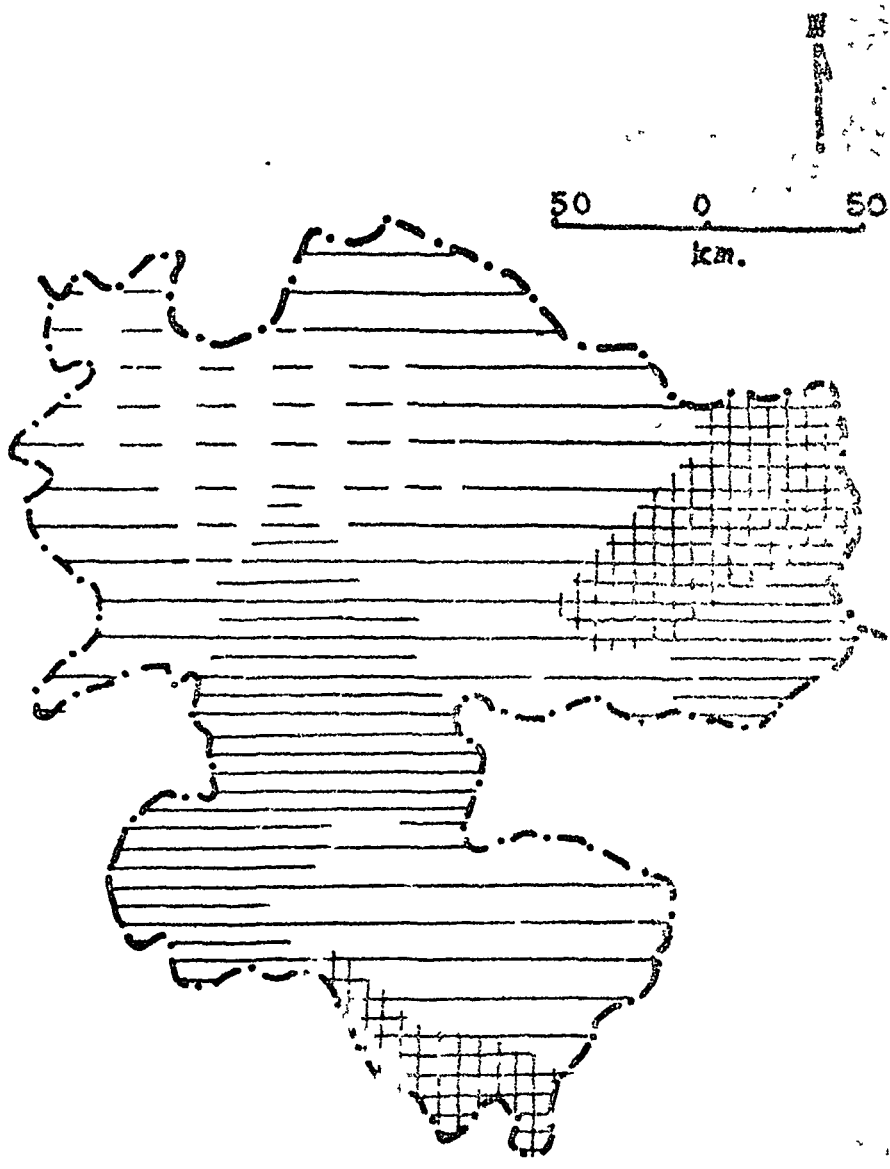
<u>Dist.</u>	<u>Participation rate</u>	<u>Male Participation rate</u>	<u>Female Participation rate</u>	<u>Density Person/Sq.Km.</u>
Satna	51.8%	60.5%	42.9%	88
Rewa	49.8%	58.5%	41.3%	95
Shahdol	54.9%	62.7%	46.7%	52
Sidhi	54.1%	60.9%	47.1%	54

Source - General Population Tables 1971


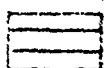
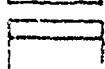
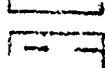
Part II A. M.P.

Fig. 4.0

# SPATIAL VARIATIONS^{IN} PARTICIPATION



% of participation

	- -	36
	36 -	38
	38 -	40
	40 -	+

The table above would suffice to clear up the point made about the relationship between density of population and the participation rate. This would further be buttressed if one compared the participation map - Fig. 4.0 with Fig. 5.32 i.e. density map in the chapter on social structure. Immediately one is struck with the congruence of the statement above, for the tehsils of Sirmour and Hujur, which compare up-to the minimum class interval are at the highest spectrum in the density distribution of population. Similarly Singrauli, Deosar and Fushprajgarh tehsils which have the highest participation rate are at the lowest spectrum in the density distribution map. Tehsil Nagod forms the only exception to the rule, though seen in the light of the class-interval, it falls near the lower limit, thus restricting its exceptionality.

However, density of population itself reflects the resource base of the region. In the sense that only in areas where the resource base is large there density of population too would be large. The urban centres form the classic example of this situation.

Thus density of population can be said to be a function of the resource base. And where the resource base is rich, the participation rate would automatically be low, for such areas are usually prove to surplus material production, as is evidenced in the urban settings. Besides, in such areas, the moment a family or a household is able to produce a sufficient surplus, it withdraws its female labour and child-labour from the market.

In the tribal setting, which is essentially a negative area in terms of productivity, the utilization of female and child-labour is high - Pashprajgarh and Singrauli tehsils are classic cases in point.

Nevertheless, if one goes by the productivity level, the northern elevated plain is certainly higher in productivity level, the northern elevated plain is certainly higher in productivity than the southern hilly area, if not in specific crops or activity, then primarily due to its diversified economic base, and the map - Fig. 4.1 would suffice to clarify that the northern elevated plain has a lower participation

rate than the southern hilly area. Further, agriculture is a predominant activity, but its strength is more in the southern hilly area and so is the case of mining activity, and both these activities exhibit a tendency to employ a higher level of female and child labour than any other function/category.

Primary sector

This sector encompasses the Extractive industries, Agriculture, Livestock - forestry and allied and Mining and Quarrying specifically. A look at the data below would suffice to clarify that agriculture is the main occupation of the population.

Table IV.III

Participation rates as % of total work-force

	<u>Agriculture</u>	<u>Livestock- forestry &amp; Allieds</u>	<u>Mining and Quarrying</u>
SATNA	80.40	1.84	0.21
REWA	84.08	1.88	0.04
SHAHDOL	87.00	1.28	2.22
SIDHI	93.60	1.98	0.17

Source :- Census of India, General population Tables  
H.P. Part II A

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with participation rate being 86.25% and 1.72%  
in the livestock, forestry, etc. while only 0.66%  
under the mining and quarrying category.

Thus the table above establishes beyond doubt  
the exclusively agricultural economy.

At the tehsil level the situation remains  
much the same, with agriculture as the predominant  
activity while between the other two extractive-  
activities, there are instances where mining and  
quarrying have a higher percentage participation  
than the livestock, forestry, allied activities etc.

However, before one takes note of the spatial  
pattern, it would do well to state that, in the  
northern elevated plain, there exists a higher level  
of soil productivity, a higher level of urbanization,  
a higher percentage of irrigated area and a higher  
ratio of agricultural labourers. While in the

southern hilly area, there exists a higher per-capita land availability, a higher intensity of cropping, and a generally higher participation rate in agriculture.

Then mining and quarrying activity are important functions in the Shahdol area.

Spatial pattern of participation rates in the Primary sector

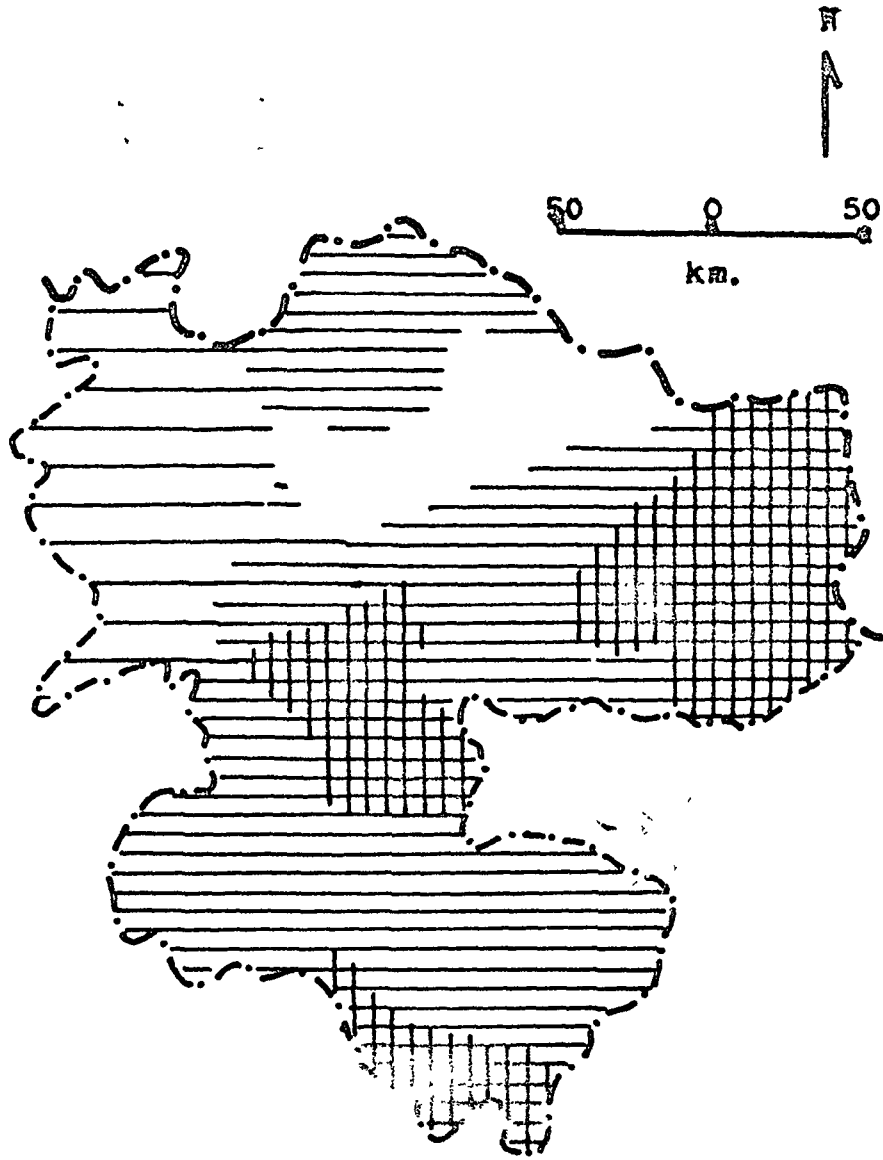
In order to spatially analyse the economic structure, participation rates under various categories activities have been calculated, so as to indicate the occupational structure existing in a region.

Now, as there are three primary sector activities, according to the objectives of this study, agriculture⁽⁶⁾, livestock etc. and mining and quarrying.

The participation rates in agriculture are extremely high in the tehsils of Deosar, Pushprajgarh, Beohani, Singrauli and Gopad Banas i.e. 90% of the

Fig. 4.10

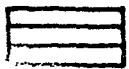
# ECONOMIC STRUCTURE PRIMARY ACTIVITIES



% OF WORKERS



90 - +



85 - 90



75 - 85



- - 75

total work-force is engaged in agricultural functions, while lowest at the rung are the tehsils of Huzur, Raghurajnagar, Sohagpur, Nagod and Maihar i.e. with 70% to 80% of the total work-force. This variation at a bigger scale of generalization would not amount too much, or would not demand an explanation, but at the regional level, it reflects the pull and push of the web or waft of the economic fabric. For agriculture as an activity sector is certainly over-crowded, and a strong push factor exists, but as no other avenues are there for mobilization of unskilled labourforce, therefore nothing much can be done about it. Except, of course, in areas contiguous to urban areas.

Under the next category, of livestock, forestry and allied activities, the prominent tehsils in the participation spectrum are Hujur, Deosar, Amarpatan, Mauganj and Nagod. Maihar, Beohani, Singrauli, Gopad Banas, Raghurajnagar and Pushprajgarh are in the upper middle category. The rest of the region has an under 1.5% participation in the activity and is therefore an essentially a domestic-need projection.

Under the mining and quarrying activity, though the participation rate is one of the lowest, its significance in terms of its contribution to the regional economy is unparalleled. As most of the urban expressions in the Sohagpur and Bandhogarh tehsils are a result of this activity. Percentage of participation under ^{which} are 5.5% and 2.3% of the total work-force respectively. But beyond these two tehsils, mining as an activity has a rather insignificant expression. Nevertheless, coal and limestone form the crux of mining industry in the region.

The primary sector, as a whole, is therefore the largest occupational sector in the census industrial classification. Topping in the total spectrum are the tehsils of Decsar, Singrauli, Beohami and Pushprajgarh with over 90% of the total work-force. Tehsils dominating the other side of the primary sector spectrum are Hujur and Nauganj, both in Rewa district. In the intermediate category, nearer to the top level are the tehsils of Teonthar and Sirmour, Bandhogarh, Sohagpur, Amarpatan and Gopad Banas, while in the same category, but closer to the lower level

we have the tehsils of Raghurajnagar, Maihar and Nagod.

Secondary Sector

This sector encompasses the activity in the economy namely, household and other than household industries and construction. The data on this according to districts is given below :-

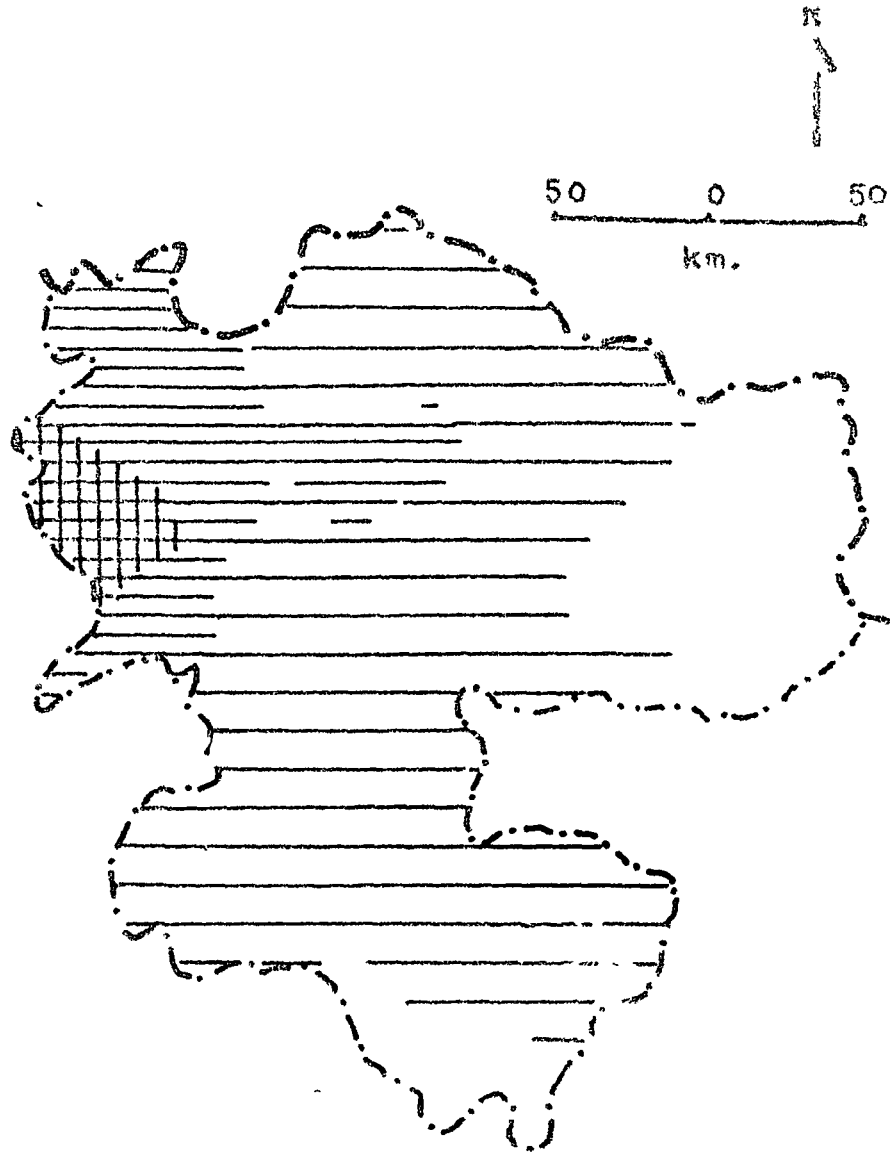
Table IV, IV

Participation rates as % of total work-force

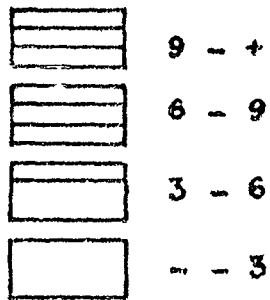
	Household industries and other than household manufactu- ring	Construction
	_____	_____
SATNA	8.42	0.22
REWA	5.27	0.33
SHAHDOL	3.48	0.13
SIDHI	2.12	0.04

Source :- Census of India General Population  
Tables M.2. Part II A

# ECONOMIC STRUCTURE SECONDARY ACTIVITIES



% OF WORKERS



The rate of participation expressed as percentage of total workers amounts to merely 4.82% in the manufacturing category and to just 0.18% in the construction category. The low participation rate is understandable, in the construction category, for it merely reflects the growth-^{impulses}retency of the manufacturing category and the manufacturing sector being heavily reliant upon the agricultural sector and mining sector and essentially the primary character cannot but emit weak growth-potencies and thus the low participation in both the manufacturing and construction category.

However, inter-district variations exist and Satna happens to have the highest participation rate 8.42% followed by Rewa 5.27%, Shahdol 3.8% and Sidhi bringing up the rear with 2.12%. Out of this the household industry has a major share, but the clubbing up was done due to both being manufacturing category and a really low expression of participation rate in the other than household manufacturing category. Thus the inclusion. Regarding the participation in the construction category, Rewa tops

the spectrum with 0.33% followed by Satna with 0.22%, Shahdol with 0.13% and Sidhi with only 0.04%. This to an extent reflects the growth propensities of the region at the 1971 level.

Tehsil-wise situation, however is different, the manufacturing category (5A + 5B) has a range between 10.6% participation to 1.8% participation. Hujur, Nagod, Maihar, Amarpatan and Raghurajnagar top the spectrum with over 5.5% participation, followed by Sirmour, Mauganj, Teonthar, Sohagpur, Beohari and Gopad Banas with over 3.5% but lower than 5.5% participation rate. Deosar, Singrauli, Bandhogarh and Pushprajgarh tehsil have the lowest participation rate ranging from 1.5% to 3.5%.

In the construction category, Hujur, Raghurajnagar, Nagod, Maihar and Sohagpur tehsils are the only areas having a significant participation; within Hujur tehsil almost reaching upto 1% and in contrast, Beohari, Deosar, Gopad Banas and Sirmour tehsils are at the lowest level in the participation spectrum under this category.

Having taken note of the participation pattern, it would do justice to bring into focus all the elements that play in this sector. Industrialization here is the result of the mining activity primarily, followed by forestry and then by agricultural surplus. So industrialization at best is merely of the primary-processing character and thus the distance covered by the finished commodity in terms of its original state, is not beyond two steps, except in the town-ship of Satna, where certain highly mechanized industrial firms have been established, such as cement, cables, asbestos etc. Thus except for Satna, the entire region's industrial structure is one of primary processing, and manufacturing. Reasons for this are plenty, lack of connectivity, lack of investment, lack of local skilled manpower etc.

However, on the whole, the north western parts of the region has a higher participation rate in the secondary sector, comprising of the entire Satna district; the Hujur tehsil of Rewa. This is the region where the participation rate in the secondary sector amounts to 6% - 9% of the total work-force.

While in contrast to this, the tehsils of Pashprajgarh, Singrauli and Deosar situated in the eastern and south-eastern corner of Baghalkhand have the lowest participation in the spectrum.

The intermediary zone of 3 % to 6 % as participation rate in this sector exists in Sirmour, Teonthar, Nauganj, Amarpatan, Copad Banas, Bechani, Bandhogarh and Sohagpur tehsils.

### Tertiary Sector

The tertiary activities include the financing, transporting, marketing and selling of primary and secondary products. These intangible services, essential to the system of exchange between producer and consumer are essentially located in urban/market/central places. There are essentially four kinds of services under this sector namely, distributive, financial, governmental and personal services. Under the distributive activity one can put the transport storage and communication, under the financial services come the trade and commerce

Similarly, the Governmental and personal services make up the column of other services.

If the growth of this sector beats the combined growth of the other two sector, it renders the market centre/urban centre/central place, as exploitative and dysfunctional to them in the sense that it does not aid the growth and development of the two sectors, in term of investment facilities etc. (7)

The participation rates in the three categories mentioned above are as follows districtwise :-

Table IV.V

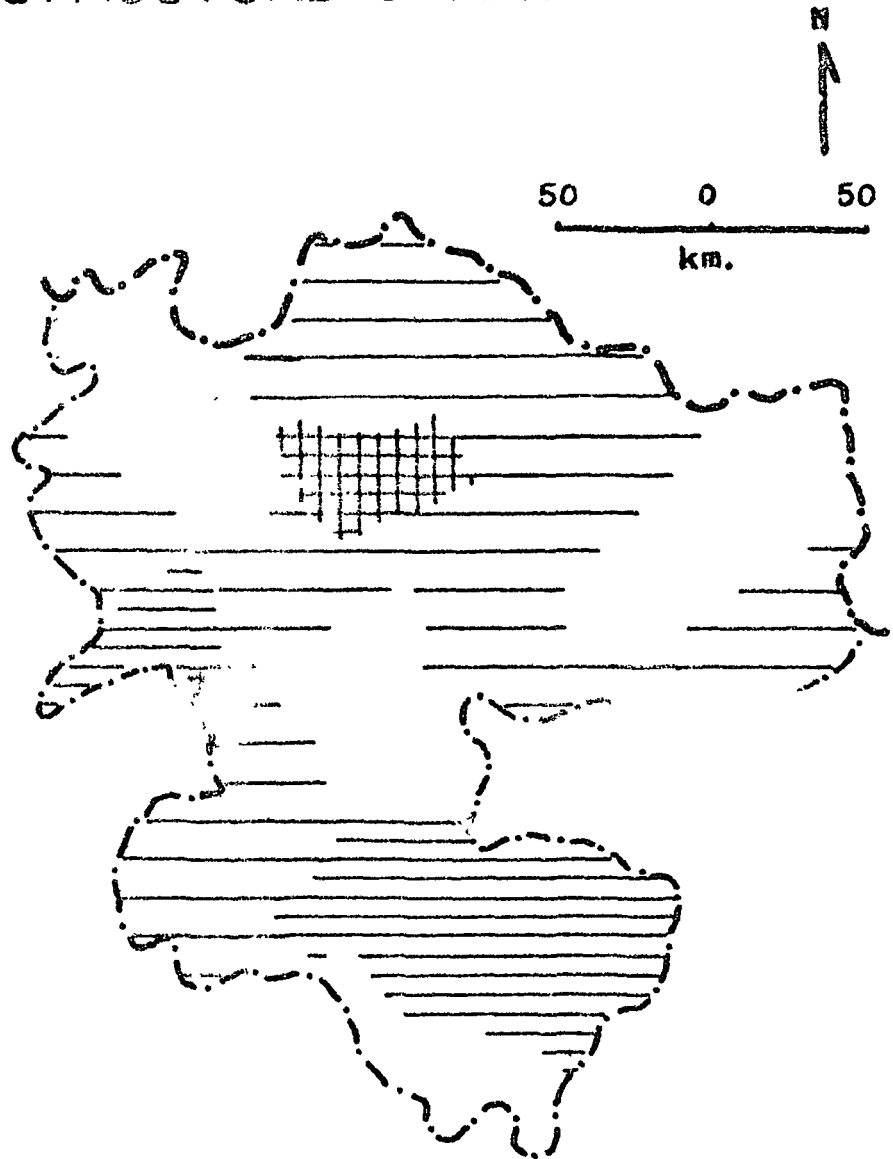
Participation rates as % of total work-force

	<u>Trade &amp; Commerce</u>	<u>Transport &amp; Communication</u>	<u>Other Services</u>
SATNA	2.38	0.54	3.15
REWA	2.15	0.48	5.72
SHAHDOL	1.42	0.54	3.81
SIDHI	0.84	0.14	3.33

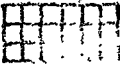
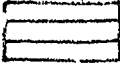
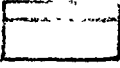

Source :- Census of India, General population Tables  
M.P. Part II A

Fig. 4.12

# ECONOMIC STRUCTURE TERTIARY ACTIVITIES



% OF WORKERS

	10 - 12
	8 - 10
	5 - 8
	0 - 5

In the trade and commerce category, that enshrines within its realm, the financing and whole-sale trade activities have the highest participation expression in the districts of Rewa and Satna. That is above 2% of the total work-force. Shahdol's share of participation under this category is 1.42% while Sidhi comes with just a little less than 1%.

The transportation and communication category is more or less uniformly distributed in the three districts of Satna, Rewa and Shahdol. While Sidhi's share is really low about 0.14%, the rest have around 0.5% of the total work-force.

The services category, except for Rewa district is uniform throughout at just over 3% while Rewa has a share of 5.72%. It should be noted here that Satna district which has ranked high in almost all other categories is at the rock-bottom of the participation spectrum under this category.

This is essentially the district picture.  
The tehsil-wise situation is as follows:

The trade and commerce as is expected to be, has a higher expression of participation rate in the tehsils of Hujur, Raghurajnagar, Sohagpur and Maihar, i.e. above 2.0% of the total work-force, followed by a median category-Nagod, Amerpatan, Teonthar, Mauganj and Sirmour tehsils. In the lowest category falls rest of the region i.e. the entire district of Sidhi and Shahdol excluding Sohagpur tehsil.

The transport and communication category which indicates the distributive services essentially, does not by virtue of its junction, require a large amount of participation. But nevertheless, there are tehsils which have extremely low rate of participation in this most essential, linking service; for instance Gopad Banas, Deosar, Pushprajgarh, having under 0.10% while in contrast to it, regions like Hujur, Maihar and Sohagpur all have above 1.2% participation rate. The rest of the

region falls within the range of 0.61% to 0.11% of the total work-force.

The category of other services encompasses both the personal services and Governmental services. As could be expected, Hujur, the divisional headquarters tops this participation spectrum with 11.12% while in direct contrast to this is the Raghurajnagar tehsil which is the most developed tract in the region with 0.53% of the total participation. Sahagpur, Sirmour and Bandhogarh follow Hujur tehsil with a mere 5% approximate participation rate. Between 2% and 4% participation rate fall the tehsils of Nagod, Singrauli, Gopad Banas, Mauganj, Teonthar, Amarpur, Beohari and Pashprajgarh; while Deosar and Raghurajnagar come way down with under 2%. Raghurajnagar is still far below as mentioned before.

The general distribution of the entire tertiary sector i.e. spatially speaking, is in response to urbanization, industrialization and mining in this region.

The spatial pattern of participation rates, as has emerged; based on the numeral picture ~~(#)~~ requires at this stage an in-depth analysis. For this purpose, the analytical scheme is based on -

1. The traditional sector; comprising of exclusively the agricultural activity. The explanatory system herein is structured upon landuse, soil, cropping pattern and participation.

2. The modern sector; comprising of diverse units, ranging from extractive industries to services - (livestock, forestry, fishing etc., manufacturing, repaired etc., electrical and water works etc., wholesale and retail etc., transport, storage, communication etc., banking and services etc.).

It would further be noticed that the traditional sector has an exclusively rural bias, while the modern sector does not have an exclusively urban bias. But the distinction was deliberately made so as to take into account the pre-dominant position of agriculture as an activity at the first stage and secondly to take in some semblance of the technology/institution etc. utilized for purposes of exploitation of the environment.

~~and urban economy which borrows mainly from the primary sector, manufacturing from the secondary sector and transportation from the tertiary sector.~~

### Traditional Rural Economy

#### Agriculture

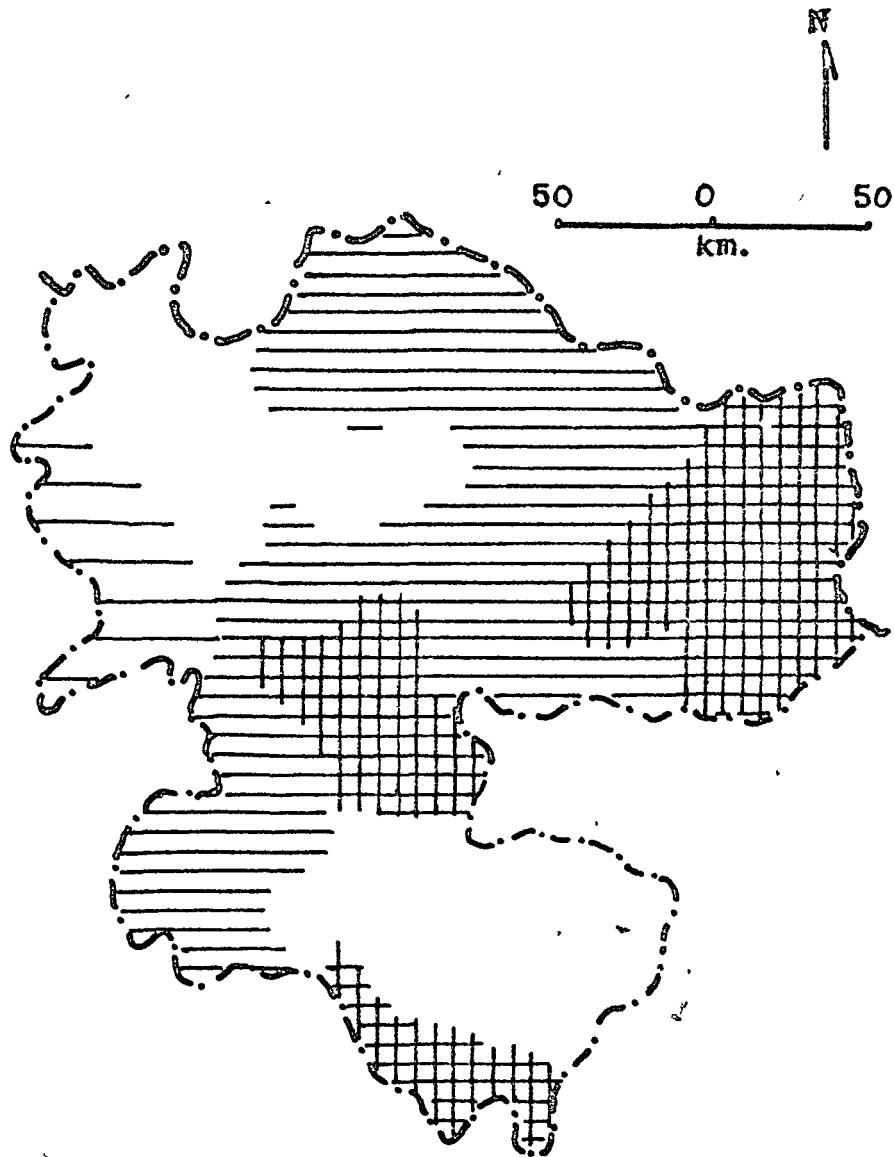
The predominant position of agriculture needs no further stressing i.e. judging by the extremely high participation rate in agriculture. But what needs stressing is that agriculture is essentially a rural activity and therefore, an analysis of agriculture would automatically be the analysis of rural economy.

However, to spatially analyse agriculture, a set of indicators have been chosen - landuse pattern, local soil classifications, crop-combination, extent of food-grain cropping, extent of irrigation, extent of mechanization, and an attempt has also been made to analyse the participation rate in the light of

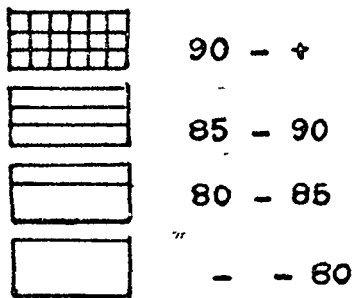
- a) Schedule caste distribution
- b) Schedule tribe distribution

Fig. 4.13

# PARTICIPATION IN AGRICULTURAL ACTIVITIES



% OF WORKERS



- c) Net Sown Area as % Total Rural Area
- d) Gross Cropped Area as ratio of Net Sown Area
- and to analyse the extent of Net Sown Area in the light of
- a) Gross Cropped Area as ratio of Net Sown Area
- b) Ratio of net sown area to total agricultural workers
- c) Ratio of net sown area to total rural population
- d) Ratio of irrigated area to net sown area.

Land-use pattern

The region Baghelkhand is a forested tract of the country and the State, though, only in the southern hilly tract is there an evidence of it, while in the northern elevated plain, area under cultivation is more than area under forests. A look at the following table would suffice to clear the point made above :-

Table IV.VI

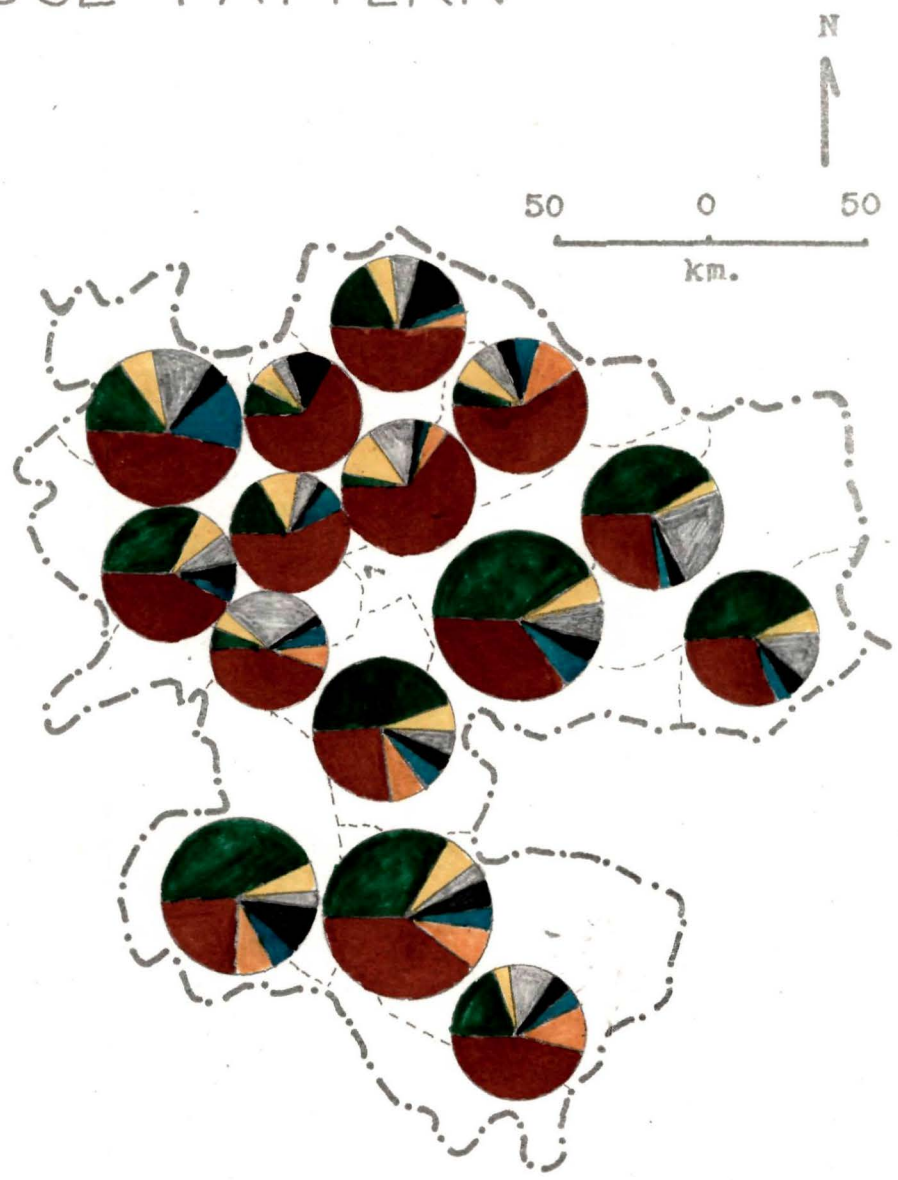
Land-use, districtwise 1970 as %

District	Forests	Area not available for cultivation	Permanent Pasture & Grazing land	Culturable waste	Net sown Area
REWA	12.7	12.8	0.8	14.8	50.9
SATNA	19.6	17.5	9.0	13.5	40.6
SIDHI	43.6	13.4	0.63	16.2	27.0
SHAHDOL	40.9	9.1	2.8	12.8	34.4

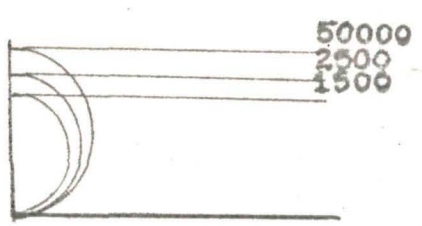
Source:-District Economics & Statistical Handbooks for Satna, Rewa, Sidhi and Shahdol

Fig. 4.14

# LANDUSE PATTERN



scale = total acreage



- Forests
- Non-Cultivable
- Barren Waste
- Pasture
- Culturable-Waste
- Fallow etc.
- Net Sown Area

Forests :

Forests are an important source of revenue for the region and besides it is considered an important forest-tract in the State. Till 1947, timber was the main item of export followed closely by mining commodities. However, their importance in terms of revenue yielded has dropped, because of a diversification of the economic base; Nevertheless, some of the important commercial species in the region continue to be in the market with much persistence and constancy are Sal, Teak, Khair, Bamboos etc. In fact, Sal, Teak and Khair have such a wide market in the country that even the Delhi timber market is affected by local fluctuations⁽⁸⁾.

About 3/10 of the total territory of Baghelkhand was devoted to forests in 1970, according to the district Statistical and Economic Handbook of the four concerned districts. The areas of concentration were mainly in the southern hilly tract, comprising of Shahdol and Sidhi, where forests alone accounted for over 42% of the area. In tehsils like Singrauli and Deosar, 50% of the area is classified under forests.

Area not available for cultivation :

This category includes a whole lot of classifications, such as house-sites, roads, canals, streams/rivers etc.etc. In fact, if enough data was available, then it is felt that this category would be positively correlated to urbanization⁽⁹⁾. Its incidence is highest in Satna but Sidhi coming up next, indicates a higher percentage of area under barren and unculturable land, but then followed closely by Rewa, re-affirms the above hypothesis, with a reservation on other things being equal. On an average, 17% of the total area was under this category in 1970, with a higher incidence in the northern elevated plain than in the southern.

Permanent Pastures and Grazing lands :

Satna and Shahdol are the only districts having a sizeable amount of percentage under this category, again, the lack of sufficient data restricts a meaningful analysis; nevertheless, a situation put forth that grazing lands and pastures increases as

the people find it more profitable to do dairy culture than cultivation, in the light of ever increasing demands of dairy products by urban centres. It would be seen in the chapter on settlement, that Satna and Shahdol are the only urbanized districts in the region. For dairy here, in this region does not call for sedantry feeding of the species concerned, they are usually let loose and allowed to graze throughout the day, preferably on the ranges. And so this extremely high expression of this category. On this, if we super-impose the participation rate of the livestock and forestry category we would find a higher participation rate in Sidhi, Shahdol and Satna. Sidhi and Shahdol rate is high also because of their forest wealth.

Culturable waste-land :

This category implies the potentiality for expansion of acreage under the plough⁽⁹⁾, thus given the necessary density of population, expansion of cultivated acreage into such areas would become inevitable. Further, it includes areas such as current fallows, old fallows etc. indicating soil-wastage. But this can be overcome by the use of

appropriate chemicals and fertilizers. Its highest incidence is in Sidhi and lowest in Shahdol. While in the northern elevated plain, the acreage in both is fairly constant at under 14%.

Net Sown Area :

The net sown area has been steadily increasing since 1951-52 in the entire region though the rate is higher in the southern hilly tract than in the northern elevated plain. Approximately, 40.4% increase in the southern hilly tract and 18.5% in the northern elevated plain⁽¹⁰⁾ And this reflects to a great extent, the increasing pressure on land, though the rate of population increase in the southern hilly tract has been just 2.3%, while in the northern elevated plain it has been 2.7%. Thus, while the per-capita land-availability has increased in the southern hilly tract, the situation stands reversed in the case of the northern elevated plain.



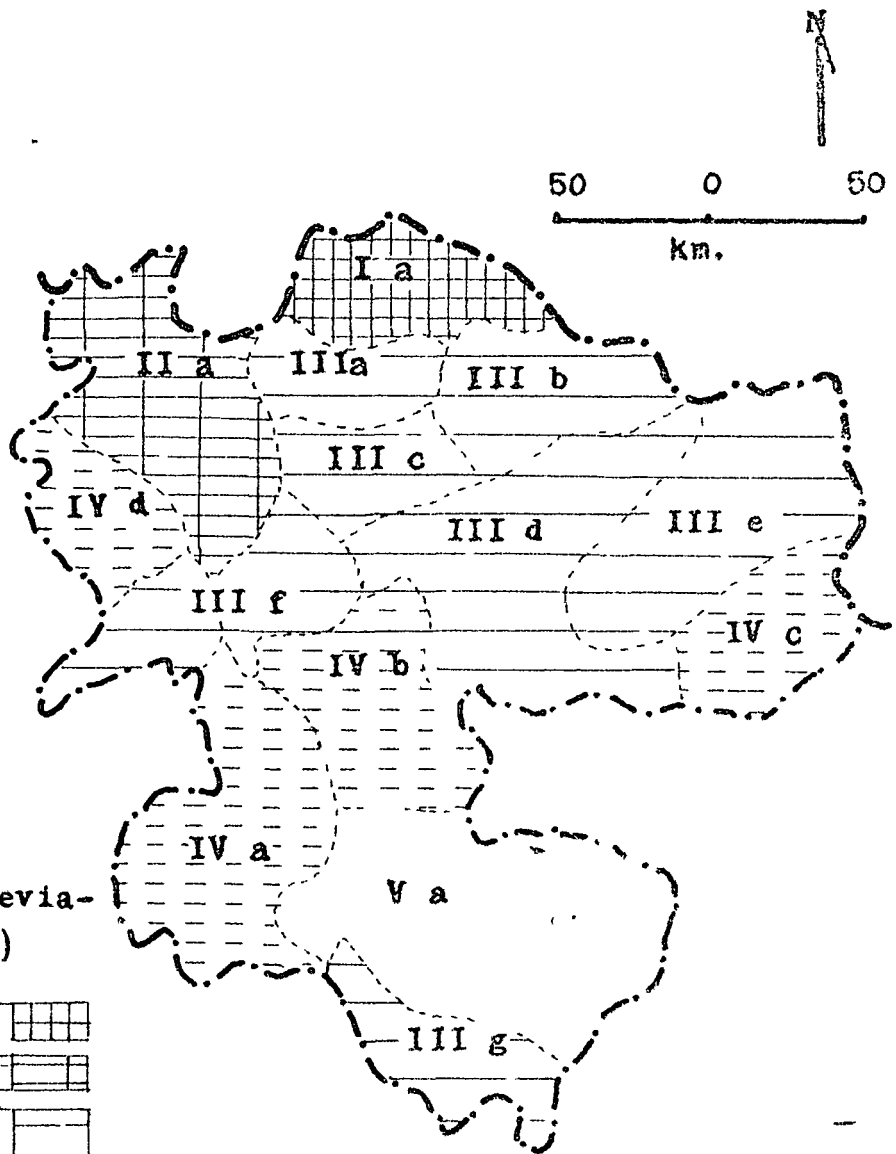
Soil :

The local soil classification carried out by the settlement reports of 1929, by Bomford indicate that the chief soil groups in the region were Sigon, Domat, Mair, Matiyar in the northern elevated plain and in the southern hilly area, the soil groups are Marwa, Sehra, Bagar and Kachhar. There are traces of Mair too in both the divisions. Now, Sigon and Sehra are the same, similarly are Domat and Marwa. Sigon is most extensive in the northern elevated plain, and is a pure clay soil in which rice grows best. While Domat is a mixture of Sigon and Mair and generally gives a double crop of wheat and rice. Domat is also the most extensive soil in the southern hilly area. Bagar is essentially a refuse soil, very red in colour gravelly in structure and very poor in fertility. Its area of occurrence is greater in the southern hilly tract and is usually devoted to the cultivation of Kodon and Bahar, with long periods of fallow. Kachhar is an alluvial soil and as such very fertile. It is usually found in the flood plains of the various rivers, specifically the Sone,

Cropping Pattern :

For an analysis of the cropping pattern, Weaver's crop-combination method has been utilized to bring out the crop associations emerging at the 1970 point in time. The range is between two-crop region, in Sahagpur tehsil to six crop-region, in the Tecnhar tehsil. A crop common to all tehsils except Hujur and Waged is the millet variety locally called 'Kodon'. It is however, an important crop in the southern hilly area tehsils of Deosar, Singrauli and Bandhogarh. In the northern elevated plain, wheat-rice-gram are the common crops to all the tehsils, while in the southern hilly area rice and millet are the common crops. However, a higher diversification of cropping base exists in the northern elevated plain than in the southern hilly area, probably due to the impress of urban demand on the immediate hinterland. Wheat and rice are by far the most important crops, in the northern elevated, nevertheless, acreage-wise rice dominates wheat only in the tehsils of Mauganj and Tecnhar. Besides grams happen to be an important element in the crop-combination exclusively of having a higher

# CROPPING PATTERN



(By minimum deviation method.)

Ia (rgwbam)	
IIa (wrmgb)	
IIIa (wrmg)	
IIIb (wrml)	
IIIc (wrga)	
IIId (rmgb)	
IIIe (mbrs)	
IIIf (wrml)	
IIIg (rmls)	
IVa (mrw)	
IVb (rmb)	
IVc (mrs)	
IVd (wrg)	
Va (rm)	

w=WHIAT  
 r=RICE  
 g=GRAMS  
 m=MILLET  
 b=BARLEY  
 l=LINSEED  
 a=ARHAR  
 s=SEASAMUM

(after Husain, M 1960)

level of urbanization for instance Hujur, Raghurajnagar, Nagod, while Sirmour and Teonthar figure in the gram picture due to their catering of the urban-requirements of the before mentioned tehsils. Gopad Banas too would fall under the same category. Now the factors which determine a cropping pattern are essentially - the price level, distance to the market concerned, productivity and suitability of soil and of course domestic preferences⁽¹²⁾.

In an under-developed region such as this, the domestic preferences come first as a result of subsistence character of agriculture, non-availability of productivity increasing inputs, low level of land-holding, prohibitive tenure system, thus cash-preferences for affecting the cropping pattern are at best only at the secondary level, i.e. after having met the domestic needs. This is the reason, while millet is the chief crop in certain tehsils even today. While wheat and rice are essentially commercial cereals and much of it is traded.

This also explains for the wheat and rice cultivation in the northern elevated plain and oilseed cultivation in the southern hilly area specifically in the tehsil of Pushprajgarh where oilseeds alone account for nearly 30% of the gross-cropped area. For the Cropping-pattern exhibits a equilibrium between agro-climatic condition, local demands and domestic preferences. Thus, in areas closer to the urban centres, wheat and rice by way of cereals and grams by way of pulses are the chief crops though the profit level in wheat and rice is not as high as in oilseeds, but a tehsil like Pushprajgarh, so far removed from these urban centres that manifest consuming sectors, specialize in oilseeds which are essentially a weight loosing commodity. Nevertheless, the importance of millet in the region speaks of the tribal preference, for in those tehsils where millet ranks high, the tribal concentration is high too, for instance Singrauli, Deosar, Bandhogarh, Sohagpur and Pushprajgarh.

Important Crops :

Wheat, rice and millet are by far the most important crops in the region. Wheat dominating the northern elevated plains while rice being the dominant crop of the southern hilly area. Millet of the 'Kodan' variety is the dominant crop of the Singrauli, Deesar and Bandhogarh tehsils, which have a higher percentage of tribal population in them.

Wheat is the staple rabi-crop, it is usually grown in 'Uparihar' region along with gram in the areas not exposed to irrigational facilities, while in the areas exposed to such facilities with mustard. According to the district statistical and economic handbook of Satna and Rewa, the acreage under wheat in Satna has been steadily increasing since 1951-52 to suffer a slight set back in 1957-58 because of the unprecedented price rise in pulses and jowar, and since then, the increase suffered in 1963-64 due to rise in acreage under oilseeds specifically in the tehsils

of Sirmour and Mauganj of Rewa, and Amarpatan and Maihar; however, by this time the introduction of high yielding varieties had kept the productivity rising, and only in 1974-75 a relative loss in acreage affected the productivity level due to probably the Government take-over of food-grain trade. Nevertheless, whatever mechanization in the region, has immensely favoured the wheat cultivation in the 'Uparihar' region.

Rice in contrast to the wheat crop has essentially remained stable and is even now the staple food crop of the region. The main varieties of rice are 'Bhejani', 'Dehula' and 'Balkeshwar'. It is the principal kharif season food-crop and is usually not of the transplantation character; thus the yield being essentially low. The transplantation culture-variety is 'Laungchur' rice, which is said to compare well with even the 'Basmati' rice of Dehradun. It is the dominant crop in the southern hilly area and in the tehsils of Teonthar and Mauganj of the northern elevated plains.

Kodon is the smallest of the millet category and is an important staple crop of the region; besides being the staple food of the rural peasantry, comprising of scheduled castes and scheduled tribes. Its fairly high expression in the tehsils of Singrauli, Deosar and Bandhogarh reflect upon the predominant tribal preference for this crop on the one hand, and on the other reflect upon the nature of land-tenure and 'payment in kind' aspect for labour. For Kodon is the usual payment in the entire region whether it be the northern elevated plain or the southern hilly area.

Among the pulses, grams is the most important crop which is usually grown alongwith wheat. There has been however, no specified increase in its acreage, primarily because all the increament under wheat acreage event to the category of high-yielding varieties. Nevertheless, the important areas where more than 1/10 of the area was under grams were Gopad Banas, Tecnthar, Sirmour and Raghurajnagar. Bandhogarh tehsil too could be put under this category though the acreage amounts to 9% of the total cropped area.

Similarly among the oilseeds category, linseed and sesamum are the most important. Grown almost everywhere, but most important in the tehsil Pushprajgarh, where rape and mustard too becomes an important crop.

But generally seen, a higher % of area under food crops exists in the northern elevated plains than in the southern hilly area, specially during the Kharif season. Primarily because of the south specializing in the oilseed as a commercial crop, while the north specializes in wheat crop as a commercial category.

A higher area under oilseed exists in the southern hilly area than in the northern elevated plains. Thus this accentuates the acreage under cereals and millets in the northern elevated. Nevertheless, total cereals millets and pulses account for 9/10 of the total cropped area in Rewa and Sātna, similarly for the southern area comprising of Sidhi and Shahdol the total area under total food-grains is 86.03% and 83.6% respectively.

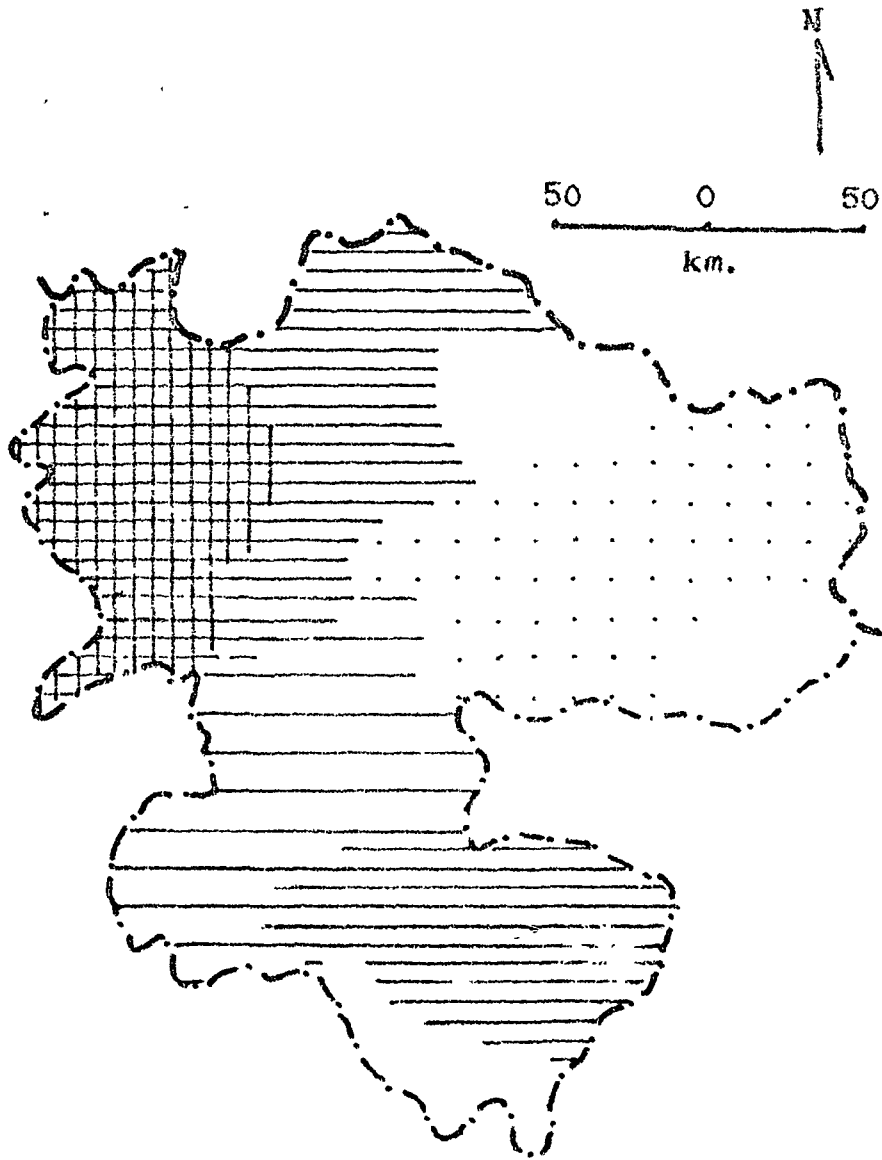
And almost all the area not under the food-grains is devoted to oilseeds.

### Mechanization

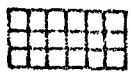
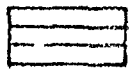
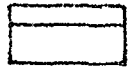
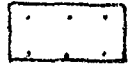

With over 80% of the population in the agricultural category of workers, it is imperative, that a complete utilization of the agricultural resource be done. To achieve this the dependence upon human farm-power⁽¹³⁾ and traditional farming practices will have to go, and exposures of 'technification' will have to be effected, if the productivity level is to be raised. The term technification implies geological and mechanical influences of farm technology; seeds, fertilizers - manures, mechanical power etc. Thus here the thrust is towards the mechanical aspects of farm technology such as wooden and iron ploughs, electric and diesel pumps, tractors and bullock carts. (The data on other aspects of mechanization of technification such as fertilizers, pesticides, sprayers and threshers, utilization of high-yielding varieties seeds etc. could not be analysed due to its non-availability).

FIG. 4.18

# LEVELS OF AGRICULTURAL MECHANISATION



## MECHANIZATION INDEX

	60 - 70
	50 - 60
	40 - 50
	30 - 40
	20 - 30

Nevertheless, what ever data we have, suggests the least possible mechanization in the region, due mainly to its social conditions connectivity situation and land tenure conditions. However, significant economic status decisions and differences do exist, within the heirarchy of farmers⁽¹⁴⁾. Their differences are reflected in the spatial distribution of improved and highly evelved farming implements. And no-where else, in the country is the social difference. So well entrenched in the economy as in Baghelkhand. Thus affecting the scale of operation and the choice of techniques, for it has been proved again and again, that farming technology under a capitalistic framework, suffers from a scale has⁽¹⁵⁾; and due to which the social and economic inequality is increasing⁽¹⁶⁾.

Therefore, in situation like this, where a region is stuped up in rural poverty, conservatism has a very little role to play in the option of farming technique. ^{Fragmentation} Rise of land holding, subsistence, grain-farming, limited economic means, lack of technological background with~~in~~ the farmer and within the region⁽¹⁷⁾ are the important inhabiting factors.

The above analysis explains largely the cultivators' tenacious attachment to all primitive forms of cultivation including the wooden plough for instance. It is almost ubiquitous for in the entire region, nowhere do we have one wooden plough for above each 10 acres of net sown area. In the Pushprajgarh, Raghurajnagar, Bandhogarh and Mauganj tehsil we have between 8 to 10 acres per wooden plough, while Teonthar, Nagod, Sirmour, Hujur, Sohagpur, Deosar and Gopad Banas tehsils, each have one wooden plough for every 6.5 to 8 acres. Similarly, Beohani, Amarpatan, Singrauli and Maihar tehsils have one wooden plough for every 5 to 6.5 acres. In contrast to this, is the case of the iron plough. Tehsils like Deosar - one iron plough for 55,996.6 acres of net sown area, Singrauli 36,323.0 acres of net sown area. Similarly Mauganj - 14,165.1 acres of net sown area for every iron plough - means in other words, that in these tehsils there are pockets of human existence, where the so called iron technology has not yet been introduced into farming techniques. Thus, the importance of the wooden cannot be discarded as conservatism, its importance is primarily

due to (i) draught force can pull only light plough, (ii) the cultivator can carry the light weight of the iron plough on his shoulders to his fragmented and highly scattered holdings, (iii) his own poverty and cheap repairing facilities within the village (Spate & Learmonth 1967 - Jasbir Singh 1976). Thus it is illogical at the present level of rural development to speak and advocate against the use of this wooden plough in favour of iron-based improved tilling implements.

However, the iron ploughs on the comparative regional scale are quite popular in the tehsils of Nagod, Pushprajgarh and Raghurajnagar where under each 500 acres of net sown area there is an iron plough and in the regional centre it is certainly quite high.

Now, pumps, electric as well as diesel is another important source responsible for bringing about disparities in agricultural productivity. Electrical pumps indicate stationary irrigation, while diesel pumps indicate mobility of irrigation. This further indicates the extent of ubiquitousness of under-ground water. Now in the northern elevated

plain, comprising of Rewa and Sātna, not only is the density of pumping sets diesel as well as electric higher, but also the diesel sets are more popular and thus their command area is obviously higher, and it may even exceed the calculated average net sown area per diesel set, which is incidently the lowest in Nagod followed by Hujur i.e. under 300 acres and 400 acres of the net sown area respectively. Thus bring their density to highest possible in the region. The situation is almost chronic in the tehsils of Pushprajgarh where one diesel unit accounts for 43,770.8 acres while an electrical unit accounts for 36,475.7 acres. Similarly in Deosar, the diesel unit accounts for 7,565.9 acres while an electrical unit is for 34,992.2 acres.

And in between these two extremes of the spectrum falls the entire region, but what needs mentioning here, that in almost all areas, specially the southern parts of the southern hilly area, tank irrigation is the most popular source of irrigation. 'Ghotors' on 'bandhs' (18) are usually made in arable land, of course assisted by the naturally undulating surface and water is collected in them. Such areas

are usually devoted to rice cultivation. And this fact also does not call in for the utilization of implements, of a higher variety such as the iron-plough, seed-drills, harrows and iron cultivators etc., explaining thereby the variation in the utilization of such implements in the region.

A similar situation exists in the tractor distribution with the highest density in Nagod, Teonthar, Raghurajnagar, Hujur and Maihar, all having one tractor for every 5,000 acres of net sown area at least. A tractor besides being a tractor equipment is often used for irrigation, threshing, cultivation etc., and its density in the northern elevated plain not only speaks of an evolved and developed agricultural system, but also of a higher level of exchange and interaction, between rural and urban area for the mutual benefit of both, reflecting upon the symbiotic process of growth in the northern elevated plains; which obviously enough is not the case with the southern hilly area, primarily because almost 90% of the urbanization is mining expression. And mining has been defined as the robber industry (John Inch, 1970)

for/^{if} it is not processed within the region, then, there is no flow back of capital in the area concerned and shorn off the other conditions, it would become a classic example in production enclaves, (Moonis Raja and Atiya Habib, 1976).

So in a situation like this, the importance of bullock-carts automatically comes to the forefront as a major source of traction and reflects if anything chiefly the exported rural surplus. The conditions for its unabated importance are similar to the ones mentioned in the wooden plough case, and besides, the bullocks, which form the crux of rural technology from pulling water to cane-crushing and threshing, are also involved in the traction of rural surplus from rural hinterland to market centres. And this source of mechanization is fairly ubiquitous, but areas with chronic traction problem like Pushprajgarh, Teonthat still figure quite high with 319.5 acres and 885.3 acres per bullock-cart respectively.

The entire Sidhi district is at the apex of this problem with Deosar, Singrauli and Gopad Banae having 3,635.6, 1181.2, and 1013.4 acres per bullock cart.

This low level of even primitive mechanization reflects besides the predominantly subsistence agriculture, lack of economic surplus, the system of land-tenure, the extent of land-holdings etc.

### Land Systems

An analysis of the land-holding and the tenure system, reliance on the 1961 census data is imperative as no such data exists for the 1971 census. The prevalence of absentee - landlordism and extreme fragmentation of holdings had been established by a 20% sample survey of households. The evidence shows clearly that 4/5ths of the cultivating rural households were owners of the complete holding, cultivated by them in Shahdol district; while it was 3/5 in the Sidhi district. Similarly in the northern elevated plain 3/5ths of the total rural cultivating households were cultivating their own lands in Rewa district and 7/10ths in Satna district.

Similarly, on the other side of the holding spectrum, in the southern hilly area, 40 of cultivating

rural households in Shahdol and 8.4% in Sidhi do not own any land cultivated by them. While in the northern elevated plain it is 13.1% in Rewa and 6.4% in Satna. Medium category in this spectrum, i.e. who besides their own holding, take others' holdings also for cultivation amounts 16.2% in Shahdol, 25% in Sidhi, 22% in Satna and 22.9% in Rewa.

Thus, the extent of total sub-tenancy existing in the region Baghelkhand amounts to

TABLE IV . VII

Northern Elevated Plain	Rewa	- 36.0%
	Satna	- 28.4%
Southern Hilly Area	Shahdol	- 20.2%
	Sidhi	- 33.4

That is, the situation as it existed in 1961, and there is no evidence in recent years to prove anything to the contrary, the situation must have further worsened, for even at the 1971, level of rural population, over 80% of the population is engaged in agricultural pursuits. And as certain econo-

mists would have us believe, that if anything, the social inequality seems instead to be increasing (Gunnar Myrdal, 1970)⁽¹⁹⁾.

Now, the regional situation as regards uneconomic holdings, refer to Table IV.VIII. It shows clearly that in the two diverse physiographic areas of the region, the northern elevated plain and in the southern hilly area 8.5% and 6% respectively are the cultivating rural households, that own next to nothing in the name of land. While below five acres - Rewa and Satna account for 40.4% and 45.5% respectively of the total cultivating rural households. Under the same category in the southern hilly area for instance, Shahdol the figure is 46.2% while in Sidhi it is 48.3%. And by this, one can gauge the extent of land-hunger in the region; in the northern elevated plain being 42.7% while in the southern hilly area as 47%. Given the level of technology in these two areas, one can easily say that the problems assumes greater proportions in the southern hilly area.

TABLE IV.VIII

(% of households cultivating holdings of the sizes )

	1-1	1-2.4	2.4-4.9	5-7.4	7.5-9.9	10-12.4	12.5-14.9	15-29.9	30-49.9	50-
GATNA	10.3	16.1	19.1	15.7	8.9	8.2	3.8	11.6	3.8	1.7
REWA	8.7	14.3	17.4	16.3	8.1	9.7	3.8	13.9	5.0	2.8
SHAHDOL	5.9	16.8	23.5	18.4	8.9	8.5	3.9	10.3	2.8	1.0
SIDHI	6.0	17.8	24.5	17.6	7.9	8.0	3.9	9.9	2.4	2.0

Source : 1961 Census of India, District Census Handbook, Satna,  
Rewa, Shahdol, Sidhi

In contrast to this, the households having more than 15 acres, which can be considered to be reasonably well off, economically, and perhaps, who form the elite sections of the rural society; in whose hands there is certainly a concentration of rural wealth, amounts to 17.1% in Satna, 21.7% in Rewa, 14.1% in Shahdol and 14.3% in Sidhi districts. This 'Kular' class not only dominates economically but socially too. And the economic distance between this and first category has in various parts of India, been found to be increasing. It controls and regulates the flow of rural surplus, is responsible for all forms of exploitation, including land alienation, for money lending is a major function with this class. But as an analysis of this, would involve consideration among other factors, which cannot be dealt here, therefore it falls beyond the limited scope of this dissertation.

Nevertheless, the situation is extremely bad, and it must be far worse, for the pressure on land has certainly increased manifold since 1961; with a majority of the people in the uneconomic land-

holding category, transgressed by fragmentary land-holding, inhibiting the use of modern technology, what worse, a situation could be possible.

A further analysis of this activity, takes on a two-pronged enquiry into the nature of relationship between various variables from the view point of participation and net sown area.

Participation :

To explain this high rate of participation, a set of variables were chosen; for instance, scheduled castes, scheduled tribes, cropping intensity, percentage of net sown area to total area and the level of mechanization. It was felt that both scheduled castes and scheduled tribes would be positively correlated to total participation in agricultural activity, as both the categories have traditionally an agricultural orientation. Therefore given the poverty level, lack of innovativeness and an extremely low level of land-holding, both would contribute to the ranks of agricultural labourers, thereby finding due expression in the agricultural participation.

Similarly, it was felt that intensity of cropping and net sown area would be negatively correlated, because an excess of both these indicators reflect upon the region's potentiality for surplus production and surplus production results in the release agricultural labour force.

Mechanization again, it was felt, would be negatively correlated with participation because mechanization of any kind usually means labour-saving, and more so in the face of the present inflationary situations.

To find out the correctness of the above hypothesis' a correlational⁽²⁰⁾ exercise was carried out between the above mentioned variables, the result of are enumerated below :-

1. There is a high negative correlation at 5% level of significance, between participation and scheduled castes at (-.6135) coefficient of correlation.
2. There is a positive correlation at 1% level of significance, between participation and scheduled

tribes at (0.282) coefficient of correlation.

3. There is a positive correlation at 5% level of significance between participation and intensity of cropping at (.519) coefficient of correlation.
4. There is a negative correlation at 5% level of significance between participation and the net sown as percentage of the total rural area at (-.4197) coefficient of correlation.
5. There is a negative correlation at 5% level of significance between participation and mechanization index at (-.2561) coefficient of correlation.

### Analysis

The high negative correlation between participation and scheduled caste goes to show that it does not contribute to agricultural participation. The reason primarily being, that in the areas where the distribution of scheduled caste is high, the participation rate in agriculture is low, for instance the tehsils of the northern elevated plain have a generally higher scheduled caste density, but this is also the

region having minimum participation rate in agriculture, while the southern hilly area where the scheduled tribe density is higher, the participation rate is also high, thus, it stands proved that the scheduled tribes do contribute to the agricultural participation rate, while the scheduled castes apparently do not; though the correlation exercise carried out, does not specifically indicate that the scheduled castes do not contribute, but it does indicate a diversification of the economic base of the region where this category is apparently involved. The situation though is highly hypothetical.

As regards intensity of cropping, there is a high positive correlation, reflecting a high demand in agricultural labour force in these areas due to a higher intensity of cropping. The region thus having a higher participation in this category also therefore exhibit a higher intensity of cropping.

In the case of net-sown area, the negative correlation reflects a tendency of the participation rate to lower if the net sown area increases, implying therefore a case of surplus generation which acts as

a labour-releasing device. Thus, in areas where the percentage of net-sown area is comparatively higher and the participation rate is low, surplus production is usually the case.

Finally, coming to the mechanization aspect, again, higher mechanization level, usually implies a lower level of participation rate. However, the weak strength of the negative correlation implies the extremely low-level of mechanization.

#### Net Sown Area

To explain the variation in the percentage of net-sown area to total rural area, a set of four variables were chosen - cropping intensity, per-capita land availability, ratio of irrigated area to net sown area and carrying capacity of land. It was felt that, as the intensity of cropping increases, the percentage of net sown area would decrease; as the intensity of cropping is essentially an indicator of intensive cultivation; while the percentage of net sown area to total rural area is essentially an indicator of extensive cultivation if anything. Nevertheless, as intensity of cropping

rises, the  $\beta$  of net sown area should decrease. Similarly, as the carrying capacity of land increases the net sown area should decrease and vice-versa, and so also should be the case with per-capita land availability. For if the per-capita land availability is high, the extent of land hunger would be lesser and therefore, the expression of net sown area as percentage of the total rural area would be higher for the extent of culturable waste-land, pastures and current fallow, land-use categories would have a higher expression.

Now irrigation, by itself indicates an increase in the productivity. But it also has the potential of turning hitherto cultivable waste, pastures, etc. into cultivable areas irrespective of land-hunger etc. Thus irrigation obviously contributes to the increase in net sown area under normal conditions.

To find out the appropriateness of the hypothesis's enumerated above a correlational⁽²⁰⁾

exercise was carried out between the above mentioned variables, forming the explanatory system while net sown area as the explained variable. The result are :

1. There is a negative correlation between the percentage of net sown area and intensity of cropping⁽²¹⁾ at 10% level of significance with (-0.870) as the coefficient of correlation.

2. There is a negative correlation between the percentage of net sown area and per capita land availability⁽²²⁾ at 5% level of significance with (-.217) as the coefficient of correlation.

3. There is a negative correlation between the percentage of net sown area and the carrying capacity of land at 5% level of significance with (-.178) as the coefficient of correlation.

4. There is a positive correlation between the percentage of net sown area and the ratio of irrigated area to net sown area at 1% level of significance with (0.445) as coefficient of correlation.

5. There a positive correlation between the percentage of net sown area and the ratio of agricultural labourers to cultivators at 10% level of significance with (.244) as coefficient of correlation.

#### Analysis

The negative correlation between percentage of net sown area and cropping intensity only goes to prove the point made before in the hypothesis. For the basic intention behind the intensification of cropping is to increase the productivity of a limited amount of land; when increase in acreage under cultivation is not possible, at the given level of technology. So in such areas, the increasing pressure on land-resources results in the intensification of cropping, of which tehsils such as Deosar, Singrauli, Gopad Banas are classic cases in point. While the other extreme in the sense that the cropping intensity though high, the net sown area is not low, exist in the tehsils of Maihar, Amarpatan and Teonthat - exhibiting a completely different situation, for here the mechanization level is quite high and so reclai-

mation of land that had hitherto been unproductive. However, in the tehsils of Hujur and Nauganj, the case is absolutely opposite, for both the variables have a high index, thus exhibiting a case exactly opposite to the one painted above, the reason is intensification of cropping over an extensive area, for exclusively catering to the demands of urban centres like Rewa, Allahabad, Mirzapur etc. The negative and significant correlation in the case of percentage of net sown area and per-capita land availability(per worker) reflects upon the immense relationship between the two variables. And as mentioned before that per-capita land availability (per worker is essentially taken as an indicator of land hunger, and to that extent, if the index is high it should indicate low percentage of net sown area to total rural area. This situation, however exists only in the tehsils of Nagod, Amarpatan, Sirmour, Hujur, Sahagpur, Pushprajgarh and Deosar, And in the remaining seven tehsils a similar picture does not hold good, for instance in Raghurajnagar and Maihar, where both the indices are medium, similarly for Gopad Banas and Singrauli. It would be seen that the

former two tehsils belong to the developed tract of the region, while the later two are essentially in the backward. But this can easily be explained in terms of mechanization, cropping intensity, tribal and non-tribal complexes etc. Mechanization is higher in the former, while cropping intensity is higher in the later, tribal complex is more firmly established in the later, while in the former, this is not the case. So in the former - mechanization and in the later - cropping intensity and tribals culture have provided for a similarity in the peculiar expression of the not sown area percentage.

In the carrying capacity, an almost similar picture exists in the sense that the hypothesis stands proved in the tehsils viz. - Nagod, Anarpatan, Teonthar, Sirmour, Hujur, Bechani, Bandhogerh, Sohagpur, Pushprajgarh and Deosar. The situation is however not true of Gopad Banas, Singrauli, Maihar and Mauganj. Specially in the southern tehsils, it is almost positive correlation while in the tehsils of the northern elevated plain, the relationship is neutral.

And so, the southern tehsils of Gopad Banas and Singrauli merit attention. The reason probably lies, in the low density of population, and a higher expression of land-use in the culturable waste, pastures and fallow-land category.

There is a high positive and highly significant correlation between irrigation and net sown area. For here the ratio of irrigated area to net sown area has been taken as the indicator of irrigation. And obviously so, because irrigation manifests the potentiality of increasing the percentage of net sown area. Classic cases in point, are the tehsils of Baghuraj Nagar, Nagod, Teonthar, Amarpatan etc.

There is a positive and significant correlation between the ratio of agricultural labourers to cultivators, though the strength of the correlation is weak due to factors other than the one mentioned here. The entire northern elevated plain stands out in support of the contention placed here under land-hunger i.e. the ratio of agricultural labourers is high in the northern elevated plain and so is the percentage of net sown area to total rural area. As such, in this

sub-region, very limited scope for further expansion of net sown area exists especially in the tehsils of Raghurajnagar and Teonthar. While in the southern hilly area, no clear cut relationship is exhibited by the data at our disposal.

This brings us to the end of the section on rural economy.

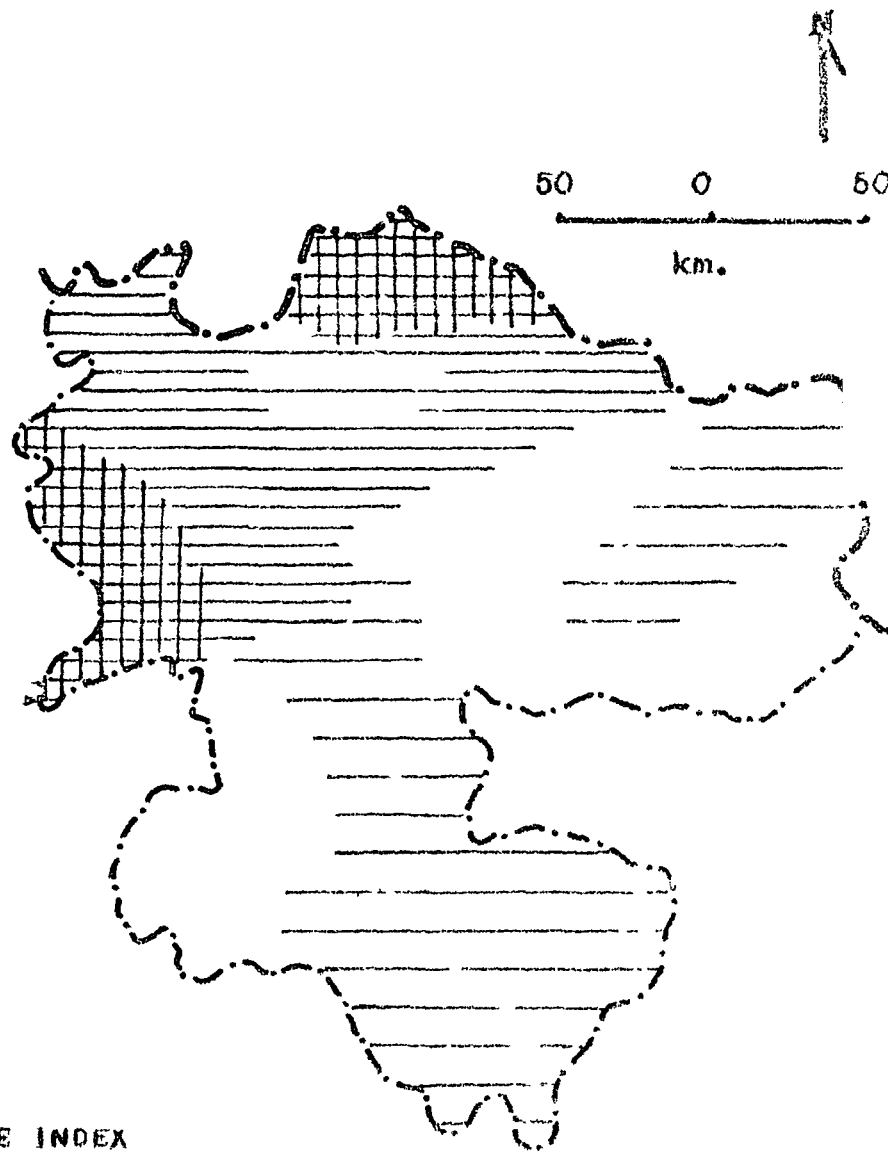
#### Levels of Agricultural Development

The various indicators just discussed under the participation and net sown area variables were ranked in descending order, and thereafter were composited for determining the composite index (21) (Ashok Mitra, 1960). Class intervals were formed, due to which the tehsils falling at the top of the spectrum are Nagod, Meihar and Teonthar. In the upper intermediary category come the tehsils of Raghurajnagar, Amarpatan, Mauganj and Hujur.

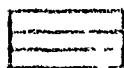
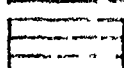
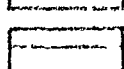
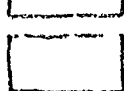
In the lower intermediary category fall the tehsils of Sirmour, Beohani, Sehagpur, Pushprajgarh and Deosar. While at the bottom of the rung come

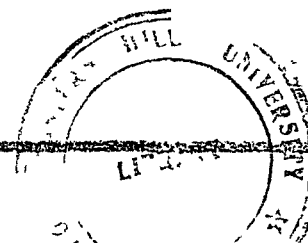
Fig. 4.17

# LEVELS OF AGRICULTURAL DEVELOPMENT



RANK COMPOSITE INDEX  
(AFTER KENDALL'S)

	50 - +
	45 - 50
	35 - 45
	25 - 35



the tehsils of Bandhogarh, Gopad Banas and Singrauli.

It would immediately be notice here, that except Sirmour tehsil, the entire northern elevated plain falls into the first two categories, while the entire southern hilly area comes with the last two categories; implying that the northern elevated plain has a higher level of agricultural development than the southern hilly area.

#### ' The Modern Sector '

This sector embraces a whole range of diverse activities ranging from people engaged in livestock rearing and ranching to administrative educational and medical services. This whole range of modern sector has been further divided up in extractive, processing and manufacturing, maintenance, exchange and distribution, distributive, financial and generative and services sub-sectors, for purposes of analytical convenience.

Extractive: This sub-sector further encompasses, specifically the activities of livestock, agricultural services, hunting and trapping, forestry, fishing, mining coal and other minerals etc.

TABLE - IV - IX

Participation in the extractive sub-sector as % of participation in all activities excluding Agricultural.

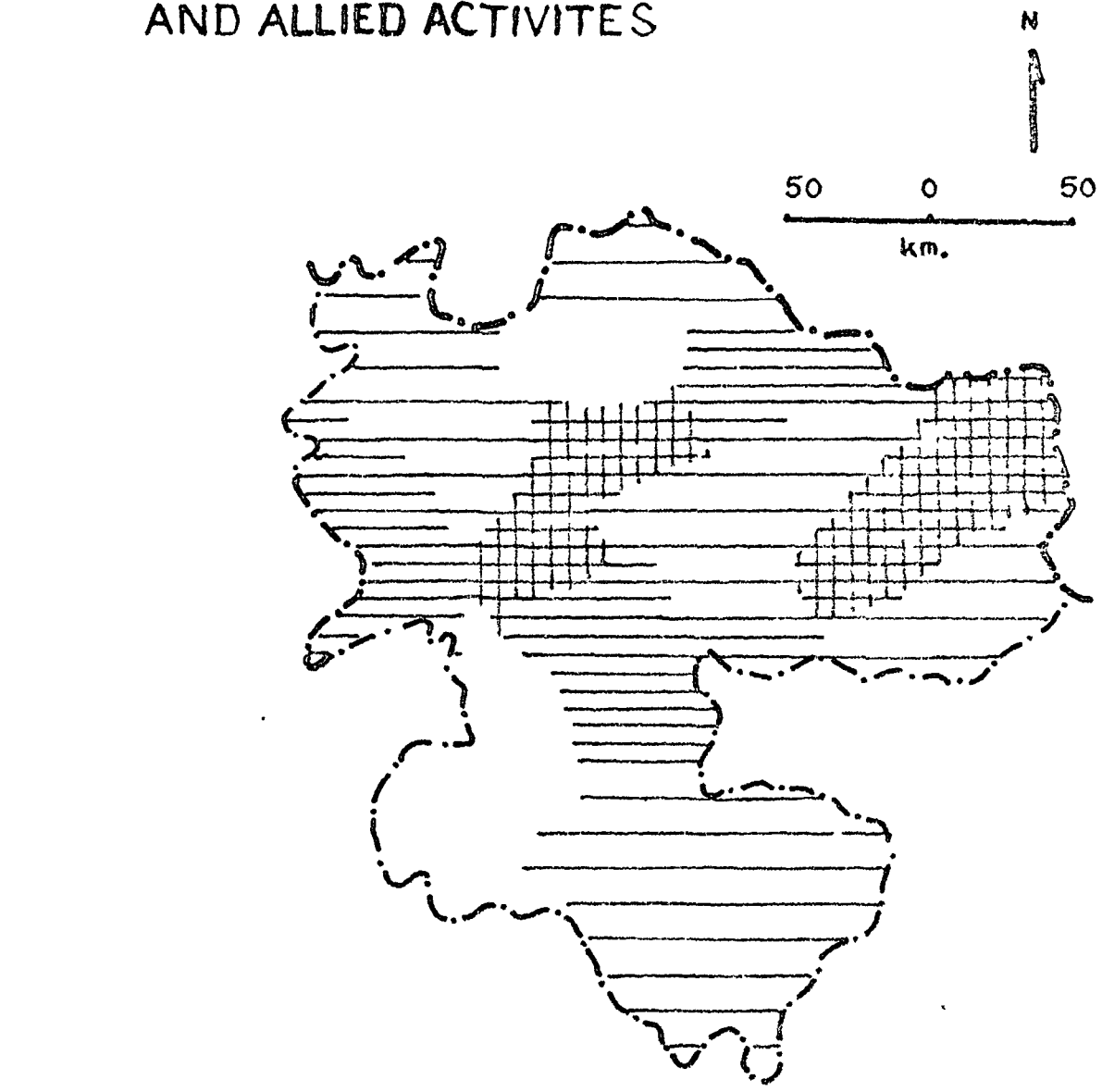
	Livestock	Hunting and Trapping	Forestry	Fishing	Mining coal	Minera other
Rewa	9.20	0.50	-	0.05	-	-
Shahdol	6.55	0.12	0.66	0.05	21.02	0.05
Satna	6.86	-	0.27	0.07	0.10	0.65
Sidhi	19.30	-	0.17	0.07	1.16	0.15

Source: Census of India 1971, Series 10. M.P. Part II-B (ii) Economic Tables.

With the table above in view and the maps -  
Figure IV. 18 and Figure IV. 19 in reference, the total,

Fig .4.18

# PARTICIPATION IN LIVESTOCK, FORESTRY, FISHING AND ALLIED ACTIVITES



**% OF WORKERS**

	20 - +
	17 - 20
	1 - 17
	- - 1

extractive sub-sectors picture of the region should be clear.

In category 1, in this sub-sector, Sidhi happens to be the leading district with 19.30% of its total agricultural work-force engaged in it. Tehsil of Deosar to be precise, is the area of highest incidence. Livestock category in this area, besides the usual cattle requirements of agriculture, consists of primarily goat-rearing. Which besides providing milk, provides meat and skin for the local foot-wear industry. It exhibits excellent adaptation to the areas natural flora. Scrub-wastes and wooded pastures are plenty. A similar situation exists in the Amarpatan tehsil. In contrast to this are the livestock category of Huzur, Nagod, Maihar, and Maugarj, the other areas of fairly high incidence. Due to the exaggerated demand for milk and poultry by the urban centres cow buffalo and poultry farms dot the landscape, in the periphery of these urban centres, namely, Rewa, Satna, Nagod, Maihar, Sidhi, Shahdol etc.

In comparison to this the second category is of minireal expression. Rewa and Shahdol are the only areas having any significance. However, Rewa tops the list, because the erstwhile feudal structure, had this category foremost in the cherished sport role, and thus, this fact gave rise to a class of individuals, known professionally

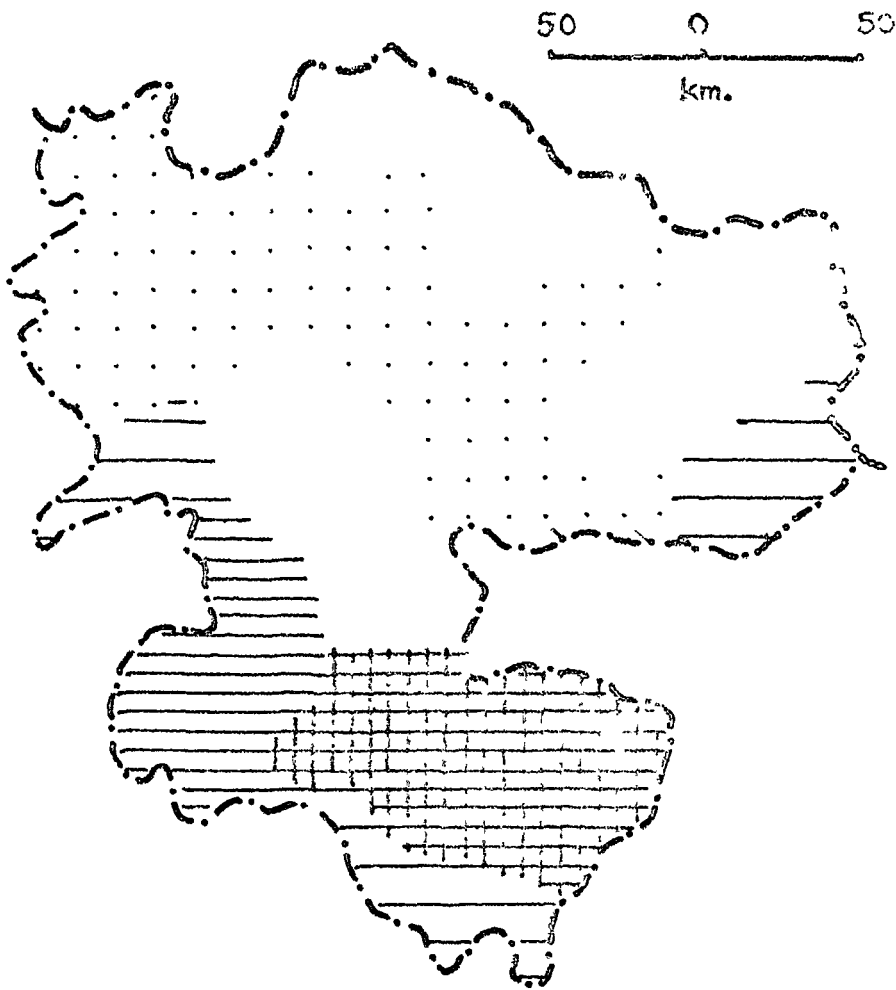
as 'hakebaaz'. The concentration of the feudal category at Rewa, which was the state capital speaks also of the significant incidence of 'hakebaaz' category, besides of course the usual professional hunters who again belong to the erstwhile feudal stream. And the area of work is usually the forested tracts of the southern hilly area (of Sidhi and Shahdol). This also applies to the Shahdol's case in point.

The incidence in the forestry category, is obviously in response to the extent of forested tracts, which is really extensive in the tehsils of Deogarh, Singrauli, Pushprajgarh, Bandhogarh, Beohani, Sirmour, Harihara and Amarpatan. And the population engaged in this category usually are involved with log-felling, production of fuel(charcoal) besides of course the usual gatherers of gums, resin, lac barks herbs, wild fruits and bidi leaves. In fact the entire bidi industry is an expression of the participation in this category. Shahdol and Sidhi are the principle areas of bidi leaf collection. However, the bidi affair is very much seasonal and is usually the off-season occupation of most of the agricultural labourers in the region who are primarily tribals.

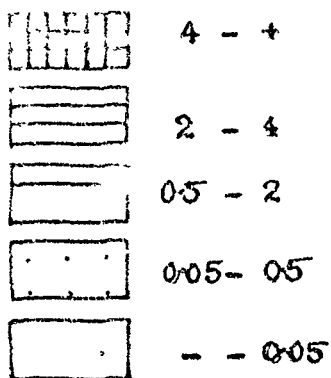
Fishing as an activity is by and large non-existent. However, the position of actual participation under this category in Satna is probably due to the re-settlement of Bengalees in that district due to which a certain caste, 'Malahs' find it profitable to fish rather than carry water or do the ferrying business. Sidhi, figures high, not because of actual participation, but because of extremely limited economic base and unusually small number of agricultural workers. Nevertheless, the scope for fishery development is immense, as the 'hilsa' variety, a marine specie has been discovered, thus exhibiting the potentiality of the environment for the development of this variety, which has a really wide market, throughout the northern plain till Delhi and Calcutta. Thus given the right impetus, in terms of investment, assets and priority, it could well prove a further diversification of the economic base.

Coming to the activity of mining, it has been classified under two separate headings; one for coal and the other for other minerals. Basically to throw emphasis on the importance of coal mining in the region.

# PARTICIPATION IN MINING AND QUARRYING



% OF WORKERS



Areas which stand out prominent under the coal mining are (essentially in the Gondwana rock-formation areas, and) the tohsils of Sohagpur, Bandhogarh and Singrauli. The entire urbanization in the region is dependent upon this activity, so much so, that in Shahdol district 21% of the work-force engaged in a-agricultural activity belong to this category. In Sidhi, it is a mere 1.16% but then townships of Waidhan, Morba and Singrauli already identified as growth-points will qualify for being in the town category, by 1981⁽²²⁾. Though the coal mines here is not of class Anthracite quality, yet after processing it through washeries in order to remove impurities⁽²³⁾, and then it is said to be at par with the best quality of coal produced in India. Now coming to the last and final category i.e., mining other mineral, Satna figures high in the limenite and rutile, asbestos, stone-quarrying, clay and sand pits, while Shahdol stands out predominant in coal yes, but also in bauxite while Sidhi has, though insignificant in terms of participation, been known to have low grade vast reserves of iron-ore, that in due course of time, given a higher level of technology and a more

dynamic economic situation will be utilized, thus strengthening the economic base of the region.

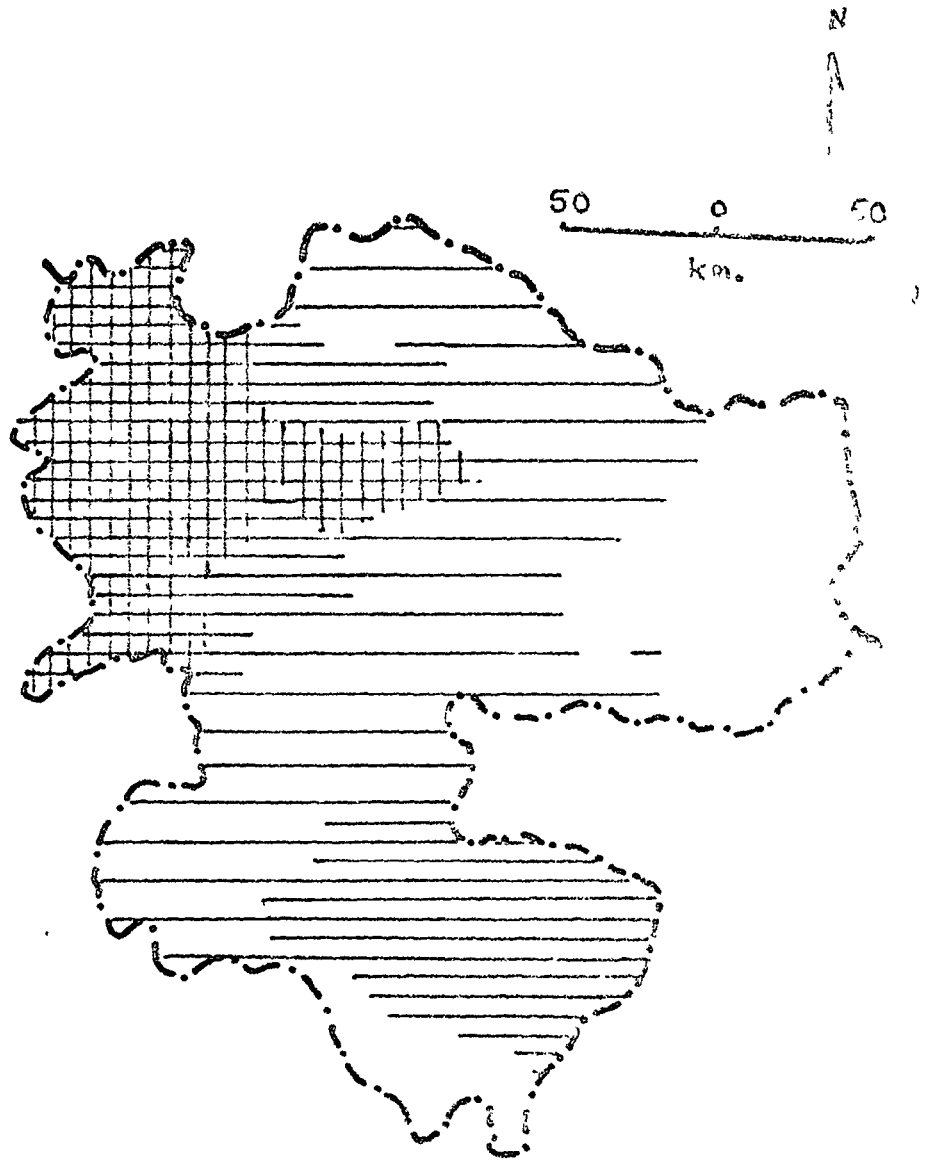
Thus, in the extractive sub-sector the most prominent part is played in the southern hilly area. However true to the saying - that the extractive industry is at best a rubber industry⁽²⁴⁾. It has not led to the development of the region concerned, while it is certainly aiding the development of the northern elevated plain.

#### Processing and Manufacturing

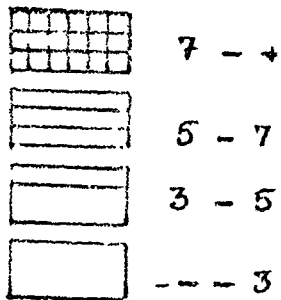
This sub-sector has a really broad canvas ranging from primary processing to manufacturing. Taking within its ambit processing of agricultural goods, forests and plantation goods, minerals, livestock by-productions to textile, pulp, paper, furniture, metallic and non-metallic goods, foot-wear, chemicals, machinery equipment etc.

The following table No. IV. IX in conjunction with map-fig. number IV. 20 indicates that the region

# PARTICIPATION IN MANUFACTURING



% OF WORKERS



has a fairly diverse secondary sector, with Sidhi at the lowest rung and Satna at the highest. Shahdol at the lower intermediary category while Rewa at the higher one.

And that the region's most important manufacturing categories are bidi, timber, earthenware and leather, followed by cement, stone, cables and oilseeds. Thus exhibiting the predominant position of primary processing in the region's manufacturing economy.

SATNA :

The district of Satna, located at the north western corner of the region is by far the most industrialized area in the region. Its manufacturing base is the stablest and so is its diversification - ranging from primary processing like bidi manufacturing, grain-milling to apparel and textile manufacturing, timber and packaging, cables asbestos to cement manufacture. The manufacturing economy is further strengthened by a fair sprinkling of activities such as manufacturing of transportation equipment, agricultural equipment, electrical industrial equipment etc. etc.

TABLE IV. IX

Participation in the processing and manufacturing sub-sector as % of participation in all activities excluding Agriculture

	Food products	Beverages & tobacco	Cotton textile	Synthetic textile, wool	Textile products	Pulp & wood products	Paper	Leather	Coal prod	Chemicals
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
REWA	3.2	5.2	0.12	0.85	2.18	7.1	0.35	1.15	0.06	0.38
SHAHNOL	1.83	0.44	0.05	0.05	3.04	3.8	3.51	2.38	0.23	0.43
SATNA	1.73	11.85	0.02	0.10	3.80	4.6	0.02	0.53	0.02	0.06
SIDHI	2.78	0.35	0.09	-	2.6	4.4	0.07	6.8	0.03	0.02

	Metal products	Machi- neries	Electri- cal equipment	Transport equipment	Others etc.	Repair
	(12)	(13)	(14)	(15)	(16)	(17)
REWA	1.03	0.35	0.04	-	3.33	
SHAHNOL	1.50	1.30	0.10	0.45	1.66	
SATNA	0.77	0.60	2.19	1.15	3.43	
SIDHI	3.6	0.30	0.10	0.10	4.59	

Source:- Census of India 1971, Series 10 M.P. Part II D(11)  
Economic Tables

The bidi industry is fairly well dispersed and has been known to be located in the townships of Nagod, Maihar and Uchehra. And the source of raw material to this industry lies in the district of Shahdol.

The cement and cable industry is located at Satna itself, utilizing the lime and stone component of the cement from the adjacent areas of Maihar, Nagod and its own tehsil of Raghurajnagar, and coal as fuel from again the district of Shahdol. Now along with this industry, have mushroomed another set of industries that could be termed as cement products producing units throughout the region of Baghelkhand specializing in the production of hume pipes, tiles, cement netting etc.

The asbestos industry too is located in Satna which utilizes the locally found asbestos and specializes in the production of sheets, anti-fire grig, pipes etc. The apparel and textile manufacturing industry is too minor an expression to merit much attention; nevertheless, they do cater to the

embroidery, lace-work, weaving and finishing of khadi and raw wool requirements. Same is the case with trinkets, jewelery, brushes brooms etc.

The chemical industry needs special mention, not because of participation, but because of its diverse base and potentiality to serve a larger section of the population located at Satna, it supports the bronze utensils' industry at Uchehra, apart from supporting Satna's over medicine paints, paper-works, bleaching etc. Its range extends from drugs, varnish to perfume cosmetics, soaps and inedible oils. Besides the manufacture of explosives, utilized for purposes of stone quarrying.

Dairy as an industry has exclusively been established for serving the urban requirements, and as such it finds definite expression around Satna township. The products are essentially milk and butter. The poultry too is a similar case in point.

Grain milling and oil pressing as an industry are fairly ubiquitous according to areas where oilseeds

are cultivated and its expression reaches the maximum in the tehsil of Nagod.

However, the industry that needs special mentioning is the manufacturing of electrical industrial equipment and machinery and transportation equipment. The former produces electrical generators transformers, electro-magnetic clutches brakes etc., while the latter is involved in the manufacture of tractor-trolleys, bullock-carts, push-carts etc., assisted by the various iron and steel foundaries in the city of Satna who also engage in the production of structural metal works etc.

And finally, the repairing industry - elements of significant participation are auto-mobile, cycles and bicycles, agricultural equipment etc.etc.

#### REWA

The Rewa district is essentially characterized by an industrialization of the primary processing character. Its range though wide, does not reflect a significant incidence of participation in the purely advanced manufacturing category. So, at

best, there is only a sprinkling of the elements of the aforesaid category, viz-a-viz - manufacture of chemical, handtools and hardware, electrical equipment etc. However, the same cannot be said for the manufacture of agricultural equipment, alongwith of course the timber industry, bidi industry, earthen-ware, foodgrain milling and oil-pressing.

Timber is the most important industry of Rewa and is located at Rewa. The source of raw material is the forested tract of Sidhi and parts of Shahdol districts. Furniture, fixtures, toys, packaging material, crates, drums, structural wooden goods and wooden industrial goods are the usual products for which a wide market exists in the northern gangetic plain as well as in Satna and Jabalpure.

The bidi industry is located at Govindgarh primarily, utilizing the local female unskilled labour force, with the source of raw-material being essentially in the district of Sidhi. And in terms

of participation, it is second only to timber in the district. Grain milling as well as oil pressing are generally well dispersed in the areas of their resource concentration, and thus, cannot be classified according to location. But their importance in terms of participation makes out a case for mentioning, at least the important centres - Govindgarh, Nauganj, Gurh, Sirmour, Teonthar, Mangawan and Naigarhi.

The earthen-ware as an industry is a similar case in point, but the centres that need special mentioning are Gurh, Govindgarh and Naigarhi. The usual products of clay potteries that are essentially of local consumption and thus have very small marketable area.

Now in contrast to all the above mentioned activities, stands out the manufacturing of iron and steel products - done by foundaries in the field of forging and casting, which form the back-bone of all equipment machinery manufacturing. The agricultural equipment manufacturing is the most important function, where in products like harrows, seed-drills,

threshers and derms are made. And Rewa leads the region as regards participation under this category. Another important sphere of activity in Rewa is the manufacture of electrical equipment like transistors, volt-meters etc. rheostats etc.

Manufacture of aluminium utensils is also an important activity. In the chemical category of manufacture, explosives, inedible oils etc. are the components; besides of course the usual detergent perfumes etc. Most of these activities are concentrated in Rewa town.

Finally, in the repairing industry, spheres of high incidence are motor-vehicles, cycles and rickshaws, footwear and electricals.

SHAHNOL :

The Shahnol district is a predominantly mining district, after agriculture of course. It has eleven urban centres in total and its manufacturing base is a mixture of the primary processing and higher level manufacturing activity - ranging from earthen-ware, paper, timber, textile, leather,

hard-ware and agricultural equipment machinery and parts, of course besides an important industry in the Grain milling and oil pressing.

Earthen-ware industry is however the most important activity as regards participation, but as said earlier, that it is essentially of local orientation and can at best be considered to cater to limited demand area, and thus its regional significance is of a rather low order. Nevertheless, Beohani, Pushprajgarh, Johilla, Pagan, Kotma and Khadargama are important earthen-ware centres.

As regards paper centre, Amlai leads the entire region and is certainly the paper centre of the region. Pulp, paper and paper-board are the products manufactured at Amlai, besides chlorine and caustic soda by way of chemicals; thus being responsible for putting Shahdol high on the chemical map.

The timber industry finds expression at Shahdol. Umaari; Johilla for timber and Burhar for bamboo works etc. - the source of raw material being

the forested tracts in the district itself. The products of the industry include packing crates, cane-boxes, willow-wares, furniture and fixtures, reed and bamboo products.

Next comes the grain milling industry, which is essentially rice-husking, as rice is the main crop in the region and as regards the oil pressing - the high % of net sown area under oilseeds in Pushprajgarh tehsil should explain not only the high participation level in it, but also the area of concentration.

As regards the garment and textile industry expression, it is in response to the demands of mining industry; apart from the usual urban demands. However, Shahdol, Umaria and Nargada Hari Dafai are the important apparel industry centres.

The leather sector of activity has significant expressions at Shahdol and Beohani, but leathers products are not manufactured. In fact, only tanning, carrying, enamelling and japaning is

done, and then exported to Rewa - the leather centre of the region.

General hard-ware and hand-tools are the next category, located at Shahdol and Umaria. The main products of this industry are steel-furniture, utensil, kitchen-ware, cutlery type-founding etc.

Shahdol figures in the agricultural equipment picture too, on account of its manufacturing the cultivational implements such as harrows, ploughs, seed-drills, threshers etc.

In the field of chemical industry, mention should also be made of the coal tar manufacture, production of alkaline and acidic salts, fertilizers and pesticides besides the usual chemical paraphernalia of almost all urban settings such as soaps etc.

Finally in the repair sector, electrical, automobile figure out at the prominent sections.

### SIDHI

The most backward district in the region, where

very little industrialization has taken effect. Nevertheless, the most important activity in the sector under discussion is leather processing, followed by earthen-ware, timber, hard-ware and hand-tools, oil-pressing and apparel industry.

Leather processing is the first ranking industry in Sidhi district located at Tiwana, in the tehsil of Deosar, which incidently has a really incidence in the live-stock category of participation. The leather processing is restricted to merely tanning, currying, and finishing. And then the processed hides are exported to Rewa where definite articles are made using this as the raw-material.

The timber industry located at various points throughout the district is in effect, a response of the massive forested tracts in the region. However, in Sidhi district, the participation is at best in log-felling exclusively, and is exported to Rewa for further processing.

In direct contrast to these two extractive and typically, rubber industry is the hard-ware

and hand-tool industry, which has risen in response to the mining activity at Morba, Singrauli etc. The apparel industry too is a similar case in point; for there is a concentration of this expressing in the mining tract of the district.

Similarly, oil pressing is in response to the massive oilseed production and acreage in Deosar and Singrauli.

In the beverages and tobacco category, Sidhi figures high not because of tobacco, but on account of liquors, and the tehsils with significant participation under this category are Deosar and Singrauli - which are essentially tribal tehsils. This also explains the significant participation in this category in Pushprajgarh tehsil.

Apart of these, the other categories are too insignificant to merit any attention, for instance like chemicals, repair etc.

The total percentage participation in this category has further been divided into primary

processing and secondary processing; so as to differentiate between the extent of distance covered by a raw-material in terms of steps, for higher the step of process, the more advanced would be a region.

	<u>Primary Processing</u>	<u>Secondary Processing</u>
REWA	22.05	2.65
SHAHDOL	14.82	3.83
SATNA	30.77	4.82
SIDHI	19.66	4.07

So according to this classification, Satna has the highest percentage of participation in the primary processing followed by Rewa. Then comes Sidhi and finally, Shahdol.

In the secondary processing activity, Satna again tops the list followed by Sidhi, Shahdol and then Rewa.

The ratio of primary processing to secondary processing in Rewa is the highest at 10.7, in Satna

it is 7.2 while Sidhi accounts for 4.8 and in Shahdol the ratio is 3.8.

The case of Sidhi and Shahdol as having the lowest ratio, does not in the least reflect, their higher level of development, but a low diversification in the primary base at the first level and the extremely small participation in the modern sector as such, due to which even minor variations get exaggerated when converted into percentages, for analytical convenience.

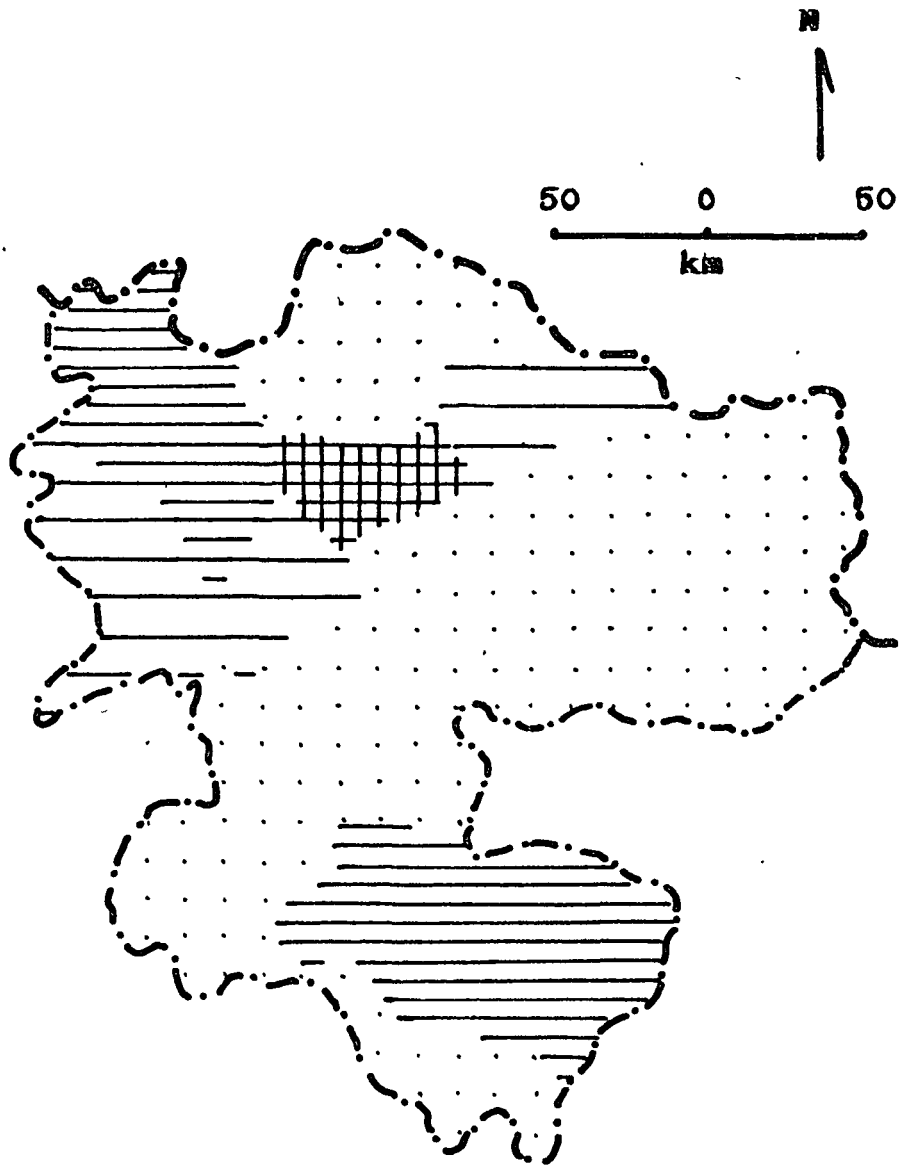
Fixed Infrastructure :

This sub-sector is responsible for providing the basic and essential infrastructure for the generation of an economy. It manifests itself in an indivisible part of the so-called fixed assets. Without its presence, a region would be denied off, even the necessary critical investment level required to throttle out the economy from stagnation.

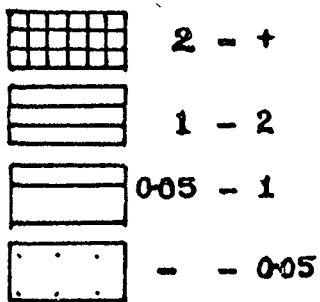
The following table alongwith map - figure number IV.21 would clarify the regional picture, as

Fig. 4.21

# PARTICIPATION IN CONSTRUCTIONALACTIVITIES



% OF WORKERS



to the distribution pattern :

Table IV.XI

Participation in the Fixed infrastructure sub-sector as percentage of participation in all activities excluding Agriculture

	Construc- tion	Allied con- struction	Electri- cal	Water
REWA	2.13	0.13	0.38	0.35
SHAHDOL	2.16	0.01	0.19	0.19
SATNA	1.07	0.03	0.95	0.95
SIDHI	0.46	-	0.19	0.19

Source : Census of India 1971, Series 10 M.P.  
Part IIB(ii) Eco.-Tables

Thus ranging from constructional and allied activities to electrical and water-supply is the domain of this sector.

The constructional activities manifesting themselves in the fixed-infrastructure sub-sector, have a high participation incidence in the urbanized tehsils of the region, for instance Hujur tehsil leads the region with almost 1% participation out of the total participation in the region, followed by

Sohagpur - 0.27%, Raghurajnagar - 0.25%, Nagod-0.23%,  
Maihar - 0.22% and so on. And this fact is responsible  
for the localization of all industries in urban  
centres; to a very great extent.

Under individual heading, constructional  
activities as such, have the highest incidence  
in Rewa, followed by Shahdol and Satna. Sidhi has  
an insignificant proportion of participation under it.  
And all activities involved with the maintenance  
and construction of building, bridges, roads etc.  
are an aggregation in this category. Thus implying  
that Rewa has the highest proportion of workers under  
it meaning that the region lies poised for further  
investment and development. Followed by Shahdol and  
then Satna.

Similarly, in the Electrical and Water supply,  
an aggregation of activities such as lines-men,  
electricians, overseers etc. and plumberers, pipe-  
layers, tank operators etc.,etc. are represented.  
Satna is the best served region in this category  
followed by Rewa, Shahdol and Sidhi.

### Exchange and Distribution

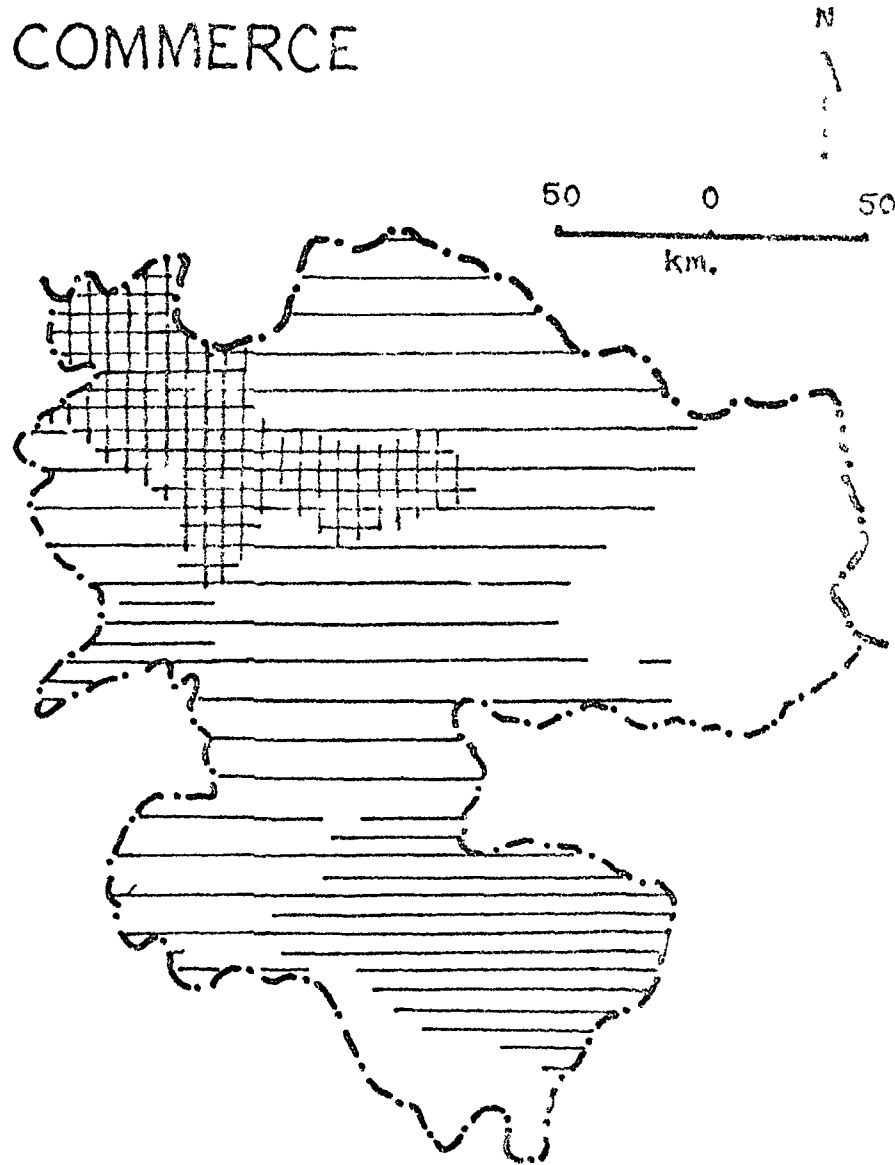
In this sub-sector, only whole-sale and retail categories are dealt with. This forms the basis of exchange economy, in which lies the foundation of the much said about - 'division of labour'.

In the retail as well as whole-sale trade, Rewa leads the region followed by Satna. Shahdol and Sidhi are more or less on the plain as regards retail, but in whole sale Sidhi's position on the spectrum is atrociously low. Table IV.XII in conjunction with map-figure No.IV.22 would suffice to clarify that the activity is positively correlated with urbanization for the tehsils at the higher level of urbanization also figure higher in the trade spectrum.

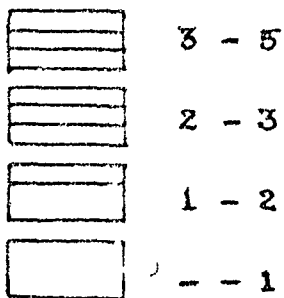
Eighty percent of whole-sale trade is concentrated in food-grains, textiles beverages etc. Having a maximum participation in Rewa followed by Satna and Shahdol.

In the fuel and chemical whole-sale, Rewa accounts for nearly 10% of trade while Satna for 7% while in

# PARTICIPATION IN TRADE AND COMMERCE



% OF WORKERS



Rewa for 0.9% only.

Table IV.XII

Participation in Exchange and Distribution sub-sector as percentage of participation in all activities excluding Agriculture

	Whole sale trade Fuel & tex- tile	Whole- sale trade Fuel & chemi- cal	Whole sale trade & Paper, wood, hides	Whole sale trade Machi- nery etc.	Whole sale trade Food & Misc.	Re- tail food	Re- tail Tex- tile	Re- tail Fuel & h.h. dura- bles	Re- tail Oth- ers	Res- taurants & hotels
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
REWA	0.85	0.15	0.08	0.02	0.01	7.60	0.90	1.38	0.60	0.74
SHAH DOL	0.31	-	0.03	-	0.03	6.54	0.82	1.10	0.48	0.60
SATNA	0.75	0.04	-	0.02	0.03	6.82	1.34	1.73	0.81	0.49
SIDHI	0.07	-	-	-	0.05	6.26	1.30	0.82	0.14	0.50

Source : Census of India, 1971, Series 10 M.P.  
Part II B(ii) Economic Table

In the retail category, the retail in foodgrains amounts to over 68% in which Sidhi leads the region followed by Rewa, Shahdol and Satna. In the textile category, the percentage in retail trade is almost uniform, but in participation as percentage of total non-agricultural workers, Satna leads the region followed by Sidhi, Rewa

and Shahdol. In the fuel and other household durable goods, category, which forms the second most important retail item on the list accounting for nearly 9% of retail trade participation.

Satna leads in this category followed by Rewa, Shahdol and Sidhi.

In the restaurants and hotels, Rewa leads the region followed by Shahdol, Sidhi and Satna - indication the extent of short-term in-migration.

### Distribution

In this sub-sector, the categories dealt with are transportation, storage and communication. Transportation forms the crux of analysis as it manifests mobility, exchange and in general development. The regional picture of the participation under the three categories are expressed in the table below

Table IV.XIII

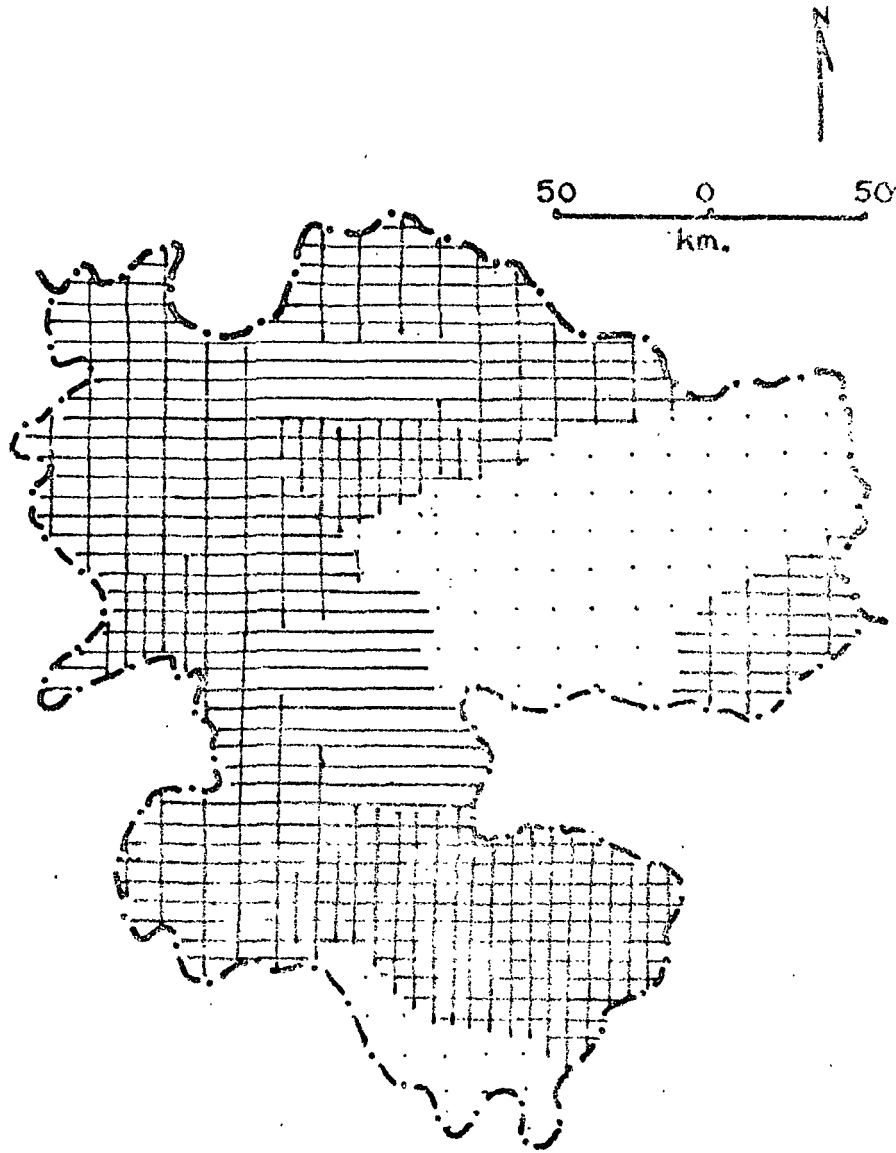
Participation in the Distribution sub-sector as percentage of participation in all activities excluding agriculture

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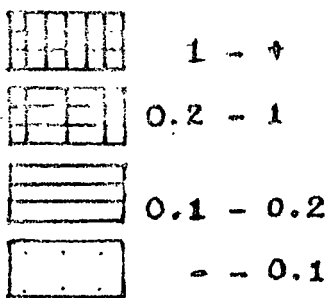
	Land transport	Incidental services	Storage & ware housing	Communication
REWA	2.67	0.03	0.05	0.49
SHAHDOL	4.94	0.03	0.02	0.19
SATNA	5.79	0.01	0.04	0.12
SIDHI	1.19	-	-	0.02

Fig. 4.23

# PARTICIPATION IN TRANSPORT, STORAGE ETC.



## % OF WORKERS



Source : Census of India, 1971, Series 10 M.P.  
Part IIV(ii) - Economic Tables

Analysis of the above table in relation with the map-fig. No.IV.23 would clarify the exact position of this sub-sector in the region. Areas on tehsils that have a definite urban incidence tend to figure up higher, for instance the tehsils of Hujur, Maihar, Sohagpur, Bandhogarh, Nagod, Teonthar and Raghurajnagar etc.

In the storage and ware-housing category Rewa, Satna and Shahdol are the only districts having participation incidence. Rewa, Satna and Shahdol specialize in the provision of cold-storage, grain - storage and general ware-housing facilities which are evidently more in Rewa and Satna. Sidhi, however has just one government owned grain storage and thus does not figure anywhere on the storage map. Similarly, in the field of communication, which manifests, telephone, telegraph, post offices etc. The participation again is maximum in Rewa, Shahdol, Satna and rather insignificant in Sidhi. This category is essentially in response to the administrative demands, marketing exchange demands, and thus exhibits a region's integrated-ness, and

in fact is co-terminus with transportation which in the modern economy is the essential link between the producers and the consumers.

Now, coming to the category of transportation which is essentially primarily of land character. Divided between the rails system and the roads system. Rail transport alone accounts for 2/3 of participation under the land-transport category in the region of Satna and Shahdol. It also accounts for the position of Bandhogarh and Maihar to be so high on the Transport - storage and communication spectrum. The region is served by the central railway (in Satna and Sidhi) and south eastern railway (in Shahdol), both of which converge on Jabalpur, so in fact, the region speaking rail connectivity-wise is an appendage to Jabalpur.

Now, as far as the regional economy stands, the railways play a dubious role, i.e. they help in carting away the primary products of Shahdol and Sidhi districts. Satna is the only city that benefits in the sense that finished and ultimate products are usually carted. Therefore, the road

transport needs an indepth analysis in the regional setting. Table IV.XIV gives us the areal distribution of pacca road.

Table IV.XIV

Length of Roads in miles

	National High Way	State High Way	Major (Dis- trict Roads)	Other (District Roads)	Village and Forest Roads
SATNA	63	90	189	183	155
REWA	100	32	50	207	476
SHAHDOL	-	71	187	125	676
SIDHI	-	44	93	17	430

Source : Road Bradshaw published by the Tourist Department, M.P. 1969

For the purposes of connectivity analysis a whole list indicies were calculated. The following table gives the result of the calculations done :

Table IV.XV  
(Compactness indicators)

Dist. Indices	a	B	n ²	r ₁	A
SATNA	0.21	2	13.64	6.14	0.08
REWA	0.21	1.84	16.29	6.58	0.09
SHAHDOL	0.11	1.59	15.93	9.65	0.09
SIDHI	0.17	1.63	20.00	6.74	0.07

Source : Survey of India's million sheet  
map of M.P.

---

The a-index clearly indicates the high level of connectivity existing in the districts of Rewa and Satna. The B-index supports the findings of the a - index. But both these indices do not take into account the actual route-length, but their emphasis is on the number of stations and routes between them. And therefore, in such conditions, both the districts of the northern elevated plain figure high in the indices under discussion.

Now, as regards the compactness indicator; where the total length and the number of edges are concerned, the index is  $n^2$ . Sidhi tops in this index because of an extremely low incidence in the number of edges, while the route length is not among the lowest. Similarly, where the route-length and the area(indicator in terms of diameter) is concerned the index is r, which brings the position of Sidhi scaling down second to Shahdol.

However, this compactness indicator indicates that Shahdol and Sidhi both have a higher compactness than either Rewa or Satna.

Another indicator was devised, keeping the total route length as the nominator and the area as the denominator. It was felt that this would indicate the ratio of route length to one square kilometer. And it's termed as the A - index, that indicates Shahdol and Rewa having the highest length per square Km. - 09 while Sidhi as the least length per Sq.Km. - 0.97. Satna falls in between with 0.08 Kms./Sq.Km.

Nevertheless, as regards connectivity, the northern elevated plain has the maximum incidence while in compactness the southern hilly area is in the top category. Shahdol and Rewa have the maximum routeage followed by Satna and then Sidhi.

A transportation network is in response, essentially to the nature of raw material, nature of labour force and in response to the demands of the economy. The southern hilly area, is essentially the

mining area of the region, where freightage and haulage is more important than community service. Thus the higher incidence of compactness. While in the northern areas, which embody the processing and manufacturing centres, community services comes to the forefront. Thus the incidence of higher connectivity. A detailed analysis on the above statement could be done if the data permitted. Nevertheless, they are forwarded as due explanations. (25)

### Commerce

Commerce is the life and blood of the modern economy. If the transports be compared to the arteries, the financial aspect, so, can easily be compared to the blood. And under the sub-sector the analysis ranges from banking, credit institutions, insurance services, to aspects of real estate services.

Though the actual participation is very low in this sector, but its regenerating effect and long-term implications upon the regional economy, demands its analysis.

The districtwise distribution of participation

has been given in the following table :

Table IV.XVI

Participation in the credit and capital sub-sector  
as percentage of participation in all activities  
excluding agriculture

	<u>Banking</u>	<u>Insurance</u>	<u>Real Estate</u>
REWA	0.38	0.03	0.49
SHAHDOL	0.33	0.02	0.49
SATNA	0.43	0.07	0.08
SIDHI	0.20	-	0.21

Source : Census of India 1971, Series 10 M.P.  
Part II B(ii) Economic Tables

The banking category of activity has under its domain, banks, other credit institutions, pawn brokers, money-lenders, financiers etc. The participation in the bank category of course is the highest with 195 workers in Rewa, 216 in Satna, 139 in Shahdol and only 56 in Sidhi. Other credit institutions like agricultural credit banks, cooperatives, etc., etc., are the second most important category and their incidence is highest in Shahdol and Sidhi, 50 and 45 workers respectively while in Rewa and Satna it is 30 and 23 respectively.

Pawn brokers and money lenders, in this extremely backward region are conspicuous by their absence in all but one district - Shahdol, where 15 workers were recorded as money lender/pawn broker in the 1971 census. Thus exhibiting a genuine financial hunger in the district, keeping in mind its tribal nature and mining character. The position on scheduled banks in 1971 and the situation as in 1976 is given below in the table :

Table IV, XVII

	No. of Sche- dule Banks 1971	Depo- sits	Advance	No. of Sche- dule Banks 1976	Depo- sits 66	Advance
SATNA	16	408	267	21	650	448
REWA	18	438	76	25	660	210
SHAHDOL	12	329	194	16	552	357
SIDHI	9	97	13	18	207	81

Source : Economic and Statistical report  
Rewa Division 1977

From the above table it would be clear that there has been nothing short of a credit revolution in the region, between the five odd years that is the time difference between the two points in time.

Satna for instance had an 80% increase in banking facility, Rewa accounted for 72% increase, Shahdol similarly, had 75% increase and Sidhi has had 100% increase in the facility. With the deposits increasing by 62% in Satna, 60% in Rewa, 60% in Shahdol and 250% in Sidhi. In the field of deposits too, Satna has had an increase by 54%, Rewa by 72%, Shahdol by 80% and Sidhi by 600%. The percentages are often misleading especially in the case of Sidhi, where actual figures are so small that their conversion into percentage usually gets exaggerated. Nevertheless, one thing is sure that in 1981, the regional economy would be vastly different, as from the one under examination now. Such massive outlay of capital is bound to take a positive effect in the re-structuring of the regional economy, for its own development.

In the other two categories of insurance and real-estate, Rewa and Satna figure higher than the rest due to a higher incidence in purchase and sale, agents and brokers, auditing accounting and book keeping services, which have a regional maximum

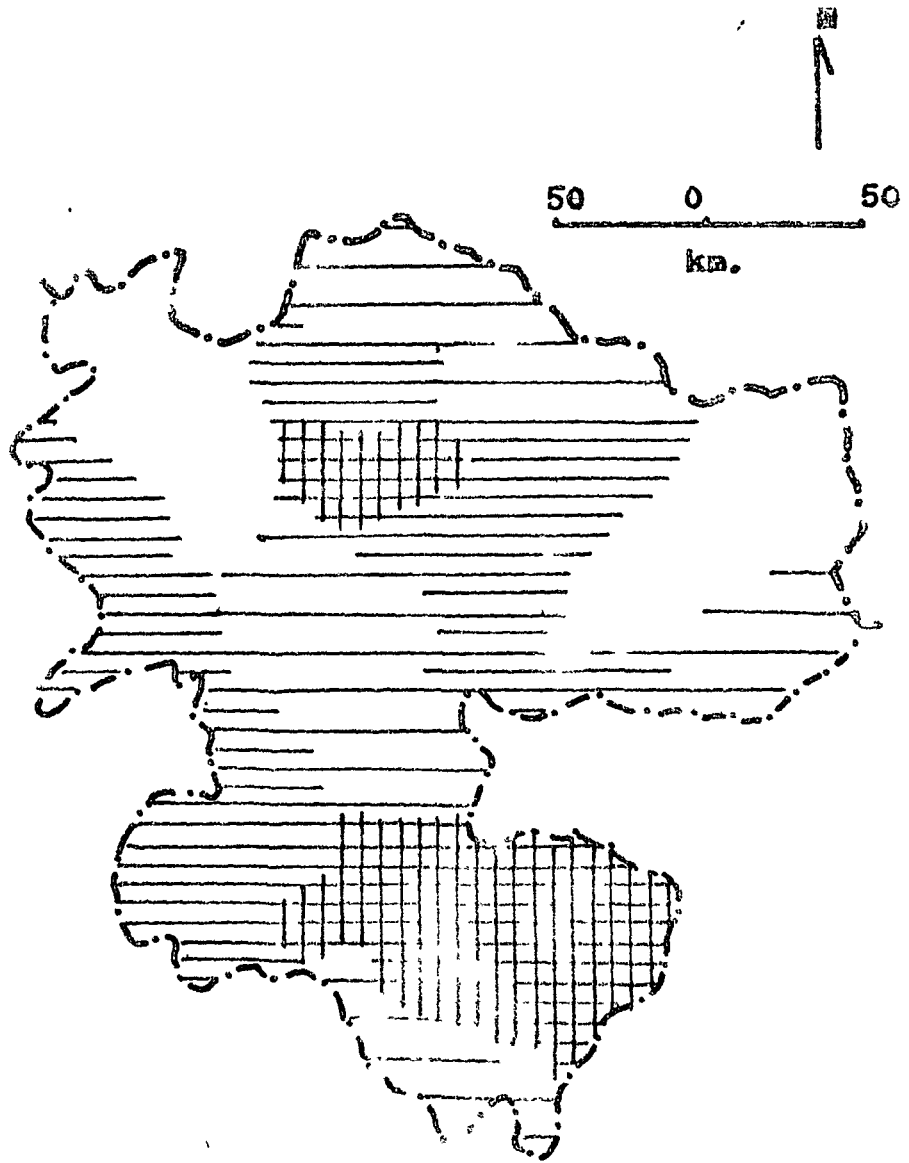
in Rewa (85), followed by general business services in Shahdol(100), in the sub-activity of advertising and publicity all regions have equal representation, similarly in news services category, Shahdol and Sidhi both figure on the same strength, mainly because of the mining activity in the region. In comparison to this, the life insurance carriers stands rather insignificant, though Rewa has 20 workers while Satna has 15 workers in this category.

However, in this sector, the pride of place goes to the banking structure, followed by real estate and then insurance.

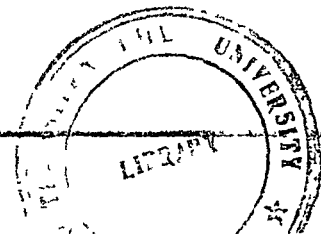
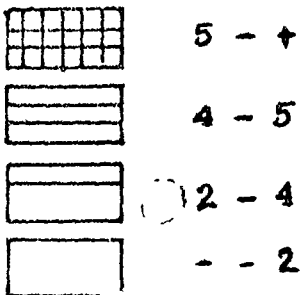
### Services

The services sub-sector, in terms of participation is very important, just next to agricultural participation rate. However, for the present analysis, the range of services extends from agricultural service, to legal, educational, medical, sanitary, community, administrative and personnel services. The most important of these are administrative, education, personnel and medical.

# PARTICIPATION IN SERVICES



## % OF WORKERS



The total position of the services can be had from the table below :

Table IVXVIII

Participation in the services sub-sector as percentage of participation in all activities excluding Agriculture

	Adminis- trative servi- ces	Educa- tion servi- ces	Perso- nnel Servi- ces	Medi- cal servi- ces	Agri- cul- ture Servi- ces	Le- gal ser- vices	Comm- unity servi- ces	Sani- tary ser- vices
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
REWA	12.16	11.90	4.88	2.47	0.60	0.30	0.43	0.22
SHAHDOL	7.08	10.19	4.33	1.29	0.20	0.14	0.23	0.34
SATNA	8.27	7.45	4.21	1.52	0.30	0.26	0.49	0.82
SIDHI	13.49	12.33	4.19	1.23	-	0.19	0.15	0.21

Source : Census of India 1971, Series 10 M.P.  
Part II B(ii) Economic Tables

The dominant position of the administrative spectrum alongwith personnel services needs no stressing. It includes government servants of Union as well as the States. They form the back-bone of our organized society today. Their high incidence in Rewa is but natural, as it is besides the district headquarters,

the divisional headquarters too. The personnel services comprise of the cooks, barbers, sweepers, laundrymen and dhobis, an essential adjunct to all societies, and more so to urban ones.

The educational services, include teaching research, and similar employees in vocational, non-vocational, in technical and non-technical institutes. Concentration of educational institution exists in the Rewa, Satna, Shahdol, Umaria, Nagod, Sidhi etc., i.e. to say in almost all urban centres with a slight proliferation of primary and secondary schools in the villages, in the whole region, accounting thus for this high incidence of participation in education. Rewa is now the centre for advanced studies with the establishment of a full-fledged university as the Anghesh Pratap Singh University alongwith a Polytechnic, and Agricultural College besides a Degree College in Commerce, Arts and Science. Apart from this, there is also a Sanskrit College. In Shahdol, Bebhani, Burhar and Kotma, each have one Degree College, Shahdol has two Degree Colleges. While Sidhi has 2 Degree Colleges -

one at Sidhi and another at Singrauli. Besides the usual paraphernalia of primary, middle and secondary schools, which are scattered throughout the region.

The main problem with this sort of education is, that it creates a glut in white-collar job market, while the other sectors of employment remain high and dry. There is a need specially in this region to have Polytechnic Colleges as many as possible, for the formal education, has now entered a phase in the region where school drop-outs are maximum, mainly due to the fact of a bleak employment future, thus the resulting dis-interestedness in education.

Medical services, are scattered very far and between, however seeing the distribution of medical services in map - figure number IV.25 one can easily surmise that the area having a higher density would obviously have a higher participation. Areas that stand out prominent are Amarpatan, entire Rewa district and Gopad Banas. In the secondary

category, the tehsils figuring are Raghurajnagar, Nagod, Maihar and Singrauli. The tehsils of Beohani, Bandhogarh and Sohagpur fall in the third category and in the last category are the tehsils of Pushprajgarh and Deosar, having as low a ratio as 400-500 Kms. for one medical institution of any kind. Incidentally, these are also the areas of tribal domination, who do not pay much heed either to the tenets of modern hygiene or modern medicine system.

However, the northern elevated plain has a denser medical system and so also in the participational aspect.

The agricultural services which is the most important service has a rather low participation percentage, yet the nature of work expected by this service, justifies its inclusion in the analytical scheme. Rewa leads the region in the participation under this activity, primarily because of its position as the divisional headquarters. 186 workers alone are employed in the irrigational systems, including the much talked of Bansagar

Yojana; besides 40 workers are with the horticultural and nursery services. Satna ranks next with participation in activities such as land clearing, draining, grading of agricultural products, livestock services etc. Soil conservation is another field where Satna exclusively has participation in Shahdol on the other hand is also on the agricultural services map, due to a moderate participation in irrigational services, horticultural and nursery services etc. Sidhi in 1971 at least was devoid off this essential service in the agricultural arena.

The legal, community, and sanitary services though very important, but essentially are of urban nature, and are far too insignificant in terms of participation to merit our analysis. However, the legal services have a higher participation incidence in Rewa and Satna, while it is definitely lower in the southern hilly area. This could imply a higher crime rate in the northern elevated plain than in the southern, but such a statement would be too premature to make at this stage. Nevertheless,

keeping in view the naturally accepted relationship between development and crime, and the participation incidence of community services again is high in only these two regions - the Rewa and Satna districts. Incidentally, the community services include besides participation for religious works, trade union, association, humanitarian missions, social workers etc.

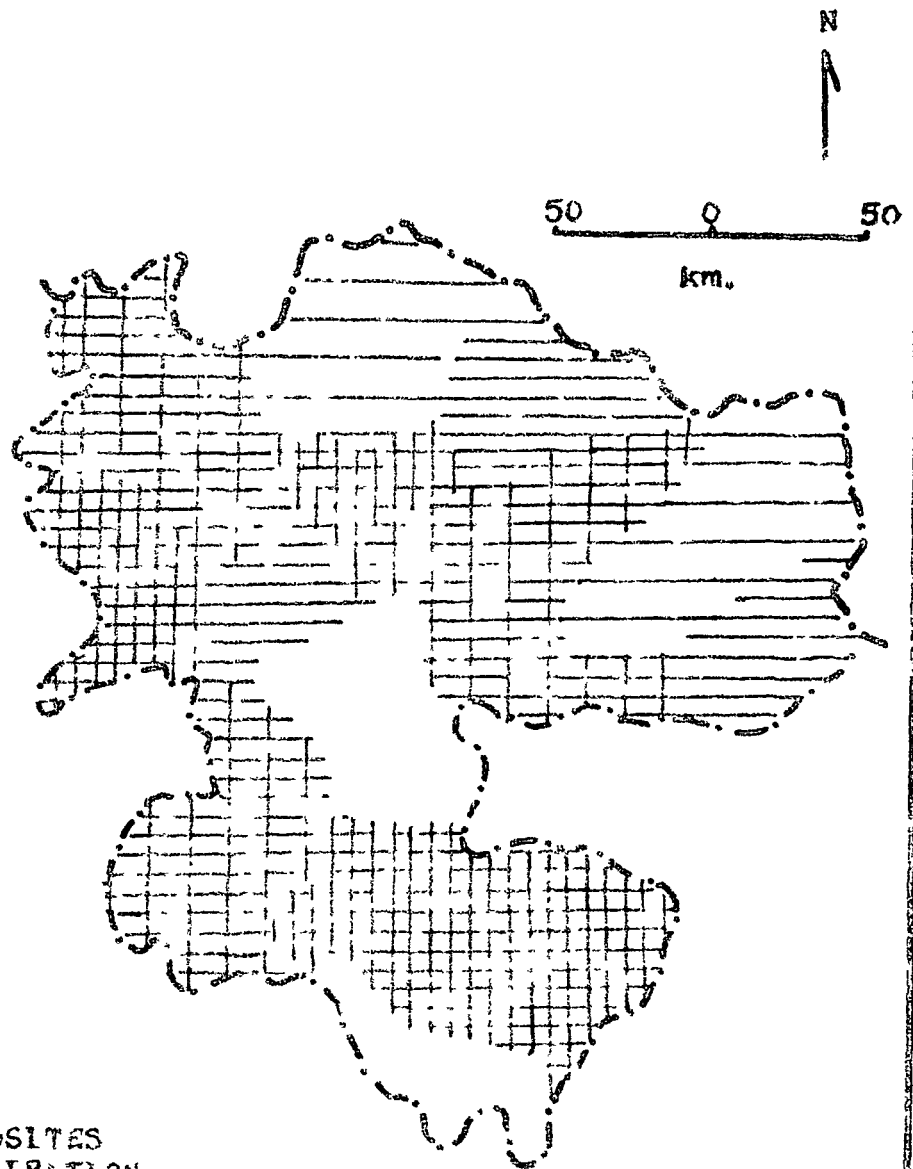
Nevertheless, in the service sector, administration reigns supreme followed by education and personnel services.

#### Levels of Economic Development

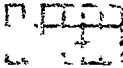
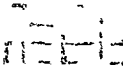
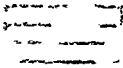
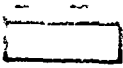

The various indicators, just discussed, i.e. under their broad headings, as given in industrial classification of workers were ranked in descending order and were composited for determining the composite index (Ashok Mitra, 1960). Class intervals were then formed and fitted to the spectrum of composite index.

Tehsils emerging as the most developed areas

# LEVELS OF ECONOMIC DEVELOPMENT



RANK COMPOSITES  
OF PARTICIPATION  
(AFTER ASHOK MITRA'S)

	50 - -
	60 - 50
	70 - 60
	80 - 70
	90 - 80

of the region are as a result of this exercise - Nagod, Maibar, Hujur and Sohagpur.

In the upper intermediary category, come the tehsils of Raghurajnagar and Gopad Banas.

In the median category, the tehsils are Amarpatan, Mauganj, Bandhogarh and Singrauli.

In the lower intermediary category fall the tehsils of Sirmour, Teonthat and Deosar.

In the lowest category, the tehsils dominating are Beohari and Pushyrajgarh.

It would be noticed, that on an average the northern elevated plain is higher on the scale of development in terms of participation, while it does have its pockets of under-development comparatively speaking, for instance in the tehsils of Teonthar and Sirmour.

Similarly, the southern hilly area, on an average is at a definitely lower stage of develop-

ment, again speaking in terms of participation, while it does have its pockets of development in, for instance Sohagpur and Gopad Banas, if one stretches a bit.

This, then is the ultimate picture of the region's economic structure.

#### Functional Association of Towns

Based on the findings generated by the activity analysis of the region, an attempt herein is made to classify functional-associations in the towns of the region⁽²⁶⁾.

According to the 1971 census, there are 15 towns, irregularly distributed throughout the region. Eleven towns in Shahdol, four in Satna and one each in Rewa and Sidhi districts.

The functional classification of towns in a particular region is becoming increasingly difficult due to the growth of urbanism⁽²⁷⁾.

For the larger towns tend to specialize the smaller towns exhibit a tendency towards diversification⁽²⁸⁾.

Now, to test this, various models have been developed and tested the world over. But for the present study, reliance has been exercised on Nelson's method⁽²⁹⁾ exclusively. Accordingly, the results are :

1. The most important third order function in the region is Trade and Commerce, in which 7 towns out of total 15 towns have specialized, Beohari, Kotna, Maihar, Nagod, Satna, Shahdol, Umaria.

2. The next important, again third order function is other services in which 6 towns out of 15 towns have specialized, Kotna, Reva, Satna, Shahdol, Sidhi, Umaria.

3. Manufacturing other than households is a third order function with three towns, Amrai, Burhar - Nargadahani Dafai, and Satna and second order function with Maihar.

4. Similarly cultivation is a third order function with Amlai and Umaria and a second order function with Beohari.

5. Livestock and forestry is a third order function with Rewa, second order function with Maihar and first order function with Shahdol.

6. Household industry too is a third order function with Kotma, second order function with Uchehra and first order function with Nagod.

7. The construction category is a third order function with Nagod, second order function with Shahdol and a first order function with Rewa.

8. The transport storage and communication is a third order function with Rewa, second order function with Satna and a first order function with Shahdol.

9. The agricultural labour category is a third order function with Uchehra and a first

order function with Beohami .

10. Johilla is the only town which has a highly diversified base, specializing in no activity. However, the functional structure of towns is :

Table IV.XXX

Functional structure of town 1971

Mono functional town	Bi-functional town	Tri-functional town	Quadra-functional town	Penta-functional town
Khegar-gana	Uchehra	Beohami	Rewa	Shahdol
Sidhi	Burhar	Kotma	Satna	
	Nargada-hari	Maihar		
	Dafei	Nagod		
Pasan	Amlai	Umaria		

Table IV.XX

Functional classification of towns  
(Based on priority of percentage in the  
specialized categories)

	1	2	3	4	5
1. Shahdol	IX	VII	VIII	III	VI
2. Rewa	IX	VIII	VI	III	
3. Satna	IX	VII	V _B	VIII	
4. Nagod	V _A	VI	VI		
5. Maihar	V _B	VII	III		
6. Umaria	IX	VII	I		
7. Beohari	I	II	VII		
8. Kotma	IX	VII	V _A		
9. Uchehra	V _A	II			
10. Burhar Nargadshari Dafai	IV	V _B			
11. Amlai	V _B	I			
12. Khodargama	IV				
13. Sidhi	IX				
14. Pasan	IV				

The above table clarifies the position that higher a city in the rank-structure, greater would be its specializations, e.g. Shahdol, Rewa and Satna; in contrast to Sidhi, Pasan etc. which are way down in rank-structure as well as in the specialization scale. The reason for such an occurrence lies in the concept of 'economies of scale', better described as 'Agglomeration Economics', which are the savings that can be made by an increasingly large market distributed over a small compact area, making per unit production costs very low due to high production cutting back upon transportation cost etc. And besides, 'specialization depends on the size of the market' - picture of Adam Smith clearly illustrates the above position.

In the region, the towns with a higher number of specialization, service category usually ranks first.

In the median category either manufacturing or trade and commerce category stands prominent.

In the mono-functional category  
of specialization, construction seems to be  
the dominant activity.

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Notes - Chapter IV - ( A )

1. **Froedman.** Marx on Economics - Economic Struct-
2. **Fielding, G.J.** ... ^{UR} Geography as social science.
3. **Occupational Structure - The census h**  
classification workers, has  
been clubbed in to primary  
sector (Cultivators, Agri-  
cultural labourers, Livestock  
forestry etc. and mining and  
quarrying.)  
Secondary sector (Household  
industries, Manufacturing  
other than house-hold and  
construction)  
Tertiary sector (Trade &  
Commerce, Transport - storage  
& Communication and other  
services).
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Urbanization - A case study  
of satellite primacy 1850 -  
1921' - In Urbanization in  
Developing countries.  
P.P. - 187 - 209.
5. **Fielding, G.J.** 'Geography as social science'  
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6. **Agriculture.** - In this category the culti-  
vators and agricultural lab-  
ourers have been clubbed to  
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7. **Friedman & Alonso. W.** 'Regional development planning.  
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- (III) Breece, Gerald. 'Subsistence Urbanization' in Urbanization in Newly Developing countries, 1966.
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VIII - B P.P. 1 - 12.
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phy A modern synthesis P.P.314 -  
355.
29. Chapters - Section as methodology.

SOCIAL STRUCTURE - CHAPTER - V

The objective here is to analyse the social structure of Baghalkhan, bring into focus, the essentially segmented social set up and its impact on the regional structure. The concept of social structure is paradoxically so fundamental to social science as to render its uncontested definition virtually impossible. Starting on the premise that in any given social set up - three sub-systems exist in complete coordination, which render organicity and existence to a social set up.⁽¹⁾ These sub-systems essentially pertain to :

- I - Human groups and sub-groups
- II - Pattern of spatial organization
- III - Cultural environment.

Under the human groups and sub-groups an attempt to study the caste-structure has been made alongwith schedule castes and schedule tribes.

Under the patterns of spatial organization, analysis pertain to essentiality, growth rate, density, distribution, age and sex structure, literacy and urbanization.

Under the cultural environment, linguistic pattern and religion form the crux of analysis.

I. Human groups and sub-groups

Caste structure

A caste analysis is essential for a meaningful study of any region in India. Caste as an organization does not only restrict itself to the society but also permeates to the economy and polity of the region⁽²⁾. Thus a study of caste groups in a regional frame reflects the economic, social and political structure. That is to say, that even today, caste plays such an important role

in a predominantly agricultural society, that its exclusion from a regional analysis makes for a dimension-less and meaningless study. (3)

The concept of regional caste studies was first enunciated by Mekin Merriot who studied caste ranking and community structure in five regions of India and Pakistan. Later on, the contribution of Schwatrzberg, who studied the selected castes over the north Indian plain came.

Now, before we plunge into the aspect of region-specific caste analysis let us see the complexity of this system.

The term caste is used to designate each unit in the hierarchially arranged organic systems of closed groups to be found on the Indian sub-continent. The great size and spatial extension of the population concerned and the close interlocking of religious and secular features have produced a great variety of local variation, from which it is difficult to draw consistent features; and allocate

them their precise emphasis ~~is~~.

Nevertheless, the present study of castes is restricted to its spatial connotations, where, essentially, distribution, combination and concentration patterns have been worked out, with a view to analyse the pattern of accordance and discordance between the traditional occupation of the caste and their present habitat. Although the basic caste characteristics undergo a slight modification in the areas exposed to urban impress, but by and large in a predominantly rural society they conform to the old pattern, especially so in a region like Baghelkhand.

Now for the purpose of the present study, we have classified castes into three broad categories on the basis of the nature of occupation. In the primary class, we have grouped together that category of castes which are involved with menial labour, for instance cultivation, cleaning, leather works etc. The castes that are grouped here under are Chamars, Rori Mochi, Bhangi, Mehtar and also in this category come the tribes like Gonds and Kols

etc. They form the essential sub-structure of the society engaged in the production of social assets over whom the rest of the social structure is founded⁽⁴⁾. This is the category which has been much exploited in the past and it is only in the present that an organized movement for their betterment is being brought about by either legislations policies or by social workers. Out of ~~this~~ category, Chamars, Gonds and Kols predominate the spectrum, and are basically the castes involved with cultivation. The spatial arrangement is such that Chamars dominate in the northern elevated plain of the region while Kol and Gonds dominate the southern hilly lands and both exhibit an immense relationship to each other i.e. tribes and Chamars⁽⁵⁾. They form the essential labour force of the rural economy and Chamars account for a total 13.2% of the total population; while Kols and Gonds account for a total of 7% and 6.4% respectively of the total population.

In a word, the entire attributes of 'self-sufficient independent republics'⁽⁶⁾ of our rural

villages is owed to this category of castes which uphold the entire burden of our rural population and rural economy.

In the secondary class comes that category of castes, which do perform manual labour, but not of the menial kind. The services/functions which come under this class are wood-cutting, stone-cutting, masonry, animal husbandry, hair-cutting etc.etc. This class forms the necessary adjunct to a feudal society and does contribute to the village sufficiency, and is considered to be higher on the social-scale as compared to the Chamars and Doms. And a necessary amount of feudal patronage⁽⁷⁾ is required for their existence. Ahirs, Kachhis, Kumhars, Tehis, Wais and Dhobis etc.etc. In Baghalkhand, Ahirs and Kachhis dominate this secondary classification with 7% and 5.2% of total population. The major castes in this group account for a total of 21.9% of the total population. Their spatial distribution is higher in the northern elevated plain than in the southern due to the tribal setting in the southern counterpart - which provides for most of these functions and thus explains their low concentration in the area to the south of the Sone-trough.

In the tertiary class, we have that category of castes which own the mode of production but are not involved in the production process itself. They form the anchor for the feudal society, the rentier class, the oppressor class in Marxist technology. This class is manifested in the castes Brahmins, Rajputs, Baniyas etc. who are the principal land holders in the region even today. 15.4% of the total population was accounted for by Brahmins alone while Rajputs account for merely 4.8% and 2.3% were Baniyas. Brahmins are concentrated spatially in the northern elevated plains, where their main function is land holding, while in the southern hilly lands they have stuck more ^{to} their traditional function of priestly activities, while the proliferation of Rajputs is more or less uniform through out the region. Baniyas and Kumis who are essentially of the business caste exhibit too a uniform distribution, while Kumis on an average is an important caste in the Nauganj tehsil.

**Major castes :-**

---

In 1931 census, the region recorded a total

of 104 castes with a total population of 2175,058 persons.

The identification of major castes from amongst this perplexing heterogeneity was the first task. For castes in general have a highly positive skewed distribution. So the only way of identification of major castes was by transforming absolute values into logarithmic values.

On doing this the following categories emerged.

Table V.I

<u>Category</u>	<u>Population Range</u>
Insignificant	Upto 199
Minor	200 - 3199
Medium	3200-49999
Major	50,000 above

Table V. II

<u>Castes</u>		<u>Percentage to total population</u>
1. Brahmins	-	15.4
2. Chamars	-	10.5
3. Kol	-	7.9
4. Ahir	-	7.0
5. Kurmi	-	6.8
6. Kachi	-	5.2
7. Mavari	-	5.2
8. Rajputs	-	4.8
9. Lodhi	-	2.8
10. Kutwar	-	2.3
11. Bania	-	2.3

---

Total Major Caste 76.6

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Source : Census of India, 1931

Thus the above mentioned castes were in the major category in 1931. The percentage of

total population of these eleven castes was to the tune of 76.6%.

### Relative Strength of Major Castes

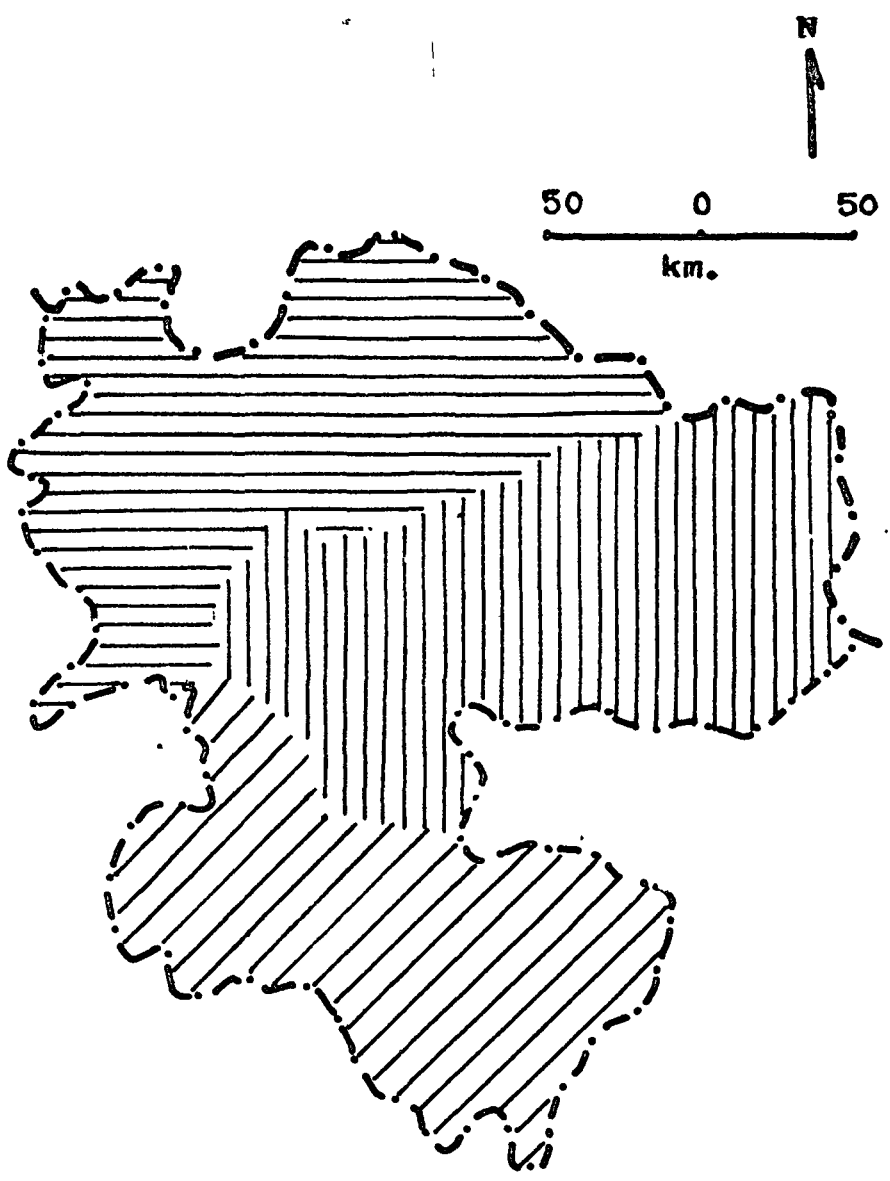
The relative strength of the castes has been ascertained by the ranking method where in the mean of each sub-unit has been added to once standard deviation for the IIIrd ranking, and twice standard deviation for IInd ranking and thrice standard deviation for the Ist ranking.

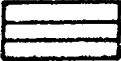


#### Ist Ranking

Brahmins are the first ranking caste in the northern elevated plain, specifically in the tehsil of Teonthar, Hujur, Mauganj and Raghurajnegar and States Maihar, Nagod, Kothi, Sohawal, Jaso and Baramudha. In the southern hilly lands, Kols and Gonds dominate. Kols dominate the Bardi tehsil and Ramnagar tehsils, while Gonds dominates the Sohagpur tehsil. It will be remembered that in the soil map, we had mentioned that the area north of the Sone-trough is a

Fig. 5.26

# FIRST RANKING CASTES



INDEX	
	Brahmins
	Kols
	Gonds

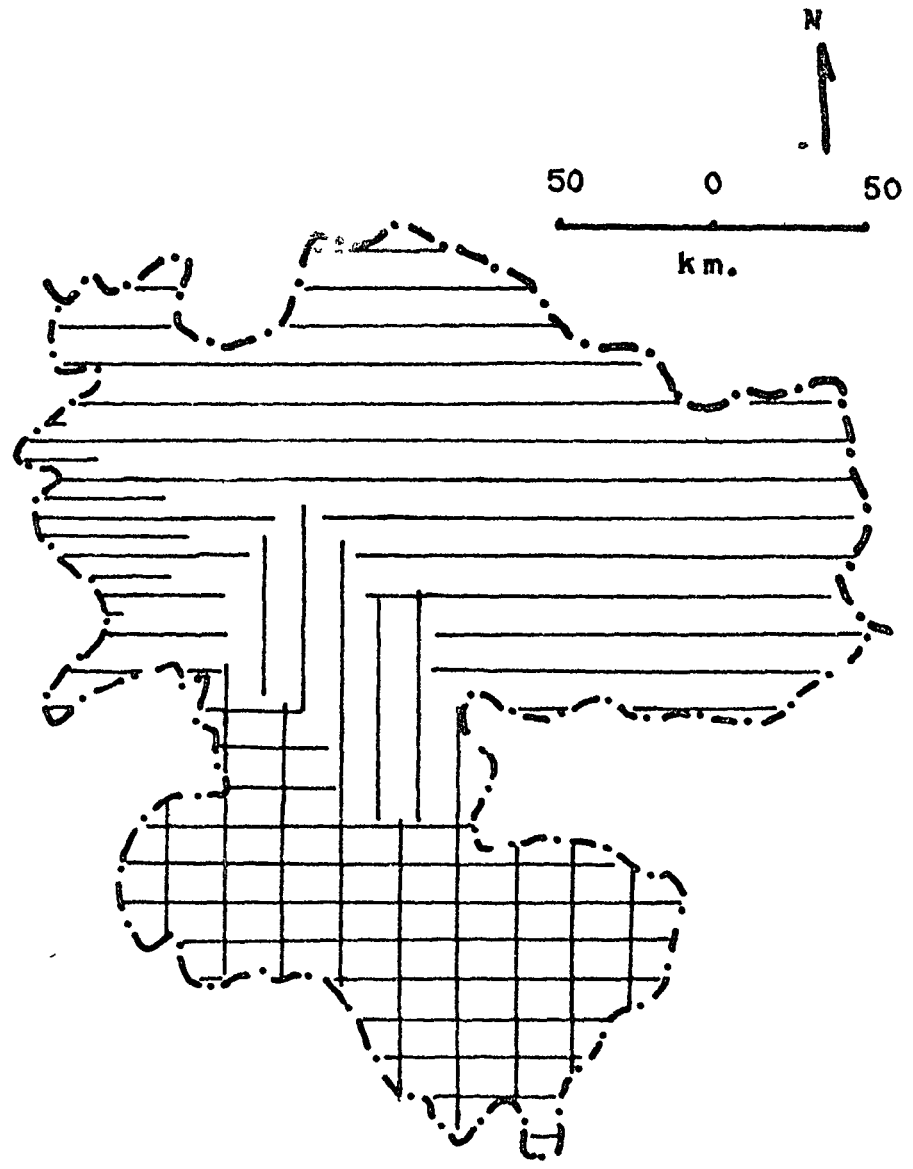
fertile tract of upraised land at times dissected by the few rivers that cross it. Agriculturally, this is a positive area, and Brahmans & Rajputs are the principle land-holders, even today in this part of the region a single family of this privileged class can hold over 300 acres. The higher concentration of Brahmans in this part can be explained by the fact, that during the rule of the local crown, land grants were made to Brahmans in particular and the learned in general. While Kols and Gonds to the south of the Sone-trough have a history of continued existence in this hilly area, for it not only afforded them protection but also food and shelter, by the immense edible variety of fauna etc. Kols & Gonds form the essential productive sub-stratum of the society - "the salt of the earth" in this region. Gonds however, are a little different, The process of sanskritization has affected a section of this tribe known as the Rajvanshi Gonds - and they today consider themselves to be equal to the neighbouring Rajputs from whom they have, over centuries of co-existence acquired political and social culture.

2nd Ranking Castes

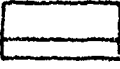
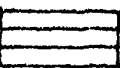


In the entire northern elevated plain, Chamars are the 2nd ranking caste - with the exception of Nagod, where Kachhis are the 2nd ranking caste. Now, Chamars and Kachhis are basically agricultural castes. In fact, Kachhis are vegetable growers by caste and their predominant position in the Nagod area speaks of the favourable agricultural condition for the growth of vegetables. Chamars on the other hand are essentially agricultural labourers and their concentration is high in this scale in the tehsils of Raghurajnagar, Teonthat, Hujur, Mauganj, Bandi and the states of Maihar, Baramdha, Sohawal, Jaso, Kothi etc. Chamars as agricultural labourers are hardier than the tribals like Gonds and Kols. Besides, it will be seen that their concentration pattern is in areas deemed positive for agricultural purposes. This area is also given to cash-cropping, higher percentage of irrigated area and consequently a much better level of living than its southern counterpart.

Fig. 5.27

# SECOND RANKING CASTES



## INDEX

- |                                                                                     |         |
|-------------------------------------------------------------------------------------|---------|
|  | CHAMARS |
|  | KOLS    |
|  | GONDS   |
|  | KURMIS  |

In the tehsil of Ramnagar, we have Gonds as the 2nd ranking and Kurmis in the Sohagpur tehsil. Kurmis were initially a non-agricultural caste, but in this part of the country, they are not only a cultivator class but also are in the land holding category. During the Maratha invasion, this caste, it is said permeated into this region. But before that Kurmis as such were unknown.

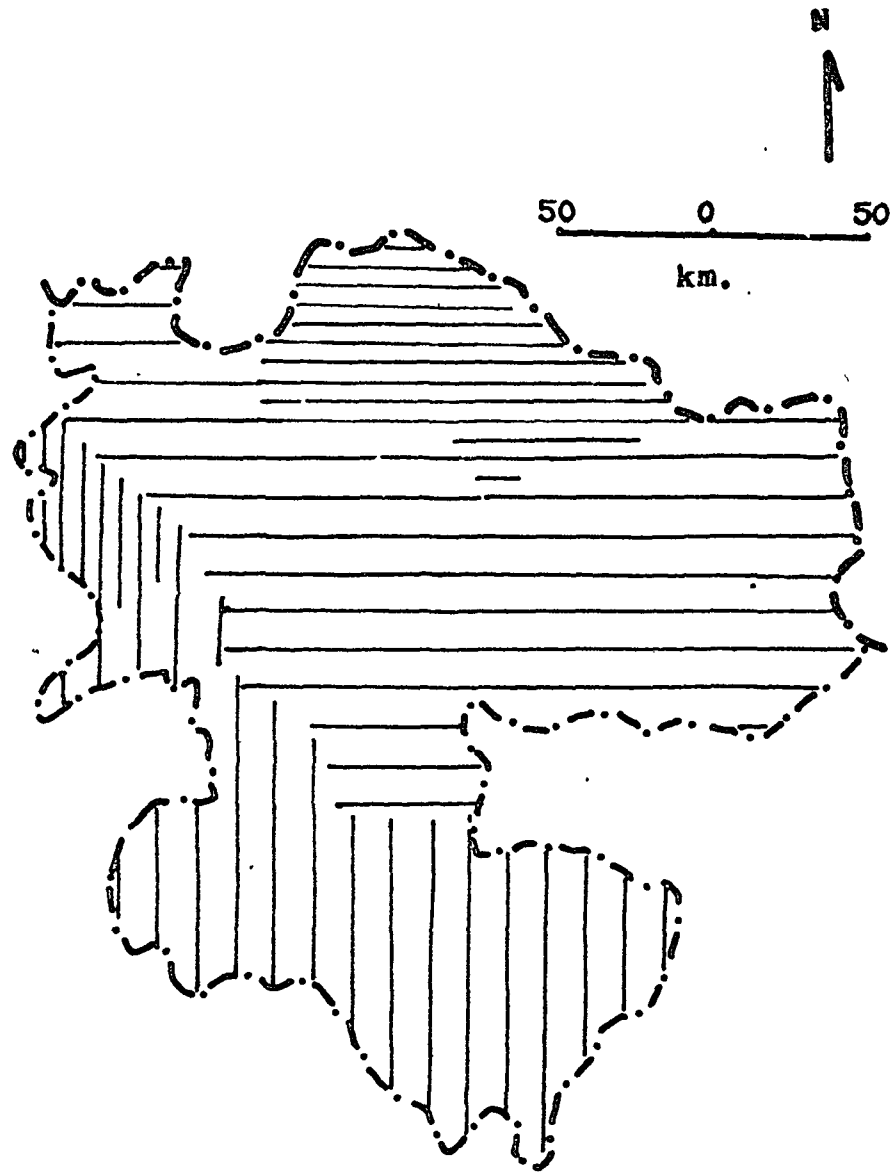
### The 3rd Ranking

©

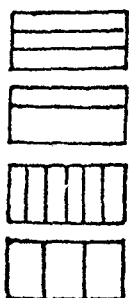
Rajputs are the chief third ranking castes - they have a high concentration in this category in the tehsils of Mauganj, Bardi, Raghurajnagar, Ramnagar and the states of Nagod, Sohawal, Jaso, Kothi and Baraundha. They are the chief land holding castes and the entire feudal structure and the system of feudal production-relations rested upon this caste, especially so in 1931. They have more or less a uniform distribution, though sect-wise differentiation does exist within this caste in the sense that the nature of relationship between various sects and the ruling Baghels were governed

Fig. 5.28

# IIIRD RANKING CASTES



## INDEX



AHIRS

RAJPUTS

KURMJS

TELIS

by temporal political influences. But that is basically a political question, which did however have spatial overtones in the sense of migrations of sects which were ostracized - and thus the concentration thus diluted. Nevertheless, at this point in time and hereafter, no migrations were effected in the manner described above. So we can assume, given a set of conditions which remain the same over time, the structure remains the same as in 1931.

However, apart from the Rajputs, Ahirs, Telis and Kachhis are the important IIIrd ranking castes, Ahirs being in the tehsils of Teonthar and Hujur which had grazing conditions very conducive for livestock and animal husbandry. Though today, the pasture land and meadows are fast being converted into arable land, but so is a change in their occupation.

The concentration of Teli in Maihar and Kachhis in Sohagpur naturally go to indicate the possibility of cash-crop production in 1931, while

linseed, much in production then, the vegetable aspect is a little troublesome.

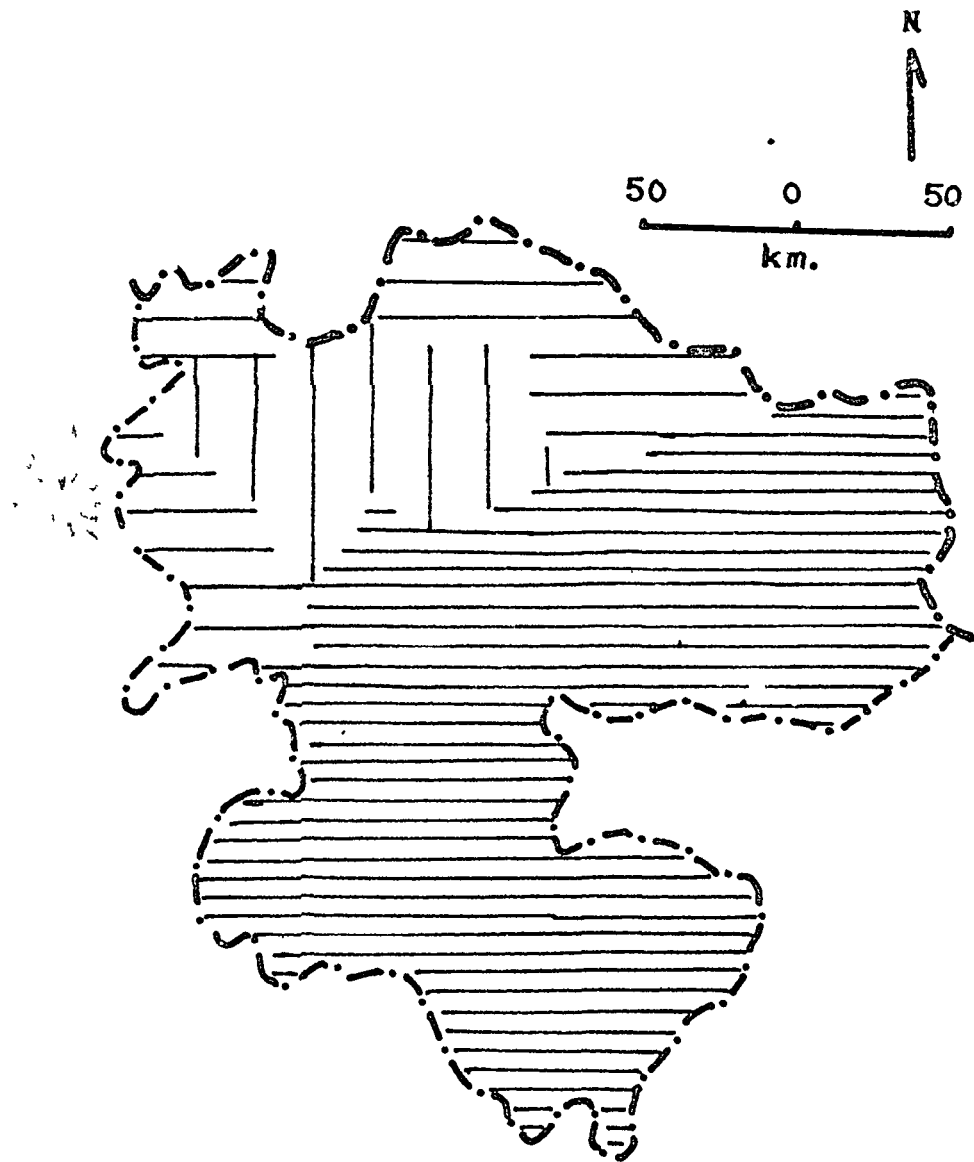
Nevertheless, even today Maihar leads the region in terms of its oil-seed production, so it would not be wrong to assume that the heavy concentration of Telis in Maihar only goes to corroborate this fact. Besides, it is also said, that this region, before Katchhis used to have a Teli kingdom.

#### Caste Combination

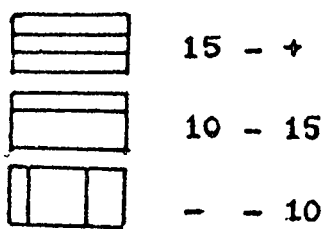
Through caste combination, an attempt has been made to find out the pattern of caste association and the principle components in a given combination. On the basic premise, that the caste associations would be stronger if the population strength of any caste is higher. Now, for instance, the high concentration of Chamars and Brahmans on the northern elevated plain obviously points out the fact that the association between these two castes is higher, comparatively speaking.

Fig. 5.29

# CASTE COMBINATION REGIONS



No. OF CASTES



So, the statistical method utilized for the identification of the strong caste association is Weaver's Crop Combination method⁽⁸⁾. Now, the results after computation were mapped revealing to us a positive relationship between the diversity of relief and diversification of castes. For instance in the northern elevated plain, the variation between castes-combination is from 8 to 12 and 14 while in the southern hilly area characterized by rugged topography and heavy forests the caste combination reaches a number 20. That is to say, the higher the diversity of relief - higher is the diversification of castes and consequently more diversified is the economic base too, for occupations of non-agricultural character are needed to support a said level of population. Thus, it is obvious that in areas which exhibit a higher combination level, such as Sehagpur tehsil, Ramnagar tehsil, Bardi tehsil, the economic base did not consist of only agriculture in 1931, but was also forest based, mineral, for as is well known, the Umaria coal fields and certain lime-stone quarries were the important mining industry in 1901 in the Rewah state.

This incidently is a region with 20 caste combination with a predominance of Gond, Kol, Brahmins, Kurmis, Kachhis, Chamars Bansphors, Kewat Kahar, Kalal Dhimar & of course Rajputs. Now in the region concerned, Brahmins were primarily the priestly class and then landholder, Rajputs were primarily land holders, Kols Gonds and Chamars were primarily agricultural labourer, while Chamar were also shoe-makers. Besides - Kols and Gonds were also wood cutters, animal trappers and were utilized as mining labour force too. Thus the economic base of the area under discussion was more diversified than an exclusively agricultural for it did account for forest, mining and trading occupation. In an economy given to primary production, diversification of economic base is essential if the conditions for agriculture are not conclusive.

In the next category of a high medium caste-combination level come the states of Nagod, Maihar, Jaro and Sohawal. The combination strength is particularly higher with respect to Brahmins, Chamar, Kols, Kurmis, Kachhis, Rajputs, Ahir, Kutwar, Dhunar, Nori, Kori Gond, Gadania etc. While agriculture of course has a stronger position here than in the areas discussed before, the fact that Ahirs and Gadonias have come up as a caste, indicates the fact that livestock is more than a domestic affair. Banias and Kachhis speak of a higher volume of trade. The absence of Kewats in this area go to

indicatê of the low level of riverine trade as well as river-based economy. Besides, the fact that Reliê, figure up in the major component caste points out to the fact that this area even in 1931 was a major area of oilseed production.

Teonthar and Nauganj tehsils come under the next category of low median caste combination which is basically an agricultural region with a well developed livestock industry even today. The agricultural situation is generally better, ^{ECONOMY} ~~well~~-wise, irrigation-wise, and even the crops produced in this area are for purposes of cash-production. So generally, the region has a strong agricultural and livestock sector, thus the concentration of economic base in their two sections.

We come now to the last category which was and is even now, the most well-developed area in the region. Plain castes are Brahmins, Ahirs, Chamars, Mawasis, Rajputs, Lodhis, Kole and Gonds. Agriculturally, this is the best area in the region for not only being the seat of the Government in

1931, but also its fertile soil, well developed drainage system and the possibility of irrigation, provided the impetus. Two main urban centres of the region - Bawa and Satna; were also the centres for the projection of growth impulses into the neighbouring rural hinterland resulting in a well-developed agricultural economy.

So, in a word, if we compare the past situation, with the present, certain broad conveyances will be seen in terms of primary economy. The regions marked out on the basis of caste-association in 1931, if compared with the trend of economic development and evolution will show to us no structural change. For regions with the higher level of caste-associations are even now engaged in mining forestry i.e. to say the economic behaviour remains the same. However, the erstwhile feudal production relation have given way to peasant-proprietory production relation. But apart from the qualitative change, the structure of caste-associations remains much the same. Even today, Chamars, Kols, Gonds are the principle agricultural labourers, the Rajputs, Brahmins, Banias etc. are even now a land-holding class, though the extent of land-holding has come down, but even then feudalism exists in the shape of semi-capitalism.

And unless this association is broken, no amount of legislation, whether they be social or for land ceiling can be effective. And similarly no amount of investment in the so-called scheduled classes is going to be effective.

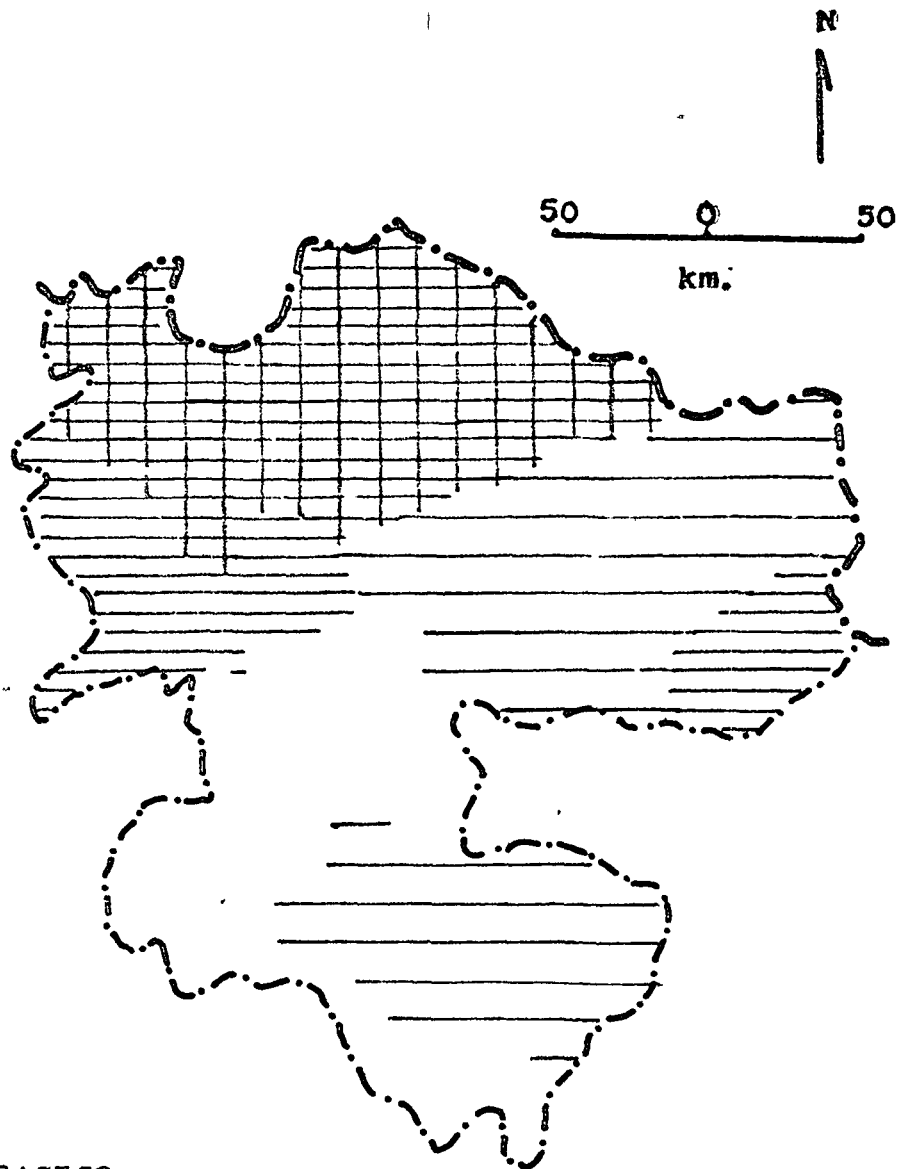
#### Distribution of Scheduled Castes

Schedule castes constitute 11.81% of the total population according to the 1971 census. The scheduling extended to the region covered a total of 19 castes out of which all but 6 have been returned.

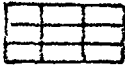
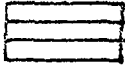
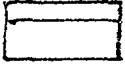

Generally, the concentration of the schedule castes is higher in the rural areas, as they are essentially a rural economy oriented spectrum, and they exhibit a generally positive correlation with agricultural productivity. Thus their high level of concentration on the northern elevated plain is no matter of chance-congruence. For this as an area, had a higher level of agricultural productivity even in the past.

Fig. 5.30

# DISTRIBUTION OF SCHEDULE CASTES



% OF SCHEDULE CASTES

	15 - +
	10 - 15
	5 - 10
	- - 5

1931 census supports the fact that Chamars were the major 2nd ranking castes after Brahmins in this region. According to the 1971 census 97.5% of the schedule castes were concentrated in the rural areas of the northern elevated plain region.

The schedule caste population distributed in this region, category-wise is :-

Table V.III

Category I		Category II	
<u>Tehsils</u>	<u>Percentage of population</u>		
Hujur -	24.1	Maihar -	14.66
Sirmour -	19.32	Amarpatan -	13.99
Mauganj -	19.13	Nagod -	13.59
Raghurajnagar -	17.62	Singrauli -	10.03
Teonthar -	15.19		
Category III		Category IV	
Gopad Banas -	8.09	Beohari -	4.41
Sohagpur -	5.68	Bandhogarh -	4.01
Deosar -	5.35	Pushyrajgarh-	1.87

A general perusal of this data and the density map of the schedule castes would bring to the notice of any layman, that the concentration of schedule castes is highest in the district of Rewa, followed by Satna, then Sidhi and then Shahdol. There is however an incongruence, reflected by the relatively high level of schedule caste representation in the Singrauli tehsil of Sidhi district, but then the proximity of this area to the Dudhi, plain of Mirzapur district, the relatively better economic position with the opening up of the coal mines at Singrauli town and Morba, proximity of Rihand hydro-electric project etc., have resulted in this higher concentration level.

Economy of the schedule castes in the region is predominantly agricultural with 78% of the working force in categories I and II - with 42% of the workers as cultivators and 36% as agricultural labourers. This however suffers a decline in the northern elevated plain, where it becomes 61% as agricultural labourers and 17% as cultivators in Hujur tehsil, 57% and 21% in Hauganj, Sirmour and Teonthar with

54% and 24% in Raghurajnagar.

Now considering : -

- (1) Schedule castes are a rural phenomenon
- (2) Schedule castes are concentrate in the northern elevated plain, as they are negatively correlated with schedule tribes.

Then, this break up of participation rates, makes out a sure case of extreme land-hunger amongst this section of the community. A fact which only points out the flaw and the lack of land legislations' implementation.

Household industry is another important occupation with this spectrum of community, and approximately it caters to the need of 10% of the population, which definitely are associated with Chamars-(shoe makers), Kumhar(pottery), Bason or Bansphor(Bamboo artifacts)-and forms the second most important industry.

Coupled with this backward economic state is the depressing rate of progress, education has

achieved in this sector of population. The percentage of literacy is approximately 2.06% and, in the case of females it is 3%. Besides most of the literates in this category are without educational level.

The sex-ratio, has a definite female bias, especially in the district of Rewa, specifically in the tehsils of Hujur and Sirmour(1197,1102) that is because of the possible out-migration of males, in the search of jobs, not in the neighbouring Rewa or Satna but in Jabalpur, Allahabad, Kanpur, etc. Interestingly enough, this female bias, suddenly comes out of male bias sex-ratio at the age group 20-24 to stabilize slightly again at beyond sixty age group. And this in part also explains, the high participation rate of females (56.7) for as males are generally out. Besides, agricultural operations are such, that do not require small labour - such as weeding, harvesting, etc. Nevertheless, the chief schedule castes are Chamars, Kumhars, Bason.

Schedule Tribes

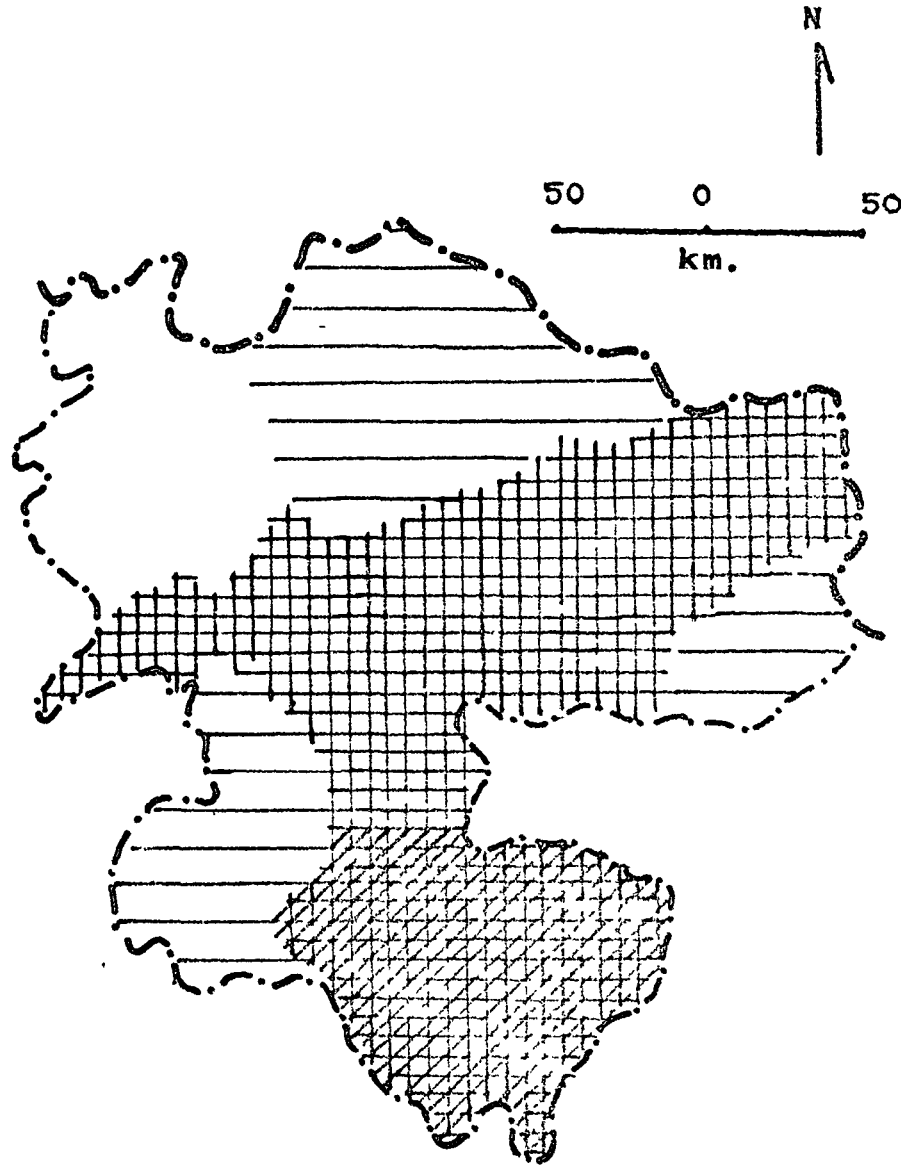
"The schedule tribes can be generally ascertained by the fact that they live apart in the hills and even where they live on the plains, they lead a separate excluded existence, and are not fully assimilated in the main body of the people. They are listed as schedule tribes because of the kind of life led by them;" - according to the Encyclopaedia of Social work - Volume II.

This secluded existence over centuries is responsible for their primitive level of social development. And they exhibit today the oldest ethnological sector in the national population.

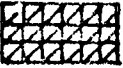

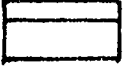

However, in the region under discussion, schedule tribes constitute 24.43% of the total population. Out of the total 16 tribes scheduled in the region, according to the "Scheduled castes and Scheduled tribes modification order 1956, only 14 were returned.

Fig. 5.31

# DISTRIBUTION OF SCHEDULE TRIBES



## % OF SCHEDULE TRIBES

	20 - 24
	25 - 30
	15 - 25
	0 - 15

The general concentration pattern of the scheduled tribes, as expressed by the map indicates higher concentration in the areas lying to the south of the Sone-trough.

- (1) Areas of highest density - Sohagpur, and Pushprajgarh
- (2) Areas of high medium density - Beohani, Gopad Banas, Amarpatan, Deosar, Maihar
- (3) Areas of low medium density - Teonthar, Hujur, Singrauli, Mauganj and Sirmour.

Areas of low density

Raghurajnagar and Nagod. But it must be mentioned here that even that tehsil that signifies least in the spectrum amounts to a total of 10.99% of total population namely Nagod.

However, the general pattern of distribution indicates that, it is inversely proportionate to the schedule caste concentration distribution.

The main tribes in the northern hilly area

are Gond, Kol, Baiga, Panika and Pao - accounting for a total of 95% and over of the total tribal population in this area, while in the areas to the north of the Sone-trough, Gond and Kol along account for over 99% in the Rewa district and in Satna, Gond, Kol⁽⁹⁾ and Mawari, Bhunia, Pao and Khairwar are the main tribes.

The literacy level is distressingly low in this sector of population. The percentage of literacy is exclusively is 0.04% - thus in effect, the male literacy by itself is at a higher level than in the schedule castes of the region.

The economic situation of the tribes is such that over 90% of their work-force is engaged in agricultural activity, with the IInd category domination in the northern elevated plain while the Ist category have their domination in the Sone-trough.

But inspite of this domination, the economic base of the scheduled tribes is found to be larger than the economic base of the scheduled castes, especially so in the northern - elevated plains

where mining, other services, trade and commerce, transport and communication have their representations.

Now, the general participation rate is higher at 60% as compared to the general population's participation rate at 54%. As in the scheduled castes, so in the scheduled tribes, participation in the female category is higher as agriculture as an industry has numerous functions/operations requiring child/female labour.

The weakness of the agricultural economy is based in the northern elevated plains where agricultural labourers alone account for 70% and over in this category - reflecting a definite case of intense land-hunger in this category.

While in the southern hilly areas it has been garbed from statistical view and the percentage of cultivators increases, but there is hardly any change in the percentage of tribal population cultivating lands other than their own. According to the S.C.T. - V table in the district census

handbooks of Shahdol and Sidhi - 62% of the tribal holdings are less than 5 acres, and 81% of them are less than 7.5 acres. This pittance in the name of justice is a blot on the socialistic face of Indian polity in general and Madhya Pradesh position in particular.

II. Pattern of Spatial Organization

Herein the discussion is limited to the demographic and social indicators of spatial organization for instance the density of population, growth rate of population, sex-structure, age structure, literacy and Urbanization.

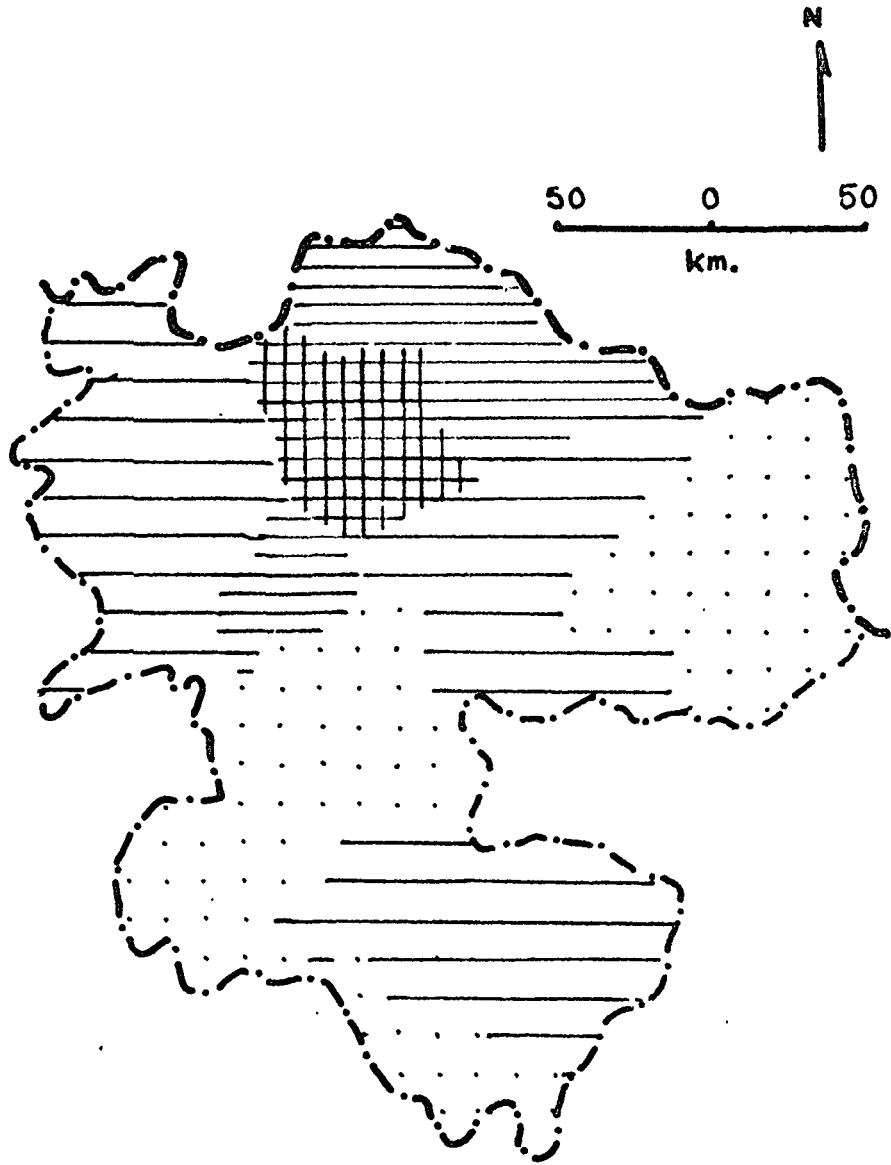
Density of population

Population density has been taken as the demographic indicator for understanding the nature of distribution, the economic basis of its distribution and above all, the potential of the region.

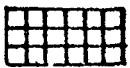
Population is the primary element from which the resource features draw their meaning and significance. And it is only through its analysis, that a meaningful regional understanding of social morphology can be acquired.

A look at the map would suffice to clearly indicate that the area falling to the north of the Songh trough has the densest population with the tehsils of Hujur and Sirmour, followed by Teonthar, Nauganj and Amarpatan. Raghurajnagar, Maihar and

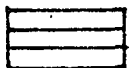
# SPATIAL VARIATION IN POPULATION DENSITY



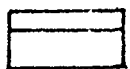
PERSONS PER SQ. Km.



120 - +



90 - 120



60 - 90



30 - 60

Nagod are the trailing tehsils with respect to the population distribution in the northern elevated plain.

In our economic chapter, we had mentioned that by and large, the northern elevated plain is more conducive for agricultural operations, soil-wise, and similarly in our caste section that in this area the predominance of Chamars whose chief occupation is as agricultural labourers, all goes to indicate that the area is economically more better than other areas. Apart from this, the impress of urbanization, production of a higher level of surplus have all contributed towards the point made above. Besides if we look at the land-use pattern, we will find that the area under cultivation is maximum in this part of the region especially so in the case of the tehsils of Hujur, Sirmour, Nauganj and Teonthar. And again the distribution of culturable wasteland is also the minimum in this region. This congruence is not incidental, in fact, according to the Ricardian theory of rent, even the sub-marginal land is brought under cultivation when the demand

for land increases and thus then the marginal land becomes the super marginal land or which surplus starts accruing.

Now in an essentially agricultural economy, the pressure on land will increase if the density of population increases. And if this happens then conversion forest land or culturable waste land in to cultivated land will happen. Thus the incidence of a low level of culturable waste-land speaks volumes for its higher density of population.

Similarly in its southern counterpart - the hilly lands, tehsils of Gopad Banas and Sohagpur lead the spectrum, speaking of thereby a relatively positive position of agriculture than the other tehsils, such as Deosar, Singrauli, Beohari, Bandhogarh and Pushprajgarh. Not only is this region heavily forested but also has a percentage of tribal population. Besides, though the area is well drained but water irrigation in this area is practically unknown. The percentage of culturable

waste land on an average is 5.4%. The cropping intensity too is about the lowest. Thus, its case for a support of a denser level of population is weak.

Thus, we can safely state that it is the economic potentiality of a region which determines its population density.

#### Growth rate

One of the most important demographic indicators in the regional analysis is the growth rate. It has been used here to identify areas of stable growth and unstable growth.

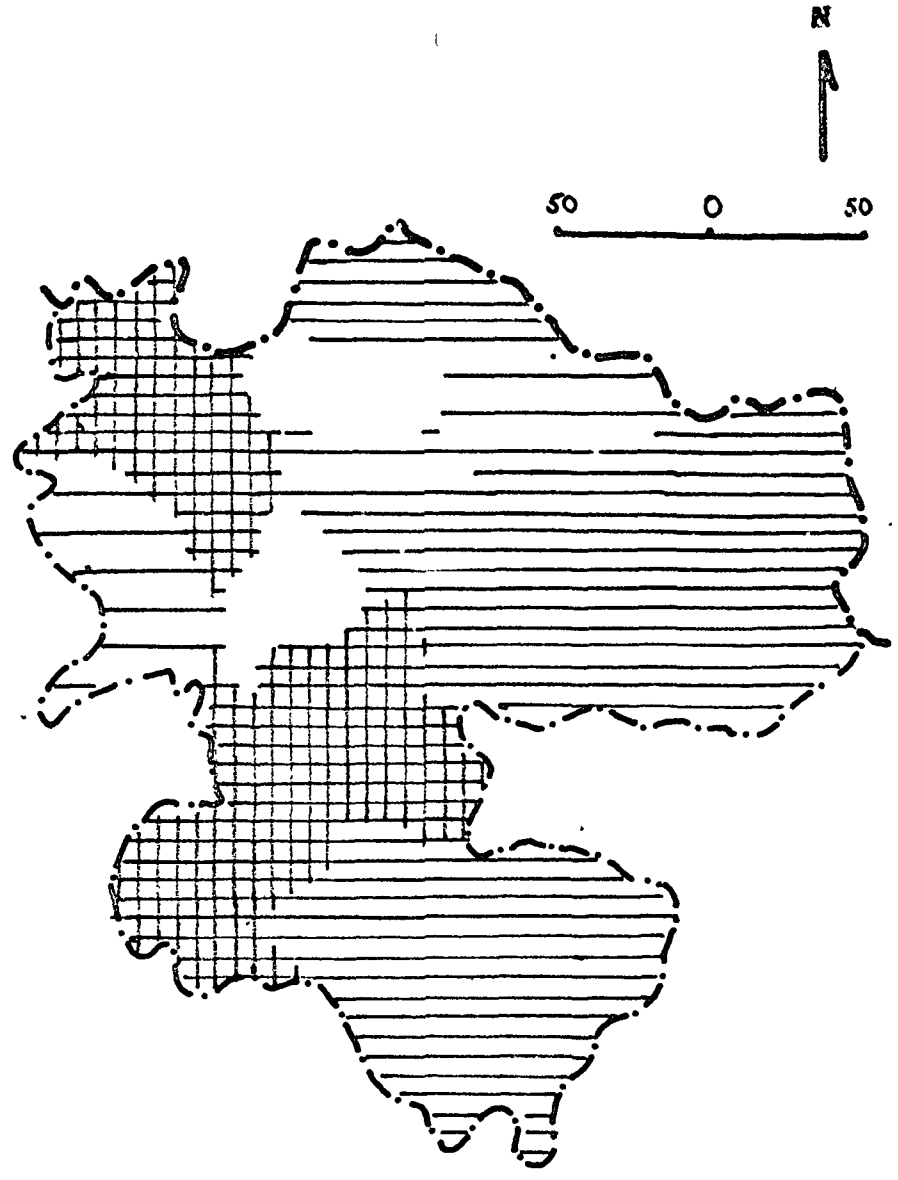
It has been assumed that higher growth rate indicates at best two things :

1. High fertility rate
2. Immigration.


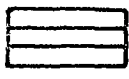
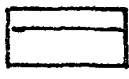

Now, both these factors speak of positive economic development. While the latter is welcome,

Fig. 5.33

# SPATIAL VARIATION IN GROWTH RATE



GROWTH RATE AVERAGE  
PER YEAR

	28 - +
	24 - 28
	20 - 24
	- - 20

the former is feared. Reason being, with increase in the distribution facility, we have been able to control death rates, resulting in longevity of life and a higher level of life-expectancy at birth, but then with this decrease in death rate, there is no corresponding decrease in the birth-rate.

This is a case peculiar to all developing countries which are in the grips of a chronic population explosion.

A perusal of the spatial variation of growth rate, would indicate.

1. A generally higher growth of birth rate to such a situation.

The tehsils of Sirmour and Amarpatan are at the lowest rung of the growth rate spectrum, i.e. even lower than the state taken as a whole (below 20%). Now, both these tehsils are essentially rural, but with urban areas in the neighbourhood and thus can be called as the rural fringe of Rewa and Satna. Obviously, all sorts of facilities -

medical, educational, recreational etc.etc. would be available in the vicinity. The contention is that a higher standard of living generates a lower fertility rate⁽¹⁰⁾ in the areas south of the Sone trough.

2. Low level of growth rate in the urban belt, except in Raghurajnagar tehsil.

Now, topping the growth rate spectrum we have Raghurajnagar, Beohari and Bandhogarh tehsils. The tehsil of Raghurajnagar has come in this part of the spectrum mainly because of the unusual growth of Satna township. Similarly in the tehsils of Beohari and Bandhogarh, the doubling of railway-lines, construction of power plant at Chachai and the paper mill at Amlai generated enough migration so as to result in this unprecedented increase. Thus, this increase when coupled with the natural increase, results in exaggerating, and the proximity of the urban centres to these areas only speaks of the kind of commodity/service flow that exists in the region.

Besides, referring to the density distribution map, one can without fear state that between growth rate and density of population there exists an inverse relationship e.g. the areas to the south of the Sone trough had a lesser density than its northern counterpart, but they have a higher growth rate too than their northern counterpart.

Now, let us look at the variation in population during the last seventy years of census:

Table V.IV

Year	Baghelkhand	Madhya Pradesh
1901-11	13.7	15.3
1911-21	- 9.3	-1.4
1921-31	12.6	11.4
1931-41	15.3	12.3
1941-51	7.9	8.7
1951-61	24.6	24.2
1961-71	52.3	51.6

Source : Census of India, General population tables, M.P.

The noticeable features of the pattern of population variation in the district in the region during 1901 - 71 are :

- i) At the start of the century, the variation was lesser than the states.
- ii) Decrease in the population in the next decade was of a greater magnitude than the states.
- iii) From 1951 onwards, the population almost doubled itself and is of a greater intensity than the states.

So broadly speaking, there are two instances of abnormality. The decrease in 1911 to 1921 and the unprecedented increase in 1951-1971. Another situation which demands explanation is 1941-51.

The decrease in 1911-21 was due to three epidemics, one famine and one scarcity year. In 1917-18, influenza epidemic followed by plague, 1918-19 was a scarcity year and 1919-20 was the year of the actual famine, resulting in the emigration of 33,000 people, and this when reflected in the

census data should not be surprising.

The comparative population decline in 1941-51 was due to partition and independence of the country - but otherwise a normal decade.

The unprecedented population increase in 1951-71 is not peculiar to Baghelkhand alone. It is the general phenomenon affecting the state as well as the country. Though the density of increase is greater than in the state, yet it should be thought of as undesirable, for this increase in the population of the region has resulted in the incidence of increased, per capita income, increased per-capita land-holding, increased crop productivity. The epidemics, famines and other calamities of similar nature are non-existent. This faster growth rate of Baghelkhand has thus contributed towards its economic diversification and stability. It is even now very desirable in the interest of the region, for vast resources lie untapped in the shape of mineral forests, lands etc. And this is still the most sparsely populated region in the country.

Sex structure

Sex ratio has been used in the following analysis to :-

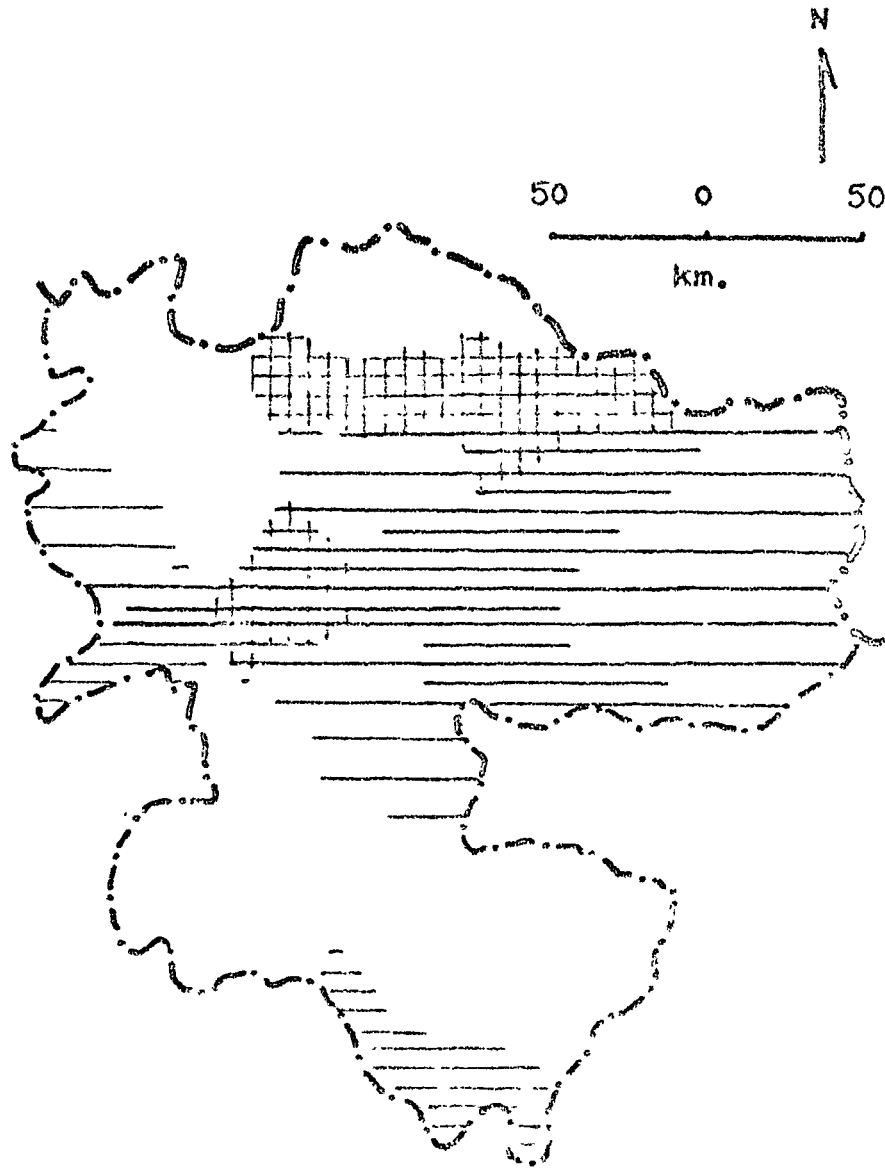
- 1) Gauge the strength of the operating push factor or otherwise.
- 2) Gauge the inefficiency of the economic base of the tehsil or otherwise.

The sex-ratio is an index number employed to measure the difference in numbers between the two sexes. Contrary to the general belief, the two sexes are not equally distributed, neither over space nor over time. Biological, economic, social and other factors all go to contribute this disparity between the sexes.

However, in general, the sex ratio has an inverse relationship with industrialization and urbanization that is speaking in a relative term with reference to the Indian situation in general and to the regional situation in particular. An illustration of the geographical variation in sex-ratio proves the consistency of this observation.

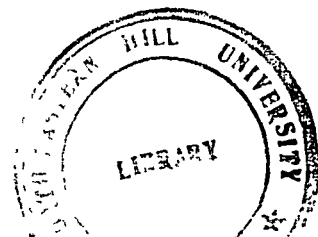
Fig. 5.34

# PATIAL VARIATION IN SEX RATIO



EMALES PER '000  
MALES

	1000 - +
	975 - 999
	960 - 975
	- - 960



The areas which fall below the regional average of 974 females per thousand males are Raghurajnagar, Sohagpur and Bandhogarh (939,947 and 956 respectively). In the next category below this regional average are Deosar 960, Nagod 961, Singrauli 965, Hujur 967 and Bechhari 970. Out of this it will be seen that the tehsils of Hujur, Raghurajnagar, Sohagpur have a high percentage of urbanization while in the other tehsils, Bandhogarh, Bechhari, Nagod, Singrauli and Deosar are areas where mining is an important industry. Thus the contention, that industrialization and urbanization lead to a male-bial sex ratio stands proved.

On the other hand, another contention is that rural areas generally exhibit a tendency to bring parity between the sexes. The tehsils lacking urban population completely or marginally are Amarpatan, Sirmour, Mauganj, Gopad Banas and Pushprajgarh. Incidentally, these tehsils also happen to rank quite high in the sex-ratio spectrum. In fact, in the tehsils of Sirmour, Mauganj and

Amarpatan it is a female-bial situation. So this essentially is the area of a highly male selective out-migration case. The proximity of Rewa, Satna, Jabalpure and Allahabad, exercise pull factor, but which at best is weaker than the push factor exerted from the region, resulting in this male-selective out-migration. For if the pull factor from these above mentioned urban centres had been stronger, then it would have a family out-migration. Besides, if one looks at the age and sex structure, then the break-point of male-curve is at 20-24 age-group. Thus, this further confirms the region's incapacity in terms of economic opportunities.

However, it is interesting to examine how the sex ratio in the region has been changing over time during the last seven decades.

Table V.V.  
DECADAL VARIATION IN SEX RATIO

<u>Region</u>	<u>-</u>	<u>BAGHELKHAND</u>	<u>M.P.</u>
<u>Year</u>			
1901		1014	990
1911		1017	986
1921		1006	974
1931		997	973
1941		989	970
1951		984	967
1961		981	953
1972		977	947

A look at this above given table would suffice to clear up that except in the first decade 1901-1911, when the sex-ratio actually gained female bias, there has been a steady increase in the male-biasness of the sex-ratio for the entire region of Baghelkhand. Now, it is difficult to assign any reason, for this increase in 1911, census except that this is roughly the same time when a famine of terrible intensity betook the region, probably resulting in the male-out migration, in search of employment opportunities and thereby security, that resulted in this massive distortion of parity between the sexes. And again in 1917 and 1918, the breaking out of the influenza epidemic restricted the restoration of parity though the distance had been largely covered. In 1931, this surplus of sex-ratio in favour of females had been turned into a small deficit, and since then the decrease kept on increasing, though at a diminishing rate but there were fluctuations.

Among the various factors that operate to change the sex composition of the

population be selective mortality or otherwise in one of the sexes, the following male be mentioned :-

(1) Excess of Male births

As observed by the report of Census Commissioner 1951⁽¹²⁾, the existence of a male excess at birth has to be accepted as a fact, so that a deficiency of females arises as a biological phenomenon." The interesting thing is, that though more males are born than females, but the child male mortality is higher than the females especially in the first year of life.

(ii) Incomplete enumeration of women at Census.

Census Commissioners 1891, 1911 and 1931 held the view that faulty enumeration of women, especially of unmarried girls in marriageable ages, was responsible for giving low figures for the female population. This view however has to be ruled out, as the deficiency in females is persisting through the years as the efficiency of the census enumerations is increasing.

(iii) Selective mortality among males and females.

In the years of abnormal mortality, it has been observed that famines contribute to heighten the male mortality while epidemics, contribute to the rate increment of female mortality. (13)

(iv) Female neglect

Now, in the region under discussion, the hindu segment is predominant. The hindu attitude towards the female child, is one of burden and liability, while in contrast the male-child is looked upon as a future means of support in life, but also as a means of spiritual salvation for the father. This attitude in the past resulted in female infanticide, but now, when such values have largely got eroded it is this neglect which can overcome the biological superiority of the female baby.

(v) Early marriage

Though the institution of child marriage has been legally done away with yet it is said to

still persist in the tribal belts of the region. Child marriages almost always exposes girls to the risks of death at a tender age, when they are constitutionally weak.

Thus, the sex-ratio, in general, indicates the male-biasness of the region under discussion, while in areas where female-bias has been projected, the case is entirely of the making of highly selective male out-migration.

#### Age Structure

The age-structure is analysed in the regional frame-work, so as to arrive at a cross-sectional view of the population, and then determine the productive age-group, dependency therein and thereafter attempt a brief analysis of the population structure.

Now, for purposes of analytical convenience, we have four broad population groupings - 0-14 years of age as corresponding to the children age group, 15-34 as corresponding to the young

persons or youth age group, 35-59 as the middle aged persons and 60 onwards to correspond with the old-age persons.

0-14. The general picture of this age group is that over 40% of the total population in the entire region are accounted for by this age group. And by itself it constitutes the biggest single segment of population.

The peak in this age group is to be found in Mauganj tehsil with 43.4% of total population. While in the other end of the spectrum we have Sohagpur tehsil with 37.9% of total population. In the caste analysis, we have mention, that Mauganj tehsil is comparatively better of in agriculture, livestock and allied activities with a higher proportion of schedule caste population - while Kols and Gond's together with the agro-forest economy dominate the Sohagpur tehsil. Now, this only supports the view held by a section of the sociologists, that fertility in an agricultural economy and scheduled caste

section is higher than in general. Nevertheless, in the region - viz-a-viz state, the state has 40.8% of the population in this section while the region has 41.6%. This signifies that more children are born and survive till 14 in the region than in the state. But, this section is essentially dependent and unproductive. However, as the economy is essentially agriculture, incidence of child-labour is bound to be there, and especially so in a poverty ridden subsistence - agricultural economy.

15-34. 32% of the population belong to this category, roughly making it out at 1/3 of the total population. This is the productive age group, and signifies the strain on the employment market, which is slightly more in the region, than on the states, as it is still broader than the state's amount. The region accounts for 32.8%, while the state has 31.6%. The peak in this category is in Sohagpur tehsil with 34.8% while the depth is in the tehsil of Gopad Banas at 31.4%. Now, Sohagpur tehsil has an agro-mining,

forest economy with a higher level of urbanization than any other tehsil in the southern hilly area. The mining industry by virtue of the nature of work, requires a larger chunk of youthful labour, than any other industry. While a case for in-migration and distorted sex ratio is thus established, but then also, this higher percentage of youthful population is also proved. A look at the sex ratio map would only confirm this. On the contrary, Gopad Banas is essentially an agricultural tehsil, where the diversification of economic base does not go beyond agriculture, resulting in out-migration of workers in both the sexes for bidi-leaf packing into other neighbour tehsils, that the level of youthful population, falls below even the state average. Thus the numerical decline in this age-group.

35-59 The middle-aged population, almost forms a fifth of the regional population and is very slightly, lesser than the state's average of 21.4. The highest concentration in this category is in Sirmour 24.0, while the lowest is Singrauli 18.7. At this stage

mentality becomes a major factor that causes this drastic cut-down, though spatial variation in the region are entirely due to the activity specialization - for instance, in the mining belts such as Singrauli, Sohagpur, Bandhogarh, etc, etc, mortality rate due to chronic illness will obviously be higher than in the comparative peaceful activity of agricultural functions, in Sirmour, Gopad Banas, Teonthar, Manganj, etc.

60 - (+) Now, this is another dependents age segment, and here too obviously, the state has a higher representation - (5.1%) than the regional representation (4.2)

The maximum in this category falls in the most urbanized tehsil of the Region Hujur, at 5.0, while the minimum is at Teonthar - 3.5. This only goes to prove, that better the medical facility, better the representation in this category. Or else, why is it that the concentration is almost uniformly low falls as this category/in almost all the rural tehsil of the region. This only goes

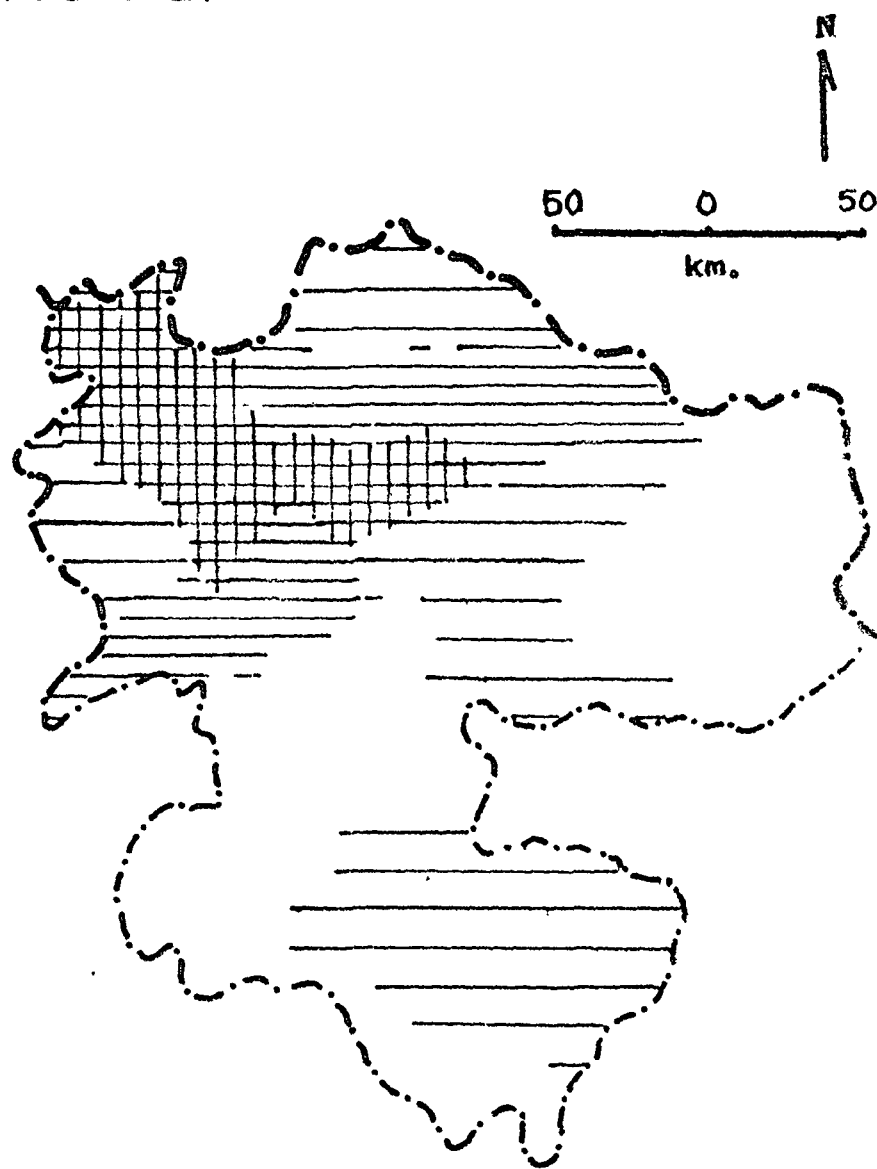
to prove, that the conditions in general in the region under discussion, are not as well of, as of the state in average. This supports our contention, that th Baghelkhand region is among the most backward regions in the state.

### Literacy

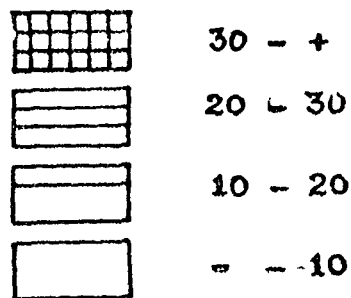
Literacy, has been utilized here as an indication of development. It is essentially an urban function, and manifests not covertly the values and ideals of modernization. Even the aspect of literacy, without any formal level of education, exhibits to a great degree the need for education, so in effect it is a measurement of the desire for education. The geographical variation, shows consistency with the statement made above, about its being an essentially urban function. Hujur and Raghurajnagar tehsils have by far the highest level of urbanization in the region, which is well reflected in the literacy rate expression. The tehsils of Sirmour, Manganj, Maihar and Amarpatan, bear strongly with the statement on values of moderni-

Fig. 5.35

# DISTRIBUTION OF LITERATES



% of LITERATES



zation, the desire for education, as the level of urbanization in these areas is just secondary to the ones mentioned above; so is the expression of literacy.

Table V.VII

<u>Items</u>	<u>Degree of correlation with literacy</u>
1. Agri. labourers -	0.783 ⁽¹⁴⁾
2. Intensity ^{of} cropping-	0.556
3. Scheduled Caste -	0.806
4. Scheduled Tribe -	0.382

The high correlation value of both agricultural labourers and scheduled caste, only go in support of the contention explained above.

By the inclusion of the item - cropping intensity, it had been hoped to indicate, the relationship between ^{this} literacy and literacy in an under-developed region like Bagholkhand, which is steeped in poverty, primitive agriculture and traditional value systems, is the forte of only

the exclusive class of individuals who do not have to work in order to exist. The mere fact that scheduled castes and scheduled tribes have a literacy level as low as 2%, coupled with the positive correlation between scheduled caste and literacy rate indicates, that there exists a class of individuals, who are released from the labour market on account of the induction into the intensity of cropping, in the sense that what strength of contribution is made in the domain of agriculture due to literacy, the relationship is negative at - 0.556 adding strength to the above contention of a class of individuals, who own the mode of production and do not labour on it.

The case of scheduled castes has already been explained - the scheduled tribes case is a little different, as its correlation with the agricultural labourers is positive at 0.51, but the strength of relationship is lacking, therefore the 0.382 literacy correlation with scheduled tribes is of the normal situation.

Thus, this gives us the nature of relationship literacy has with the economy and society of Baghelkhand.

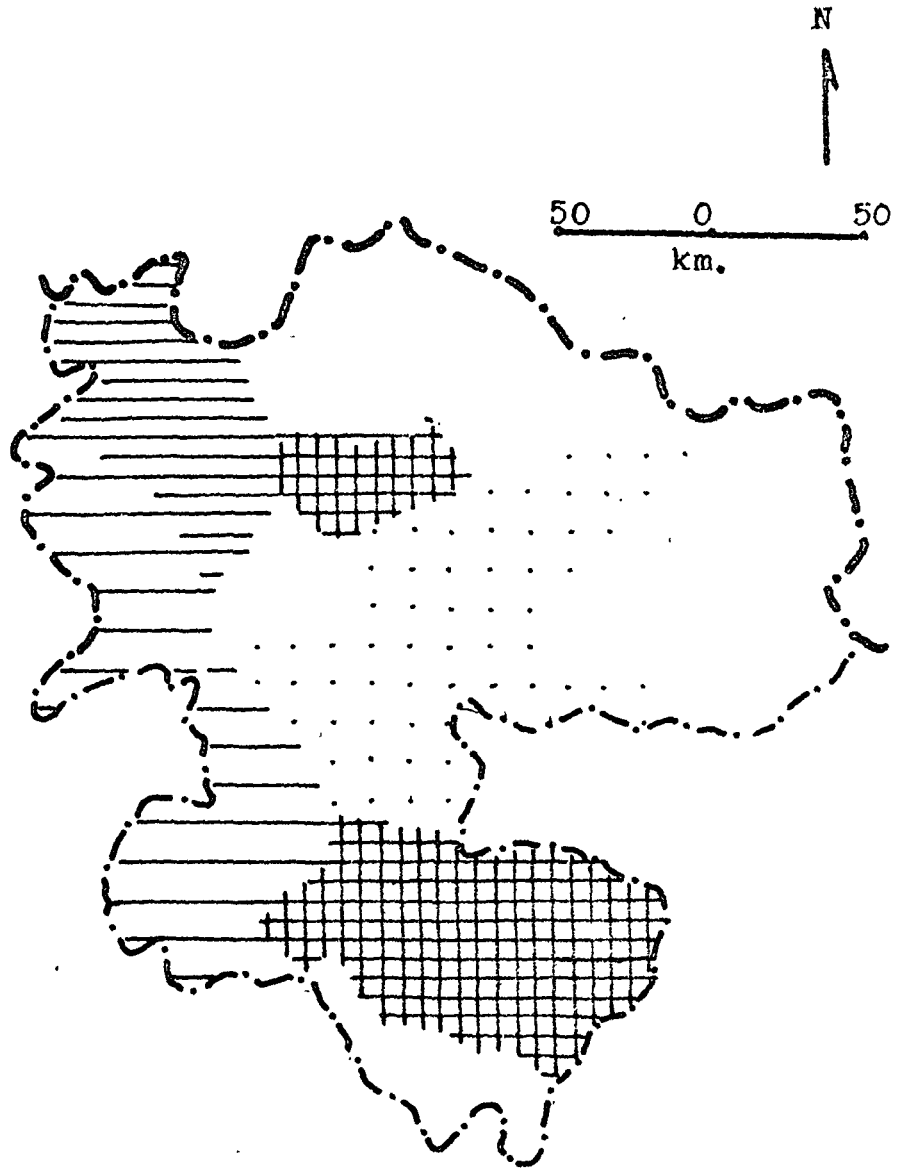
Urbanization:

In Baghelkhand, the proportion of population classed as urban in 1971 was only 7.89% of the total population. Fig V.11 shows the distribution of the concentration pattern of this population in the region.

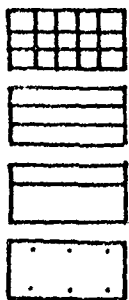
The pockets of concentration are Hujur tehsil in Rewa district and Sohagpur tehsil in Shahdol district, followed by Raghurajnagar tehsil in Satna district. In the lower intermediary category come the tehsils of Nagod and Maibar of Satna district and Bandhogarh tehsil of Shahdol district. While in the last category, tehsil Gopad Banas of Sidhi district and tehsil Beohari of Shahdol district fall. Based on this, Shahdol district emerges as having the maximum proportion of urban population (11.1%) followed by Satna

Fig. 5.36

# CONCENTRATION OF URBAN POPULATION



INDEX  
LOCATION QUOTIENT



20 - +

15 - 20

12 - 15

- - 12

district (10.9%), Rewa district (7.4%) and Sidhi district (1.2%). Three tehsils of Rewa, two tehsils of Sidhi and one each of Satna and Shahdol have no urbanization at all.

Now Rewa and Satna have been the product of history as expressed in Fig V.12. Rewa was the state capital, while Satna was the seat of the British resident and the agency Headquarters. Having been connected by rail, gave it another face-lift and resulted in subsequent industrialization. While Nagod and Maihar too, had the benefit of being the state capitals, during the colonial era. Thus the Rewa-Satna axis, which represents the most urbanized tract in the region is a result of history, connectivity and industrialization. While in contrast to this, the Shahdol-Bandhogarh axis of urbanization is a recent development, i.e., post-independence, connectivity did play an important role, but the primacy of ^{agricultural} ~~mining~~ activity has as yet remained unchallenged. In fact, connectivity in the area is complimentary to this extractive industry. Summing up, in the northern

elevated plain, there exists an urban tradition and framework, which is certainly in the southern hilly area; as suggested by Table V.VIII in terms of social services granted to the population. Which speaks of the quality of life enjoyed by the man on the street, so to say. Thus in the northern elevated plain there exists further scope of growth of urbanization, while in the southern hilly area, the situation is different, unless the services granted are increased in quality and quantity. For in situations such as this, it is not urbanization but urban accretion,⁽¹⁵⁾ refer figure No.V.12, on the growth of urbanization

#### Growth of Urbanization

In 1971, there were a total of fifteen towns, ten of them in the Shahdol district, three in Satna district, one each in Rewa and Sidhi districts. In 1901, there were a total of five towns and by 1941, only two more towns had been added. But between 1951 and 1971, eight more towns had been added.



However, the general rate of urbanization has experienced a higher intensity of growth in the Shahdol region, where till 1951 there had been only two towns, Umaria and Shahdol. But by 1971 eight more towns had sprung up, with four of them in response to the mining activity such as, Khodargama, Pasan, Johila and Burhar Naigada Hari Dafai agglomeration. While two of them in response to industry - Amlai and Kotma and Bechari for purely administrative requirements similarly with Sidhi, the demands of administration and general services category resulted in its establishment.

In contrast to this the urbanization rate in the northern elevated plain comprising of Satna and Rewa has been comparatively steady. In 1901, there were four towns, Rewa, Satna, Uchehra and Maihar. 1911, saw the addition of Nagod. And till to-day, this area has only five towns. The following table is on the class structure of towns. So the region has two towns of the second class, two of the third and one of the fourth

And eleven towns of the fifth class, ie, according to the 1971 census. The urban structure seems quite well-balanced, except around the fourth category, which reflects an instant fall from 15,000 to 9000. But this is the scene as visualized in the regional prospective. Seen from the district prospective, the whole structure except for Satna seems exploitative. The entire Rewa district has only one town of the II class, while Sidhi, has one town of the V class. Satna on the other hand has one town of the II class, followed by Mairhan and Uchokra and Nagod in IV and V categories. Shahdol, has two towns in the third category and eight towns in fifth category, with a pre-dominance of mining towns, having a notorious reputation in the aspect of, provision of social amenities. Towns like Hargada Hari Dafai that are III in the class structure, do not have any electrical connections, what to speak of fire fighting and medical resources.

Amlai, Pasan and Beohami, or for that matter most of the class V towns of Shahdol, have at least one of the essential services such as water supply, electricity, medical, fire-fighting etc missing from their list of services. This sort of urbanization is in fact urban-accretion, and tends to be degenerative not only for itself but also for the region in which it is situated.

Nevertheless, urbanization has historicity in the northern elevated plain, while in the southern hilly area its a recent upstart.

### III. Cultural Environment

#### Linguistic Pattern : ( With an emphasis mother tongue Regional variations )

Language data, has been analysed, to see the extent of linguistic heterogeneity in the region. The number of total languages returned enormously high - with 41 languages and dialectal variation. Three families were represented the Indo Aryan, the central dravidian and the Mundhami groups. Besides in the region north of the sonc - trough there were all 41 languages dialect while to the south of sonc trough in district Sidhi, 20 languages / dialects, and in Shahdol there were 29 languages / dialects.

However, the region cannot be termed as a multi-linguistic region, because of this multiplicity of mother tongues returned from it, because, the predominance of Hindi and Bagheli together contribute 97% of the mother tongues returned in 1971. This atrociously high percentage also make the case for delineation of this region as one organic unit. The other speeches of importance are Gondi - (4%) in

Shahdol, Punjabi, Bengali and Marathi in general.

The Punjabi and Bengali speeches, belong to the refugee category and are essentially of urban origin.

The entire rural spectrum takes recourse to Bagheli and hindi, as the mother tongue. Hindi, infact has made a terrible inroad into the local culture, by the imposition of hindi as the state language, resulting in the terrible decline of tribal languages, like Gondi, Kurukh Oraon, etc.

Bagheli which was essentially a dialect, has given grounds to Khari - bali form of Hindi.

RELIGIONTABLE - V. VIII

	<u>Hindu</u>	<u>Muslim</u>	<u>Sikh</u>	<u>Jains</u>	<u>Christian</u>
Teonthar	98.2	1.7			
Sirmour	98.6	1.3			
Mauganj	97.5	2.49			
Huzur	97.8	2.1	0.1		0.09
Gopad Banas	98.0	1.9			
Deosar	97.7	2.3			
Singrauli	98.1	1.8			
Beohari	98.9	0.9			
Bandhogarh	98.2	1.6	0.04		
Sohagpur	98.1	1.6	0.03	0.11	0.04
Pushprajgarh	99.5	0.3			
Raghurajnagar	98.5	1.3			
Nagod	99.1	0.8			
Amarpatan	98.1	1.6			
Maihar	98.9	1.0		0.12	

Source : Census of India - 1971  
General Population tables, H.P.

Spatial variations in religious belief :

Religion is the central element in man's cultural differentiation. Table V.VIII reflects the predominant position of hindus in the region followed by an insignificant muslim incidence. 98% of the total population in 1971 returned hinduism as the religion, while 1.6% returned islam, 0.3 returned jainism and 0.04 returned sikhism at the regional level. In almost all the tehsils, hindus are over 97.5% (Mauganj) and lower than 99.5%(Pushprajgarh). Muslims have the highest incidence in Mauganj(2.49) and the least in Pushprajgarh(0.3). Sikhism has the highest incidence at Hujur tehsil and least at Schagpur, 0.1 and 0.03 respectively, Jains have a fairly higher incidence in the tehsil of Haihar.

Thus on the whole, no particular religious patterns emerges. Nevertheless, the urban centres exhibit a slightly different pattern:

Table V. IX

Urban religions -

	<u>Hindu</u>	<u>Muslim</u>
SATNA	86.6%	12.0%
REWA	81.1%	17.5%
SIDHI	92.2%	7.2%
SHAHDOL	87.1%	10.7%

Rewa and Satna, it would be noticed have a higher percentage of Islam followers, while Sidhi and Shahdol are at the lower spectrum, signifying thus the urban character of Muslim concentration. Among the other religions, Sikhism and Christianity too, exhibit an urban bias. As a matter of personal observation, Muslims dominate the repairing trade, minor steel works and other services. Sikhs dominate the transport services, transportation, except in Raghurajnagar and Haihar where the high incidence in this category is due to rail transport, where the qualifications matter more than cultural preferences. While the Christianity element in the region is essentially involved with medical services, educational services, community services and etc.

Nevertheless, the region is predominantly Hindu with a proliferation of other religions exclusively in urban centres.

Notes for Chapter - V ( A )

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The Geographical pattern of distribution of settlements is the fundamental expression of man-environment relationship⁽¹⁾. Thus it forms the crux of social geography. Today, with the change in emphasis from mere identification of type, morphology and form to one that identifies areas of clusterings and concentration, that envisages the advocacy of welfare-approach, the need for a different kind of settlement analysis has arisen. For it is felt, that the distribution of settlements is a function of history and culture under the given physiographic and technological equilibrium.

The present analysis has been devised to tackle the settlement from a) the horizontal pattern  
b) the vertical pattern  
view points.

Under the horizontal pattern, for the rural settlement, the 'spacing' technique as developed by Mukerji has been utilized, while for the urban centres, the near-neighbour analysis has been done.

Similarly, for the vertical pattern, the rural system has been exposed to frequency distribution analysis and the urban centres has been exposed to rank-size rule.

For the extent of spatial inter-action, reliance has been made on the gravity model as developed by Newton.

a) Horizontal Patterns

Rural Settlement : For the purpose of determining the extent of dispersion, the spacing technique⁽²⁾ has been utilized which is capable of application to the tehsil or block level analysis, without relying upon geometrical relationships and hypothetical distances as in the near neighbour distance analysis. Under this technique, the region

is conceived of, as a spatial structure built up of a series of polygons, whose centres are assumed to be the location-sites of the settlements. The distance between two such centres is the value of the spacing index. Since it is possible under this method to actually identify the areal variations on the map, therefore, the explanatory system of the 'spacing' was extended to cover certain socio-cultural categories in the region, which also reflect the relief variations alongwith cultural variations in space. They are density of population, distribution of schedule castes, tribes and culturable waste-land.

The basic assumption in including them as the explanatory system were :

- a) Where density of population was high, extent of land-hunger would be more, reflecting itself therefore as being negatively correlated to spacing.
  
- b) Where the density of schedule tribes was higher, spacing would be higher too, as

the nature of terrain usually inhabited by them is essentially not conducive for agricultural practices, therefore habitation usually takes place where conditions allow for substantial existence.

- c) Where the density of schedule caste was high, spacing would be low, as again, the density patterns of schedule castes is high in the northern elevated plain where physiographically, it is an undulating topography, agriculturally well off, higher density of population etc.etc.
- d) Where the culturable waste land distribution is more, the extent of land-hunger is lesses, and thus, the spacing would be obviously higher.

The explanatory system indicators explained above account for physiography, technology and culture too besides their own specific relationship, for instance, schedule tribes and culturable waste land for physiography, culturable waste land for technology, and land hunger, schedule castes and tribes for culture along with density of population which again in itself is a geographical impress.

Results :

1. Negative and very highly significant correlation exists between spacing and density at all levels of significance with  $-.94$  as coefficient of correlation.
2. Positive and significant correlation exists between spacing and schedule tribes distribution at 5% level of significance with  $.59$  as coefficient of correlation.
3. Negative and highly significant correlation between spacing and schedule castes distribution at all levels of confidence with  $-.76$  as coefficient of correlation.
4. Positive and insignificant relationship between spacing and culturable wasteland at no level of confidence with  $.21$  as coefficient of correlation.

Analysis :

Thus except for the hypothesis on culturable waste-land, the others stand proved at a fairly high level of significance. The behaviour of the culturable waste-land variable can nevertheless be explained in terms of agromechanization. Mechanization as mentioned earlier is at an extremely low level, and by and large does not include within its realm the instruments for extending the net-sown area. Primarily due to extreme rural poverty, illiteracy etc. And even now the reliance on wooden plough in the region is unbeatable. Seed drills, harrows and pumping sets form the most cherished items of mechanization, while tractors and harvesters have remained unheard off, in most parts of the region. Thus the errant behaviour of this indicator/variable.

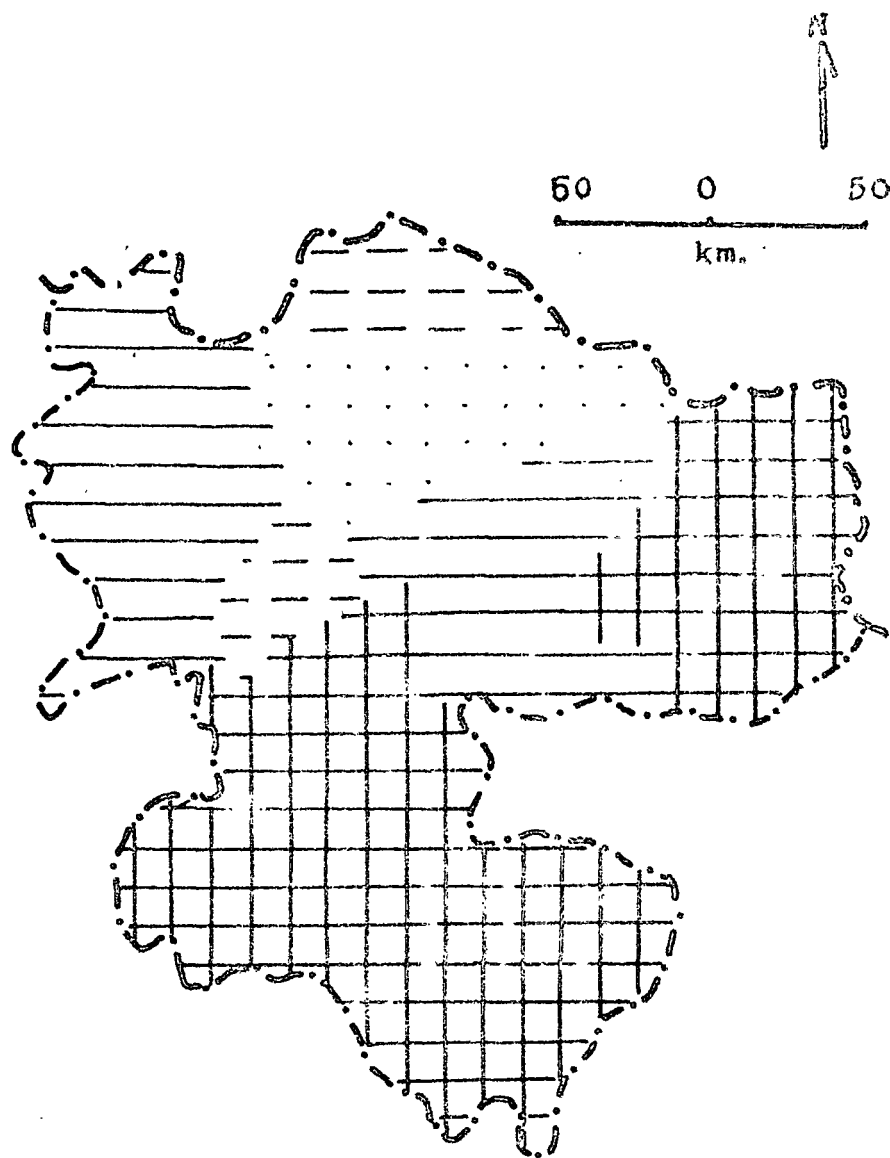
As mentioned before, history and physiography play an all-prevading role in the determination of dispersion as understood now by the term 'spacing'. Now historically, the region can be viewed as a 'refuge corridor' since times immemorial, festooned by roving bands of dacoits and robbers, and by people who had

been defeated elsewhere. Thus giving impetus to the defence requirement in settlement location. And thereby explaining the position of almost all erstwhile settlements on spur points, ridges and plateau edges. Proximity to production areas or communication systems, such as fertile alluvium tracts and river-valleys, were at best secondary.

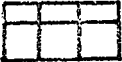
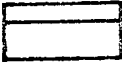
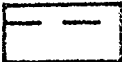

Physiographically, the region is simply strewn with plateau surfaces, basins, river-valleys etc. And which in conspiracy with scarps and ridges, affords but little room for settlement establishments. Consequently the variation in settlement sizes is between 250 to 1000 persons. However, in most cases a settlement unit consists of a number of hamlets, each generally of a different caste or tribe, except in certain areas with flat alluvium and extensive plateau tops as in the case of Hujur, Raghurajnagar, Tecnthar etc.

Thus, the impress of historical disparity on physiographic diversity has resulted in the below mentioned pattern of settlement dispersion

# SPACING OF RURAL SETTLEMENTS



## SPACING INDEX

	140 - +
	120 - 140
	100 - 120
	80 - 100

Areas of high spacing

The tehsils which fall under this category are Deosar, Beohari, Bandhogarh, Singrauli, Pushprajgarh and Sohagpur. It would be noticed that this entire area is characterized by a rugged plateau topography, punctuated by seasonal river regimes, extremely low water-table, thin and highly irregular strips of alluvium, rocky ridges and over 33% of land under forests with an over 20% of population as under tribal category. The density of population too comes to under 60 persons per Sq.Km. The region is predominantly dependent upon subsistence agricultural economy and mining.

Areas of medium spacing

The tehsils falling under this category are primarily of the Satna district followed by Teonthar of Rewa and Gopad Banas of Sidhi. Incidentally, this region falls within the Rewa-Satna urban axis constituting the areas with highest mechanization level in the region i.e. agriculturally speaking. Grain cultivation is the predominant agricultural character

with a median category of population density and schedule caste distribution.

#### Arens of low spacing

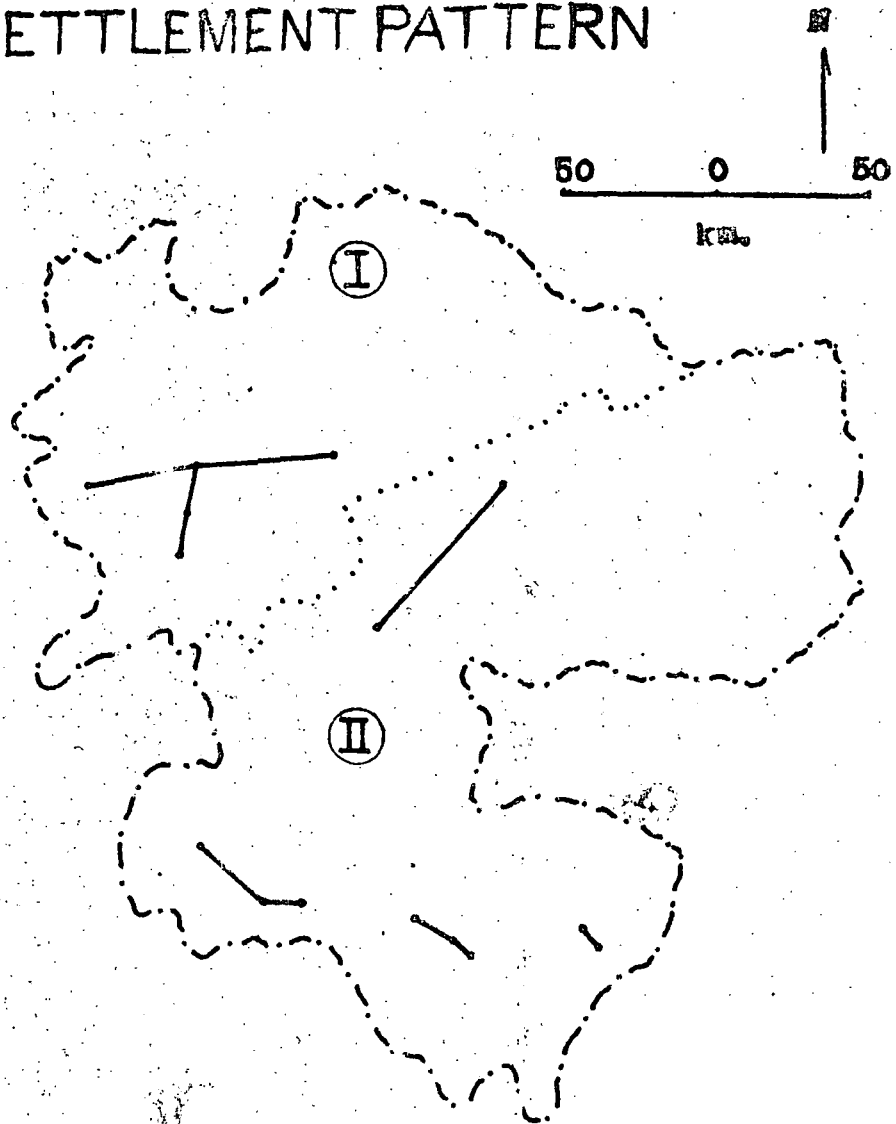
The tehsils falling here-under are all of the Rewa district, constituting the essentially 'Uparihar' tehsils known for the highest population density, schedule caste density, extremely negligible extent of culturable waste-land, and a fairly high level of mechanization. The frequency distribution of population is at the higher spectrum i.e. 500-1000 persons of rural settlements. The agricultural character is essentially surplus oriented, vouched for, by the fact of the existence, of a large primary processing sector in the industrial structure of Rewa. Thus the low level of spacing in this part of the region.

#### Urban settlement

For the urban settlements point-pattern determination, the nearest-neighbour distance analysis was utilized, keeping in view the major

Fig. 6.34

# URBAN SETTLEMENT PATTERN



I = NORTHERN ELEVATED PLAIN

II = SOUTHERN HILLY AREA

physiological differences between the two areas, already mentioned as the northern elevated plain and the southern hilly area.

Results on the application of quantitative technique indicate the southern hilly area as approaching cluster while the northern elevated plain as approaching random on the spacing continuum

Table VI. I

Area	Do	DE	Rn	SE	Z
Northern Elevated Plain	21.8	26.3	0.81	6.14	0.73
Southern Hilly Area	12.0	23.8	0.52	3.72	3.17

In the location of urban centres, physiography plays but an increasing diminishing role in the determination of its location, stress, therefore is on the economy and history.

In the northern elevated plain, there are a total of four urban settlements namely Rewa, Satna, Nagod, Maihar and Uchehra. All these urban centres

have a fairly high level of functional specialization (Chapter IV) and a history of over a century as urban centres. The secondary sector has a fairly well established incidence. Nevertheless, the 'approaching random' distribution of urban centres in this part can be attributed to the fact of only four urban centres among eight tehsils.

Similarly, in the southern hilly area, there are a total of eleven urban centres/settlements, with a concentration of six settlements in Sohagpur, three in Bandhogarh and one each in Gopad Banas and Beohari. And the 'approaching cluster' situation has been warranted by this fact. However, the essential reason behind this situation is, the pre-dominantly mining character of urbanization in the region. These mining towns have sprung up all with the exception of Johilla over-night, and thus the concentration of population not engaged in agricultural pursuits has resulted in their being categorized as urban centres. Consequently, the entire industrial structure of the region is based upon the extractive sector, be it coal mining or forest lumbering. History however, has

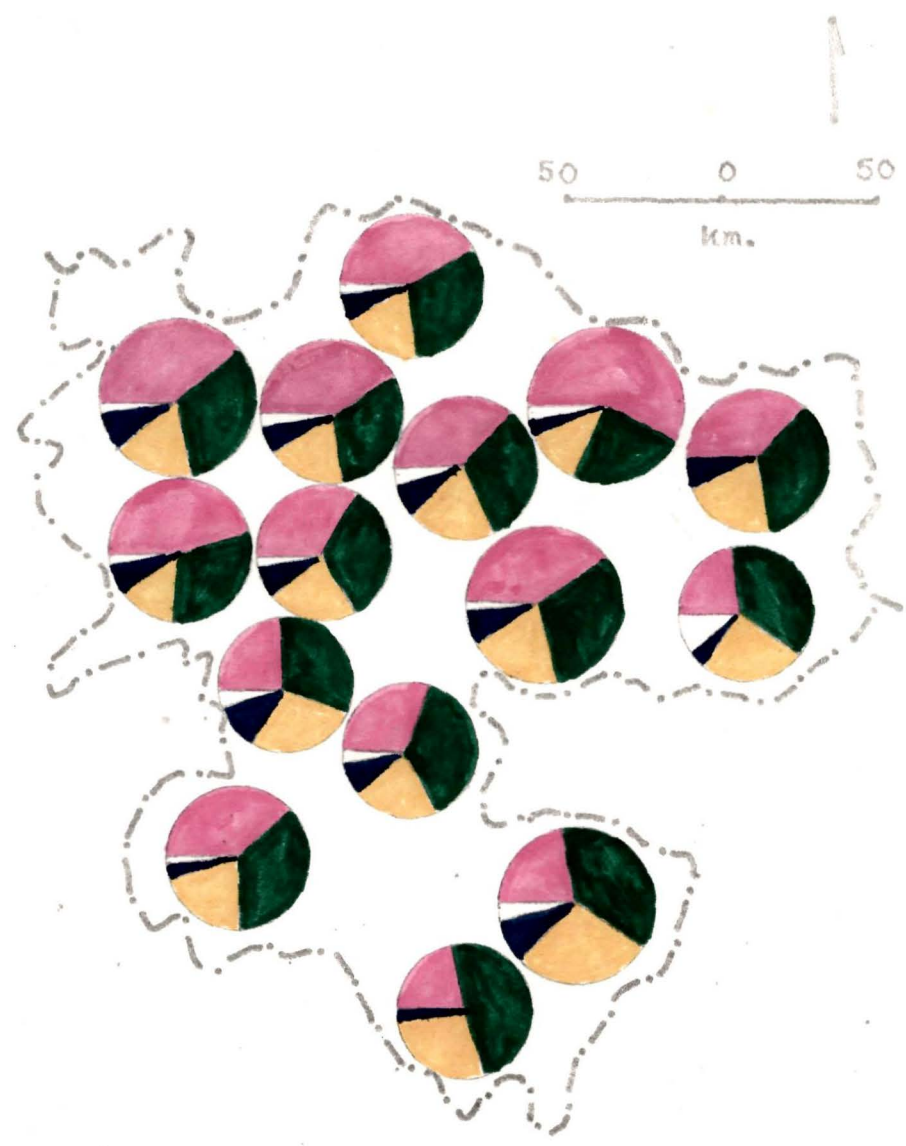
no claim in this nature of urbanization. Economy thus, is the primary determinant here, as regards point pattern determination of urban centres.

Vertical pattern:

Rural settlements :

The frequency distribution of both the settlements and of population according to population size, has been analysed. It has been found that in the case of settlements frequency the bias is in the classes of 0-199 and 200-499, i.e. to say that beyond 60% of settlements in the entire region belong to this size-class. Nevertheless, Rewa and Satna have a higher incidence in the former group while the Shahdol and Sidhi districts have a higher incidence in the latter group. The variations are nevertheless too small to merit an explanation but the high level of dispersion in these regions is possibly due to the ubiquitous character of water resource which is not so in the southern hilly area; apart from this, a higher developed agricultural system, such as the one in this part of the region has a higher level of sub-division and fragmentation of land holdings, consequently a higher

# SETTLEMENT SIZES



scale= no. of villages  
700 - +  
400 - 700  
300 - 400



	- -	199
	200 -	499
	500 -	999
	1000 -	1999
	2000 -	+

litigation level, thus the breaking up of larger settlements into smaller hamlets.

Nevertheless, the general trend is a heavier base and lighter top, though variations do exist in the sense that Shahdol and Sidhi have a higher incidence in the category 200-499.

Regarding the frequency distribution of population, the bias is definitely indicated in the categories 200-999 i.e. over 60% of the population stays in these two classes. The curve nevertheless as exhibited in figure VI.4f is normal and flatten in the case of Rewa and Satna than Shahdol and Sidhi. It must however be mentioned here of the cultural, physiographical and settlement behaviour differences between the two regions, which have already been played up in the spacing technique.

Thus, the trend as reflected by the frequency distribution of population exhibits a higher incidence in the categories of 200-999.

# DISTRIBUTION OF POPULATION AND SETTLEMENTS

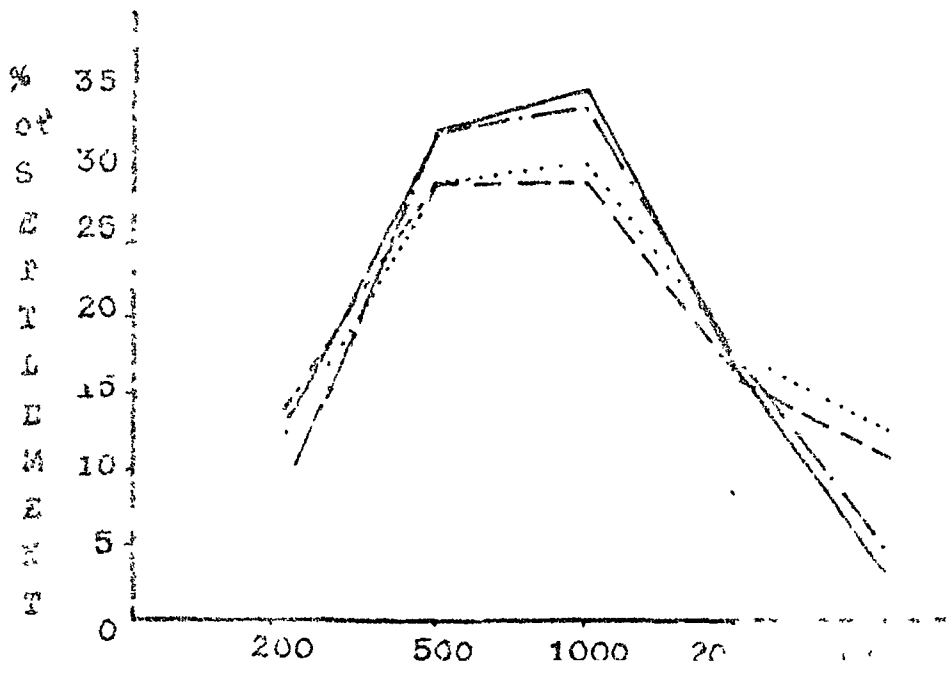
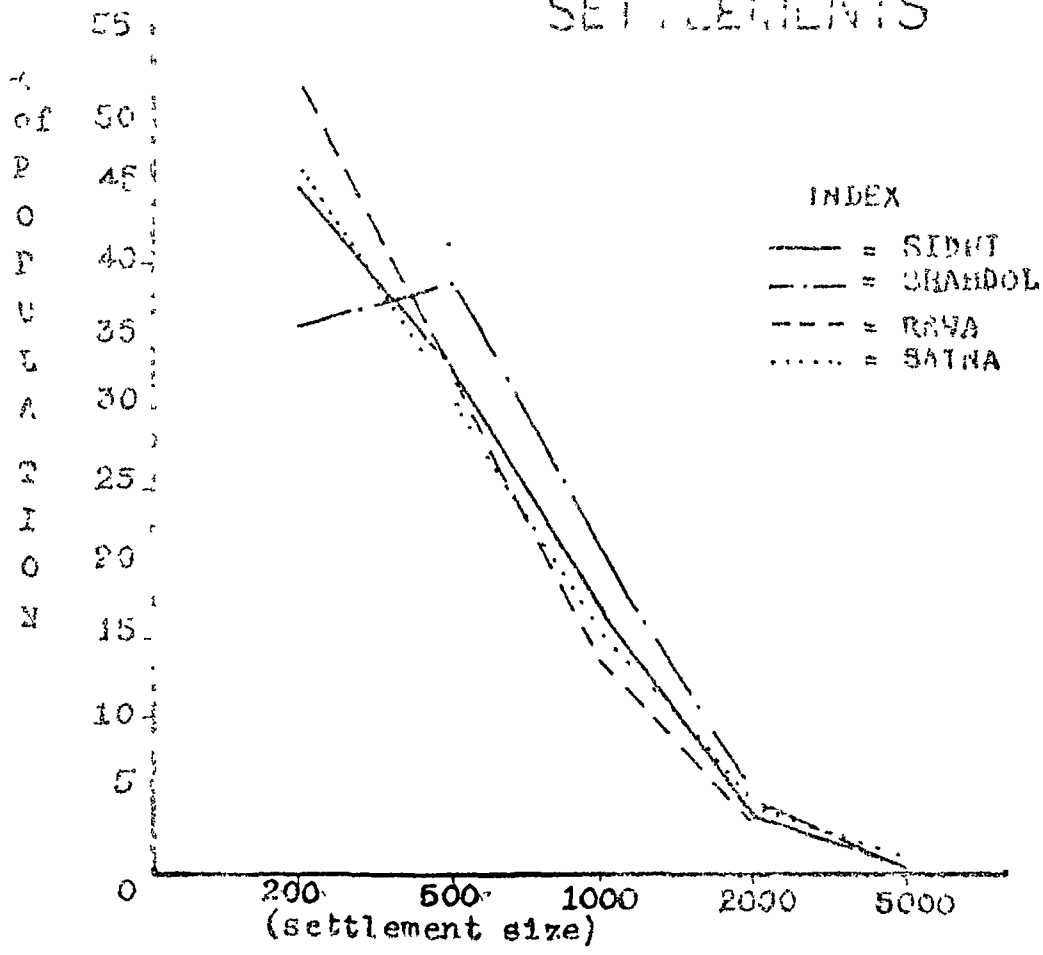


Table VI.II

	Distribution of settlement by population size					Distribution of population by size of settlement				
	0-199 1-499	200-499	500-999	1000-1999	2000-4999	0-199 1-499	200-499	500-999	1000-1999	2000-4999
SATNA	35	32	21	9	2	11	30	31	18	8
REWA	44	30	17	7	1	14	29	30	16	1
SHAHNOL	28	48	24	6	1	12	37	31	15	5
SIDHI	33	34	22	8	1	11	34	35	12	7

Source : Census of India, D.C.M. Rewa, Satna, Sidhi & Shahdol.

Urban Settlement : The pattern of relationship between various sizes and their respective ranks is not as postulated by the rank-size rule which is said to hold good for most of the regions. It is a binary pattern dominated by Rewa and Satna on the top slope followed by a long tail of smaller settlements commencing from the eighth settlement.

The reason for the binary pattern of relationship is that Rewa has had a history of being the regional capital i.e. the capital of the erstwhile Rewa state for more than 500 years. This position as hub of the region resulted in the concentration of

# URBAN CENTRES-GRAPHICAL RELATIONSHIP

(Rank-Size rule)

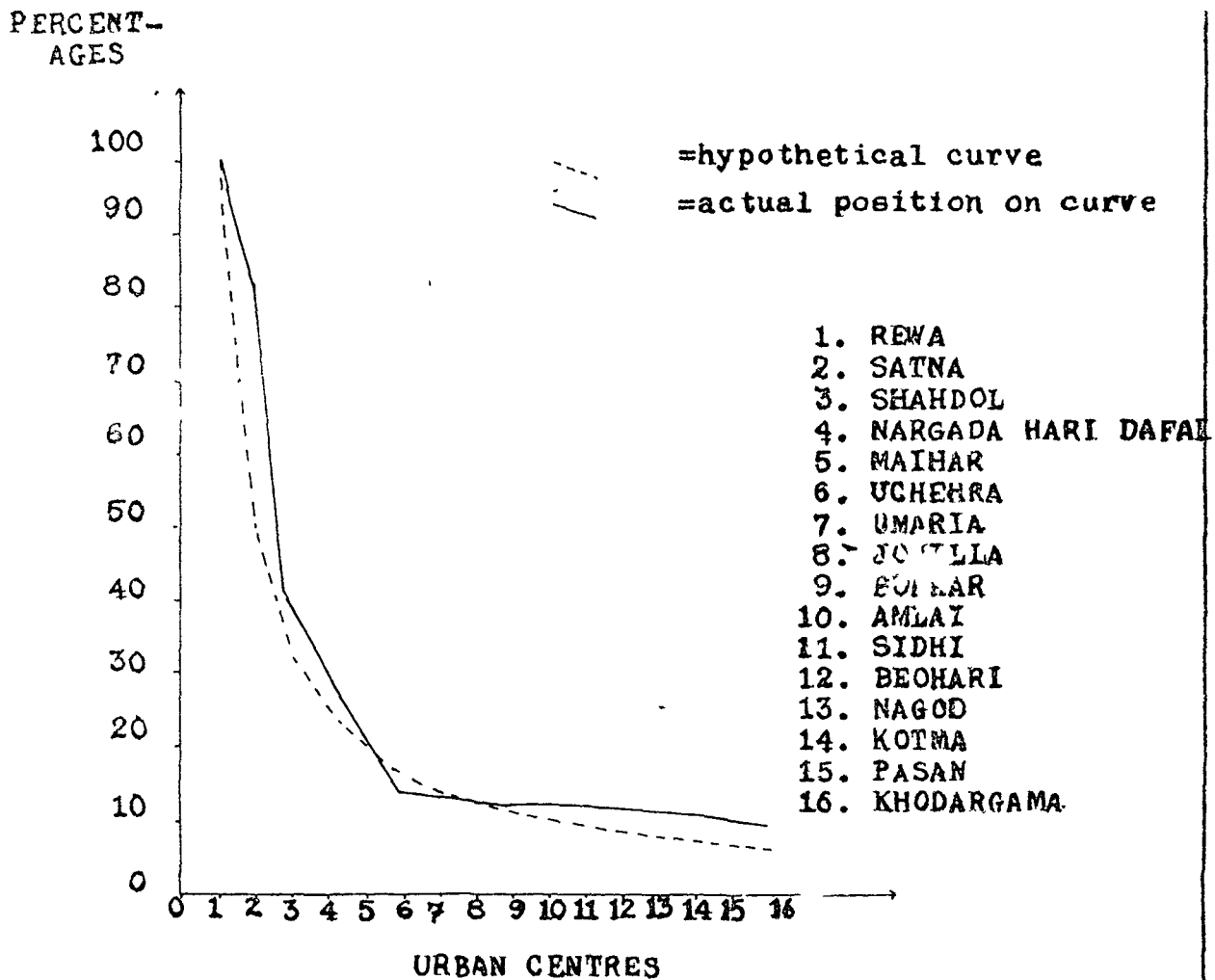


Table VI.III

Urban centres	Actual population	Percentage	Rank size population	Percentage
Reva	69182	100	69182	100
Satna	57531	83	34591	50
Shahdol	28490	41	23061	33.3
Nargada Hari Dafai	20411	29	17291	25
Maihar	15177	21	13836	20
Uchehra	9662	13.7	11530	16.6
Unaria	9358	13.5	9883	14.3
Johilla	8917	12.8	8648	12.5
Burhar	8756	12.6	7687	11.1
Amrai	8687	12.5	6914	9.9
Sidhi	8341	12	6289	9.0
Beohari	8124	11.7	5765	8.3
Nagod	7578	10.9	5322	7.7
Kotma	7047	10	4942	7.01
Pasan	6691	9.6	4612	6.6
Khodargama	6264	9	4324	6.2

population in the area and even in 1901, a private relationship⁽⁶⁾ existed between this and other urban centres in the region. The construction of the railway line through Satna, imposition of the Agency 'seat' during the colonial era, re-settlement of refugees after the partitioning of the country etc. all resulted in the expansion and development of Satna town. Lower down on the scale, one would notice a high proliferation of smaller number of settlements, and almost all of them belong to the southern hilly tract; eleven of them in Shahdol district. And the pattern of relationship between Shahdol and them is of a private character, a classic example of the existence of dual economy⁽⁷⁾, mining enclaves and existence agriculture, superimposed on which is the rail connection linking this region to Jabalpure. Consequently, the private character of urbanization

Spatial interaction :

The extent of interaction between the various urban centres in the region is the main objective here. Following the gravitational principle of physics,

it was assumed that the level of interaction/ attraction between two urban centres is directly proportional to the product of their populations over the distance between them. So for each set of urban centres, the gravitational index was computed. And then for purposes of comparative analysis a slight modification in the 'Gravity' model was effected, so as to arrive to one specific value for one specific set of interaction⁽⁹⁾. The results of which are given below in percentages:

Table VI.V

<u>Urban Centres</u> FROM	<u>Urban Centres</u> FOR	<u>Percentage Interaction</u>
REWA	Beohari	5.48
	Satna	64.67
	Maihar	14.62
	Sidhi	5.63
	Shahdol	1.29
SHANDOL	Umaria	6.61
	Margada Hari Dafai	19.58
	Burhar	14.70
	Johilla	15.97
	Beohari	5.46
	Satna	19.45
Rewa	23.23	

SATNA	Rewa	53.80
	Sidhi	2.51
	Shahdol	5.32
	Maihar	17.72
	Uchehra	18.18
	Beohari	2.53
SIDHI	Beohari	7.10
	Rewa	48.34
	Shahdol	11.06
	Satna	25.93
	Maihar	7.57
BEOHARI	Rewa	51.86
	Shahdol	21.36
	Satna	28.75
	Sidhi	7.82

These percentage interaction values indicate the strength of interaction emitted by one centre for another, assuming that the mode of transportation, time involved is corresponding to the distance covered, preference etc. are the same.

Now in such a situation, Rewa as a centre emanates maximum interaction strength for Satna, according to table VI.IV followed by Maihar, Beohari, Sidhi and Shahdol. Similarly, the polarization effect of the growth of Rewa would result in strengthening of this interaction between the various centres i.e.

in other words the outflow of economic assets from Rewa would accumulate in the various centres according to their interaction strength. Similarly, the inflow of assets from these centres would amount to their respective interaction strength. After all, that is what interaction means. Similarly, Satna has a maximum interaction strength with Rewa but the strength is lesser than that of Rewa's for Satna, on account of Rewa having no satellite towns as in the case of Satna. Among the satellite towns, Uchehra gets the maximum share followed by Maihar etc.etc.

In the case of Shahdol, Rewa receives the maximum interaction followed by Satna, but the share of interaction with its own satellite towns is greater than with Rewa or Satna. Reflecting a stronger interaction level with the townships of Johilla, Burhar, Margada Hari Dafai, Umaria etc. combined. Obviously, this interaction would strengthen further whatever the character of economic relationship already exists in the region.

Sidhi, the other district headquarter has a dominating interaction with Rewa, almost double to that of Satna followed by that of Maihar and then Bechari. Though Bechari's interaction with Sidhi slightly stronger than that of Sidhi's with Bechari, however Rewa gets maximum of Bechari's interaction followed Satna and then Shahdol.

This interaction strength is seen from the view point of functional category of urban centres, reveals altogether another picture. Making Shahdol's interaction with the satellite towns exploitative, Satna's interaction with the satellite towns constructive & Sidhi and Bechari if taken to be satellites of Rewa, then again of exploitative nature. This contention has already been strengthened in Chapter IV and here, the interaction strength index supports it.

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REGIONALIZATION : CHAPTER VII

In the spatial mosaic of the country, the region Baghelkhand stands distinguished as a historico- social regional personality. In terms of history and language/dialect, the region stands apart, as a distinct regional personality. But within this broad unifying factor, diversities and disparities make up for further meso and micro level divisions.

Physiography and geology supported by drainage and climate make way for the meso level divisions, namely the (1) The northern elevated plain

and (ii) The southern hilly area.

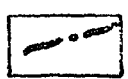
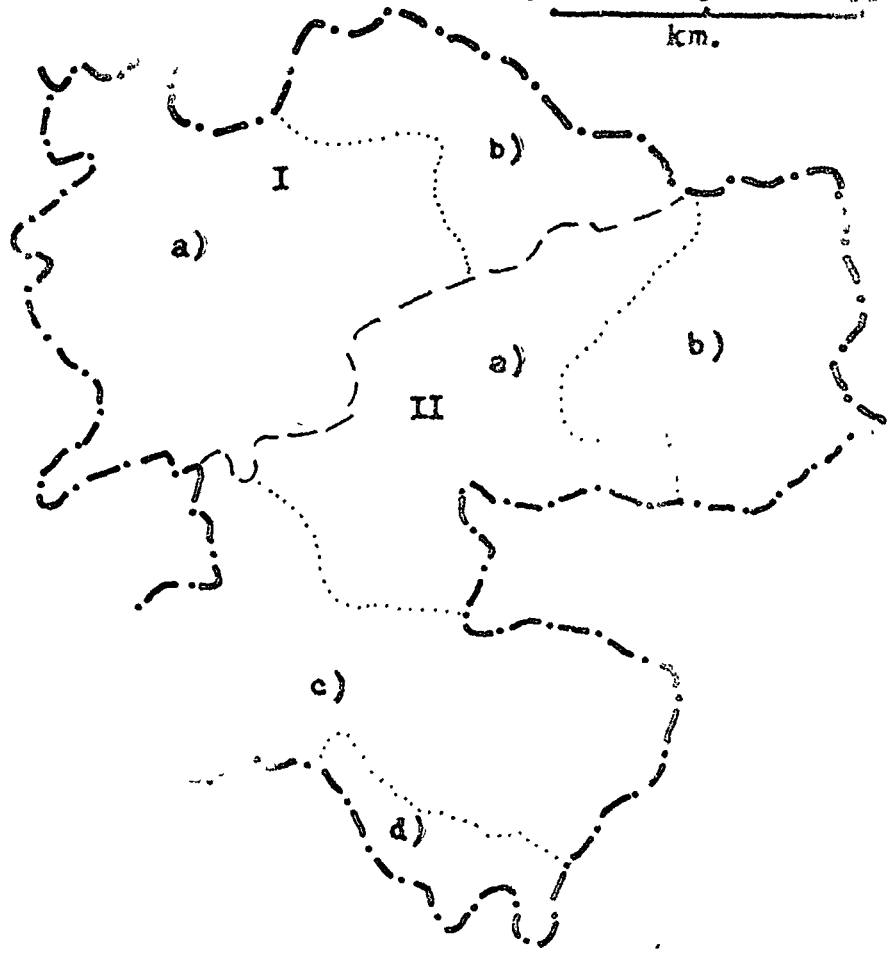
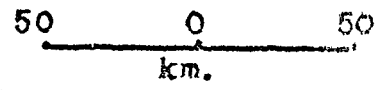
At the micro-level, the emphasis on economic and social disparities speak for the construction of boundaries. Thus the emerging regionalization of Baghelkhand takes the following shape :

Table VII.I

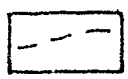
**BAGHELKHAND**

I		II	
Northern Elevated Plain		Southern hilly area	
a)	b)	a)	c)
U-parihar	Terihar	Sone Lower Basin	Rihand Basin
		b)	d)
		Sone Higher Basin	Narbada Basin
I	a)	i)	Hugur
		ii)	Sirmour
		iii)	Raghurajnagar
		iv)	Mairhar
		v)	Nagod
		vi)	Anarpatan
I	b)	i)	Mauganj
		ii)	Teonthar
II	a)	i)	Gopad Banas
		ii)	Beohari

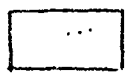
# REGIONAL STRUCTURE



I st. order region



II nd. order region



III rd. order region

- b) 1) Deosar  
ii) Singrauli
- c) 1) Sohagpur  
ii) Bandhogarh
- d) 1) Pushprajgarh

I a) Region Uparihar stands out distinct in terms of population density, urbanization ratio-schedule-caste, distribution, percentage of arable land, connectivity, and economic structure. This is the most developed tract in the region, agriculturally as well as industrially. The functional specialization is as a consequent of this very wide, - apart from agriculture in the rural areas, services, trade and commerce and manufacturing form the prominent sectors in the urban economic structure. Rewa, Satna, Maihar, Naged and Uchehra are all urban centres with a historicity which is generally found missing in the other urban centres of the region.

b) The Tarihar region which dominates the alluvial plain specifically is by and large an underdeveloped tract in this meso region. This sub-region is affected by a lack of urbanization, though the

existence of several rural service centres such as Gurh, Chak, Mauganj, Teonthar, Haigarhi cannot be denied, yet the region is at best an adjunct to the Rewa-Satna urban axis and falls in between the Allahabad and Rewa urban centres; which in fact exerts a powerful suction pressure on this region's rural service centres. However, the Farihar region is agriculturally quite well off with a medium density of population and a high schedule caste incidence.

II a) The Sone lower basin comprises of a region which now stands at the thresh-hold development, for with the establishment of the Bansagar dam, this is the area which is going to experience maximum inputs in terms of irrigation, electricity and allied elements. The region is essentially agricultural and has the highest percentage of workers in the agricultural sector, followed by livestock forestry and allied activities. Mining as an activity is conspicuous by its absence in the region. Though hides and skins alongwith food-grains comprise of the region's entire export items, Rewa and Satna are urban centres served by them. Sidhi and Beohari are the only two

urban centres which basically satisfy the administrative category. Nevertheless, this economic stagnancy of the region will undergo a change pretty soon on account of the envisaged Bansagar project.

II b) The Rihand basin is a region characterized by a high incidence of tribal population, higher incidence of forested tracts and a fairly heavy agricultural participation rate, backing urbanization completely, though now, with the mining economy in full swing, regular rural service centres have developed for instance, Waidhan, Morba, Singrauli, Amilia and Jiwana. Millet is an important crop of this region. However, by 1981, at least three rural service centres would be able to qualify as urban centres. For with the opening up of the Singrauli mines, establishment of a thermal power plant at Obra (in Mirzapur, U.P.) the region is experiencing a fresh phase of changing economic structure, calling forth the development of social overheads in terms of transport, storage, communication, services, trade and commerce etc.etc.

II c) The Sone upper valley, characterized by extensive mining and industrial activity; spurious urbanization; high incidence of tribals and a fairly heavy agricultural sector of subsistence character. The region has a chain of nine urban centres with nine of them; six of them exclusively of mining character, one with industrial character and two with a higher level of functional specialization. Most of the urban centres in this region are of very recent origin and therefore lack historicity of even a rural service centre. The region nevertheless, is linked by rail to Jabalpur and therefore is economically an adjunct to Jabalpur urban centre.

II d) The Narmada region is by far the most under-developed area in the region. The only positive element in the economy is a fairly high incidence of oilseed cropping. But apart from this, the higher agricultural participation, higher percentage of schedule tribes, extremely low level of literacy and density of population followed by a high incidence of forested tracts reflect the validity of the above statement.

### Levels of regional development

In support of the afore-stated regionalization of the region, an exercise of composite index⁽¹⁾ was executed on the result of which, figure VII.4A was prepared.

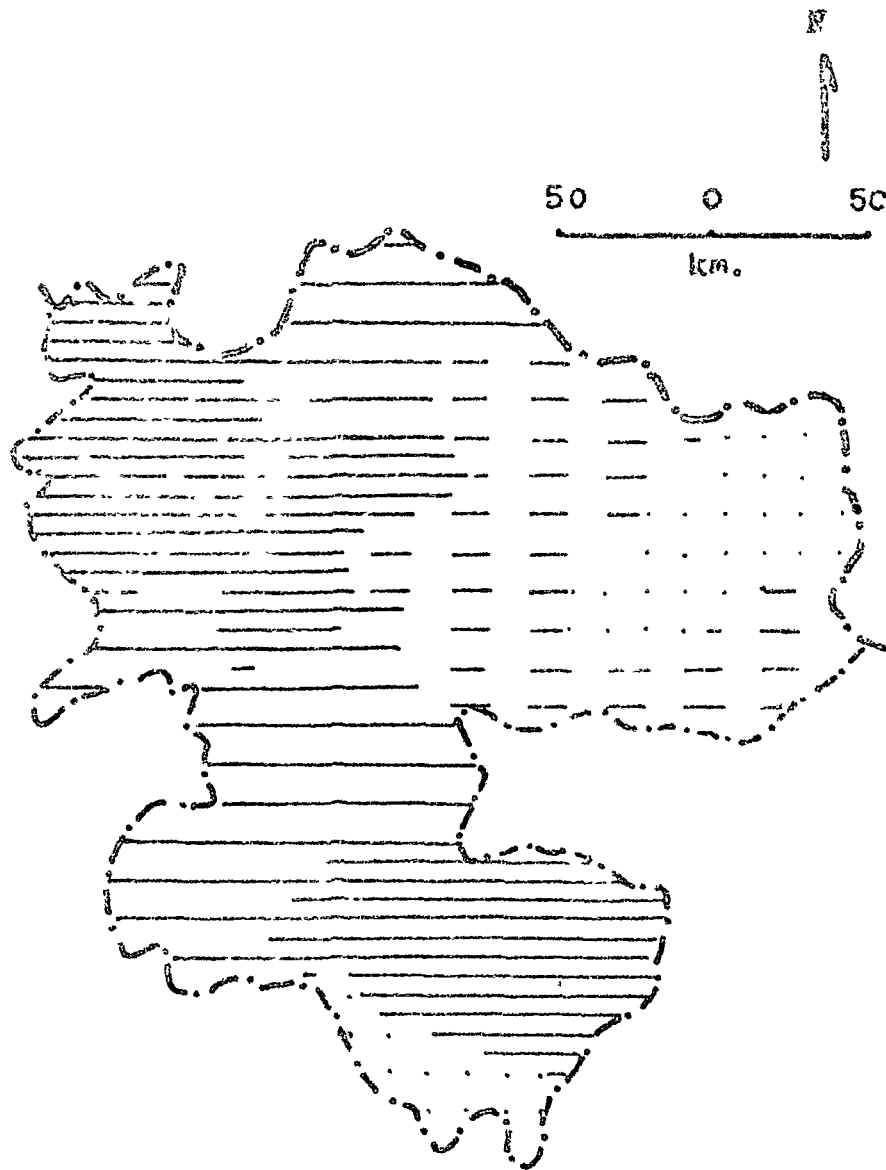
#### Upper level

The most developed tehsils in the region, are Raghurajnagar, Nagod, Amarpatan, Hujur and Sohagpur. The elements responsible for their position on the development spectrum are higher urbanization level, higher participation in secondary and tertiary sectors, higher density of population, and a higher schedule-caste incidence. This represents in fact the industrial pocket of the region, alongwith mining and other extractive functions.

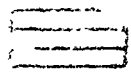
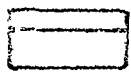


#### Upper intermediary level

In the next rung to the top one, we have the tehsils of Maihar, Tecnthar, Sirmour, Bechari and Bandhogarh. This is an area which is relatively

# LEVELS OF REGIONAL DEVELOPMENT



## COMPOSITE INDEX

	10 - +
	5 - 10
	5 - 5
	0 - 3

better off agriculturally, the agro-mechanization level too is of the median category, and the pressure on land is obviously not of the greatest incidence. Nevertheless, economic diversification exists in the participation aspect. For instance, the Maihar tehsil has a fairly high incidence of participation in the transport and communication activity followed by Bandhogarh. Incidentally, these two tehsils only have a fair urbanization level in this entire spectrum.

#### Lower intermediary level

The tehsils dominating in this spectrum are Maujanj, Gopad Banas and Singrauli. Lack of urbanization, low level of population, density, literacy and a more or less complete absence of secondary and tertiary sectors are responsible for such an incidence.

#### Lower level

Pushprajgarh and Deosar are at the lowest rung of development spectrum, exhibited by their

extremely high participation in agricultural sector, lack of agri-mechanization, complete absence of secondary and tertiary sectors and urbanization. The region is given to a very high incidence of forests, very high distribution of schedule tribes and absolutely no diversification of economic base, other than the primary sector. Thus, on the whole, it would be noticed that a higher level of development exists in the northern elevated plain than in the southern hilly area. Further, the northern elevated plain has a more stable urban base with a higher level of functional specialization than the southern hilly area.

Besides, the northern elevated plain has a higher percentage of net sown area while the southern hilly area has a higher percentage of area under forests.

Apart from this, the northern elevated plain has a higher percentage of schedule castes while the southern hilly area has a higher percentage of schedule tribes.

Thus, the spatial variations in the development pattern.

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Notes for Chapter - VII (A)

(1) Methodology for calculating

the composite index of Re-

gional development levels :- Eight variables were selected, based on a correlational exercise executed for elimination of elements that were non-complimentary to the concept of development in the region.

1. The variables were density of population, literacy, Urbanization level, density of rural settlements, participation in secondary and tertiary sectors, level of mechanization and irrigated area as ratio of net sown area.

2. The variations in the indices for various elements were too great, thus an exercise of making them 'scale-free' was effected. Each elements index was divided by its arithmetic mean.

3. Then for the purpose of normalization of scale the coefficient of variance was calculated for each element, then summed up, to be divided by the total number of elements - 8. The index thus arrived at, was the average length of the

Notes for Chapter - VII (B)

sector square, and thus its under-root was calculated.

4. Further, for the purpose of inflating regional disparities, each elements index was multiplied by the average length of the sector.
5. This method of calculating the levels of regional development does not distort the actual position of an index in any element, as in the Kendalls method or Mitros method, not is it a cumbersome process as in Pal's principle component analysis. Further it is possible to work it out on a small calculator, unlike the principle component analysis. Thus its utilization.

## Appendix A

## Landuse - (1)

(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)	(VIII)	(IX)
Tehsils	₹ Forests	₹ Non Cultivable Land	₹ Barren Waste	₹ Permanent Temporary Pastures	₹ Garden River or Lands etc	₹ Cultivable waste land	₹ Fallow land	₹ Net sown area
Raghurajnegar	15.2	6.9	12.1	5.0	2.1	8.4	4.6	45.3
Nagod	32.6	6.7	5.9	2.5	0.2	6.2	3.9	41.7
Amarpatan	16.0	11.6	4.6	0.3	0.8	3.7	6.9	55.4
Naihar	5.7	7.4	25.6	1.9	0.2	7.1	5.9	45.7
Toenthar	17.2	6.5	9.0	11.5	0.2	1.0	4.2	51.1
Sirmour	8.0	8.3	1.5	9.1	0.0	0.1	4.8	61.2
Mauganj	6.4	6.0	6.4	3.6	0.1	5.9	12.2	58.6
	3.3	11.9	10.5	2.2	0.3	1.6	4.7	65.1
Boohari	45.1	5.9	4.7	4.3	0.2	5.0	8.0	26.6
Bandhogarh	42.5	5.6	3.2	8.6	0.1	6.4	8.5	24.9
Sohagpur	32.8	6.4	2.9	5.5	0.2	4.2	8.4	39.5
Pushprajgarh	18.8	3.8	11.0	3.9	0.0	5.3	11.2	45.6
Gopad Bannas	40.5	4.5	7.4	-	-	4.5	5.6	37.1
Depdar	41.4	2.7	18.4	-	-	5.2	5.4	26.7
Singrauli	41.0	8.7	12.7	-	-	2.6	4.2	30.6

(I) Tehsils	(II) Gross Cropped Area	(III) Per capita land availability	(IV) Carrying capacity of land	(V) Ratio of Irrigated area to net sown area	(VI) % of area under food crops in Kharif	(VI) % of area under food-crops in Rabi.
1.	1.14	3.2	1.04	0.024	16.8	84.5
2.	1.19	3.7	1.2	0.023	97.6	86.6
3.	1.24	3.0	1.03	0.013	96.8	85.0
4.	1.24	3.3	1.12	0.006	97.6	83.2
5.	1.23	3.0	1.00	0.018	98.0	72.6
6.	1.19	3.0	0.93	0.006	96.7	82.2
7.	1.31	3.7	1.21	0.005	99.2	75.3
8.	1.22	2.9	0.93	0.010	97.5	87.4
9.	1.16	3.0	1.07	0.023	89.2	82.3
10.	1.19	4.5	1.5	0.006	91.5	73.4
11.	1.10	3.8	1.34	0.007	94.1	65.5
12.	1.21	5.7	2.01	0.000	73.9	73.1
13.	1.27	3.1	1.07	0.005	89.6	86.4
14.	1.33	3.7	1.4	0.001	88.7	82.1
15.	1.37	2.9	1.04	0.007	85.4	79.8

Agriculture (3)

Not sown Acres for (Mechanisation)

(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)
Tahsils	Wooden plough	Iron plough	Vieral pump	Electric pump	Tractor	Dullock cart
1.	0.2	369.5	315.6	925.3	2,768.3	24.9
2.	7.3	174.0	236.2	291.7	978.2	29.9
3.	6.4	4,935.5	429.2	741.4	7,816.1	79.9
4.	5.3	783.1	389.4	1,197.7	5,090.4	44.6
5.	7.8	1,036.1	368	798.6	1,879.0	190.2
6.	7.6	5,846.9	294.3	913.6	11,540.8	100.5
7.	8.3	14,165.1	548.0	2,274.7	23,971.7	805.3
8.	7.6	2,334.0	423.9	399.2	3,933.1	132.2
9.	6.3	2,795.5	1,140.6	34,689.0	28,907.5	12.8
10.	8.7	902.3	1,408.7	8,367.3	23,010.0	37.9
11.	6.9	923.2	860.6	8704.1	16,457.2	10.7
12.	9.5	297.8	43,770.8	36,475.7	109,427.0	319.5
13.	6.9	7,967.6	2,169.6	1,200.3	22,005.9	1,013.4
14.	7.4	55,996.6	7,565.9	34,992.2	23,320.2	3,635.6
15.	6.0	36,323.0	2,105.7	1,709.3	29,058.4	1,181.2

## APPENDIX - D

Tehsils EconomyParticipation as percentage of total workers in various industrial categories

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	73.9	1.5	0.07	8.1	0.25	3.7	0.2	0.5	36.1
2	80.4	1.9	0.07	10.2	0.23	1.9	0.4	4.4	37.2
3	86.6	2.3	0.02	5.8	0.19	1.6	0.2	3.2	39.8
4	80.5	1.8	0.7	8.6	0.22	2.3	1.3	4.5	37.3
5	89.8	1.3	0.01	3.6	0.11	1.6	0.2	3.2	37.1
6	87.2	1.1	0.07	5.3	0.02	1.4	0.1	4.6	37.1
7	87.8	1.9	0.02	4.2	0.21	1.6	0.2	3.9	34.6
8	71.3	3.2	0.08	7.9	0.98	3.9	1.4	11.1	35.0
9	90.4	1.7	0	3.6	0.08	1.1	0.2	2.9	38.4
10	86.8	0.8	2.34	3.4	0.09	1.3	0.6	4.7	38.4
11	78.8	1.1	5.57	5.1	0.27	2.3	1.3	5.4	37.3
12	92.3	1.5	0.98	1.8	0.09	0.8	0.1	2.4	41.2
13	89.3	1.6	0.06	3.6	0.03	1.2	0.1	4.0	37.1
14	92.6	2.5	0.04	2.3	0.04	0.5	0.1	1.9	41.2
15	90.0	1.7	0.43	2.6	0.10	0.8	0.2	4.1	39.6

- (1) Tehsils  
(2) Agricultural activities  
(3) Livestock, forestry etc.  
(4) Mining and Quarrying  
(5) Manufacturing activities  
(6) Construction activities  
(7) Trade and commerce activities  
(8) Transport, storage communication  
(9) Other services  
(10) Total participation rate

URBAN ECONOMY

APPENDIX - B

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Amlai	19.1	9.0	0.3	0	1.0	23.5	0.5	3.2	2.0	5.8
Bcohari	27.0	28.9	0.4	0	6.5	4.6	0.1	14.1	8.3	14.8
Burhar, H.HAD	0.8	6.9	0.6	36.3	3.0	19.2	0.6	8.4	1.6	14.1
Johilla	6.1	6.2	0.4	27.9	5.8	3.4	0.1	6.7	0.3	14.5
Khodargama	12.2	3.3	0.2	64.9	1.1	12.4	0	2.0	0.2	3.2
Kotma	10.9	5.8	0.6	2.5	11.9	12.1	0.7	19.9	4.6	30.6
Maihar	5.4	5.3	5.0	0	8.7	28.1	0.9	15.4	4.9	25.7
Nagod	5.5	10.7	0.4	0	29.7	10.3	1.8	16.0	2.3	22.8
Passan	4.8	9.8	0.0	79.7	1.1	0.9	0.1	1.4	0.1	1.6
Rewa	4.2	8.4	3.6	0.2	9.4	11.4	4.7	14.8	6.3	36.4
Satna	2.5	3.8	0.5	0.2	0.2	19.3	1.7	21.7	10.9	32.7
Shahdol	6.6	6.1	6.2	0.6	6.4	6.2	3.4	16.0	14.5	30.6
Sidhi	3.7	1.8	0.2	0.0	2.1	5.0	0.2	11.2	0.8	32.0
Umari	14.6	10.3	0.7	2.5	4.2	7.2	0.3	17.6	3.5	38.7
Uchhra	9.6	14.9	1.8	0.8	20.2	12.1	0.7	9.4	1.9	13.0

- (1) Towns
- (2) Cultivation
- (3) Agricultural labourer
- (4) Livestock, forestry
- (5) Mining & quarrying
- (6) Household industry
- (7) Manufacturing other than household
- (8) Construction
- (9) Trade and commerce
- (10) Transport, storage and communication
- (11) Other services

## Appendix F

## Social (6)

(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)
Tehsils	Spacing of rural settlements	Density of population	Distribution of S. Tribes	Distribution of S. Caste	Distribution of literates	Urbanization ratio
1.	1.17	84	14	30	30	1.09
2.	1.18	68	11	19	19	1.21
3.	1.03	113	26	25	25	-
4.	1.26	86	25	22	22	1.33
5.	1.03	93	23	19	19	-
6.	0.96	112	18	29	29	-
7.	0.84	125	17	21	22	-
8.	0.93	140	20	56	56	2.92
9.	1.54	53	28	8	7	0.59
10.	1.53	43	23	8	8	1.21
11.	1.45	68	44	15	15	2.14
12.	1.46	47	47	5	5	-
13.	1.21	71	27	12	12	0.26
14.	1.55	38	24	4	4	-
15.	1.48	55	18	7	7	-

## Age Structure

(I)	(II)	(III)	(IV)	(V)	(VI)
Terrils	0.14	15-34	55.59	60 +	Females per 1000 males
1.	40.8	33.0	21.0	4.5	939
2.	41.0	33.4	20.7	4.1	961
3.	40.5	32.4	21.6	4.7	1015
4.	40.3	33.5	21.5	4.0	981
5.	41.9	33.0	20.1	3.5	947
6.	42.1	31.7	24.0	4.7	1013
7.	43.4	32.0	20.0	4.0	1014
8.	41.7	31.5	18.2	5.0	967
9.	42.1	32.6	20.3	4.2	970
10.	41.6	33.5	20.6	3.6	956
11.	37.9	34.8	22.1	4.3	947
12.	41.4	33.1	21.1	4.3	986
13.	43.2	31.4	20.0	4.3	993
14.	42.8	32.8	19.0	4.3	960
15.	43.1	32.6	18.7	4.7	965.

APPENDIX - H

SOCIAL (8)

	REWA		NAGOD		MAIHAR	BARAUNDHA	SOHAWAL	REST OF AGRI.	KOTHI
Area	1300		501		407	218	213		169
Towns	9		2		1	12	-		2
Villages	6457		332		201	7462	201		77
Density	122		140		170	74	198		127
Total Popu- lation	1587445		74589		68991			108231	
Total Tribes	28483	1.8	-	-	48	0.1		11848	11.0
Depressed C	112578	7.1	8577	11.5	6013	8.7		15126	14.0
Hindus(M.C)	1409886	88.8	63983	85.8	60775	88.1		79191	73.1
Muslims	376637	5.7	1982	2.6	2117	3.0		1930	1.8
Others	63197	1.4	45	0.1	38	0.1		136	0.1

LEVELS OF REGIONAL DEVELOPMENT

APPENDIX - I

(1) _a	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	84	30	15	4.2	8.3	4.4	66	0.024	13.2
2	68	19	97	4.3	10.3	6.7	81	0.023	40.4
3	113	25	-	3.5	6.9	5.0	58	0.013	12.7
4	86	22	10.6	5	8.78	8.14	68	0.006	9.8
5	93	19	0	3.5	3.7	5.1	58	0.018	6.3
6	112	29	-	2.8	5.3	6.2	28	0.006	8.3
7	125	22	-	2.2	4.4	5.7	54	0.005	4.9
8	140	56	23.3	2.7	8.9	16.4	57	0.01	17.1
9	53	8	4.7	7.4	3.7	4.2	46	0.023	7.8
10	43	8	9.7	7.4	3.5	6.6	40	0.006	7.5
11	68	15	17.1	6.5	5.42	9.6	54	0.007	11.6
12	47	5	0	6.7	1.9	3.2	23	0	2.6
13	71	12	2.1	4.6	3.6	5.3	35	0.005	4.7
14	38	4	0	7.5	2.3	2.5	31	0.001	2.6
15	55	7	0	6.9	2.7	5.2	19	0.007	3.9
	79.2	181.2	6.2	5.9	5.3	6.2	47.9	.01	
	31.5	13.1	7.7	1.9	2.7	3.3	18.0	0.008	
	0.39	0.72	1.2	0.38	0.6	0.53	0.35	0.8	

- (1) Tehsils
- (2) Population Density
- (3) Schedule castes
- (4) Urban ratio
- (5) Rural settlement density
- (6) Participation in secondary sector
- (7) Participation in tertiary sector
- (8) Mechanization index
- (9) Irrigation ratio

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