FEMALE WORK PARTICIPATION AND RURAL DEVELOPMENT IN UTTAR PRADESH

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DECLARATION

Certified that this dissertation entitled "Female Work Participation and Rural Development in Uttar Pradesh" submitted by Mr. Sarvottam Kumar is in partial fulfilment of the requirements of the degree of Master of Philosphy and is a bonafide work, to the best of my knowledge. This dissertation is entirely his own work and has not been previously submitted for any other degree of this or any other University.

We recommend that this dissertation may be placed before the examiners for evaluation.

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SARVOTTAM KUMAR

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CHAPTER I

INTRODUCTION

I.1 Introduction

We take pride in our ancient culture and often quote a Sanskrit saying, "Gods reside there where women are worshiped". However, existing realities are quite different in our society today as is borne out by gender inequalities in every sphere of life. In spite of constitutional safeguards and other administrative measures, females continue to be the exploited citizens of India. Illiteracy, lack of training and the general socio-economic millieu have all contributed to this situation. This can be easily illustrated by the fact that despite being of hardier species, females in India are numerically fewer than the males and their share in the population is declining continuously. Mortality in child bearing age-groups accounts only partly for this state of affairs. There is a systematic neglect of the female from birth to death even when she is not actively ill-treated or exploited by the family and the community.

From childhood itself half of the world population accounted for two-thirds of the world's work hours and yet received only a tenth of the world's income and owned less than a

hundreth of the world property (1982).[1] This very fact aptly sums up female status in a male dominated world.

Status of any section of population in a society is intimately connected with its economic position and ultimately associated with the rights and obligations assigned to them. Marx and Engels pointed out that "the emancipation of women and their equality with men are impossible and must remain so, as long as women are excluded from socially productive work and restricted to work which is private".[2] Boserup has observed that in regions where women do most of the agricultural work it is bridegroom who must pay bride wealth. On the other hand, where women are less actively engaged in agriculture, marriage payments come usually from the girl's family.[3]

In the traditional village community in India the women played an important role in the process of earning a livelihood for the family. In a family based agriculture and household industry they were almost equal partner in the productive work. On the other hand, in the present day society, the boys and girls are trained in such a way that these inequalities become deep

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1. United nation - Women and Development Guideline for Programme and Project Planning, 1982, pp. 5.

2. E., Marx and F Engels, Selected Works, Vol. 1, Progress Publishers, Moscow, 1977, pp. 501.

3. E. Boserup, Women's Role in Economic Development, George Allen and Unwin, London, 1971, pp. 48.

rooted and even women usually accept this as given and natural. Comparatively lower status of women than men in almost all developing countries constitutes an important social problem. This inequality between the two sexes is infact a result of a variety of socio-economic and cultural factors. Social and cultural values vary in different groups of people and regions and in turn these values influence the rights and roles of women in different ways. These rights and roles of women are closely affected by the stage of development of the society. In India, an important component of upper caste values has been the seclusion of women and their withdrawl from work outside the home. Even in case of lower castes or classes any improvement in their economic prosperity results in adoption of the above values which became the main reason for decline in the women's involvement in work.

There is a widespread view among scholars that the best way to judge a nation's progress is to find out the status of it's women there. In ancient India particularly during the vedic period women enjoyed a very high status in the family as well as in the society. In the pursuit of knowledge and virtue, in the performance of rituals and in the fields of war and statecraft, the vedic woman was found as a companion and helpmate of man. The Upnishadas expounded the idea of man and woman as equal halves of divine unity. Each component was incomplete without the other. India has always upheld in theory the spiritual equality of man

and man as well as man and woman. But in social practice there has been increasing laxity after the vedic period not because of deliberate human choice but due to the vicissitudes of history.[4] Although women were respected in the later vedic age, they did not have the same freedom as before. The birth of a daughter was not quite welcome. The evils of child marriage, polygamy and dowry system that entered the society during the Maurya and Gupta periods and the pardah system of Muslim period degraded the status of women in society. The efforts of social reformers such as Raja Rammohan Roy, Swami Dayananda Saraswati, Pandit Ishwar Chandra Vidyasagar, Gopal Krishna Gokhale, Sir Sayyad Ahmed Khan, Gandhiji etc., no doubt, helped in social liberation of women to a considerable extent. After independence the constitution granted them equality of status and opportunity. The Directive Principles of State Policy empowered the state to make special provisions for the progress of women. There are in fact a wide range of constitutional and legal provisions to protect and safeguard the interests of women. Yet the lot of women has not improved judging from the literacy level of women, attitude of parents towards birth of female children, their rights in ancestral property, their employment opportunities, the level of wages to women workers and economic participation.

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4. Ranganathananda Swami, The Indian Ideal of Womanhood, The Ramkrishna Mission, Institute of Culture, Calcutta, 1966, pp. 4.

I.2 Statement of the Problem

Now the question arises how female work participation is related with rural development which is the theme of the present study. This problem has been discussed by correlating various aspects of female participation with various parameters of rural development. Women have been playing a crucial role in the rural development process since the early stages of civilized life. Historians believe that it was women who first started cultivation of crop plants and initiated the art and science of farming. It is said that it was women who not only discovered fire but also the use of fire and the the basic cooking techniques like bailing, roasting, leaking, steaming etc. It is also said that women was the potter and weaver.

Economic contribution implies economically productive participation by physical or mental activity leading to production of goods and services either for consumption or for sale or for exchange. Rearing children, cattle servicing which do not result in the production of goods or visible income and as such do not have appropriate measurement criteria for national income account and obviously do not fall under the purview of this definition. Since most of the rural females are, in comparison to urban females, engaged in such unproductive and unremunerative activities, their contribution in terms of production and earnings has been overlooked and generally

labelled as supplementary, casual, optional and supporting. The value for imputation for rural female activities is no doubt a problem. But this does not mean that they don't have any economic involvement in development activities. Broadly rural women's participation in the development activities of the rural sector can be classified into agricultural infrastructural and socio-economic sectors. The unique feature of female participation is that they are workers, labourers, cultivators, producer and traders, besides, performing all the household duties which are generally considered to be unproductive.

I.3 Objective of the Study

The present study is an attempt to establish the relationship between female work participation and rural development which is measured by agricultural, infrastructural and socio-economic variables. It has been examined whether rural development and its components lead to any kind of change in female participation or not at two different points of time i.e., 1971 and 81. The major objectives of the study are :

(1) To observe the level of female participation at district level of U.P. for the year 1971 and 81.

(2) To classify districts and regions in terms of rural development at a) agriculture infrastructure, b) socio-economic and c) the aggregate level at two points of times (1971- and 81).

(3) To establish the relationship of female work participation with levels of rural development at district level and

(4) To find out the growth rate of female participation and rural development during 1971 and 81.

1.4 Hypotheses

(1) Female work participation rate (FWPR) are in general inversely related to development in rural areas and particularly so with development of agricultural sector.

(2) As rural development progresses female workers get more and more concentrated in non-primary sector.

(3) In the initial stage, the spread of literacy adversely affects female participation.

(4) Female participation is positively related with proportion of scheduled caste in population.

(5) The disparity between male and female work participation rates is high in primary sector of developed rural landscape. However, this disparity is comparatively low in non-primary sector of the above areas.

I.5 Choice of Variables

Six variables of female participation and nineteen variables of rural development have been selected for this study.

However, the female work participation is measured here by the participation of main workers only. These variables can be broadly categorised as follows :

(A) Female Work Participation

(1) Females work participation rate (FWPR)

(2) Gender disparity in work participation rates

(3) FWPR in primary sector

(4) Gender disparity in work participation rates in primary sector

(5) FWPR in non-primary sector

(6) Gender disparity in non-primary work participation rate.

(B) Rural Development

(a) Agricultural Development

(1) Productivity per hectare in rupees (X_1)

(2) Productivity per male worker in rupees (X_2)

(3) Percentage of gross irrigated area to gross cropped area (X_3)

(4) Consumption of fertilizer per hectare in kgs. (X_4)

(5) Number of tractors per thousand hectares (X_5)

(6) Percentage of net sown area to total geographical area (X_6)

(7) Intensity of cropping (X_7)

(b) Infrastructural Development

(8) Percentage of village having educational amenity (X_8)

(9) Percentage of village having electricity amenity (X_9)

(10) Percentage of village having approach by pucca raod facility (X_{10})

(11) Percentage of village having post and telegraph facility (X_{11})

(c) Socio-Economic Development

(12) Literacy rate (X_{12})

(13) Number of persons per room (X_{13})

(14) Percentage of urban population (X_{14})

(15) Per capita income in Rs. (at 1971 prices) (X_{15})

(16) Percentage of scheduled castes (X_{16})

(17) Dependency ratio (X_{17})

(18) Child-woman ratio (X_{18})

(19) Percentage of non-primary male workers (X_{19})

I.6 Data Base and Methodology

All the six components of female work participation have been directly or indirectly derived from General Economic Tables.[5] Almost all indicators of agricultural development have

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5. (i) Census of India 1981, General Economic Tables, Uttar Pradesh, Series 22, Part III A and B (i).

   (ii) Census of India 1971, Economic Tables, Uttar Pradesh, Series 21, Part II B (i)

been extracted from Bhalla and Tyagi's book on Patterns in Indian Agricultural Development : A District Level Study[6] However, data on the intensity of cropping have been taken from "Statistical Abstract" of 1972 and 1982.[7]

All the four variables of infrastructural development have been derived from "Occasional Paper - 1 of 1986" for 1971[8], but for 1981 all indicators have been taken from each and every volume of all "District Census Handbook".[9]

Literacy, urban population and population of scheduled caste have been taken from "Primary Census Abstract" for 1981[10] but for 1971 they are taken from "General Population Tables".

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6. G.S. Bhalla and D.s. Tyagi, Patterns in Indian Agricultural Development : A district Level Study, Institute for Studies in Industrial Development, New Delhi, 1989.

7. Statistical Abstract, Uttar Pradeh, 1972-73 and 1982-83, Economics and Statistics Division, State Planning Institute, Lucknow.

8. Occasional Paper - 1 of 1986, Study on Distribution of infrastructural facilities in different Regions and Levels and Trends of Urbanization.

9. Census of India 1981, Uttar Pradesh, Series 22, District Census Handbook, Part XIII - A, Village and Town Directory.

10. (i) Census of India 1981, Uttar Pradesh, primary Census Abstract, Series 1, Part II B(i).

    (ii) Census of Indian 1971, Uttar Pradesh, General Population Table, Series 21, Part II A.

Number of persons per room are available in Household Tables.[11] District-wise per capita income has been taken from Economic and Statistics Division, Uttar Pradesh.[12] However, per capita income is available for 1979 instead of 1981. Dependency ratio and Child-women ratio have been derived from data from different Occasional Papers for 1971 and 1981.[13] Percentage of non-primary male workers are derived from General Economic Table.[14]

Disparity Index : The disparity among male and female work participation rate is an important variable to measure relative level of female participation rate vis-a-vis male levels. Disparities are also sought in primary and non-primary sectors. The disparities have been calculated by applying the

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11. (i) Census of India 1981, Uttar Pradesh, Household Tables, Series 22, Part VIII A and B (iii).

    (ii) Census of India 1971, Uttar Pradesh, Housing Report and Tables, Series 21, Part IV.

12. Govt. of U.P., District Domestic Product - Indicator of Intra-State Economic Prosperity, Economics and Statistics Division, State Planning Institute, (U.P. 1982).

13. (i) Census of India, Fertility and Child Mortality Estimates of Uttar Pradesh, Occasional Paper, No. 8 of 1988.

    (ii) Occasional Paper 16, Mean Age at Marriage in U.P. District Level Estimate and Pattern in Variation, Demographic, Research Centre, Department of Economics, Lucknow University, Lucknow, 1978.

14. (i) Census of India 1971, op. cit.

    (ii) Census of India 1981, op. cit.

following formula, which have been devised by Sopher and later modified by A. Kundu

$$Ds = \log \frac{x_1}{x_2} + \log \frac{200 - x_2}{200 - x_1}$$

Composite Index :- As we know "no single variable is sufficient enough to portray some of the complex characteristics which are not directly observable. As such characteristics are only partially reflected by several variables and we have to measure them through all the related variables. A composite picture from these properly chosen variables may be extracted by working out a composite index from them".[15] It is done to compare geographical units. The sector-wise composite index is important. It enables us to know the position of different districts as far as sectoral achievement is concerned. It also highlights the relative break through of each district that has taken place at two points of time 1971 and 1981. There are three stages in the formation of a composite index to measure the levels of rural development.

It is needed because chosen variables have different measurement scale. Therefore, its components are not additive in general. It will bias the result also. With this angle it is

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15. Aslam Mahmood, Statistical Methods in Geographical Studies, Rajesh Publication, New Delhi, 1986, p. 89.

necessary to convert these variables into some common scale indicators. In other wards, it becomes crucial to eliminate the variation in scale before we embark any system of weightage. There are multiple methods to remove the baisness of scale. Important methods among them are as follows :- (i) Ranking method, (ii) Division by mean, (iii) Division by standard deviation and (iv) Standardization

Method of "division by means" is used here to remove the scale biasness of variables. Here each variable is divided by mean for every district. This method does not affect the relative position of the district in the series. It also does not disturb the "dispersion" of the variables since the coefficient of variation in the original series is retained as the coefficient of variation of the transformed series. This is why, this method is applied here.

For the purpose of assigning weightage, various methods have been devised by various scholars. First method in his direction is the method of equal weightage scheme. It very easy and simple method to construct composite index. In this method, after making variables scale free, are just linearly added up to get the composite index of development. Here all the indicators of development are given equal importance. This is why equal weightage scheme is applied here instead of the method of principal component analysis.

Correlation and Regression :- For verification of hypotheses and therefore, for evaluating the role of various factors, two types of analyses are mounted. They are indeed mutually complementary and perhaps inseparable. First, it has been tried to test the hypothesis as an independent exercise. This has been done by using correlation coefficient. Second in order to ascertain the relative importance of the variables, the technique of stepwise regression have been employed. The independent indicator in the step wise regression model is FWPR (Fj) and dependent variables are productivity per hectare (X_7), productivity per male worker (X_8), percentage of gross irrigated area to gross cropped area (X_9), Consumption of fertilizer per hectare in kgs (X_{10}), Number of tractors per thousand hectares (X_{11}), Percentage of net sown area to total geographical area (X_{12}), Intensity of cropping (X_{13}). The functional relationship between FWPR and independent variables of agricultural development are

$$Wj = f\ (X_7,\ X_8,\ X_9,\ X_{10},\ X_{11},\ X_{12},\ X_{13},\ U_i),$$

Wi I have chosen a linear form of function which runs as :

$$Wj = (B_0 + B_7X_7 + B_8X_8, + B_9X_9, + B_{10}X_{10}, + B_{11}X_{11} + B_{12}X_{12} + B_{13}X_{13}\ U)$$

Where B_0 is intercept term and B_i is the regression coefficient of the i^{th} explanatory variables U_i is the stochastic error term with usual assumption of zero mean and constant variance. By

applying the same formula, variables of infrastructural development and variables of socio-economic development have been analysed with respect to female participation.

I.7 Introduction to the Study Area

The study of physical landscape of a region is of wide importance which provides human beings the basic ground to play over and with as well as to evaluate a define culture and economy. However, Uttar Pradesh is a unique state werein all the major landfarms i.e. plains, plateaus and mountains are found. It has a common border with Nepal and Tibet in the north where as Himachal Pradesh, Haryana, Delhi and Rajasthan have common frontiers with it in the west and south west, Madhya Pradesh in the south and Bihar in the east. Situated between latitudes 23°52' N and 31°28' N and longitudes 77°3' E and 84°39' E, it covers an area of about 294411 sq. km. which is 9 per cent area of the country. It stands the fourth largest state in area after M.P., Rajasthan and maharashtra. But in term of population, Uttar Pradesh is the most populous state (110.86 million in 1981) in the country.

It has the advantage of better physical environment by virtue of its location in the agriculturally favourable fertile Gangatic Plain which is spread over two thirds (43 out 56 districts) of the state resulting to predominance of agrarian economy. Eighty two percent of the state's population (1981)

inhabiting in rural areas mostly derives its livelihood from agricultural pursuits. Nearly three-fourth of its total labour force is engaged in agriculture either as cultivator or as agricultural labourers demonstrating the dominance of agriculture in the economic development. After the declaration of industrial policy in 1956 greater emphasis was laid on industrialisation through different plans. As a result, the share of agriculture and animal husbandry in the state's income came down from 60.89 per cent (1972-73) to 43.29 per cent (1982-83). Still this share remained sufficient to justify it's prime place in state's economy. It is disheartening to note that despite all this about 46 per cent rural people in the state (1981) is living below the poverty line.

The area of the districts in Uttar Pradesh have got the experience of alteration from time to time which had 54 districts in 1971 and 56 districts in 1981. Moreover, in 1991 the number of districts has increased to 64. However, the state has been divided into four economic regions after excluding the Hill Region from the state, on the basis of similar cropping pattern, population density, geophysical condition and agro-climatic factors,

(1) The Eastern Region,

(2) The Bundelkhand Region,

(3) The Central Region and

(4) The Western Region.

The Eastern region has got 15 districts (Allahabad, Azamgarh, Bahraich, Ballia, Basti, Deoria, Faizabad, Ghazipur, Gonda, Gorakhpur, jaunpur, Mirzapur, Pratapgarh, Sultanpur and Varanasi), which lie in eastern sector of the Gangetic Plain. The Bundelkhand region covers four districts in 1971 i.e., Banda, Hamirpur, Jalaun and Jhansi. The Central region covers the Central Gangetic plain which has 9 districts in total and its northern part comprises the area between the Sarada and the Gomati rivers. The Central region comprises of Barabanki, Fatehpur, Hardoi, Kanpur, Kheri, Lucknow, Rae Bareli, Sitapur and Unnao. By stretching over a vast area of 19 districts (Agra, Aligarh, Bareilly, Bijnor, Budaun, Bulandshahr, Etah, Etawah, Farrukhabad, Mainpuri, Mathura, Meerut, Mooradabad, Muzaffar-nagar, Pilibhit, Rampur, Saharanpur and Shahjahanpur) the Western region covers a small strip of the sub Himalayas and the western portion of the Gangetic plain.

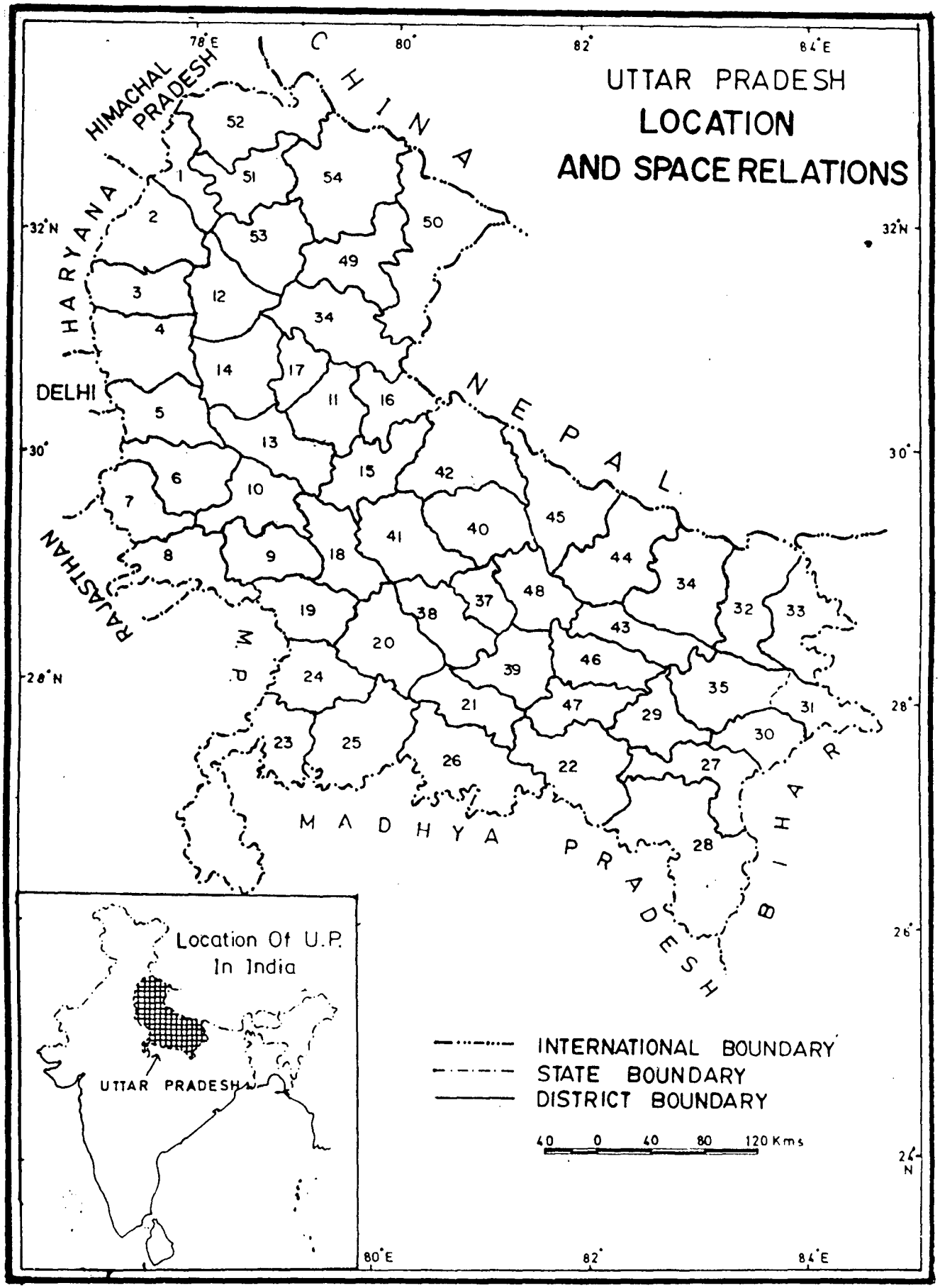
LIST OF DISTRICTS OF UTTAR PRADESH WITH CODE NUMBRS

S.No.	District	Code	S.No.	District	Code
1.	Agra	8	28.	Hardoi	41
2.	Allahabad	22	29.	Jalaun	24
3.	Aligarh	6	30.	Jaunpur	29
4.	Almora	49	31.	Jhansi	23

Contd.....

Contd.....

S.No.	District	Code	S.No.	District	Code
5.	Azamgarh	35	32.	Kanpur	20
6.	Bahraich	45	33.	Kheri	42
7.	Ballia	31	34.	Lucknow	37
8.	Banda	26	35.	Mainpuri	9
9.	Barabanki	48	36.	Mathura	7
10.	Bareilly	11	37.	Meerut	4
11.	Bijnor	12	38.	Mirzapur	28
12.	Basti	34	39.	Moradabad	14
13.	Budaun	13	40.	Muzaffarnagar	3
14.	Bulandshahr	5	41.	Nainital	36
15.	Chamoli	54	42.	Pilibhit	16
16.	Dehra Dun	1	43.	Pithoragarh	50
17.	Deoria	33	44.	Pratapgarh	47
18.	Etah	10	45.	Rae Bareli	39
19.	Etawa	19	46.	Rampur	17
20.	Faizabad	43	47.	Saharanpur	2
21.	Farrukhabad	18	48.	Shahjahanpur	15
22.	Fatehpur	21	49.	Sitapur	40
23.	Garhwal	53	50.	Sultanpur	46
24.	Ghazipur	30	51.	Tehri Garhwal	51
25.	Gonda	44	52.	Unnao	38
26.	Gorakhpur	32	53.	Uttar Pradesh	52
27.	Hamirpur	25	54.	Varanasi	27


UTTAR PRADESH
LOCATION
AND SPACE RELATIONS
78°E
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84°E
32°N
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26°
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HIMACHAL PRADESH
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Location Of U.P.
In India
UTTAR PRADESH
INTERNATIONAL BOUNDARY
STATE BOUNDARY
DISTRICT BOUNDARY
40 0 40 80 120 Kms

FIG. 1.1

Physiography :- Structurally Uttar Pradesh embraces parts of three tectonic divisions of India viz. (1) The Himalayas, (2) The Decan Table Land, and (3) The Ganga Plain, each having its own characteristics of different physical configuration. Moreover there is considerable diversity of relief features in each of these major physical divisions and the local variations in the cumulative product, structure, process and stage.

(1) The Himalayas :- It is a section of the tertiary folded mountains in the north, having, all the facets of the Himalayas ranging from the Siwalik hills to Zanskar range. It is composed of a continuous series of highly fossiliferous marine sedimentary rocks. The Lesser Himalayas is mostly composed of crystalline and metamorphic rocks-granites, gneisses and schists with unifossiliferous sedimentary deposits of very ancient age. The Outer Himalayas corresponding to the Siwalik Ranges is composed entirely of tertiary and principally of upper tertiary sedimentary deposits. The Himalayas have been divided into three parts in Uttar Pradesh (a) The Greater Himalayas, (b) The Lesser Himalayas and (c) The Siwaliks.

(2) The Ganga Plain :- This physiographic division of the state extends from northwest to south-east between Himalayas in the north and plateau in the south. However, between the Himalayas and the Plain there lies a transitional belt running

along the entire length of the state from Saharanpur in northwest to Deoria in the east, called the Bhabhar tact and the Terai Region. The Bhabhar tract has rich forests. Cutting across it from north to south are innumerable streams which swell into torrents during the monsoon and then becoming sluggish in dry. The Bhabhar tract along it's southern fringes gives place to the Terai area which is covered with tall elephant grass and thick forests interspersed with marshes and swamps. The sluggish rivers of the Bhabhar deepen in this area their courses running through a tangled mass of thick undergrowth. The strip originally 80 to 90 kms. wide has been considerably narrowed down, large areas having been reclaimed.

The Gangetic plain is depositional plain and is almost flat and monotonous. It occupies the remanant of the Tethys sea after the formation of the Himalayas due to northernly movement of the Gondwana land which has been filled up by the alluvium brought by the Ganga and the Yamuna and their tributaries. This way the Ganga plain forms a long segment in the middle of the vast Indo-Ganga Plain representing "the infilling of a foredeep warped down between he stable Gondwana block and the advancing Himalayas".[16] It is underlain by hard and crystalline rocks like gneisses and granites which continue to be the bottom of the

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16. O.H.K. Spate, India and Pakistan : A General and Refinal Geography London, 1954, p. 34.

Himalayas. The depth of the alluvium varies from a few metres in the south to 8000-10000 in the foot hill zones of the Himalayas through the average depth of around 1300 metres. It accounts for more than half of the state's area.

(iii) The Southern Upland :- This region lies in the southern most part of the state and is the oldest and the most suitable landmasses. The eastern part of the plateau region belongs to the Vindhyan System whereas, the western part comprises of rocky highland plateau. The region covers almost whole of Jhansi, Lalitpur, Jalaun, Hamirpur, Banda and parts of Mirzapur districts. This region lies at a height of about 300 metres and the land is not very suitable for agriculture due to configuration of land. The whole region either suffers from deficiency of rainfall or it is agriculturally poor and this is why it is considered a relatively backward region of the state. Moreover the southern upland is also divided into three sub-divisions (a) the Bundelkhand upland, (b) the Mirzapur plateau and (c) the Son Par Country. In between the last two is the Son-gorge, a narrow ribbon having alluvial formation. In fact "the river is actually sunk in low terraces and forms an important strike stream".[17]

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17. O.H.K. Spate, Ibid, pp. 583.

I.8 Plan of the Study

This study deals with female work participation and rural development, which is measured by taking various variables of agriculture, infastructure and socio-economic development. This study has a total of five chapters.

The first chapter basically focuses on introduction, statement of the problem, objectives of the study, hypotheses, choice of variables, data base and methodology, introduction to study area and plan of the study have been presented as a foundation of whole literature for the paper. In addition, the literature of noted authors as well as scholars on it, have been reviewed here under the headings of female work participation, rural development, agricultural development and female work participation and determinants and constraints of socio-economic development and female work participation.

The second chapter reveals the scenerio of female work participation at district level in Uttar Pradesh. However, this participation rate is also evaluated in the context of national level. As the importance of secondary and tertiary sectors is comparatively low in rural areas as compare to urban landscape, both the activities have been clubbed here. Thus, work participation has been analyzed for male and female as a whole and in primary sector and non-primary sectors at district level in the state.

The third chapter deals with various aspects of rural development. Firstly, the history of rural development has been portrayed. Rural development has measured here under the broad headings of agricultural, infrastructural and socio-economic development by taking various indicators of development. It also contains the correlation analysis of variables related to agricultural development, infrastructural development and socio-economic development. It also sums up relationships between rural and agricultural development, between rural and infrastructural development and between rural and socio-economic development. In a nut shell, growth of various indicators of rural development has also been analyzed in this chapter. In addition to the relative performance of different districts as well regions in the field of agricultural development, infrastructural development, socio-economic development and rural development have been visualized in two different points of time i.e., 1971 and 1981.

The fourth chapter analyzes the relationship between female participation and rural development. In fact, this relationship is sought here in the context of female participation with agricultural development, infrastructural development, socio-economic development and rural development. Besides each and every indicator of agricultural development, infrastructural development and socio-economic development have

been analyzed with respect to FWPR and it has been examined how much variation in FWPR is explained by each indicator.

The fifth chapter is the summary of the findings of this study.

An Overview of Literature

Inequality between the two sexes is one of the most important problems faced by the world in general and the developing countries in particular. Status of women in a society is substantially determined by their economic position and the role played by them in productive activities. Participation of women in economic activity is in fact a result of a variety of socio-economic and cultural factors. In fact, work has different significance for different societies. In a developed capitalist economy, work is considered as a symbol of personal identity. Women of these countries work to enhance their social status. On the country, in third world countries leisure is a sign of social status for females. In such societies economic necessity is a powerful motive that accounts for the participation of women in work force.

Female Work participation Rate : Concepts and Definition

It is very difficult to draw a line between those women whose economic contribution apart from their domestic duties has

been minor or negligible. The enumeration of a female as non-worker generally does not mean that she is not contributing anything to the economy nor does the enumeration of a female as a worker reveals the extent and intensity of employment. In Pranab Bardhan's[18] opinion, the extent of female participation on account of the restrictive nature of the standard definition of gainful work is an underestimate. In particular it excludes apart from household chores, various collection activities from village common property. Nirmala Banarjee[19] has also recognised that measurement of women's employment presents some additional problems. Even if the majority of women can be described as engaged in household tasks, the category of housework is very much extended one for poor women. If a women using her own labour produces from freely available materials, certain kinds of goods and services which the family otherwise would have had to purchase at a price in the market than she has in principle earned that amount of real income for the family. Similarly Kalpna Bardhan[20] viewed that women's work participation, which is massive by time criterion but mostly at low productivity and

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18. P.K. Bardhan, Land Labour and Rural Poverty, Oxford University Press, Delhi, 1984, p. 23.

19. N. Banerjee, Women Workers in the Organised Sector, Sangam Books, Hyderbad, 1985, p. 9.

20. K. Bardhan, "Women's Work Welfare and Status : Forces of Tradition and Change in India". Economic and Political Weekly, Vol. XX, No. 50, December 1985, p. 1208.

technologically deprived work is under estimated in the collection of statistics and unpaid or underpaid in the market. She remarked that "Within the family their productive labour is devalued and delinked from the control of or claim to the family resources it helps to accumulate. They do vast amounts of work necessary for farming mostly in the pre and post harvest operation that are done in the homeyard rather than the field".[21] Bina Agarwal[22] expressed the same opinion that it continues to be little appreciation that problems of unemployment, poverty and destitution are in many instances gender specific so that any serious attempt to alleviate these conditions and/ or prevent their further aggravator would require a particular focus on the women of poor households. The accuracy of national level statistics, which usually serve as the principal data input in the farming of development policies is severly impaired by biases which lead to an undercounting of women both as workers and those available for work.

Actually women are overemployed rather than unemployed. As Krishna Ahooja Patel pointed out, "Women work large hours in market and non market activities in industrialized countries and the urban sector of developing countries and more obviously in

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21. Ibid, pp. 1213.

22. B. Agarwal, "Work Participation of Rural Women in Third Workd", Economic and Political Weekly, Vol. XX, No. 51 & 52, 1985, pp. A 157.

the rural areas of Asia, Africa and Latin America".[23] Rural women do wide range of activities, which sustain the household. In addition to, cooking of food household cleaning and child care they may have to spend several hours in fetching and carrying heavy loads of water and fuel. In peasant families, generally the care of animals is also their responsibility. Moreover, they often help in crop production also. Thus daily working hours of rural females are generally higher than those of their counterparts. Similar are the views expressed by M.N. Srinivas.[24]

Thus distinction of employed and unemployed and measurement level of employment posses a serious problem in the case of women. Amartya Sen[25] has recognised three aspects of employment. Firstly, he distinguishes the "income aspect" i.e., employment gives income to the employed. Secondly, the "production aspect" i.e., employment yields an output. And lastly, the "recognition aspect" which means the employment gives a person the recognition of being engaged in something. Problem of concept of employment is widespread. But in the economies where the wage system is weak and where "self employment" and

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23. K.A. Patel, "Women Techonology and Development Process", Economic and political Weekly, Vol. XIV, Sep. 1979, p. 1549.

24. M.N. Srinivas, The Changing Position of Indian Women, Oxford University Press, Delhi, 1986, p. 11.

25. Amartya Sen, Employment Techonology and Developent, Oxford University Press, Delhi, 1975, p. 5.

"unpaid family labour" are common, the concept becomes vague. The criteria of being paid a wage do not apply, and that of productivity is difficult to use since it is not easy to separate out the productive contribution of any particular member of the family in the total family enterprise. In such cases identification of a person as worker or non-worker becomes difficult. Problem is more severe in the case of women. In agrarian economies, mostly the work women do in household industry and processing of agricultural products is unpaid and therefore unrecognised. This non-recognition of women's work further limits their access to education and training and they get concentrated in unskilled and low productive household jobs. It has been estimated that in 1972-73 about 45 per cent of the total number of working women were unpaid helpers in family farms.[26] Furthermore a large majority of women workers in India (77.5 million out of 88.9 miilion) are in rural areas mostly in unorganised sector. Only 2.5 million or2.9 per cent of the female workforce are in organised sector.[27]

The issue of the extent of female participation in workforce also becomes complicated because the definition of a worker varies from country to country and even for a single

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26. Revised Draft - Sixth Five Year Plan, 1978-83, Planning Commission, Govt. of India, p. 142.

27. Pushpa Sunder, "Characteristics of Female Employment, Implication of Research Policy", Economic and Poltical Weekly, Vol. XVI, may 1981, p. 863.

country it varies from census to census. Even since the introduction of the concept of worker in 1961, the definition of worker in India has been changing from one census to another census till 1981. In 1961 census, a person was considered as worker if he had some regular work for more then one hour a day throughout the greater part of the working season in case of seasonal work. In case of regular work (lin trade, profession, business, services etc.), the person was returned as worker if he had worked during any day of the 15 days proceeding the data of enumeration.[28] The men and women and even students and housewives who were engaged in some work even on marginal basis were considered as workers. This is why, female work participation rate was higher in 1961.

But in 1971 census, a person was recognised as worker, if he had participation in any work on any one of the days during one week prior to the data of enumeration in case of regular work. In case of seasonal work, a person's main activity was ascertained with reference to such work in the last one year.[29] Due to more stringent definition in 1971 there was a decline in work participation rate. This decline was pronounced among women, where there is more incidence of partial or marginal indulgence in work.

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28. S.C. Srivastava, Indian Census in Perspectives, ORG Ministry of Home Affairs, Government of India, New Delhi, 1983, pp. 273.

29. Ibid.

At the time of 1981 census, a distinction was made between main workers and marginal workers. The main workers were those who in some economically productive activity over a period of six months (i.e., 1983 days or more) in both the agricultural seasons; marginal workers, on the other hand were those who worked any time at all in year preceeding the data of enumeration, but have worked not more than six months.[30] Thus it turns out to be very difficult to interpret the census figures of working women and to find suitable explanation for variation overtime. Bina Agrawal[31] has pointed out that on the one hand there are countries such as Turkey and Thailand where all women in agriculture households are included in the labour force and on the other hand there are countries where all farmer's wives are counted as housewives not included in labour force.

There is another reason responsible for undercounting of female workers. In underdeveloped countries, female work participation in non-domestic work is substantially influenced by social and cultural factors. In most of these countries generally women's place is considered the home. Because the information regarding the work participation of the family member is obtained from the head of the household or other male members, answers to

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30. Ibid.

31. Bina Agarwal, "Work Participation of Rural Women in Third World", Economic and Political Weekly, Vol. XX, No. 51 and 52, December 11985, p. A-157.

the questions relating to women's work status and her availability for work tends to reflect a male perspective rather than their actual work status thus leading to the underestimation of female work participation.

A similar problem is faced by the researches in India because the definition of worker the changed drastically from one census to another. These changes have influenced the work participation rate. Danial and Alice Thorner[32] have rightly remarked that due to changes in definition in every census of India since 1881, the occupation figures for females are more difficult to interpret than those of males. This is because of the fact to a large extent in the Indian family economy, the role of women has been and still is auxiliary to that of the men of the household. Accordingly the problem of identification of a worker is more difficult in this category of "family helpers" and it is these workers which are more affected by changes in definition.

Definition and Concepts of Rural Development

Historically speaking the term rural development was earlier known as agricultural development and community development which emerged during the period of Second World War as a technique for development of under developed agrarian

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32. Danial and Thornes Alice, Land and Labour in India, Asia Publishing House, Bombay, 1962, pp. 75-76.

economy based countries.[33] This view of the concept of rural development has undergone a sea of change since then and now it is considered to be a tool to improve the economic and social life of a specific group of rural people viz. rural poor. In fact rural development has assumed considerable significance particularly in the seventies. It has, therefore, been accorded top priority in recent years. The emphasis is on the development of agriculture, allied industries, rural industries and arts and crafts.

Rural development is a concept aimed to provide all development potentialities in rural areas which could increase their standard of living. According to Prof. V.K.R.V. Rao[34] rural development is a process of optimum utilization of the natural and human resource of a given rural area for the enrichment of the quality of life of the population. It focused the need for micro-level village planning and it should be formulated on local needs, problems and potentialities as required by village population. The concept of integrated rural development is also defined as a series of mutually supporting agricultural and non-

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33. S.N. Bhattacharya, Community Development an Analysis Programme in India, Academic Publishers, Calcutta, 1970, p. 1.

34. V.K.R.V. Rao, Integrated Rural Development, Paper Presented to the Third Biennial Conference of Association of Development. Research and Training Institute of Asia and pacific at Goa, 1977.

agricultural activities oriented towards a stated objective which involves the progression of rural sub-system and their interaction leading to desired improvement in the rural system as a whole.[35] The achievement of integrated rural development depends in inter-sectoral linkages how one sector is related with another sector and their functional linkages between different sectors say agricultural sector and industrial sector and their dependence as infrastructural facilities which are combined to bring a desirable improvement in rural areas. Rural development involves developing rural economy so as to raise the standard of living of those rural people who are poor and require upliftment.[36] For the purpose our govt introduced several poverty alleviation programmes aimed to increase the standard of living of the rural poor by providing self-employment generating ventures in different categories of occupation.

According to Ensminger[37], rural development seeks to involve a process of transformation from traditionally oriented rural culture towards an acceptance and reliance of science and

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35. Y.L. Ahmad, Administration of Integrated Rural Development. A note on Methodology, International Labour Review, 1975, pp. 119-142.

36. S. Giriappa, Urbanization and Rural Development, Institute of Social and Economic Change, Bangalore, 1976, pp. 25-42.

37. D. Ensminger, Rural Development What is it ? (its Contribution to Nation Building), Paper Presented at East West Countries, Conference on Integrated Communication for Rural Development, Honolulu, 1974.

technology. It states that to what extent the target group farmers are expected to adopt and integrate the new technology into the existing farming system. The effectiveness of technology transfer depends on the support system as well socio-economic system in which other systems operate and also on the introduced new technology to some extent which ignores the enormous potential of peasants innovations and resourcefulness. The transfer of new agricultural practices and its allied technology depends on the active participation of young agricultural scientists and their role in research and extension system is very essential for effective transfer of technology. So the problem of rural development is the provision to create and staff the institution necessary for serving the farmer and effort to increase production. It focused the need for the development of human resources and it's role to create awareness towards the newly introduced technology and also how to utilize the existing opportunities and potentialities for their well being.

Rural development is identified with the development of underdeveloped rural poor. This is evident from the World Bank's[38] definition of rural development as "the strategy designed to improve the economic social life of a specific group of people i.e., the rural poor. It involves extending the

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38. World Bank, Rural Development, Sector Policy, Paper, 1975, p. 3.

benefits of development to the poorest among those who seek a livelihood in the rural areas. The group includes small scale farmers, tenants and the landless". Uma Lele[39] defines rural development as, "improving the living standards of the mass of the low income population residing in rural areas and making the process of their development self-sustaining". This conceptual clarity is helpful in understanding the nature of rural development as an independent identity. On the basis of these definition of rural development we can bring out the following three major aspects of rural development programme[40] : (i) improving the living standards, (ii) mass participation and (iii) making the process self sustaining. However, rural development is a distinct approach to intervention by the state in developing rural economy. It is at once broader and more specific than agricultural development. It is broader because it entails much more than the development of agricultural production for it is in fact a distinct approach to the development of the economy as a whole. It is more specific in the sense that it focuses particularly on poverty and inequality. Moreover, rural development does not and can be seen in isolation that is it is an integral part of overall development of a given society.

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39. Uma Lela, The Design of Rural Development : Lessons from World Bank, Africa, 1975, p. 23.

40. A.T. Birowo, "Rural Development Planning and Implementation in Growth and Equity in Agricultural Development", proceedings of 18th International Conference of Agricultural Economists, 1983.

Therefore the question of rural development has to be viewed in the context of urban development as well as overall development. According to R.P. Mishra[41], "rural development no longer means agricultural development alone. It is also not a social welfare case of pumping money into rural areas to provide for basic human needs. It encompasses a spectrum of activities and human mobilization to make people stand on their own feet and break away from all the structural disabilities which chain them to the condition in which they live. It includes urbanization too. In this sense the scope of rural development is wide and it's implications politically and socially far reaching. Yet this has to be achieved". However, in viewing rural development from this angle it has always been overshadowed by considerations of national economy and very little attention has been paid to rural development at the macro level. Although most people in rural areas depend on agriculture for their livelihood there is more to rural development than more agricultural development. However, there is no easy and straight forward definition of rural development. It includes not only agricultural development but also generation of employment opportunities, development of agro-based industries, ensuring equitable distribution of income, educational development, provision of health and family welfare services, emancipation of women and provision of housing,

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41. R.P. Mishra, Development Isses of Our Time, Concept Publishing Company, New Delhi, 1983, p. 220.

transport and communication facilities. On the basis of above literature, we can conceptualize rural development as a comprehensive activities aimed at economic and social betterment of the rural population.

Development and Female Work Participation

Technological Factors

Agriculture has witnessed a substantial development and change in it's level of production, cropping pattern and intensity of input use since Independence in Uttar Pradesh. The spatial spread of the changes and the resulting benefits from these developments have, however, not been shared uniformly by different parts of the country. The fact of uneven agricultural development has a variety of implications and raises several policy relevant questions. Even Martha A. Chen[42] is of the view that the analysis by agro-ecologic zones points to a significant pattern : that the incidence of both female wage labour and women cultivators is positively associated with high productivity in paddy growing areas and low productivity in wheat growing and coarse grain areas. Arguably the most alarming trend is that, whereas women's dependence on agricultural wage labour is higher

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42. M. Chen, "Women Work in Indian Agriculture by Agro-Ecological Zones : Meeting Needs of Landless and Land Poor Women", Economic and Political Weekly, Vol. XXIV, No. 43, 1989.

and increasing faster than men's the demand for female labour has not increased and may even have decreased over the past two decades. In agrarian economics generally prosperity and high income leads to the withdrawl of women from warkforce especially physical work outdoors. M.L. Darling[43] observed that in canal colonies of Central Punjab (now in Pakistan) rising standards of living of peasant cultivators enabled their women to enjoy and expect more leisured style of life. A similar conclusion is drawn by Tara Ali Baig.[44] She found that withdrawl of wives from work is a common symptom of improved economic conditions. Pushpa Sundar[45] is of the opinion that women's participation in workforce depends on her husband's or family's income and employment status. Women going out to work is indicative of a lower social status. Boserup[46] also found that a rise in male earnings would normally have the effect of making leisure more attractive and would thus discourage married women from entering the labour market. But at the same time she hypothesised that higher female earnings to men's will create more favourable conditions for their entrance in the labour market. The fluctuation in wages invariably influence female part rates. The

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43. M.L. Darling, The Punjab Peasantry in Prosperity and Debt, Oxford University Press, London, 1947, p. 33.

44. Tara Ali Baig, India's Women Power, New Delhi, 1976, pp. 175-76.

45. Pushpa Sunder, op. cit. pp. 865-866.

46. E. Boserup, op. cit. pp. 146.

women as secondary bsead winner works only supplement family income and her participation is expected to be positively related to her own wage rate relative wages, job opportunities available and inversely related to income of husband or other family member. Banerjee[47] in a study as poor women workers of Calcutta concluded that (I) supply curve of labour would rate and (II) supply of women workers is vegatively related with income of the family.

M.N. Srinivas[48] remarked that green revolution technology and higher prices for agricultural produce have both resulted in higher incomes for the upper layers of rural society and this in turn has generated new types of economic activity. An outcome of this increased income due to green revolution technology is withdrawl of females from labour force. D.N. Reddy[49] considered that the overall conditions of production in agriculture are likely to exercise a decisive influence on female activity. In an area where subsistence agriculture still predominates and where consequently labour productivity is low, the economic need for female participation in earning the family

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47. Nirmala Banerjee, Women Workers in the Unorganized Sector, Sangam Books, Hyderabad, 1985, pp. 73.

48. M.N. Srinivas, op. cit., pp. 15-16.

49. D.N. Reddy, Female Work Participation in India : Problems and Policies, Indian Joural of Industrial Relations, Vol. XV, No. 2, October 1979, p. 205.

livelihood would be greater. On the other hand, an area with higher productivity agriculture is likely to weaken, the economic pressure on the need for female activity to supplement family income and strengthen the social attitude that would equate female activity with lower status. Sheilla Bhalla[50] suggests that in Haryana, cross section evidence suggests that in the initial phase, the adoption of the Green Revoluation technology reduced women's share in employment except in special circumstances. By 1972-73, the female labour days was inversely related to the proportion of area under HYV technology explained only 31 percent of the variation in the relative importance of female work days. With so many different kinds of changes taking place simultaneously, there is little likelihood that development during the contractionary phase of recent times in per hectare labour will affect women in a fashion symmetrical with the observed trands during the expansionary phase productivity theory also explains the pay differential in and female workers on the basis differences in productivity contrastingly, Papola[51] concludes that the pay differential is due to employers taking advantage of passive nature of women labour supply. By the

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50. S. Bhalla, "Technological Change and Women Workers : Evidence from Expansionary Phase in Haryana Agriculture", Economic and Political Weekly, Vol. XXIV, No. 43, 1989.

51. T.S. Papola, Sex-Discrimination in Urban Labour Market : Some Proposition based on Indian Evidence", Women's Role and Population Trend in Third World Countries (ed.) by Richard Anker, Mayra-Buvinic and Nadia, H. Youssef.

overcrowding theory the low wages of the female workers can be explained due to their concentration in certin occupations. Institutional model differentiates between static and progressive jobs. Generally, women are provided static jobs as the employers consider their productivity low and expects them to leave the job with increasing household responsibilities.

Sometimes, female work participation is also associated with ecological variations in crop production. According to P.K. Bardhan[52], in India in all the states of east and south india (except Karnataka) the predominant crop is paddy which unlike wheat and dry region crops, tends to be relatively intensive in female labour. Transplantation of paddy is exclusively female job in paddy areas, besides female labour plays a very important role in weeding, harvesting, threshing and various kinds of processing of paddy.

Commercialisation of agriculture also influences the activity pattern of female. Vina Mazumdar[53] observed that female participation in work is higher in subsistence farming. Even in case of labour intensive cash crops women have to work hard but

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52. P.K. Bardhan, "Some Eployent and Unemployment Characteristics of Rural Women : An Analysis of N.S.S. Data for West Bengal", Economic and political Weekly, Vol. XIII, No. 12, March 1978, p. 210.

53. Vinz Mazumdar, Role of Rural Women in Development, Allied Publishers, New Delhi, 1978, p. 27.

have little control over cash earnings. In plantation agriculture, they (women) provide a source of cheap labour. But on the other hand, in mechanised cash cropping where men operate the equipment and take care of cash income, women occupy increasing more subordinate, position. Likewise Boserup[54] also concluded that it is the cash crops that the men are taught to cultivate by modern methods. These crops are gradually being improved by means of systematic research and other government investment, while the cultivation of women's food crops is favoured by no government support or research activities. Such a development, she pointed out, has the unavoidable effect of enhancing the prestige of men and of lowering the status of women.

Social Factors

As the experience of developed countries show an outcome of the economic development is increased importance of industry vis-a-vis agriculture. Another consequence is the shift of population from rural to urban areas. Industrialisation as a consequence of development of agriculture leads to the change in production structure and skill requirements of the economy. On the other hand, in regions of low socio-economic development, most men are engaged in unskilled jobs. The women do not find it difficult to join workforce in such kind of activities. But the

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54. E. Boserup, op. cit., pp. 56.

changes from traditional unorganised production structure with labour intensive technology to modern organised production structure with capital intensive technology will have an impact on the employment situation. Women as compared with men having fewer avenues open to them for acquiring skill are generally affected more adversely. Thus as a result of economic development, large number of women usually withdraw from work because of the lack of education and still does not permit them to join new occupations requiring higher skill. Effect of economic development on female participation has been studied by several scholars. Dholakia and Dholakia[55] visualized that the expansion of the non-agricultural sector leads to major shifts in the pattern of employment towards more organised and disciplined jobs in modern industries. The requirement of relatively skilled labour in the modern industrial sector and relatively low wages offered by the employers for unskilled labour are likely to reduce the scope of employment for females and thereby induce the withdrawl of females from such areas of employment.

Vina Mazumdar[56] pointed out that the fruits of development are unevenly distributed between men and women. She is of the opinion that programmes for women have been marginal in

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55. B.H. Dholkia, and R.N. Dholkia, "Inter-state Variation in Female labour Force Participation Rates in India", The Indian Journal of Labour Economics, Vol. xx, No. 4, Jan. 1978, pp. 300-301.

56. Vina Mazumdar, op. cit., pp. 14.

economic development activities initiated in agriculture, animal husbandry, handicrafts, and small scale industries etc. Kamal Nath[57] remarked that unless countervailing influences come into play, economic development with its accompanying urbanisation, spread of education and growth of industries will be accompanied by a progressive decline in the participation rate for women. Arjun Singh[58] found that increase in labour productivity is negatively related with female participation in work force. He also observed that number of labour saving mechanical innovation have negative impact on female participation.

In post independence period, with the rapid increase in the modern and organised sector of industry the share of household industry declined. A Report[59] noted that the women were the greatest victims of this process of economic transformation. Many of these household industries, where women used to get employment like hand weaving, oil processing, rice poundering, leather and tobacco processing etc. had to face stiff competition from factory production.

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57. Kamal Nath, "Women in Working Force in India", Economic and Political Weekly, Vol. III, No. 31, August 1968, pp. 1205-1213.

58. Arjun Singh, "Female Work Participation, Green Revolution and mechanization : The Punjab Case" in the Indian Society of Agricultural Economics (ed.) Problems of Farm Mechanization Seminar, 1972, pp. 128-140.

59. Towards Equality : Report of Committee on the Status of Women in India (Ministry of Education and Social Welfare, New Delhi, 1974).

In fact this process of the decline of handicraft industries started much earlier. Till the middle of the 20th century, most of the present under developed countries were the colonies and a large majority of them were ruled by Britishers. With the setting up of Industrial Revolution in Britain, especially from the starting of the 19th century, English industrial manufacturers started invading the markets of these colonies with manufactured goods. This led to the destruction of household artisan industries in these countries. In India as remarked by R.P. Dutt[60] the handloom and the spinning wheels were the pivots of the structure of the old society. But the invasion of English manufacturers broke up the "Indian handloom and destroyed the spinning wheel". British "steam and science" uprovted the domestic union of agriculture and manufacturing pursuits, on which the village system had been built. This destruction of Indian handloom and other artisan industries (to which R.P. Dutt called "deindustrialisation") and relatively slow growth of modern industries affected the employment pattern in India.

Nirmala Banerjée[61] has pointed out that the decline in women's employment was a part of the general process of loss of industrial employment that affected the entire Indian population

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60. R.P. Dutt, India Today, Manisha, Calcutta, 1971, p. 90.

61. Nirmala Banerjee, op. cit., pp. 13-14.

during the 19th and early 20th century. The once flourishing cottage industries in India suffered a severe set-back through the loss of both foreign and domestic markets because of stiff competition from British manufactured goods. The traditional textile industry of India was one of the worst affected by this process. Women textile workers suffered relatively more because the spinning yarn industry where they worked was almost entirely wiped out by competition from imported and mill made yarn.

In Sum

In Indian society, the caste system had played a significant role in determining one's right and obligations. Physical and menial jobs were assigned to the lower castes as whereas jobs of high prestige and means of production were controlled by the higher castes and class. Andre Beteille[62] has substantiated this point that "the manner in which work is allocated among the different members of the community or its division of labour is a matter of social organisation rather than of technology". S.C. Dube[63] has also pointed that division of labour in the Indian Community is governed by a variety of factors such as caste, sex, age and social status. Under the

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62. Andre Beteille, Studies in Agrarian Social Structure, Oxford university press, Delhi, 1974, p. 25.

63. S.C. Dube, Indian Villages, Allied Publishers, Bombay, Indian Edition, 1967, pp. 168-169.

caste system several occupations have been preserved as caste monopolies. Similarly "masculine and feminine pursuits are clearly distinguished : a women doing man's work is laughed at; a man undertaking any specially faminine tasks provides a favourite theme for popular gossip".

Women's position and roles assigned to her in society is greatly influenced by the value system and cultural norms of a particular caste to which she belongs. Darling[64] writing in 1920's about the United Punjab presented a brilliant picture of the behaviour of Rajputs and Jats towards female participation in workforce. He wrote that " - the Rajput's regard for his izzat forbids him to take any help from his wife. She can do nothing outside the house and very little within. She cannot even draw water from the well and being a lady must have servants to help in all domestic tasks. The wife of the jat does almost as much as her husband and sometimes more but the wife of the Rajput is an economic burder whereas "Jatini" is an economic treasure".

Female work pattern is stratified by social hierarchy as well as by asset inequalities. Kalpana Bardhan[65] has pointed out that tribal and the untouchable women constitute the largest and most visible section of india's working women and on the average

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64. M.L. Darling, op. cit., p. 33.

65. Kalpana Bardhan, op. cit., p. 207.

they belong to even poorer families than male wage labourers. She observed that these women seem to be less subject to patriarchal restrictions. It is concluded by various researchers that female work participation in rural India is positively correlated with the presence of scheduled caste and scheduled tribe population. Pranab Bardhan[66] while explaining the total number of days in all kinds of gainful work in the reference week per adult mentioned that low caste and tribal women participate more. D.N. Reddy[67] also found high correlation between rural female participation rate and proportion of female agricultural workers.

Social and cultural factors are well reflected in women's social status and their participation in production system. Boserup[68] recognised that the social variables of castes status and of ethnic group in India are highly correlated and women with the different work characteristics can often be identified as belonging to different ethnic groups. She pointed out that infact India is a meeting place for peoples with different cultural traditions and this is reflected in the work pattern of its women as well as of its men. S. Raju[69] is also of

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66. P.K. Bardhan, op. cit., pp. 421-26.

67. D.N. Reddy, "Female Work Participation : A study of Inter-state Differences, A Comment", Economic and Political Weekly, Vol. x, No. 23, 1975, p. 902.

68. E. Boserup, op. cit, p. 70.

69. S. Rajas, "Regional Patterns of Female Participation in the Labour Force of Urban India", The Professional Geographer, Vol. xxxiv, No. 1, February 1982, pp. 42-48.

the opinion that "variation in the social attitude towards females working outside the family may be offered at least a partial explanation for the regional variations in the level of female employment. She found negative correlation between the proportion of Muslims in the female population and the proportion of workers in the privileged female population".

It is generally considered that high female participation rate and high sex ratio is the result of women's comparatively respectable status in southern India. On the other hand, Boserup[70] found that in some of the farming communities in northern India, where women do little work in agriculture and the parents know that a daughter will in due course cost them the payment of dowry, it was customary in earlier times to limit the number of surviving daughters by infanticide. There is also a tendency to care more for sick boys than for sick girls and it is believed that milk is not good for girls but good for boys. The low sex ratio is possibly the result of this low status of women in north India.

D.R. Gadgil[71] remarked that the usual close correspondence between economic position and traditional social ranking in Indian rural society has been one of the most

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70. E. Boserup, op. cit., pp. 48-49.

71. D.R. Gadgil, Women in the Working Force in India, New Delhi, 1965, p. 7.

persistent aspects of Indian socio-economic structure. Ability to keep away manual work has been an important distinguishing sign of socio-economic status. Therefore, non-participation of women in any work and particularly manual work outdoors is everywhere considered as value.

Status refers to a position in a social system which is distinguishable from and at the same time related to other positions through its designated rights and obligations. Social structure, cultural norms and value system are important determinants of women's roles and their position in the society. But the status or position of a woman in a society is not static one. Various changes in the society do affect their position. M.N. Srinivas[72] points out that those sections of the society (from lower and middle castes) which has prospered, obtained access to education, jobs and power during British rule or more so since Independence, emulate the life style of the urban middle classes who are largely recruited from the lower castes known as "Sanskritization". This has radical effect on the lives of women. It immures them and imposes restriction of their extramural movements. Process of "Sanskritization", has invariably affected the women's condition. Seclusion of women, earlier which was a value of upper caste and class, now is being adopted by the lower castes who have climbed the economic ladder.

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72. M.N. Srinvias, op. cit., pp. 14-16.

Most scholars agree with the proposition that once economic development (accompanied with industrialisation and urbanisation) starts, it leads to a decline in the female work participation rates. Changed work patterns and lack of mobility have been considered as factors responsible for their lower participation rates. Rigidity in factory employment which makes it relatively difficult to be combined with motherhood and family life results in the withdrawl of female labour. But on the other hand along with industrialisation, service sector of the economy also expands thus increasing opportunities far female employment. Moreover, after a time lag, economic development influences the whole socio-cultural millieu and creates favourite attitudes towards female education and employment. S. Raju[73] has aptly remarked that "tendency on the part of researchers to base their analysis on grossly aggregated data tend to obscure sub-regional variations resulting from highly localised historical and cultural conditions". Furthermore, creation of certain institutions such as child care centres increases the mobility of women and facilitate them to take part in productive work. This possibly explains the relatively higher rate of female work participation rate may follow a widely recognized U-shaped

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73. Saraswati Raju, "Sita in the City : A Socio-Geographical Analysis of Female Employment in Urban India", Department of Geography, Syracuse University, Discussion Paper No. 68, 1981.

pattern in relation to development. Female activity rates are expected to be highest in the backward regions, to be the least in areas at a intermediate stages of development and to rise again in the most developed regions.

CHAPTER II

FEMALE WORK PARTICIPATION

It has already been mentioned earlier how Indian Census data on women's economic activity are seriously flawed. Undercounting and changes in definition from one census to the next are held to have rendered the number of arbitrary, volatile and unreliable data.

There are two basic approaches to measure the workforce in India. The "gainful worker", approach employs a broad reference period and stresses the usual activity as done by the census. The "labour force" approach of the National Sample Survey uses a more limited reference period taking into account those who were working for a day, a week or usually prior to the survey. While the latter referencing systemis more sensitive to the nature of female work, neither of the two practices cover many activities performed by females which may lead to the direct or indirect economic gain of the household. These activities go undetected since these are conducted as part of household chores. Small venders, activities pertaining to fodder, fuel and water collection, rearing and tending of livestocks etc. are cases in point. The economic contribution of these women are thus not included in the national economy. Moreover, the design of the questionnaires on labour force participation generally is such that the workforce is measured by dividing the population into

two groups - economically active and inactive, that is, those inside the labour force and outside it[1] (Anker, 1983). In a situation where a majority of women work is unpaid family workers, such a division of population leads to a classification of women as being outside the labour force. It has been suggested that the distinction between productive and unproductive work or between household work and standard economic activity need to remain so rigid that economic activity is seen as a continum rather than a dichotomy between those inside and outside the labour[2] force (Fong, 1982). In spite of these limitations for research aiming at analyzing the data on workers using secondary sources as basis, the census and the N.S.S. are the only sources which provide detailed statistical information.

II.1 Macro Level Study of Female Work Participation Rate in India

The labour participation rate of rural female (16.00) is more than that of total FWPR (14 percent) in India. It means that rural female participate more in country's economic development vis-a-vis urban female. Regional variation in FWPR is another aspect as the rates vary between 1.72 to 38.85 percent in 1981 and 0.72 to 44.59 percent in 1971.

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1. R. Anker, F.L.F.P. in Developing Countries : A Critique of Current Definition and Data Collection Methods, International Labour Review, Vol. 12, No. 6, 1983, pp. 719-723.

2. M.S., Fong., Measuring Women's Work in Agriculture. Background Paper to the Technical Seminar on Women's Work and Employment, April 1982, Delhi.

The Table II.1 and II.2 clearly convey that the high female participation is exclusively confined in the states of North-Eastern region in both points of time i.e. 1971 & 81. However, Andhra Pradesh being located in the Southern region is also clubed in the group of high participation rate in 1981. The medium group of participation rate is dominated by the provinces of the Southern and the Central region. Himachal Pradesh, even after being located in the Northern region was included in that very group of medium participation but it has shifted it's position in the group of low participation rate in 1981. This way, we find that all the states of the North-Eastern and the Southern region have participation rate above the national average except Kerala in both point of times i.e. 1971 & 1981. Bihar, Gujarat, Kerala, Orissa, Rajasthan and Uttar Pradesh are such states in the country which are placed under the group of low participation rate, ranging between 6.21 to 16.10 percent in 1981 but this group used to vary between 4.73 to 15.50 percent in 1971. The group of very low participation is obseved in those states which are economically well off. The participation rate is below than 4.73 percent this group and it includes the states of Haryana, Punjab and West Bengal in 1971 but in 1981, Uttar Pradesh has also joint this group of very low participation rate, besides the above states. However, the participation rate in the group of very low participation is below than 6.34 percent.

Table II.1

Female Work Participation Rate in Different States of India, 1971

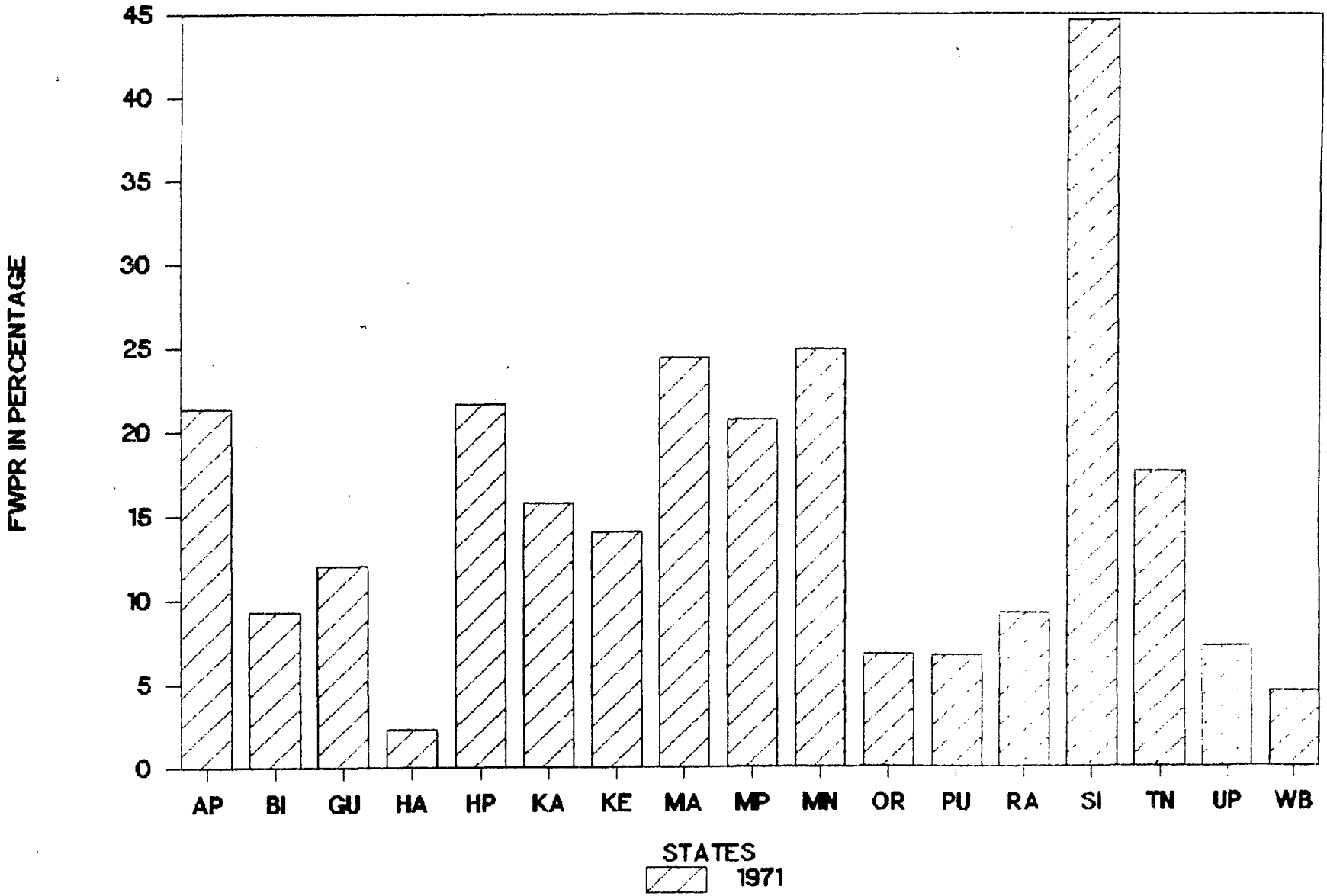
Group	Name of the States
Very Low (Below 4.73 Percent)	Punjab, Haryana & West Bengal
Low (4.73 - 15.50 Percent)	Orissa, Uttar Pradesh, Rajasthan, Bihar, Gujarat & Kerala
Medium (15.50 - 26.27 Percent)	Karnataka, Tamil Nadu, Madhya Pradesh, Himachal Pradesh, Maharashtra & Manipur
High (26.27 percent and above	Andhra Pradesh & Sikkim

Table II.2

Female Work Participation Rate in Different States of India, 1981

Group	Name of the States
Very Low (Below 6.34 Percent)	Punjab, Haryana, Uttar Pradesh & West Bengal
Low (6.34 - 18.06 Percent)	Bihar, Rajasthan, Orissa, Kerala, Gujarat and Himachal Pradesh
Medium (18.06- 29.78 Percent)	Karnataka, Madhya Pradesh & Tamil Nadu
High (29.78 Percent and above)	Andhra Pradesh, Sikkim, Manipur and Maharashtra

FEMALE WORK PARTICIPATION RATE, 1971



FEMALE WORK PARTICIPATION RATE, 1981

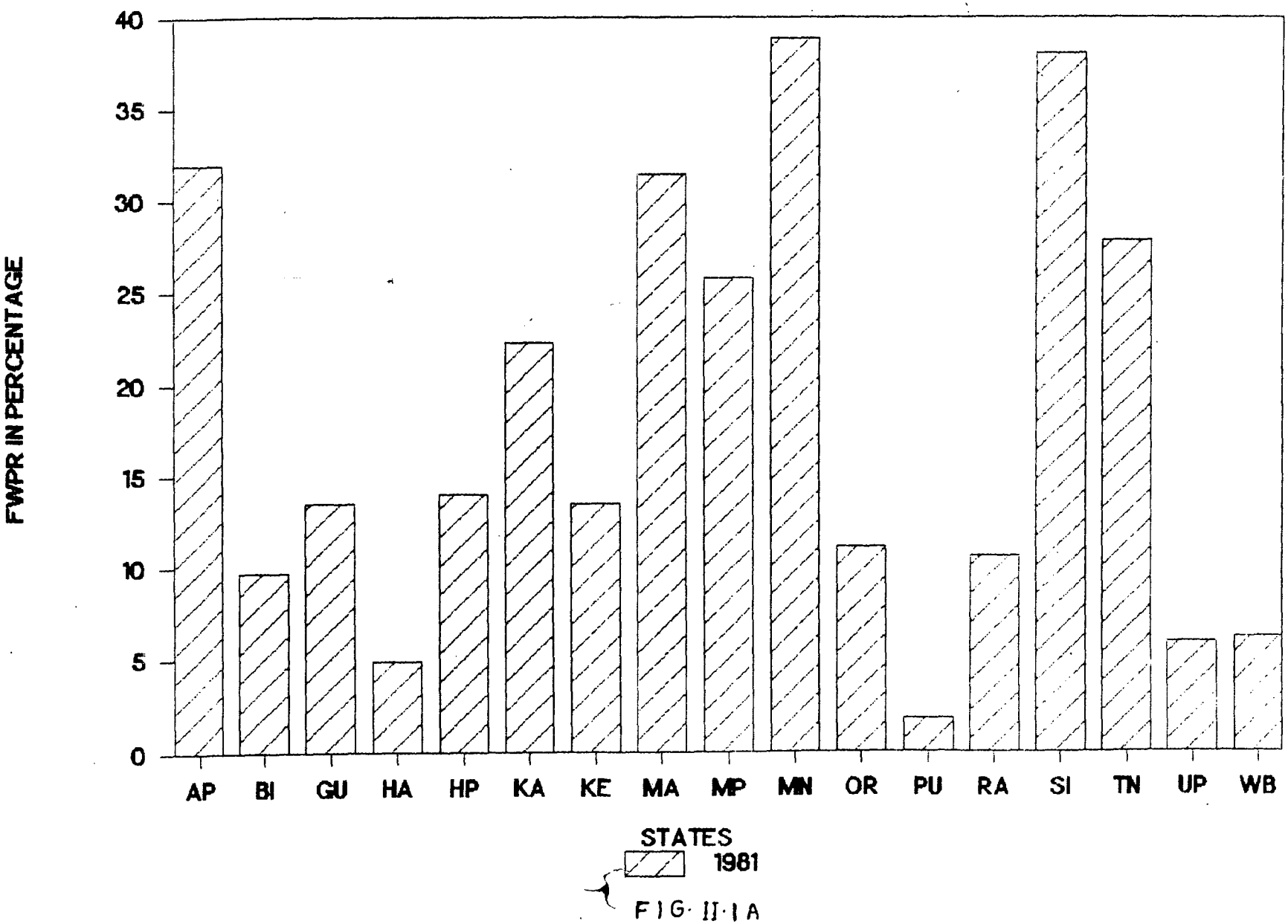


FIG. II.1A

FEMALE WORKFORCE PARTICIPATION RATE

(1971 AND 1981)

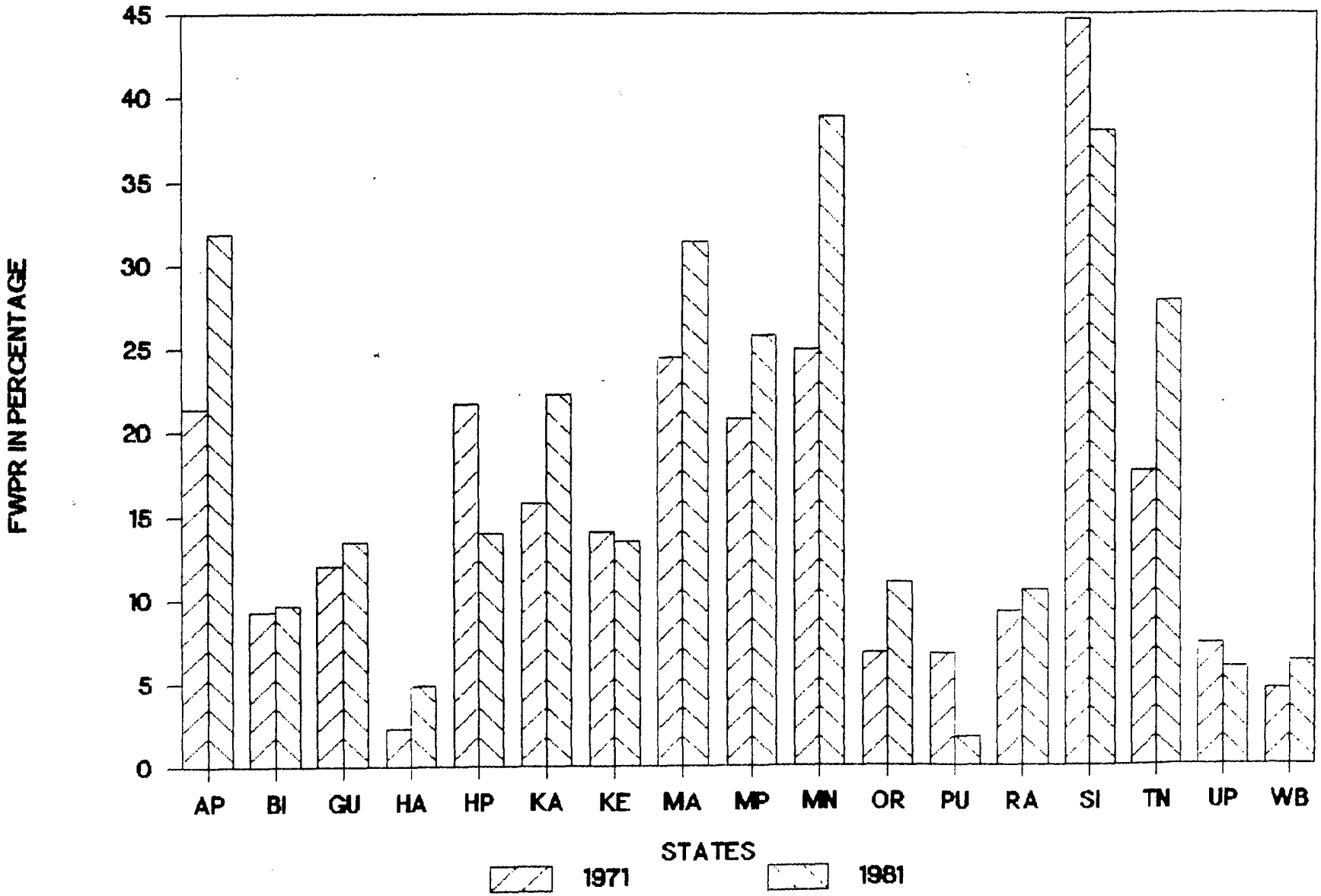


FIG. II·2

The history of female involvement in work participation rate gives us an interesting picture that the actual number of female workers have remained more as less stagnant whereas the number of female population has increased more than two folds. As a result of this, the share of female work force has declined considerably which is significant from Table - II.3. From 1911 to 1951 the share of female workforce has gone continuously declining. It was only 1961, when the share of female's work participation rate suddenly raised to more than 5 percent but this increasement in work participation was largely the result of adoption of liberal definition for workforce became just less than half of the previous census. No doubt it is somewhat interesting that even on the basis of some definition the percentage of worker have increased minutely from 11.9% of 1971 to 14% in 1981 census.

Table - II.3

Women Workers in India (1911-81)

Year	Total No. of Women (million)	No. of Working Women (million)	Female Participation Rate in %
1911	124	41.8	33.7
1921	123	40.0	32.5
1931	136	37.6	27.6
1951	175	40.5	23.1
1961	213	59.4	27.9
1971	264	31.3	11.9
1981	321	45.0	14.0

Source : E. Yuslova, "Social Aspects of Female Employment in India : Problems of Development", Oriental Studies in the USSR 1981, No. 4, Moscow, 1981, pp. 181.

If we try to analyze the growth of female work particiaption in different states of India between 1971 and 1981, we find that "in the case of rural women in almost all states except U.P. and H.P. in the north and Kerala in the south there was significant positive shift in Women's WFPR In urban areas too, except for Andhra Pradesh, Bihar, Kerala and U.P. there was marked improvement in proportion of main workers in the female population. In many cases like Punjab, Haryana or West Bengal, the high positive rates of change could be largely attributed to the fact that initially the WFPR of women was very low but the same trend was also noticeable in states like Tamil Nadu, Karnataka and Rajasthan which traditionally had a relatively higher WFPR of women in both urban and rural areas".[3]

II.2 Female Work Participation Rate in Uttar Pradesh

In Uttar Pradesh, the female workers are comparatively less than the national average. Even after independence the situation regarding labour force participation has not improved much. In fact it is only in Uttar Pradesh in the country where the share of female workers went on declining from one census to another after 1921. It is not only true for the overall participation rate but also for rural and urban areas. The reason behind this kind of low participation rate may be traced to social and cultural factors.

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3. Nirmala Banerjee, "Trends in Women's Employment 1971-81", Economic and Political Weekly, Vol. XIV, No. 9, April 1989, pp. Ws 10-11.

Table II.4

Women Workers in Uttar Pradesh, (1901-81)

Year	Total No. of Women (lakh)	No. of Working Women (lakh)	Female Participation Rate
1901	235	67.9	28.9
1911	230	76.6	33.3
1921	222	82.9	37.3
1931	236	70.4	29.8
1951	301	71.2	23.7
1961	351	63.7	18.1
1971	413	27.7	6.7
1981	520	28.1	5.4

In the following paragraphs, the levels of female work participation is classified in different categories. The districts within individual categories are arranged in descending order in terms of their proportion of female work participation.

Very High FWPR

The highest female work participation rate is found in Mirzapur district and it is as high as 16.50 per cent in 1971. If we want to dig out the facts behind this high participation rate, we will have to look at the demographic characteristics of the district. The district has a substantial population of scheduled caste. As we know that women are allowed to work outside the home in that society. In fact, women are considered as main means of

livelihood and they work together in every walk of life along with men. In 1981, Banda is also included under the group of very high FWPR. However, Mirzapur which had very high level of FWPR in 1971 and it tried to maintained the earlier position in 1981 also. The range of this very high level of FWPR is above 11.92 percent in 1981 which is shown in the figure II.4.

High FWPR

Among this group of high participation rate, Allahabad has the largest concentration of FWPR which also have substantial concentration of scheduled castes. The other districts which have comparatively better figure for participation rate are included as Banda, Fatehpur, Pratapgarh, Ghazipur, Gorakhpur, Hamirpur and Basti where participation rate vary between 9.97 to 14.59 percent. These all districts lie in the Bundelkhand region and southern and northern part of the Eastern region. Most of the districts which had comparatively high percentage of female work participation in 1971, they tried to maintain their position in 1981 also. However, the range in which most of the districts are falling between 8.14 and 11.92 percent, which is comparatively less than 1971 (Fig. II.3). It means that almost all districts have experienced declining phase of FWPR It is interesting that Rae Bareli of the Central region and Basti and Deoria of the Eastern region had medium level of participation rate in 1971 but in 1981 they are included under the category of higher participation.

Medium FWPR

All though the range here, by itself quite low, it may be termed as medium in the overall low female work participation in U.P. In 1971, the districts which are included in this category are Sultanpur, Faizabad, Azamgarh, Rae bareli, Varanasi, Ballia, Deoria, Jaunpur, Banda, Barabanki and Jhansi. All these districts lie in Eastern region and eastern sector of central region and Bundelkhand region. Even in case of medium order female work participatory districts, they have the same level of participation rate in 1981 which were the situation in 1971. Moreover participation rate vary between 4.36 to 8.14 percent in 1981 which is slightly less than 1971.

Low FWPR

The low range of participation (between .73 and 5.35 per cent) are found in western region, Central region and one district of Bundelkhand and Eastern region each. The districts are Rampur, Etah, Budaun, Pilibhit, Agra, Farrukhabad, Aligarh, Etawah, Moradabad, Bijnor, Bulandshahr, Shahjahanpur, Saharanpur, Meerut, Muzaffarnagar and Mathura of Western region; Kheri, Sitapur, Hardoi, kanpur, Lucknow and Unnao of Central region; Jalaun of Bundelkhand region and Bahraich of Eastern region. The ordering of participation rate among various districts in 1981 have maintained the participation level of 1971.

Very Low FWPR

Bareilly and Mainpuri are the only two districts in U.P. where very low level of female work participation are observed in 1971. These districts are also confined to Western Region. Bareilly has substantial population of the Muslims (37 per cent). In addition to these two districts, in 1981, the lowest participation rates are found in those districts which had already low level of participation rates in 1971. This low level of participation rate is below 0.58 percent which is comparatively less than 1971. Rampur is also included under this group of very low participation in 1981.

Chen[4] has rightly observed that agricultural development has a differential effect on men and women of the same class or household. In aggregate terms, the increased yields associated with the adoption of H.Y.V. crop varieties generally increases the demand for labour. However, the adoption of the H.Y.V. package of inputs often results in a differential impact on male and female labour if disaggregated by agricultural operation. Specially chemical fertilizer and herbicides often displaces women from previous operation that were typically female dominated. And when mechanization takes place, women are

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4. A. Chen Martha, "Women's Work in Indian Agriculture by Agri-Ecological Zones", Economic and Political Weekly, Vol. XXVI, No. 9, October 1989, pp. 80.

generally displaced as men assume control of the machines in planting and hulling (two traditionally female domains) has taken a particularly heavy toll on female labour.

When changes in FWPR are observed at distruct levels, it becomes clear that most of the districts have experienced either negative or negligible positive shift in the proportion of working population among females. This kind of shift in proportion of female main worker is not specific to either high or low participation rates. The negative shift is highest in Shahjahanpur which is followed by Hardoi, Ghazipur, Basti, Moradabad, Bahraich, Faizabad, Fatehpur, Gonda, Gorakhpur, Sitapur and Etawah. These are the districts where maximum retrenchment of female workers from job market have been noticed. In these districts the negative shift of female worker is more than -30% (Fig. II.7). In other group where replacement of female workers is between -29.13 and -19.54 percent are mostly located in north-central and south-western part of the state. They are as follows : Rampur, Mainpuri and Bareilly of western region, Hamirpur and Jhansi of Bundelkhand region and Kheri of Central region. The districts in the third set where the shift is between -17.63 to -5.36 per cent are located in a scattered manner all over the state but most of them are concentrated in either south-western section or central part of the province. Ballia, Sultanpur, Azamgarh and Mirzapur of Eastern region, Etah, Mathura Budaun, Agra and Saharanpur of Western region and Barabanki,

Unnao and Lucknow of Central region are such districts where the above kind of replacement of female workers are noticed. The last set consists of those districts which have got either very low negative or substantial positive growth rate in FWPR. Rae Bareli is only district in this group where very small dispacement of female workers is observed. On the other hand, Aligarh has maintained the previous position of participation rate in 1981. Otherwise, all the following nine districts i.e. Bulandshahr, Muzaffarnagar, Farrukhabad, Meerut and Bijnor of Western region, Banda and Jalaun of Bundelkhand region; Kanpur of Central region and Deoria of Eastern region have experienced negative shift. Bijnor has got the highest positive shift of female worker in the state which is as high as 33.59 percent.

This way we find that the displacement of female workers from job opportunity is higher in northern part and southern part of the state, whereas minimum level of retrenchment and in some cases positive shift of female workers are observed in Western, Central and eastern part of the state. In many cases such as districts of western part of the state, the high positive shift could be largely attributed to the fact that initially the women work participation rates there were very low. The same trend was also noticeable in the districts of southern and eastern side of the state which may be due to a relatively less developed agricultural mode of production as well as presence of village and cottage industries.

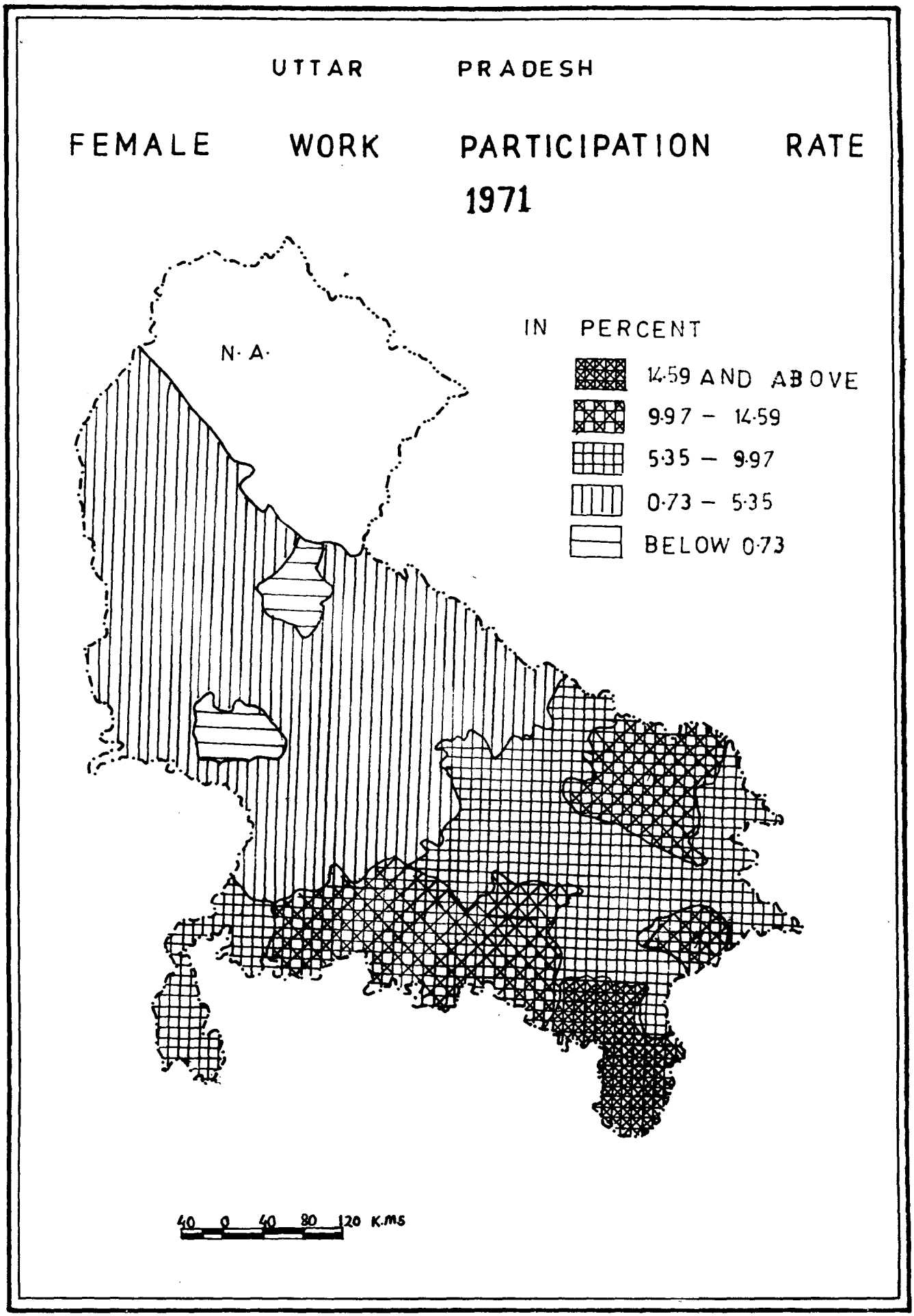
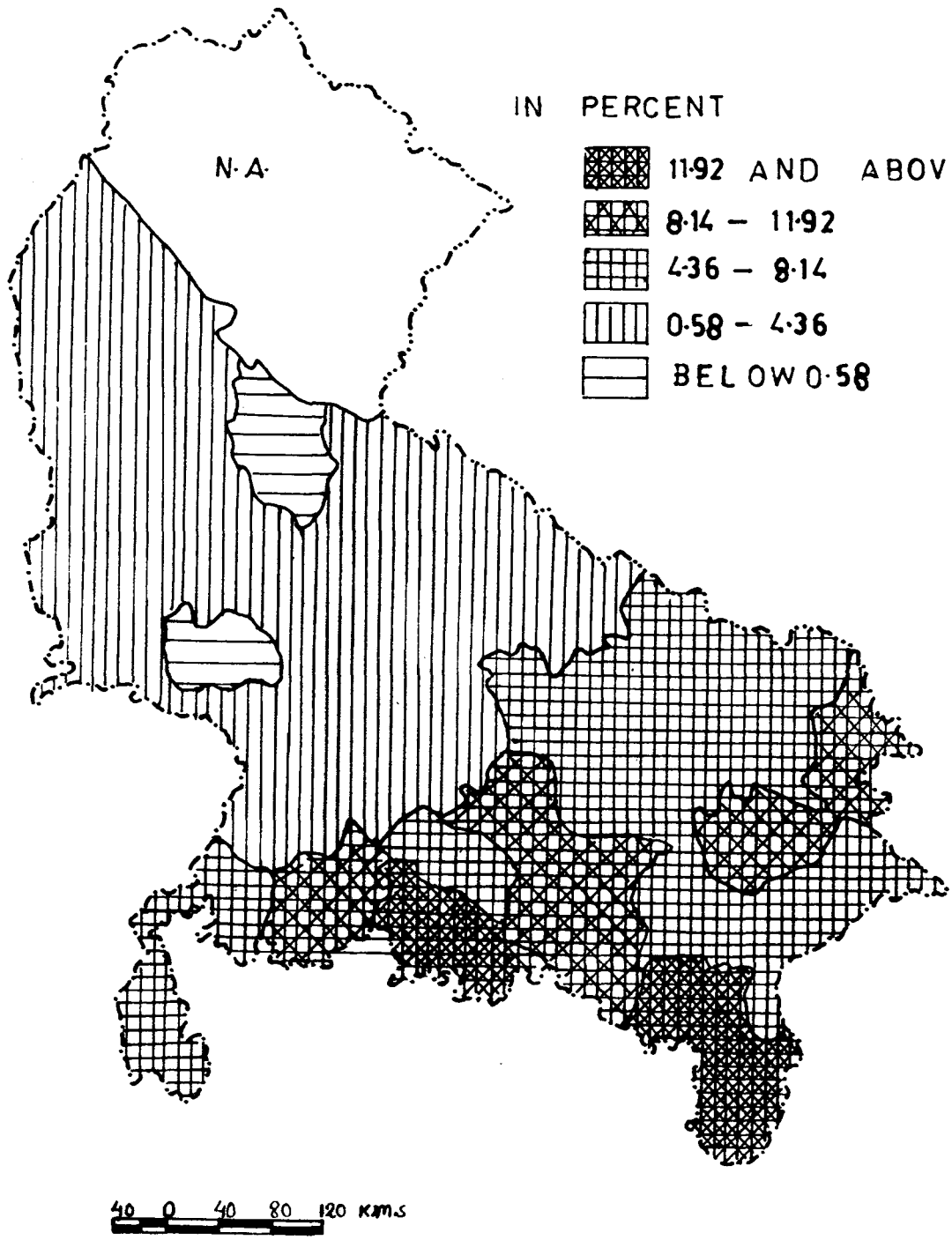

UTTAR PRADESH
FEMALE WORK PARTICIPATION RATE
1971
N.A.
IN PERCENT
14.59 AND ABOVE
9.97 – 14.59
5.35 – 9.97
0.73 – 5.35
BELOW 0.73
40 0 40 80 120 K.MS

FIG. II.3

UTTAR PRADESH

FEMALE WORK PARTICIPATION RATE 1981



FIG·II·4

II.3 Disparity among Male and Female Workers

The lowest level of inequality between male and female's WFPR is found in those districts which lie either in eastern or south-eastern part of the state in 1981. However, even in case of disparity, the lowest level is found in Mirzapur and rest of districts which have lowest level of disparity below .92 are shown in the Figure II.6. This pattern of disparity is maintained even in 1971. It was only few districts such as Basti, Deoria and Rae Bareli which were in the group of low level of disparity in 1971 but in 1981 they appeared in the lowest level of disparity. In contrast, Ghazipur and Varanasi were in group of very low level of disparity in 1971 but moved up in low level of disparity in 1981.

The disparity values in districts which have low level of disparity vary between 0.93 and 1.30 in 1981 are mostly located in western side of the lowest level of disparity and this kind of pattern was also prevalent in 1971 (Fig. II.5). The districts where disparity values vary from 1.31 to 1.85 in 1981 are located either in the western side of the state or west side of Central region. More or less the situation remained the same even in 1971. However, Aligarh, Farrukhabad, Kheri and Agra were such districts which had the highest level of disparity in 1971 but got placed in medium level of disparity in 1981. Sitapur, Etawah and Hardoi are districts which had medium level of

UTTAR PRADESH

DISPARITY BETWEEN MALE AND FEMALE WORKERS 1971

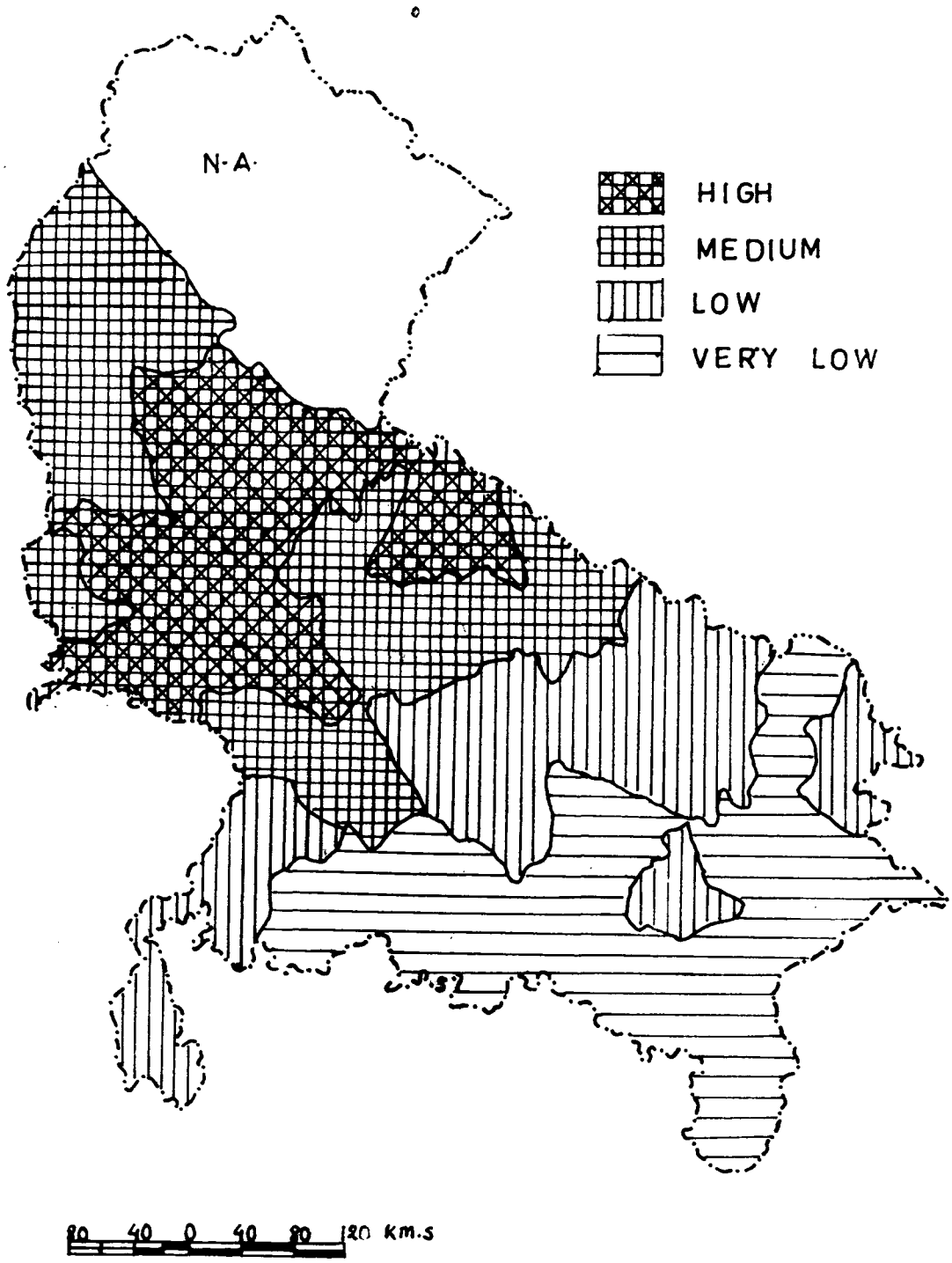


FIG-II-5

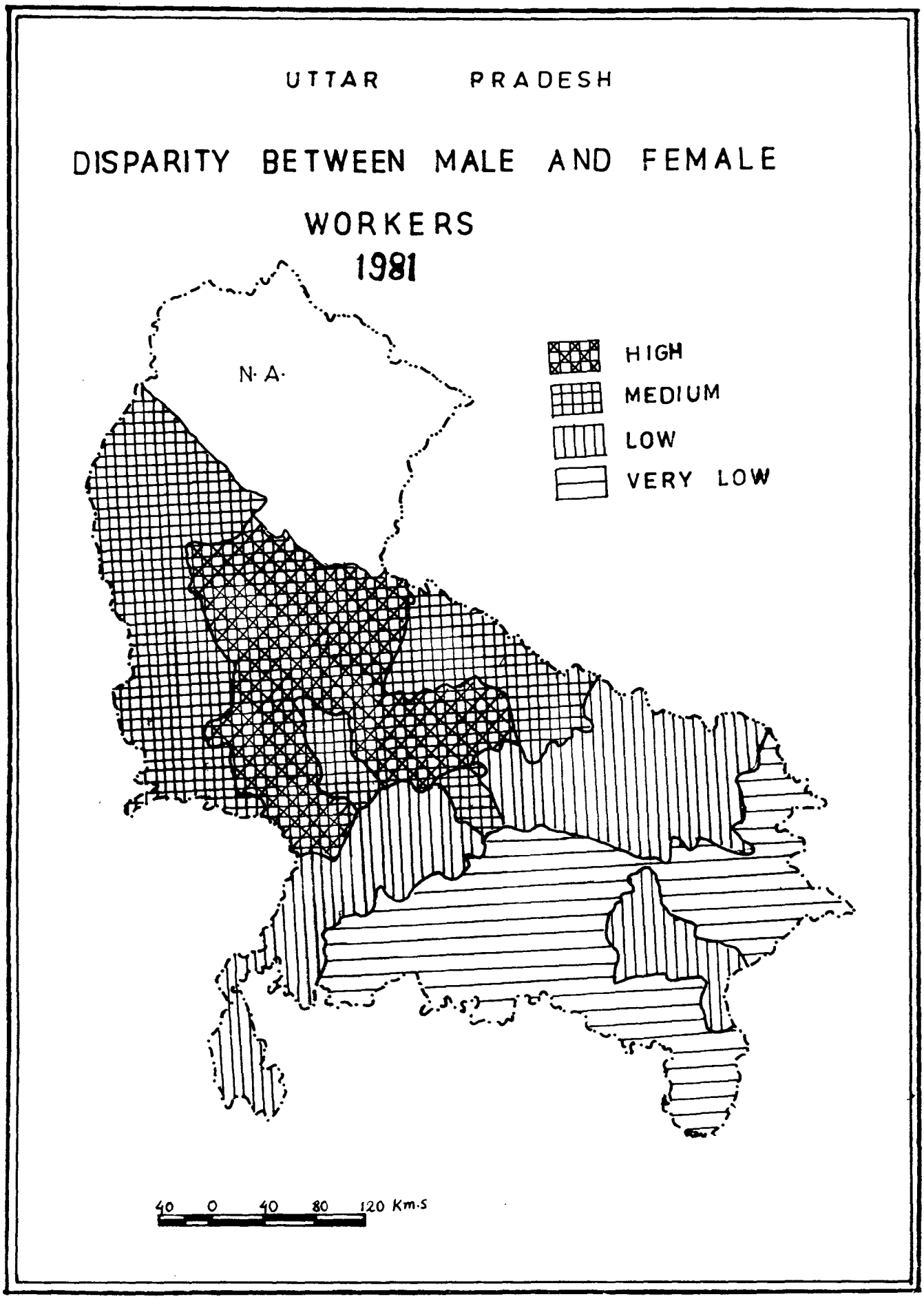

UTTAR PRADESH
DISPARITY BETWEEN MALE AND FEMALE WORKERS
1981
N.A.
HIGH
MEDIUM
LOW
VERY LOW
40 0 40 80 120 Km.s

FIG II.6

UTTAR PRADESH

RATE OF CHANGE IN FEMALE PARTICIPATION BETWEEN 1971-81

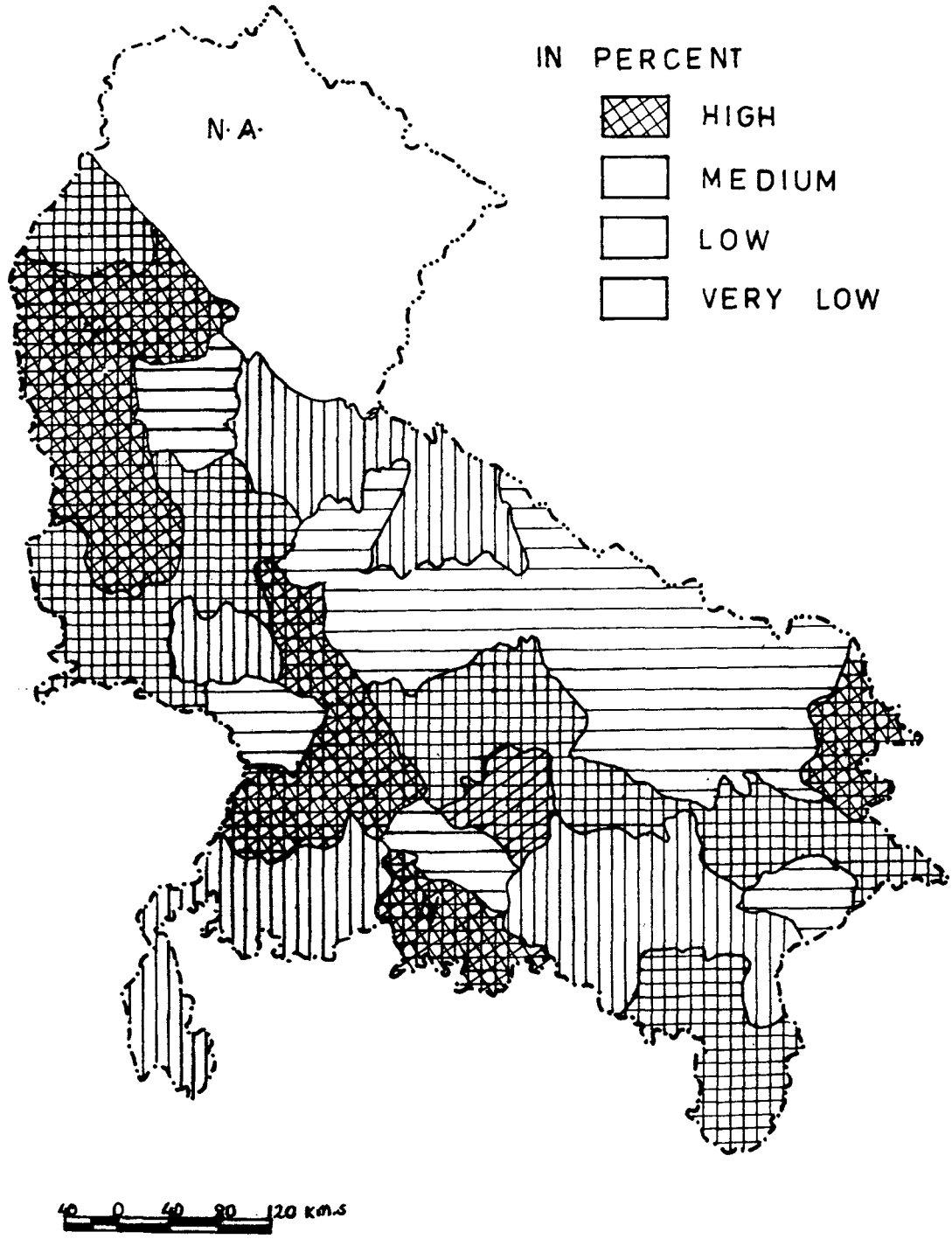


FIG II·7

disparity in 1971 but in 1981 these districts shifted their relative position and got included in the group of the highest level of disparity. The districts which have the highest level of disparity (above 1.85) are located in Rohilkhand and Upper Bari Doab which have got a pronounced influence of Muslim Culture. This way we find that if one go from east to west in the state till Rohilkhand region, the level of disparity gradually becomes higher. However extreme western district of western region have medium level of disparity. Consequent upon the observation that the western side is more prosperous than the eastern side of the state as a whole, it may perhaps be inferred that with prosperity women are withdrawn from job market especially from agricultural sector.

It may, however, be noted that despite displacement of female workers from gainful economic activity, over time the disparity between male and female's WFPR has gone down substantially in case of most of the districts and this is the reason in all four groups of level of disparity has come down from 1971 to 1981. It is also because the share of male worker have also gone down substantially in case of most of the districts.

II.4 Female Work Participation Rate in Primary Sector

Primary sector relates to primary production and includes workers engaged as cultivators, agricultural labourers,

hunters, loggers, forerters, fishermen and those engaged in animal husbandary, plantations etc. and mining and quarrying. According to Hartshorn and Alexander[5] primary production includes age old activities such as hunting animals and gathering wild berries and nuts, extracting minerals from the earth's crust, fishing from rivers, lakes and oceans and the harvesting of trees. Primary producers might be labelled red collar workers due to the outdoor nature of their work. However, the data have been taken from the Census includes the first four groups : (A) cultivation, (b) agricultural labour, (c) livestock, forestry, fishing, hunting, plantation, orchards and allied activities and (d) mining and quarrying. These three groups are directly or indirectly concerned with agriculture. Mining and quarrying activities are virtually absent in U.P. That is why primary sector mainly includes agricultural activities in U.P.

Very low level of FWPR in primary sector

The districts which have the lowest level of FWPR in primary sector are economically well of districts. Farrukhabad and Bijnor are such districts in U.P. which have less than 41.49 percent female workers in primary sector in 1981. But when we analyze the relative situation of female's WFPR from 1981 to 1971, we get slightly different picture in that Mathura and

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5. T.A. Hartshorn, and J.W. Alexander, Economic Geography, Prentice Hall of India Private Limited, New Delhi, pp. 1.

Meerut which had very low level of FWPR in 1971 got placed in low level of FWPR in 1981. On the other hand Bijnor which was in low level of FWPR in 1971 moved to very low level of FWPR in 1981.

Low level of FWPR in primary sector

The low level of female participation is recorded in Moradabad, Bareilly, Meerut, Mainpuri and Rampur districts of Western region in 1981. These districts have got tremendous progress in agriculture after the Green Revolution. This way large scale of mechanization in agriculture might have removed a large number of female workers from the field. It is noted that all those districts which had low level of participation rate in 1971, have moved to either middle level or very low level of participation rate in 1981.

Medium level of FWPR in primary sector

In medium level of participation rate, the districts : Budaun, Muzaffarnagar, Etah, Agra, Aligarh, Bulandshahr, Saharanpur, Shahjahanpur, mathura, Pilibhit and Etawah are concentrated in the western region which have participation rate between 59.47 to 77.45 percent in primary sector in 1981. The reason behind this kind of participation is already discussed under the heading of low participation rate.

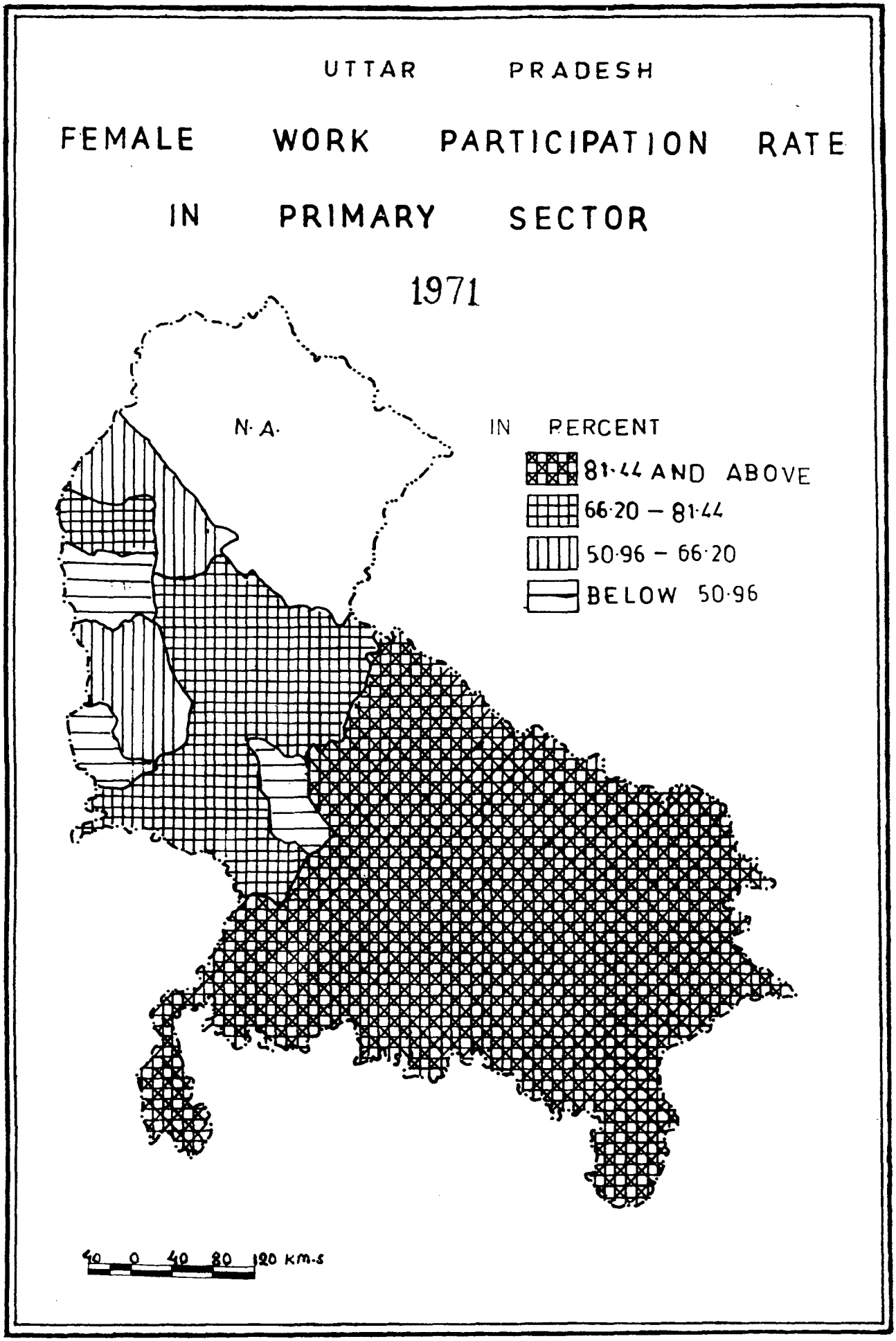
UTTAR PRADESH
FEMALE WORK PARTICIPATION RATE
IN PRIMARY SECTOR
1971
N.A.
IN PERCENT
81·44 AND ABOVE
66·20 – 81·44
50·96 – 66·20
BELOW 50·96
40 0 40 80 120 km.s

FIG II·8

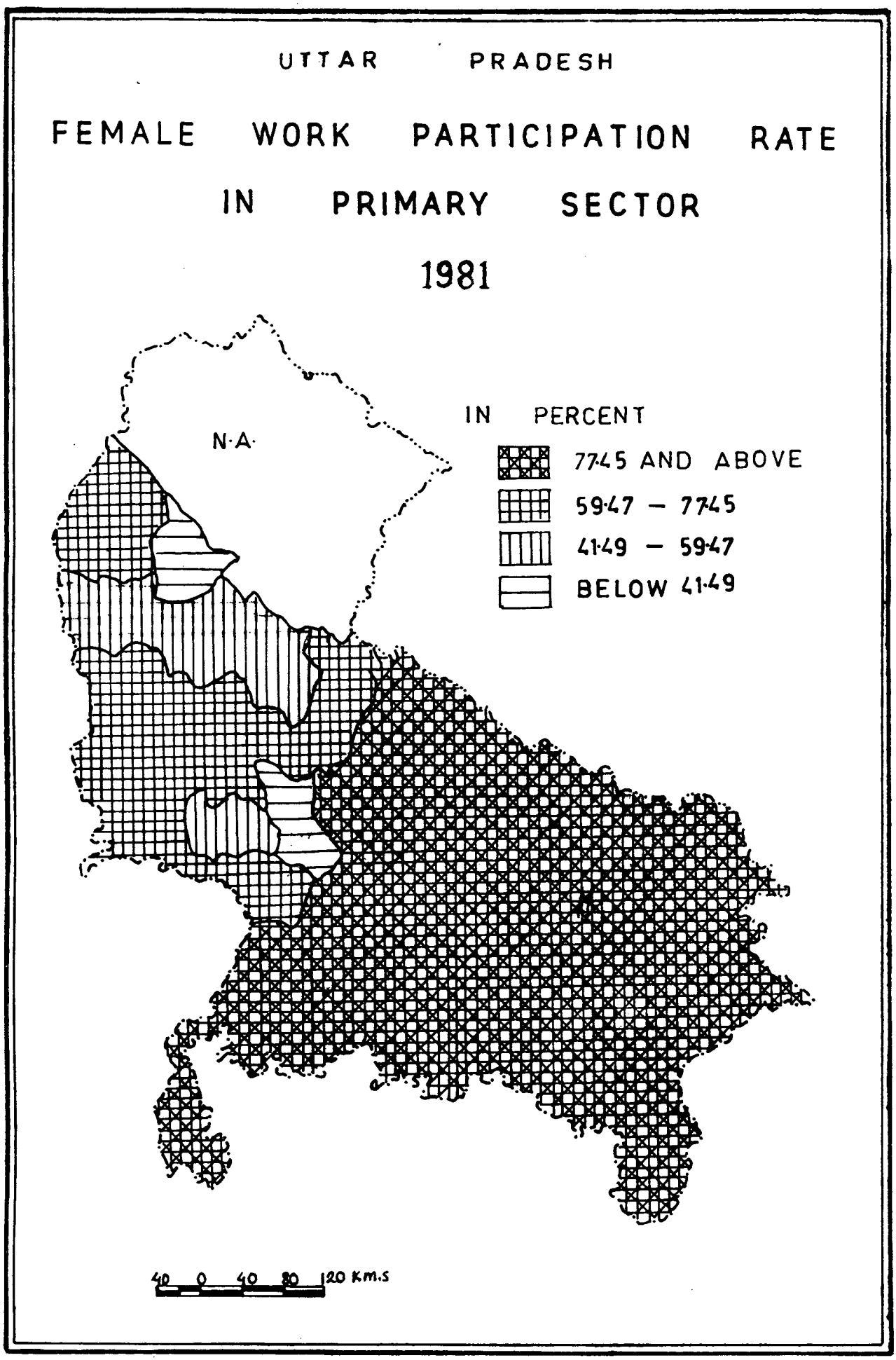
UTTAR PRADESH
FEMALE WORK PARTICIPATION RATE
IN PRIMARY SECTOR
1981
N.A.
IN PERCENT
77.45 AND ABOVE
59.47 – 77.45
41.49 – 59.47
BELOW 41.49
40 0 40 80 120 Kms

FIG II.9

High level of FWPR in non-primary sector

Rest of the districts of the Eastern region, the Central region and the Bundelkhand region have high level of participation rate in primary sector which vary between 77.45 to 95.43 percent in 1981. The cultivation of rice, low level of mechanization, high level of poverty, occurrence of scheduled caste etc. are the major factors behind this high level of participation in primary sector. Even in 1971, more or less the same districts had high level of FWPR

II.5 Disparity between Male and Female's WFPR in Primary Sector

Without knowing the characteristics of WFPR of male in relation to female, the study seems to be incomplete. This disparity also indicates as to what kind of social structure is found in a region because social factors are significant in affecting FWPR. Besides, economic prosperity of the region also indirectly hinders the process of FWPR in Plain region of North India. Last but not the least in any sense is the development of village-based cottage and handicraft industries which are positively related with FWPR because this kind of activity is confined within the fourwalls of a house and consequently social constraints do not seem to come as an obstacle in the way of participation rate.

In 1981, the very low and low level of disparity (almost no disparity) between male and female's WFPR in primary sector

UTTAR PRADESH

DISPARITY BETWEEN MALE AND FEMALE WORKERS IN PRIMARY SECTOR

1971

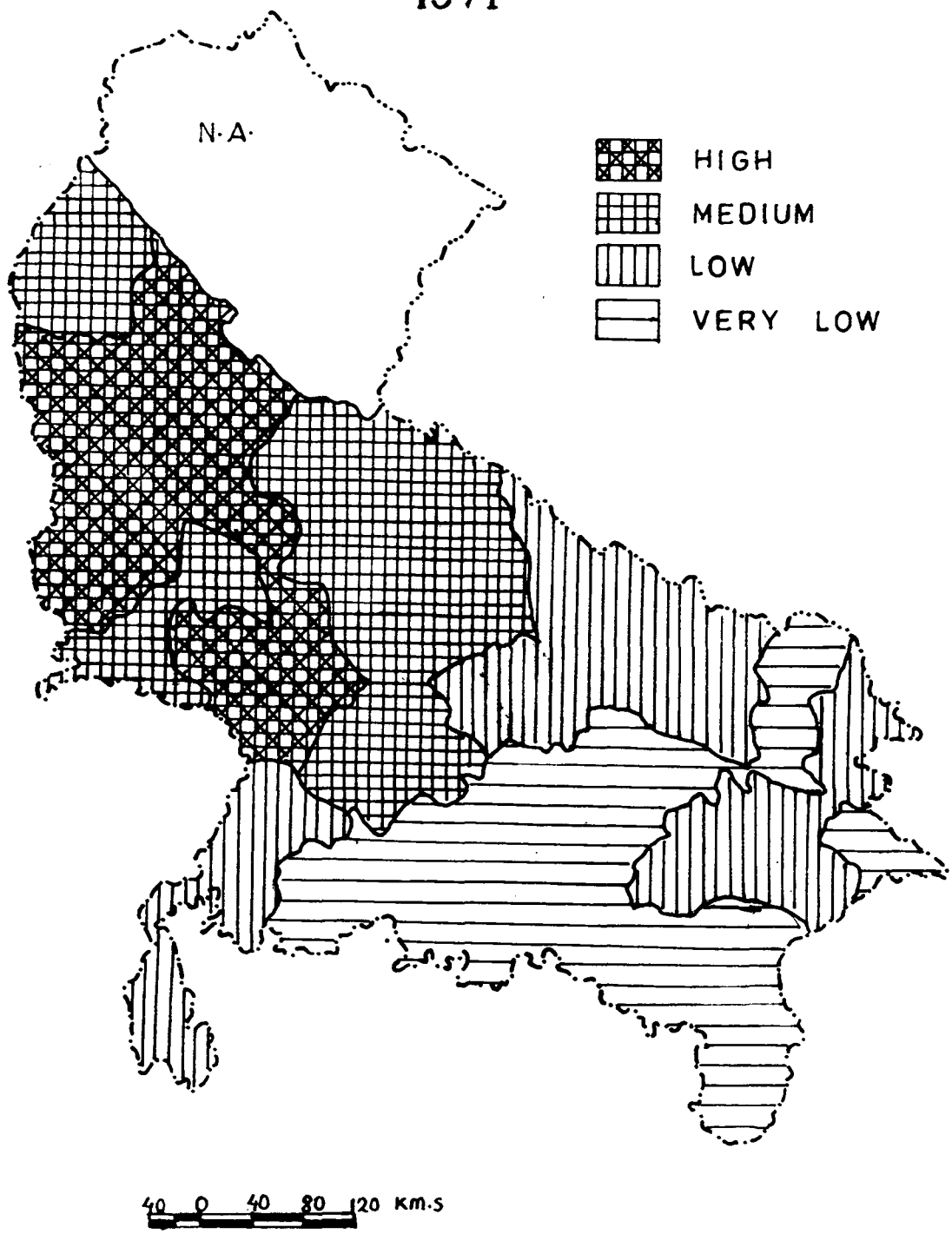

FIG.II.10

UTTAR PRADESH

DISPARITY BETWEEN MALE AND FEMALE WORKERS IN PRIMARY SECTOR

1981

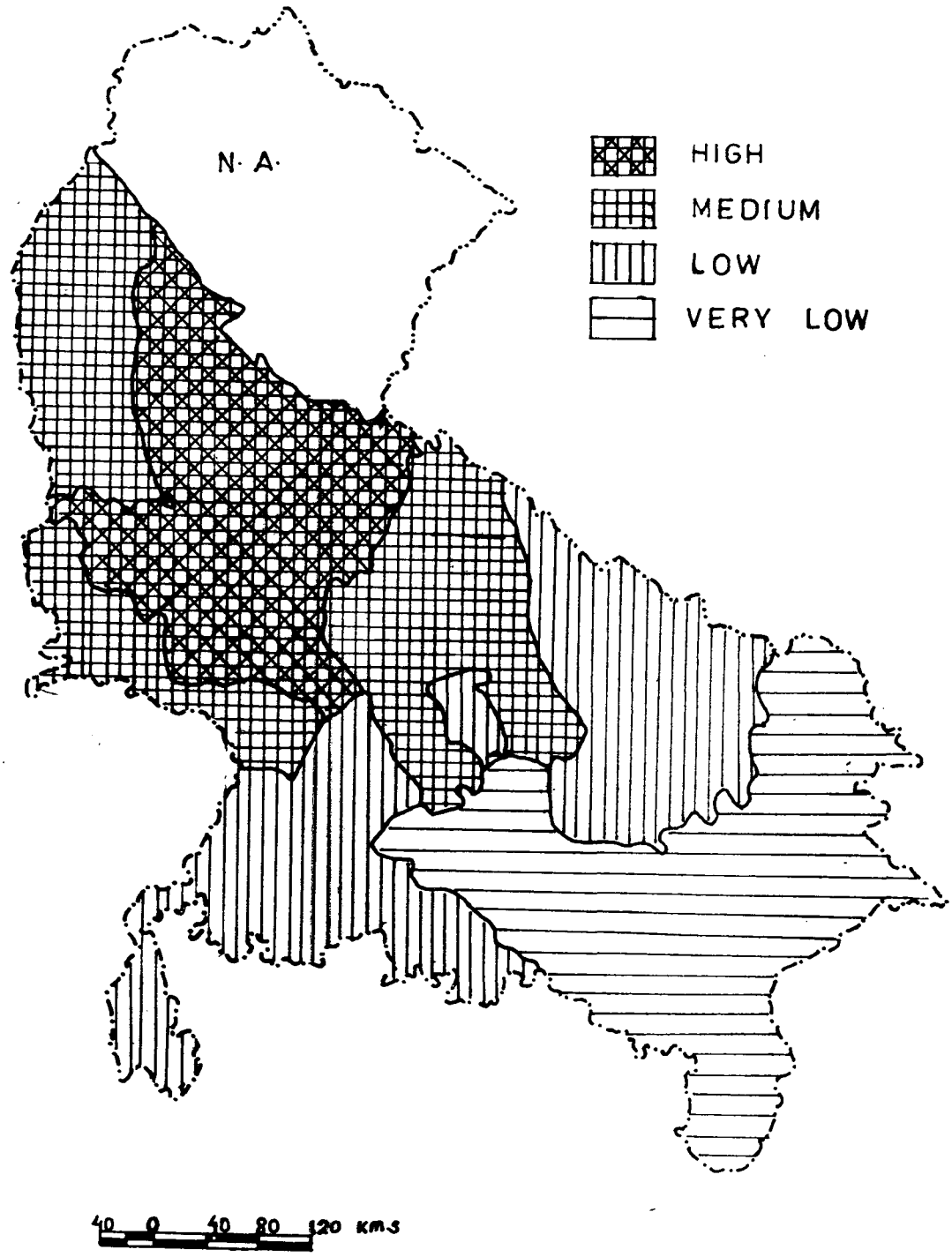

FIG-II-11

have a range between -0.03 to 0.02 respectively. They are found in those districts which are located in the Eastern region, the Bundelkhand region and eastern section of the Central region. The medium disparity between male and female's WFPR is found in the Upper Bari Doab and the western part of the Central region. It has a disparity level between .03 to .18 in 1981. However, the highest level of disparity in primary sector is found mainly in the Muslim dominated areas of Rohilkhand region. The reason behind this large scale of disparity may be religion and socio-cultural factors which came as a obstacle in a way of FWPR. This disparity is as high as 0.19 in 1981. The same kind of disparity level is also found in 1971 in all the four groups of disparity level which is clear from Figure II.10. From this disparity level, several patterns of participation rate emerge, but withdrawing of labour force after prosperity is the most important among them. Even after getting improvement in several sectors of economy in U.P. this disparity between male and female's WFPR has gone up between 1971 and 1981 and in all four groups of disparity level between male and female's WFPR has got worsened in 1981 as compared to 1971.

II.6 Female Work Participation Rate in Non Primary Sector

As we know, the development of secondary and tertiary sector is the backbone of any country or region in a modern era and so far non-primary sector is concerned, it includes both

these two sectors. According to Premi[6], the secondary sector relates to manufacturing, processing, service and repairs whether carried in the form of household industry or at a higher level. The tertiary sector is constituted of persons employed in trade and commerce, transport, storage and communication and other services. However, Hartshorn and Alexander[7] has classified the whole gamut of non primary sector into four categories : (a) Secondary production, (b) Tertiary production, (c) Quaternary services and (d) Quinary activities. However, according to census from which data is derived for the present appraisal includes the following five groups (a) Manufacturing, processing, servicing and repairs, (b) Construction, (c) trade and commerce, (d) Transport and storage and (e) other services. As the present analysis is based on the proportion of non-primary workers to total workers, various categories of workers who are engaged in non- primary sector are not taken into account. To this extent the following analysis is limited.

The lowest level of female's workforce participation rate in non-primary sector is found in those districts or areas which are economically less developed. The reason behind this low participation rate is very simple that these districts have got

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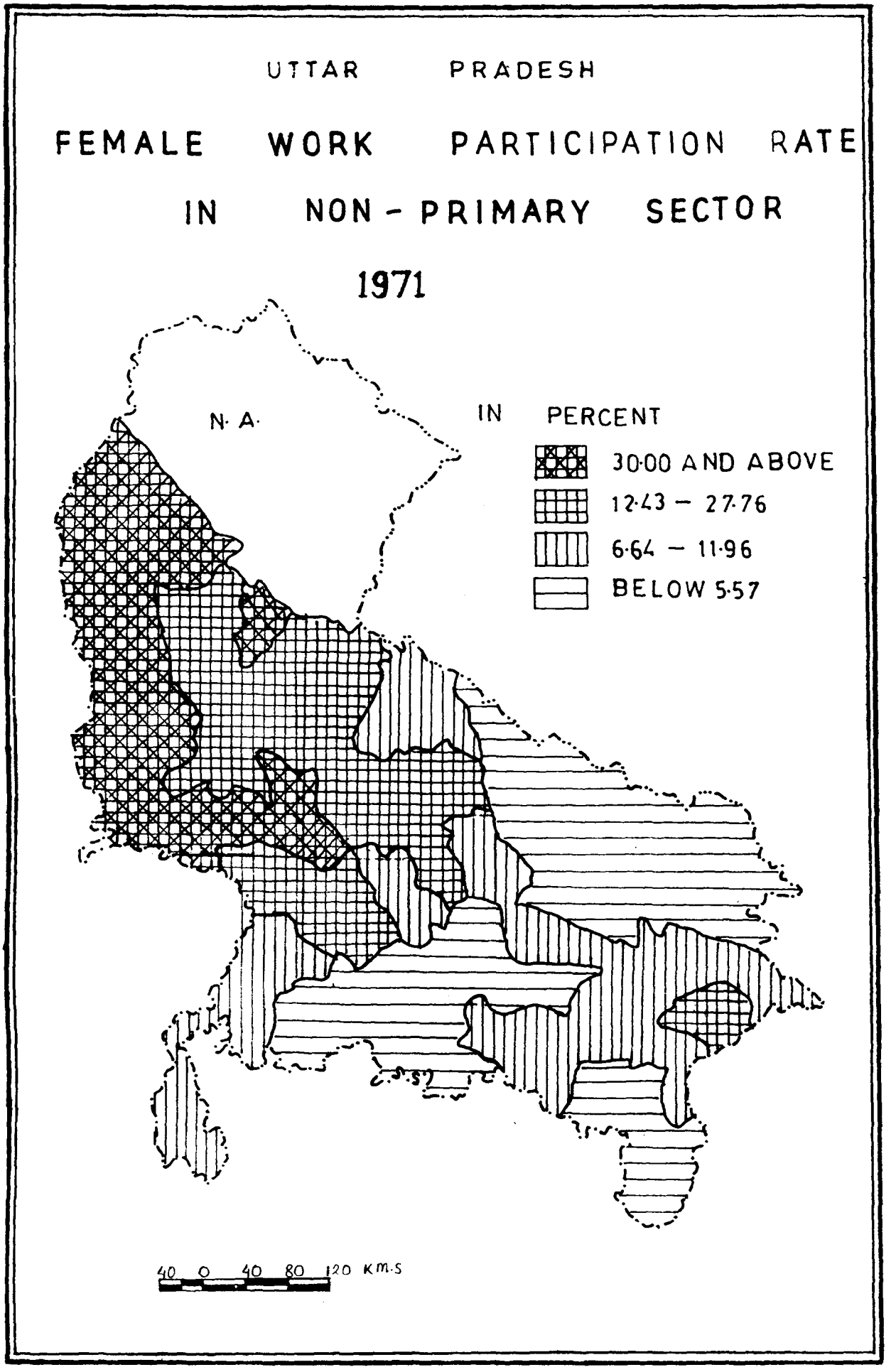
6. M.K. Premi, A. Ramanamma, U. Bambawale, An Introduction to Social Demography, Vikas Publishing House PVT. LTD., Delhi, 1983, pp. 60.

7. T.A. Hartshorn and J.W. Alexander, op. cit., 1988, pp. 1-2.

least level of industrial and service sectoral development in which male or female may get employed in these sectors. But due to lack of the above development workers are mostly engaged in agriculture and its allied activities as disguised and unemployed workers. Very low level of participation rate in non-primary sector i.e., below 7.75 percent (in 1981) is found in those districts which are located in the northern part of Eastern region and southern part of the state. The low level participation rate ranging between 8.19 to 12.71 percent are found in the Eastern region and the Central region. It may be pointed out that they have slightly better position in term of development of village based cottage industries. In addition, a large number of female workers are also engaged in construction and other services in the urban areas as a commuter type labourers from the periphery villages of urban area. A large number of village female workers come everyday to sell vegetable, fishes, milk etc. in the nearest urban centres. Except Varanasi and Mirzapur which are located in Eastern and Bundelkhand region respectively, the medium level of participation (between 13.75 and 36.78 percent in 1981) is found in the upper Bari Doab and Central region. But in case of high level of female participation (above 37.74 per cent in 1981), all the districts are exclusively confined in Western region only which are shown in the Figure II.13. The districts or regions which have either medium or high level of FWPR in non primary sector are also coincided with very


UTTAR PRADESH
FEMALE WORK PARTICIPATION RATE
IN NON - PRIMARY SECTOR
1971
N. A.
IN PERCENT
30·00 AND ABOVE
12·43 – 27·76
6·64 – 11·96
BELOW 5·57
40 0 40 80 120 KM.S

FIG·II·12

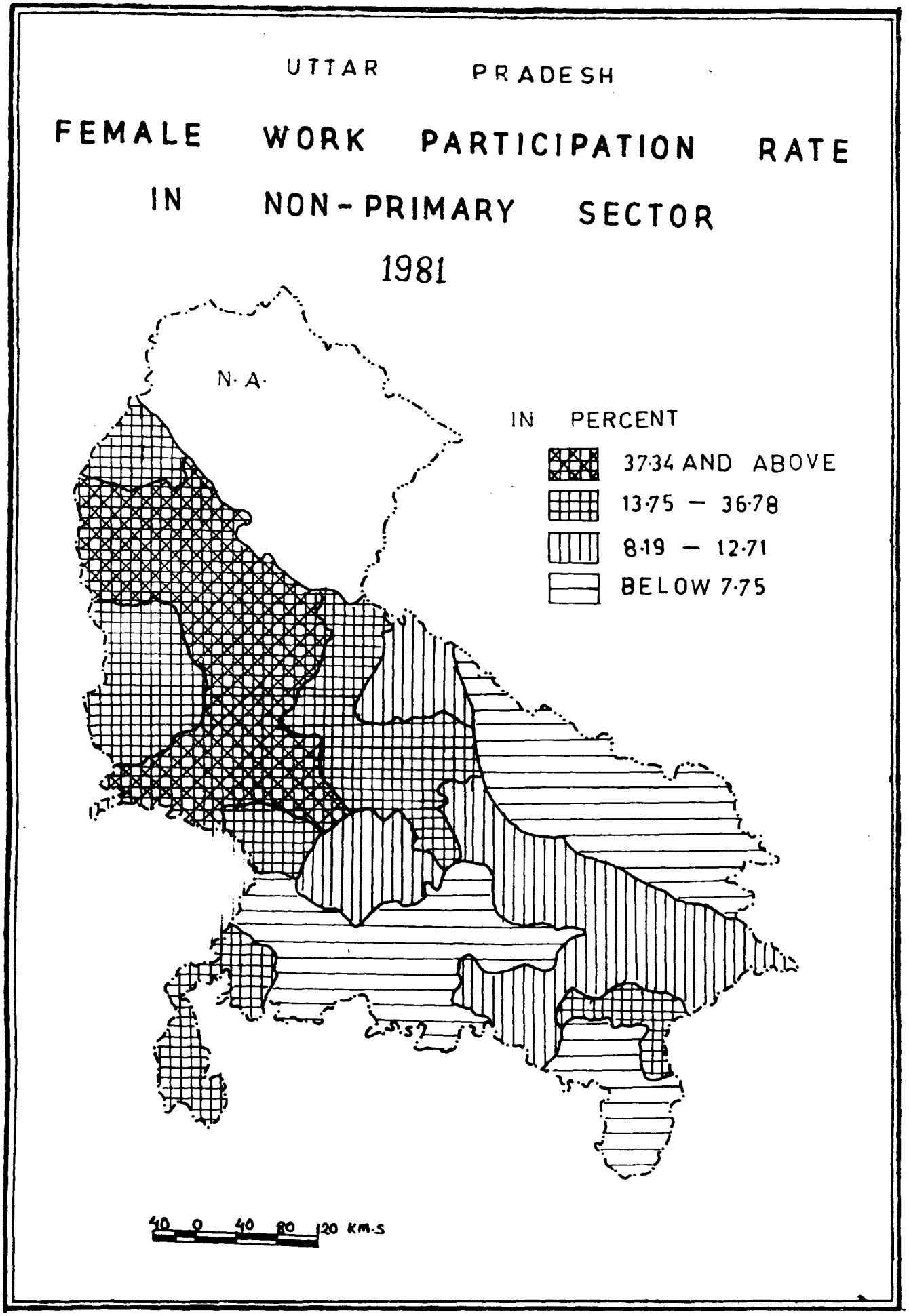

UTTAR PRADESH
FEMALE WORK PARTICIPATION RATE
IN NON-PRIMARY SECTOR
1981
N.A.
IN PERCENT
37.34 AND ABOVE
13.75 – 36.78
8.19 – 12.71
BELOW 7.75
40 0 40 80 120 KM.S

FIG. II.13

low or low level of FWPR This way we can safely pass some remarks that these districts have high level of participation rate in non primary activities not because it has actually high level of participation rate in non primary sector but it was only due to the lowest level of female's involvement in primary sector. The relative performance of female's workforce participation in non primary sector between 1971 and 1981 presents us some kind of satisfaction that overall the share of non primary worker in all four groups have increased but this increase is of slow stride. Besides, the relative position of some districts have also got shifted from one group to another. Jalaun in 1971 was in low level of female's workforce participation group but in 1981 it shifted to the lowest level of participation group and vice versa is true with Sultanpur. In the same way, Kanpur, Ghazipur, Mathura, Saharanpur, Bulandshahr, Aligarh, Etah, Budaun, Bareilly and Moradabad are such districts which have relatively changed their position from one group to another between 1971 and 1981 which is shown in Figure II.12 and II.13.

II.7 Disparity between Male and Female Works WFPR in Non-Primary Sector

Without knowing the comparative position of male WFPR in non primary sector the study of female's WFPR seems to be futile in its approach. This is why an analysis on disparity between male and female participation rate in non primary activities has been pursued to grab the participation rate of male indirectly in

this topic. Unlike FWPR the very low and low level disparity between male and female's WFPR in non primary sector are found in Western and Central region. The level of disparity is found below -.45 in the group of very low level and between -.43 to -.15 in the group of low level in 1981. This way we find that the percentage of female workers in non primary sector is higher than their counterpart of male's WFPR in non primary sector. The lower level of disparity also indicates that these dirtricts have got development especially in the field of cottage and handicraft industries. In addition, the presence of large number of urban centres for catering the local need of the villages, also provide opportunity to the workers of periphery villages of that town to get engaged in the work of construction, rickshaw-pullers, sale of vegetables, milk, fishes, fruits etc. As it is already noted earlier that the women are more efficient and cheaper than male worker in the above kind of activities. That is why, a large number of female workers by getting employed in the above sector reduces the disparity level between male and female workers in non-primary sector. However, the medium level disparity (between -14 to .18) and high level disparity (above .19) are observed in those regions where high level of FWPR are found in primary sector. These regions may be counted as eastern, Bundelkhand and Central region. Even in 1971, the same pattern of disparity level in non-primary sector among different districts used to maintain which is clear from Figure II.14. On the other hand, these are

relatively backward areas where the opportunity of getting employed in non primary sector is less. A large number of male workers from these regions go to other parts of the country to work in non primary sector and this is not true with female workers. This is also one of the important cause to become disparity level higher in these regions.

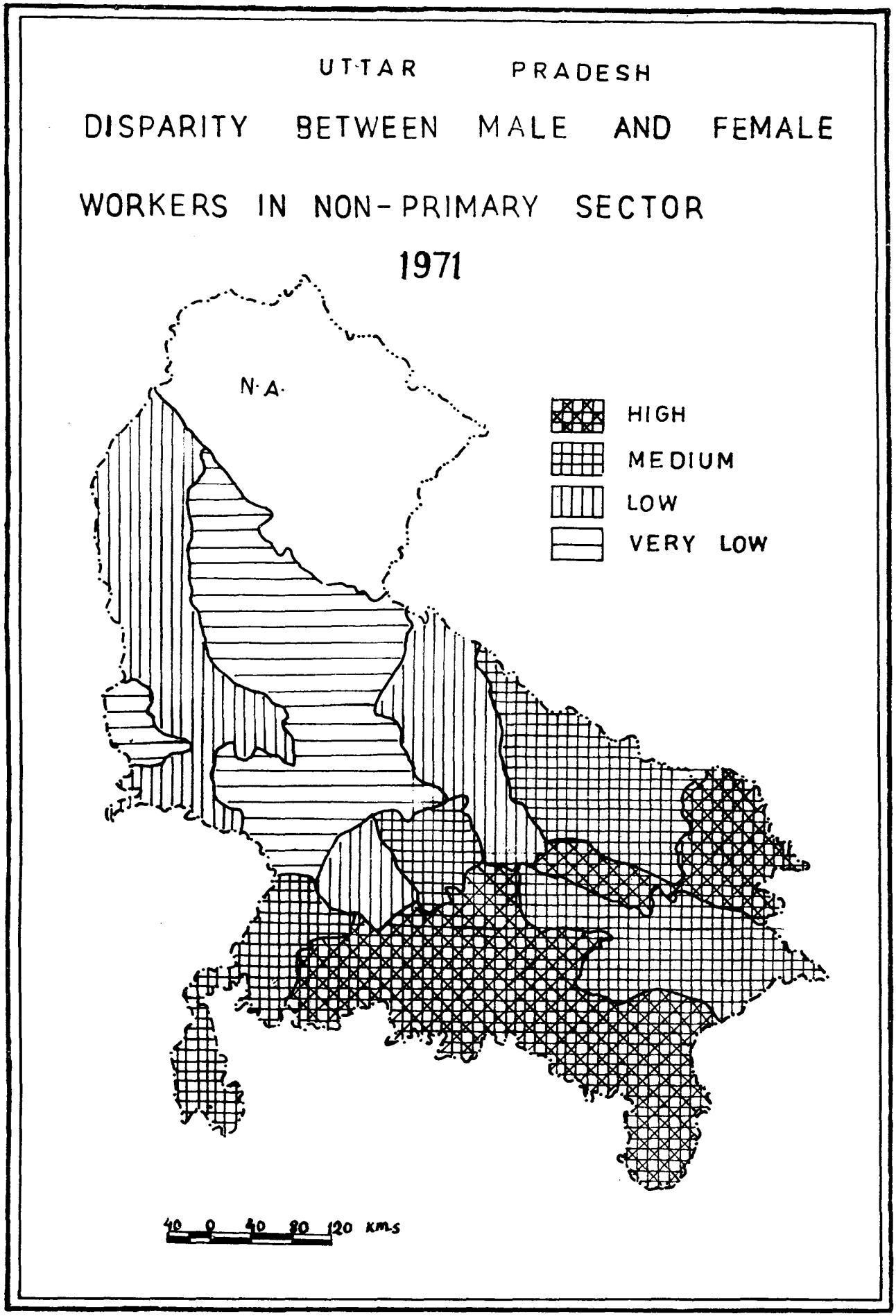

UTTAR PRADESH
DISPARITY BETWEEN MALE AND FEMALE
WORKERS IN NON-PRIMARY SECTOR
1971
N.A.
HIGH
MEDIUM
LOW
VERY LOW
40 0 40 80 120 kms

FIG II-14

UTTAR PRADESH

DISPARITY BETWEEN MALE AND FEMALE WORKERS IN NON-PRIMARY SECTOR

1981

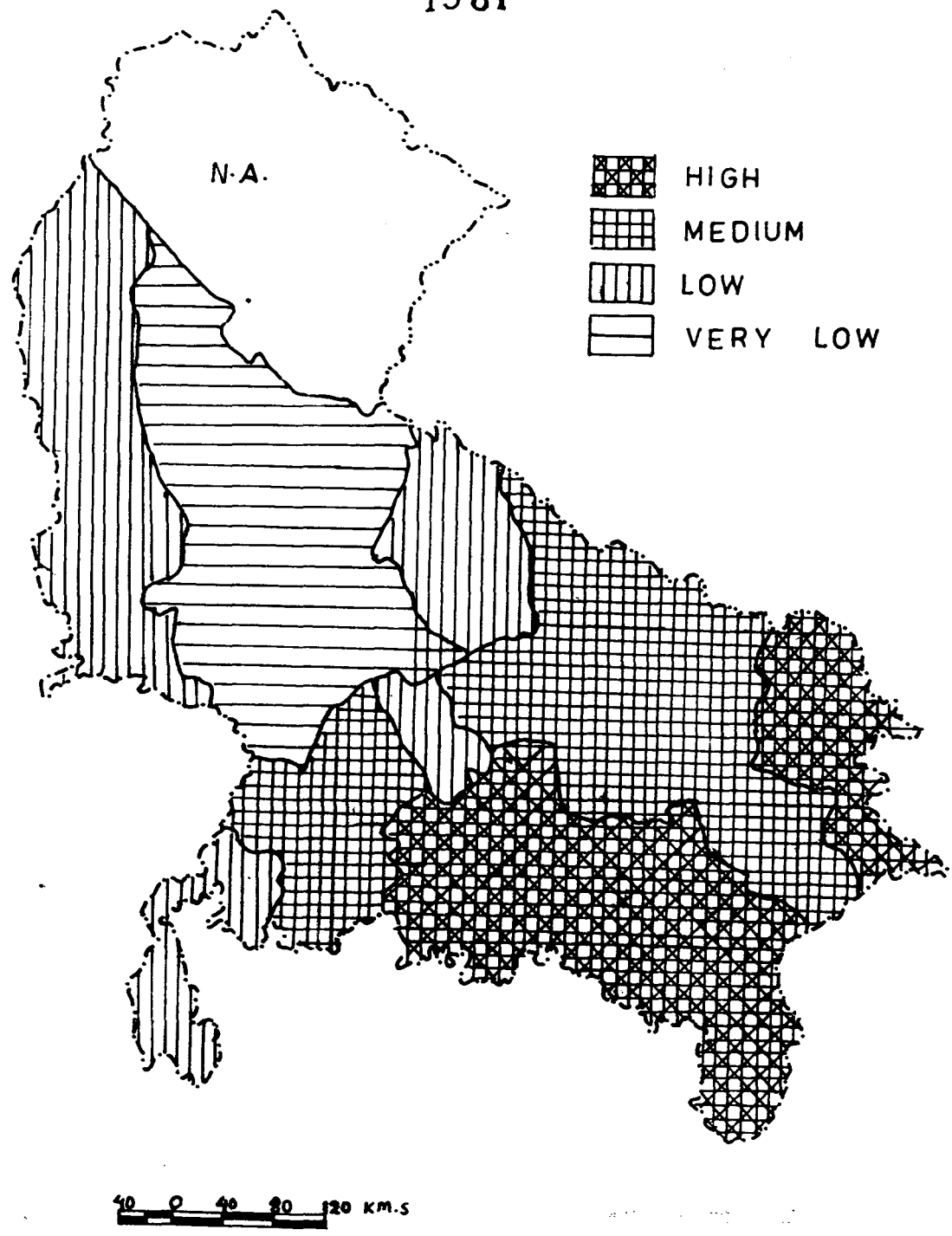


FIG II-15

CHAPTER III

LEVELS OF RURAL DEVELOPMENT

Today rural development and various aspects relating to it have gained ground as our planning process has come of age and concern for rural masses has surfaced at the highest levels of administration and policy making authorities. The five year planning, done at the national level does not ensure its applicability at local levels because primarily a centralized system of planning has not given due importance to spatial aspects of development and has concentrated only as sectoral aspect of development. Hence, the need for rural development has now been realised because majority of the population is living in the remote villages and they are not in a position to enjoy the fruits of planned development. However, the objectives of rural development in terms of living standards include sustained increase in per capita output and income, expansion of productive employment and equitable distribution of the benefits of growth. The operational goals of rural development are improved productivity while assuming minimum acceptable levels of living which include food, shelter, education and health services. These call for a number of programmes which have to be fixed in the varied socio-eonomic environment. The operational strategy of rural development therefore embraces a wide range and mix of activities. The mix of activities will vary with the requirements

of a region and priorities assigned to the components within a programme at particular time and at particular stages of development. Michael P. Todaro[1] has rightly suggested three conditions of general rural advancement. (1) modernizing farm structure to meet rising food demand, (2) creating an effective supporting system and (3) changing the rural environment to improve the levels of living. Moreover the activities of rural development may be seen from three different angles : (i) agriculture development, (ii) infrastructural development and (iii) socio-economic development.

III.1 History of Rural Development

Rural Development is being talked in modern India since the late 19th century. Even before independence people within and outside the congress partly had been discussing the problems and difficulties of developing rural economy which broadly meant agricultural development. The steps taken by the Congress Govt in U.P. during 1937-39 were significant landmarks in this direction. In the words of the late Pandit G.B. pant, the great patriarch of U.P., "The Congress Government an assuming office in 1937 saw the deterioration in the conditions of rural life and realized the dangers that would inevitably follow if this state of affairs was allowed to continue unchecked. A separate rural development

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1. Michael D., Todaro, Economic Development in Third World, Longman, London, 1981, pp. 276.

department was, therefore, made responsible for executing a programme of rural reconstruction throughout the state. This programme of rural development had not proceeded very far when the Second World was intervened and Congress Govt resigned. The Congress Govt. was returned to the office in 1946 and in accordance with cardinal principles of congress policy the task of revitalizing life in the villages was again taken in hand. The Etawah Pilot Project for intensive rural development launched in 1948 in village Mahewa was not a historical accident but the denouement of ceaseless quest for finding the right approach, right of the mainfold problems of the people living in the rural areas of U.P. Rural development has always been one of the abiding concerns of the successive Five year plans. However the approach to rural development has been a matter of trial and error. This is indicated by the wide range of strategies we have adopted for developing rural areas since 1951. The programmes of rural development received governmental support first in 1952-53, when programmes like Community Development project and National Extension Service were launched and then in 1957-58 when panchayat raj was introduced as a result of the official acceptance of the report of Balwant Ray Mehta Committee. After the failure of the above strategies, a new development functionary appeared in the role of Block Development Officer (B.D.O.) as the captain of the official team made responsible for initiating and implementing various schemes of rural development.

The introducing of programmes like. Draught prone Areas programme (D.P.A.P.), National Rural Employment Programme (N.R.E.P.), Minimum Needs Programme (M.N.P.), Food for Work, Small Farmer Dvelopment Agency etc. were in the process of trial and error method. In the Sixth Plan, a new programme called Integrated Rural Development Programme (I.R.D.P.), was sought to be implemented through a new executing agency called District Rural Development Agency (D.R.D.A.), functioning under the chairmanship of the District collector. Along with this main programme of rural development, other complementary programmes like National Rural Employment Programme (N.R.E.P.) and Training of Rural Youth for Self-Employment (T.R.Y.S.E.M.) have been launched to bolster up the rural economy and an increase of employment opportunities in rural areas. But these programmes of rural development are all run under bureaucratic leadership. People hardly participate in development programmes meant develop the economic conditions of rural life. However for larger people's involvement in rural development Jawahar Rojgar Yojna (J.R.Y.) has been implemented in 1989 by merging all wage employment programmes like N.R.E.P. and R.L.E.G.P.

III. 2 Levels of Agricultural Development

The rural development of Uttar Pradesh is by and large mainly dependent on it's agriculture : unless production and productivity are raised to the maximum possible extent, efforts

to improve the economy of rural areas in the state will not bear any fruit. It is often argued that to diversify the economy of rural areas the small scale industries should be expanded but it is forgotten that the development of the above sector to a great extent depends on agriculture both for the supply of raw materials and also for the absorbtion of the goods produced by industries. The need for the development of agriculture in Uttar Pradesh assumes greater importance also because the state is poorly endowed with other physical resources particularly minerals. To effect the proper economic development through industrialization is not possible in a state where the foundation of economic machinery is agriculture. The commercialization of agriculture as the process of economic development is necessary. The agricultural development depends upon the various infrastructural facilities such as irrigation, fertilizers, H.Y.V., seeds, perticides, energy transportational conveniences and efficient distribution system of agricultural products.

It is well known that agriculture is capable of producing surplus in short time with relatively low investment but it is not given dué treatment which is quite visible in the state of Uttar Pradesh Eightly two per cent of the state's population (1981), inhabiting in rural areas mostly, derives its livelihood from agricultural pursuits. Nearly three-fourth of it's labour force is engaged in agriculture either as cultivator or as agricultural labourer demonstrating the dominance of

agriculture in the economic development. Seed-fertilizer-water techonology and modern innovations in farm mechanization have no doubt made remarkable impact on the total outurn in large parts of the state. It has particularly promoted the vertical expansion of cultivation along with the limited horizontal exponsion. It is very much disapointing that in spite of all these efforts, the state has about 46 per cent rural people below the poverty line.

The unfovourable terrain, illiteracy amongst farmers, poor size of holding, low level adoption of modern farm technology, lack of requisite capital to meet even genuine expenses etc. have adversely affected the place of development in agriculture resulting in concentration and shortage of resources at the same time. Keeping these facts in view, an attempt has been made in the present study to analyse in the extent and magnitude of agricultural development bringing into focus inter-regional variations on the basis of certain variables like,(1) productivity per hectare, (2) productivity per male worker in rupees, (3) percentage of gross irrigated area to gross cropped area, (4) fertilizer consumption in kgs. per thousand hectares, (5) No. of tractors per thousand hectares, (6) percentage of net sown area to total geographical area and (7) intensity of cropping. Technology transfer in agriculture has mainly occurred in three spheres : hydro -technology, bio -technology and mechanical technonology. Hydro-techonology encompasses the techonology used in irrigation like use of disel and electirc

pumsets, modern sprinklers etc. Bio-techonology includes a package of modern inputs namely chemical fertilizer and modern pest control devices. Lastly mechnical techonology involves the use of power operated tools and equipment such as tractors, poser tillers disc, harrows, sprayers, dusters, threshers etc. in agricultural operations.

The agricultural development is not uniform throughout the state but it varies from one region to another. The western part of the state shows fairly high level of agricultural development whereas it is of the lowest level in the Southern Upland and western part of Terai region of Eastern U.P. in both points of time i.e., 1971 and 1981. It is obvious from Appendix [A.III.4] that the districts of Muzaffarnagar and Meerut having mean composite index of 13.88 and 12.51 respectively experience very high level of development which is an outcome of farm technology. On account of technology here not only the average agricultural production per hectare is found to be highest in the state but is also with high commercialisation as the area under commercial crops is 36.96 and 34.04 per cent respectively.[2] Adjoining sugar factories act as a catalyst for the cultivation of sugarcane. The enterprising and industrious self-cultivator farmers appear to be aware of the profitability margin of this crop over other crops. Besides, Saharanpur, Rampur, Bulandshahr,

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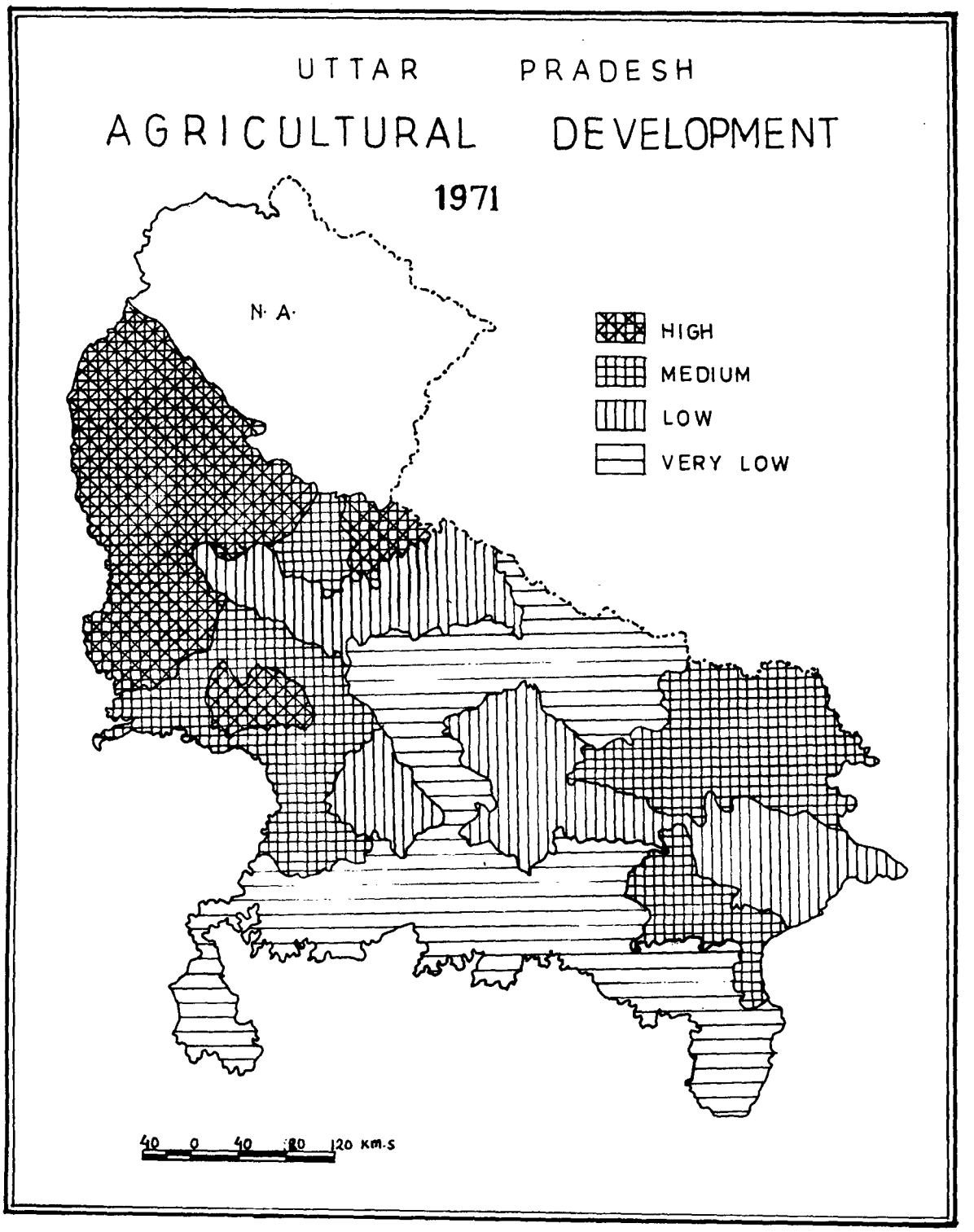
2. J., Singh, "Regional Agricultural Disparity in U.P.", The National Geographical India, vol. 36, 1990, pp. 207.

Pilibhit, Bijnor, Mathura, Moradabad, Jalaun and Aligarh are also characterized by high level of agricultural development in 1981 (e.g., = 7.70 to 13.90). Here too, the combinations of hydro-techonology, bio-techonology and mechanical techonology have influenced the progress in farm production and cash crops as well. The average size of holding is quite high in reference to the state average so mechanization is also quite high here. Taking into account various facts these ten districts of Western region and Jalaun of Bundelkhand region may be classified as dynamic in character. Even in 1971 all these districts except Jalaun used to have high level of agricultural development.

Moderate level of agricultural development is observed in three separate belts : the Western region comprising five districts of Bareilly, Farrukhabad, Agra, Etah and Etawah, the Eastern region including five districts Deoria, Gorakhpur, Basti, Varanasi and Jaunpur and the Central region consisting of only two districts i.e., Kheri and Rae Bareli. However, in 1971 moderate kind of agricultural development was not found in the Central region and it was confined mainly in two belts i.e., Eastern region and Western region. The area under irrigation, intensity of cropping, coverage area under H.Y.V. seeds, the share of net sown area, the consumption of fertilizers and degree of mechanization in most of the districts falling in the belt are well above the state average. Thus these districts have a promising future and may be termed as progressive in character.

The remaining twenty third districts (Etah and Mainpuri of Western region, three of Bundelkhand region, seven of Central region and eleven districts of Eastern region) are marked by either very low or low level of development in agriculture. Among all these districts, three of Bundelkhand region namely Hamirpur, Banda and Jhansi and one the Tarai region i.e., Bahraich portray very low level of development as to agricultural pursuits in both point of time i.e. 1981 and 1971. The rugged terrain of the Southern Upland region, poor socio-economic structure and limited use of high yield techonology package etc. may be attributed as a causative factor for slow development. So all these districts of the southern upland region characterized by very poor level of development may be identified as the problem areas. It is worth noting here that even the relatively larger-holdings in the Bundelkhand region could not make any dent in raising agricultural productivity, whereas the districts like Deoria, jaunpur, Varanasi, Faizabad, Farrukhabad, Ghazipur etc. having smaller holdings have shown promise owing to application of requisite farm inputs. This leads to conclude that among the various determinants concerning high yield techonological factors have greatly affected the level of agricultural development. However, the temporal change in agricultural variables indicate that the districts with low level of variables over period of time are making to increase it. While the districts with high level of agricultural variables are also making effort to increase into many folds.


UTTAR PRADESH
AGRICULTURAL DEVELOPMENT
1971
N. A.
HIGH
MEDIUM
LOW
VERY LOW
40 0 40 80 120 km.s

FIG·III·2

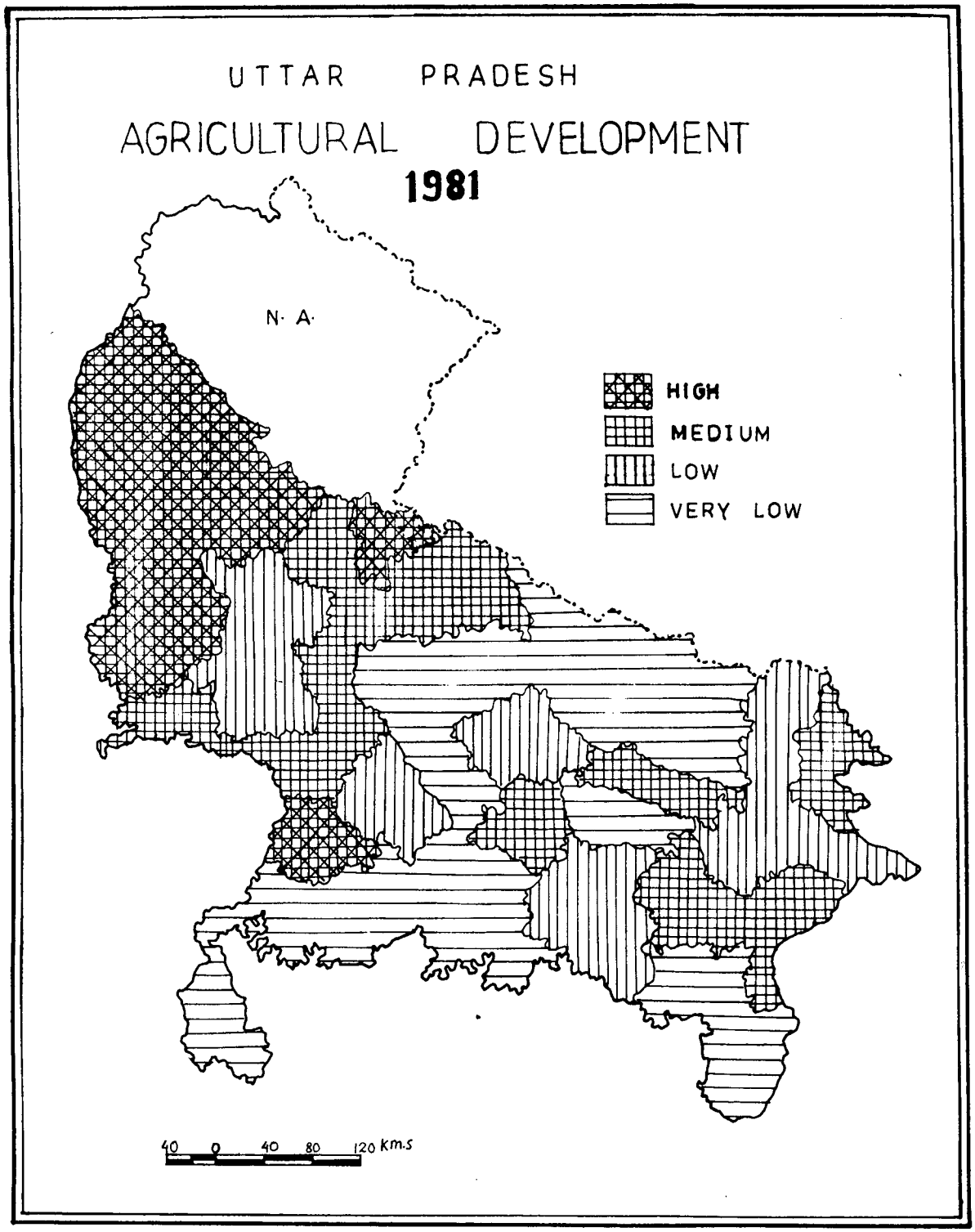

UTTAR PRADESH
AGRICULTURAL DEVELOPMENT
1981
N. A.
HIGH
MEDIUM
LOW
VERY LOW
40 0 40 80 120 km.s

FIG. III.1

Since the environmental conditions for agricultural development differ on regional as well as intra-regional levels on many counts the solutions to the problems may also differ accordingly in regional context. Technification is rather a must to enhance the agricultural productivity so as to meet the food requirements of the state's population increasing at a galloping pace of 25.49 per cent (1971-81). The mechanized devices not only save the labour but they also contribute to enhancement of the yield per hectare. It also accounts for vertical expansion of agriculture. In addition to, seed fertilizer mechanization scheme proposed by Borlaug can not succeed unless desired level of irrigation facilities is obtained.

III.3 Levels of Infrastructural Development

Even after the frequent use of term infrastructure, it is not well defined in precise and greatly acceptable manner. A number of interchangeable terms such as "Social Overhead", "Economic Overhead", "Overhead Capital", basic Economic Facilities etc. have been used to denote services which are generally identified with infrastructue. However, some basic characteristics that infrastructural services possess can be identified. They are : (a) essential but not directly productive, (b) pre-requisite of development, (c) non importability, (d) lumpiness, (e) external economies, (f) provision by state etc. In the field of infrastructure

availability regional imbalances both at the inter state and intra-state level have characterized rural development in India. However, the variations in the levels of development in various districts and regions of the state are accompanied by equally shapr variations in infrastructural facilities. Four variables have been taken into consideration for the measurement of infrastructural facilities in U.P. : 1) availability of educational institutions, 2) availability of electricity, 3) pucca road facility and 4) availability of post and telegraph facilities.

Just after a glance of Appendix [A III.8] it is evident that Muzaffarnagar and Meerut have undoubtly high level of infrastructural development and these two districts have composite index of 6.35 and 6.11 respectively. As it is already discussed earlier that even in term of agricultural development these two districts stand first and that agricultural development also indirectly helps in having more infrastructure in these districts. These districts are located just beside the capital of the country, Delhi which provides several kinds of help in improving the situation of infrastructural facilities whether it may be technicial help or many others. In addition to, the central govt also takes keen interest in the development of these districts just because they fall under National Capital Region (NCR). In addition to, Bulandshahr, Ballia, Agra, Aligarh, Lucknow, Mathura, Moradabad, Faizabad and Bijnor also have high

level of infrastructural development, which have composite index ranging between 4.28 to 6.36 in 1981. This way, we find that all the districts which have high level of infrastructural development are confined only in western region except one from Central and two from Eastern region. Even in 1971, these districts used to maintain high level of infrastructural development except Lucknow which had medium level of infrastructural development in 1971. As we know, Lucknow being the capital of the state a lot of money was invested for the development of it's hinterland that is why Lucknow now ranks in high level of infrastructural development.

The moderate kind of infrastructural development is noticed in all the four regions of the state in a scattered manner, which is evident from Figure [III.3 and III]. However, the Western region have more districts under this kind of development which is followed by the Eastern region, the Bundelkhand region and Central region in both points of time i.e., 1971 and 1981.

Rest of the districts have either very low or low level of infrastructural development. Most of the districts which have that kind of development are confined mainly in the Eastern region and the Central region. It is a matter of great interest that the Bundelkhand region which is considered as the most backward region of the state have no districts under the acute

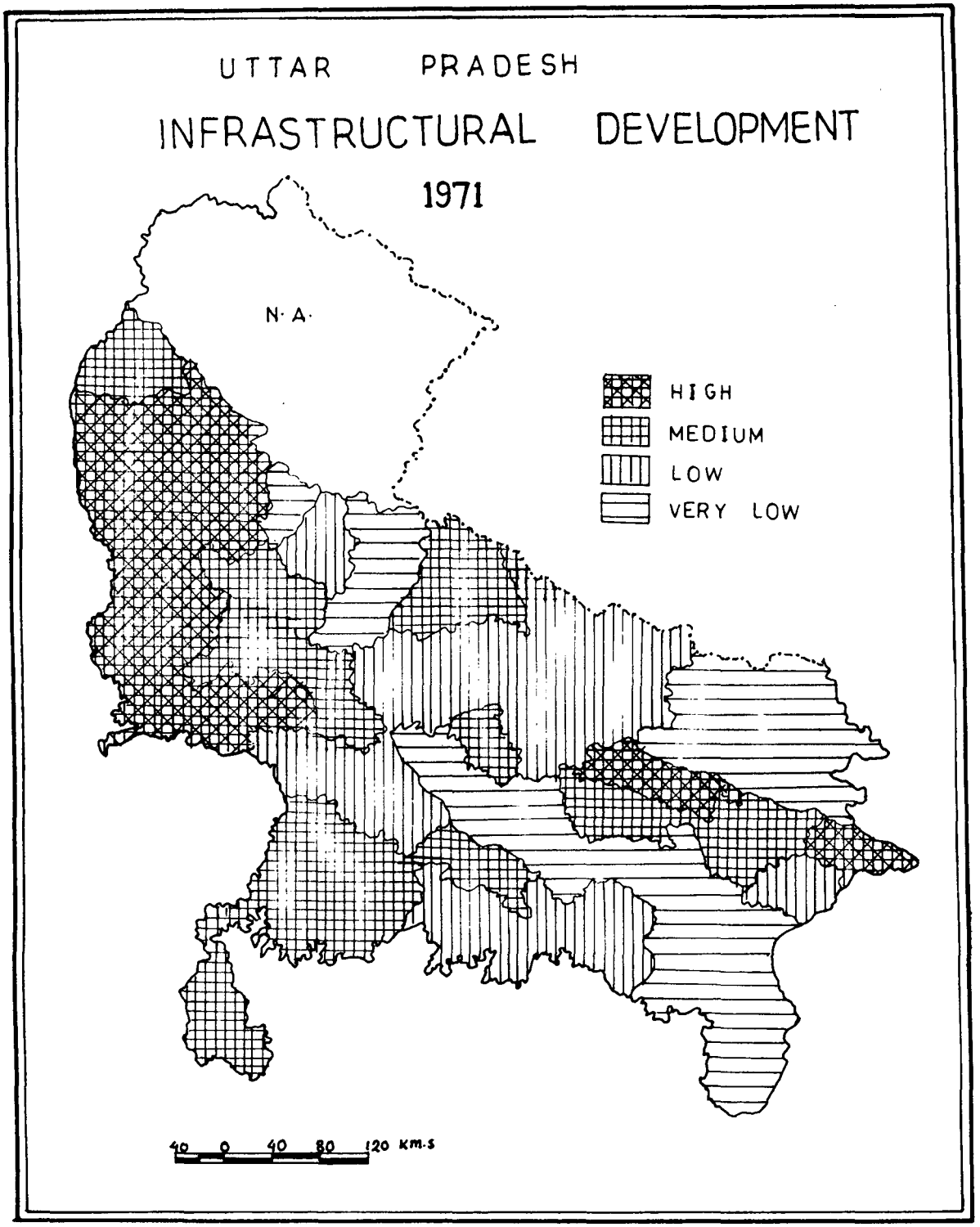

UTTAR PRADESH
INFRASTRUCTURAL DEVELOPMENT
1971
N.A.
HIGH
MEDIUM
LOW
VERY LOW
40 0 40 80 120 km.s

FIG III·3

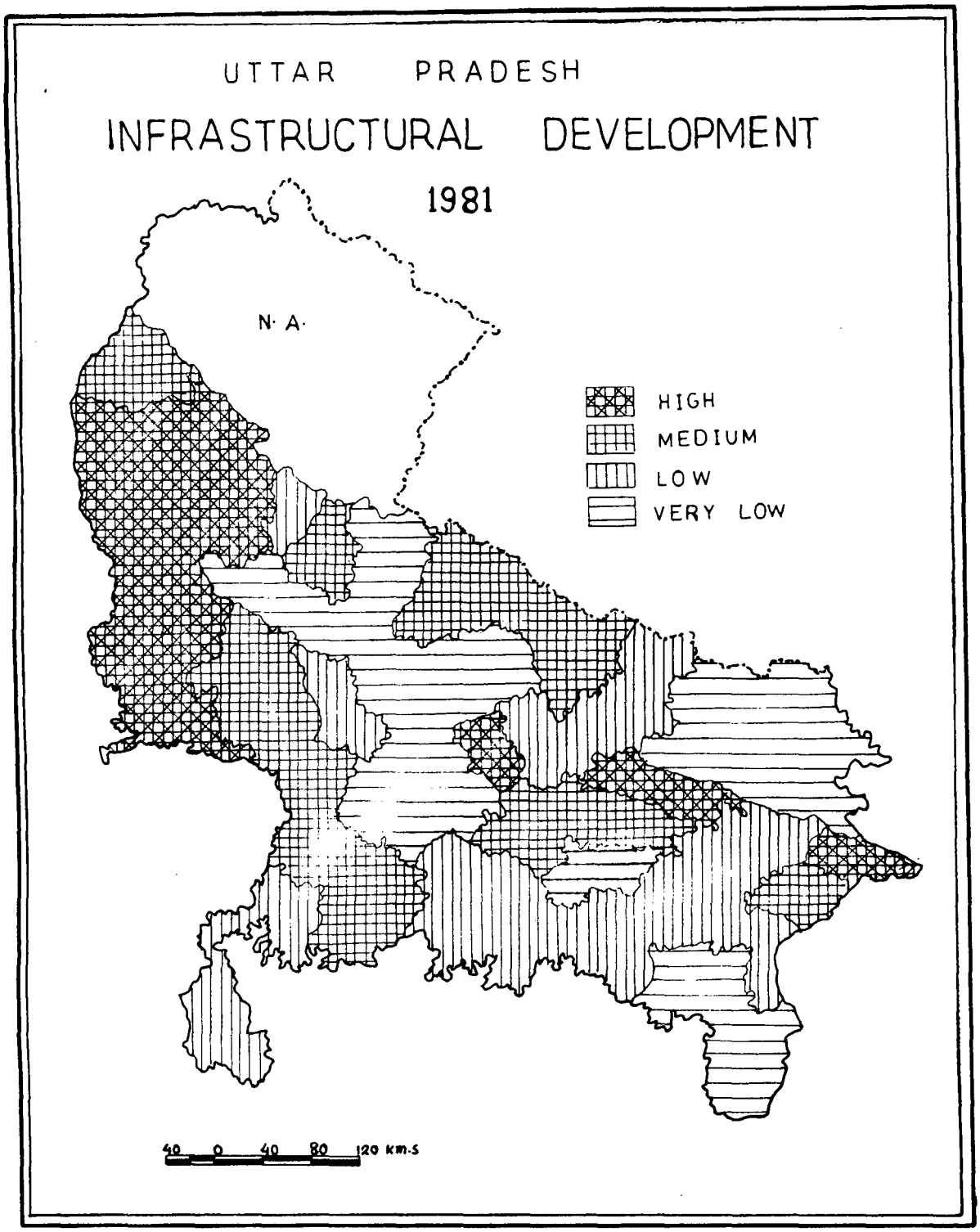

UTTAR PRADESH
INFRASTRUCTURAL DEVELOPMENT
1981
N. A.
HIGH
MEDIUM
LOW
VERY LOW
40 0 40 80 120 km.s

FIG. III.4

shortage of infrastructural development. On the other hand, Pilibhit, Shahjahanpur and Budaun of the Western region have very low level of infrastructural development even after being agriculturally more developed. Basti, Unnao and Mirzapur are such districts in U.P. which have got least level of infrastructural development in 1981 but in 1971 Mirzapur, jaunpur, Varanasi and Basti used to dominate in their relative backwardness.

III.4 Levels of Scocio-Economic Development

Actually the whole gamut of progress of human society can be reflected by scoio-economic development of a region. In fact it covers entire modern means of technique and social improvement on which our present day society is stood up. uttar Pradesh, the land of ancient civilization is famous for socio-economic development since the ancient time. However, it also experienced declining phase during the British period, the effect of which still reflected in the state. From the statistical figures, one may figure out the exact to which the several development efforts affected the economy both socially and economically. There have been significant changes in the socio-economic structure of different regions in the country as a result of the several development efforts made by the government soon after independece. It is important to pause and ponder over the progress that has been achieved so far so as to make the necessary changes in planning methods. One such attempt is made

here to examine the changes in the socio-economic structure of U.P., between 1971 and 1981. Though it has not been possible to explain the process of change and the factors underlying such change, the general trend and the direction in the change in literacy, housing, urbanization, per capita income, scheduled caster, dependency ratio, child women ratio and share of male worker in non primary sector are studied in this topic of socio-economic development. Following indicators of socio-economic development have been considered for this study : 1) literacy rate, 2) number of persons per room, 3) urbanization, 4) per capita income, 5) scheduled caste, 6) dependency ratio, 7) child-woman ratio and 8) share of male non-primary workers.

The pattern of socio-economic development has got pramount importance not only because it is the key factor for rural development in the state but it's development determines the famle's work participation rate too. The districts like Meerut, Lucknow, Agra and Kanpur have recorded very much high level of socio-economic development in both points of time i.e. 1971 and 1981. These districts have also noticed high level of urbanization which indicates that the impact of urbanization is quite high for the socio-ecoinomic development of the rural areas. This way we find that the isolated rural development is not possible without the process of urbanization. In addition, Varansi of the Eastern region and Bijnor, Aligarh, Mathura, Bulandshahar, Muzaffarnagar and Saharanpur of the Western region

are other districts which have high level of soico-economic development. The value of high order of composite index far socio-economic development ranges between 8.95 to 10.71 in 1981 which is clearly depicted in the Figure [III.6]. More or less the same kind of pattern of distribution of socio-economic development for this group were existing in 1971 which is show in Figure [III.5].

The moderate kind of soico-economic development are found just beside the eastern side of high socio-economic order in western region. Most of the districts are located in western region itself and rest of the districts are lying in Bundelkhand region and southern part of the Eastern region. These districts have comparative better figure far male work participation rate in non-primary sector and literacy rate, which get assigned them in medium order of socio-economic development.

The districts which are not counted in the above groups are categorised under low and very low level of socio-economic development. Even after being as backward districts, they have exceptionally low level of dependency ratio. Even in case of housing, the crowdness of people in selected room is marginally less in these groups than several other moderate and high order districts. Even in case of child women ratio, there are some districts in these groups, which are slightly better placed. However, there are some district which have shifted their

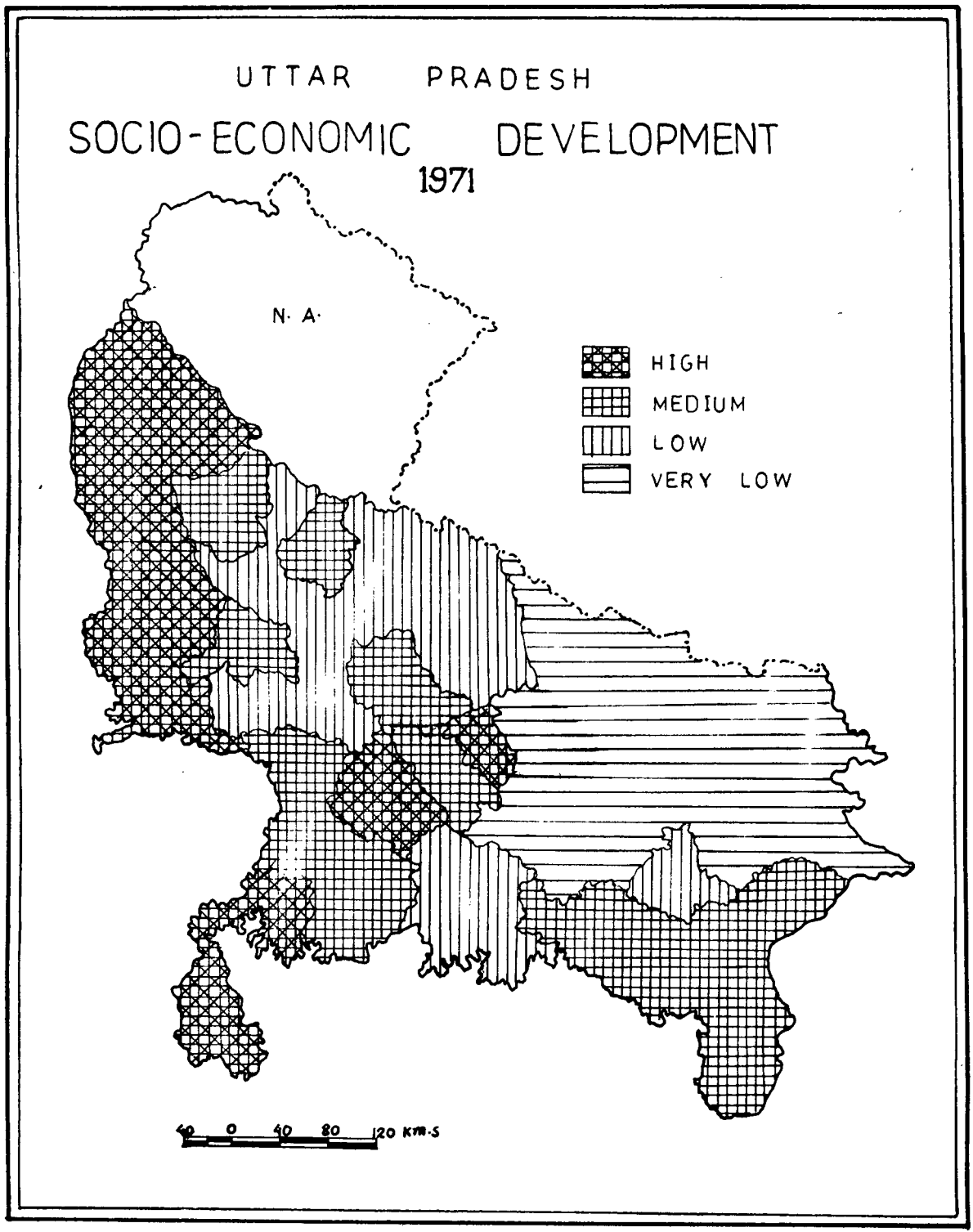
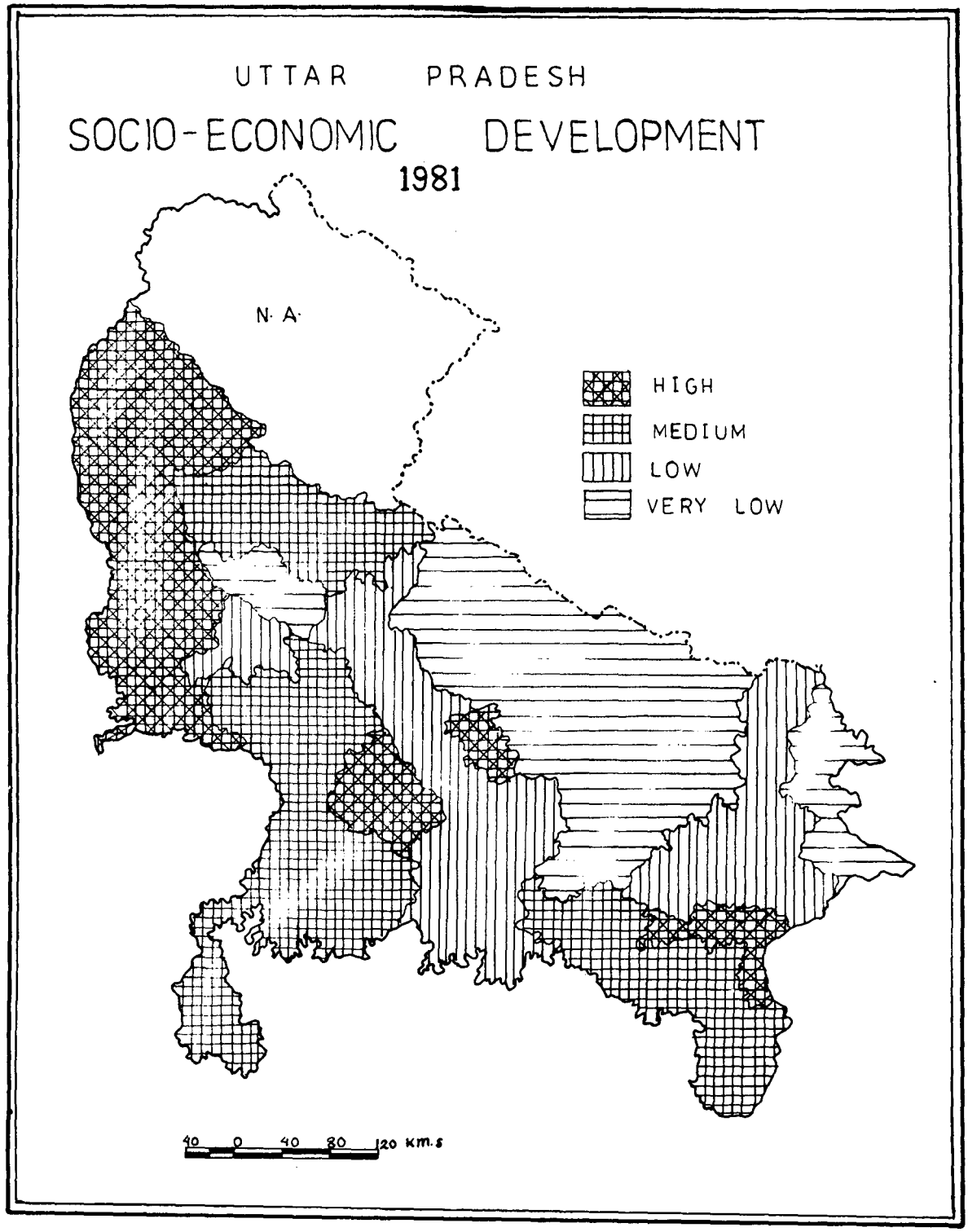

UTTAR PRADESH
SOCIO-ECONOMIC DEVELOPMENT
1971
N. A.
HIGH
MEDIUM
LOW
VERY LOW
40 0 40 80 120 KM.S

FIG III-5


UTTAR PRADESH
SOCIO-ECONOMIC DEVELOPMENT
1981
N.A.
HIGH
MEDIUM
LOW
VERY LOW
40 0 40 80 120 km.s

FIG·III·6

position from 1981 to 1971. The reason is obvious that some districts have low pace of development in comparison to other and this way they lagged behind in pace of development.

III.5 Levels of Rural Development

In fact, all the aspects which determines the rural development has already been discussed under the headings of agricultural development, infrastructural development and socio-economic development. That is why, we do not think, it would be better to repeat the same exercise here and only the pattern emerging out after the combination of three kinds of development i.e., agricultural, infrastructural and socio-economic development will be discussed here. It has got no doubt that the entire aspects of rural development can not be engulfed under the field of the above three kind of development which is obvious from definition proposed by several noted scholars but certainly these three kind of development represent the basic core of rural development in U.P. Agricultural development, infrastructural development and socio-economic development are the components of rural development may be easily verified by observing high positive correlation with rural development in both points of time which is obvious from Appendix [A.III.12 & A.III.13].

The districts like Muzaffarnagar, Meerut, Saharanpur, Bulandshahr, Bijnor, Agra, Mathura, Aligarh, Lucknow, Moradabad and Varanasi have recorded high level of rural development in

1981 which is clearly shown in the Figure [III.8]. Even in 1971 except Varanasi, all the districts had high level of rural development. This way, we find that just Mainpuri from high order in 1971 and Varanasi from medium order, they have interchanged their position in 1981. The districts like Muzaffarnagar and Meerut have relatively better placed in all the 19th indicators chosen far rural development. That is why, it is quite natural that these districts have the highest level of rural development in the state. In addition, there are some cultural and organizational factors which indirectly helps in the process of rural development in these districts. It is a matter of great interest that all these districts except Lucknow of the Central region and Varanasi of the Eastern region are located in the Western region and even in the Western region most of the districts get placed in west part of Wetern region.

The moderate kind of rural development is in fact located in all four regions of the state in 1981. In the Western region where it is found in abundance are located in the East part of the Western region, where as in the Central region it is confined at Kanpur and Rae bareli districts. Faizabad and Ballia of the Eastern region and Jalaun of the Bundelkhand region have also got medium kind of rural development. These isolated centres of medium kind of rural development are found mainly due to either spread and spill effect of urbanization or isolated bold initiative in the field of agricultural development. However, the

incidence of having moderate kind of rural development in the East part of the Western region may be attributed due to either agricultural development or infrastructural development. Even in 1971 the same pattern of rural development used to occur except shifting of few districts which is clear from Figure [III.7].

The low level of rural development is mainly concentrated in east and Southern part of the Eastern region in 1981. Besides, it is visible in isolated pockets of Kheri and Barabanki of Central region, Etah of Western region and Jhansi of Bundelkhand region. Some of these districts are fairly well placed in socio-economic development even after being very low level of infrastructural and agricultural development. The main reason behind the backwardness of the region as a whole may be attributed as high pressure of population on the land which mitigates the benefits of courageous efforts through the group of working population. This is the reason a large chunk of working age group have migrated to other places.

The extremelly low level of rural development is concentrated in the northern and southern part of the state. These districts have destitute in almost all the fields of agriculture, infrastructure and socio-economic development. Southern part of Upland districts of southern part and Northern part of Terai belt of have mainly this kind of extremely low level of rural development. The reason is very simple that the

terrain and soil of the region inhibit the progress of rural development. In addition, it is also found in Pratapgarh and Sultanpur of the Eastern region, Unnao and Hardoi of the Central region and they are however, located in the middle portion of the state in 1981. The pattern of extremely low level of rural development is the same even in 1971.

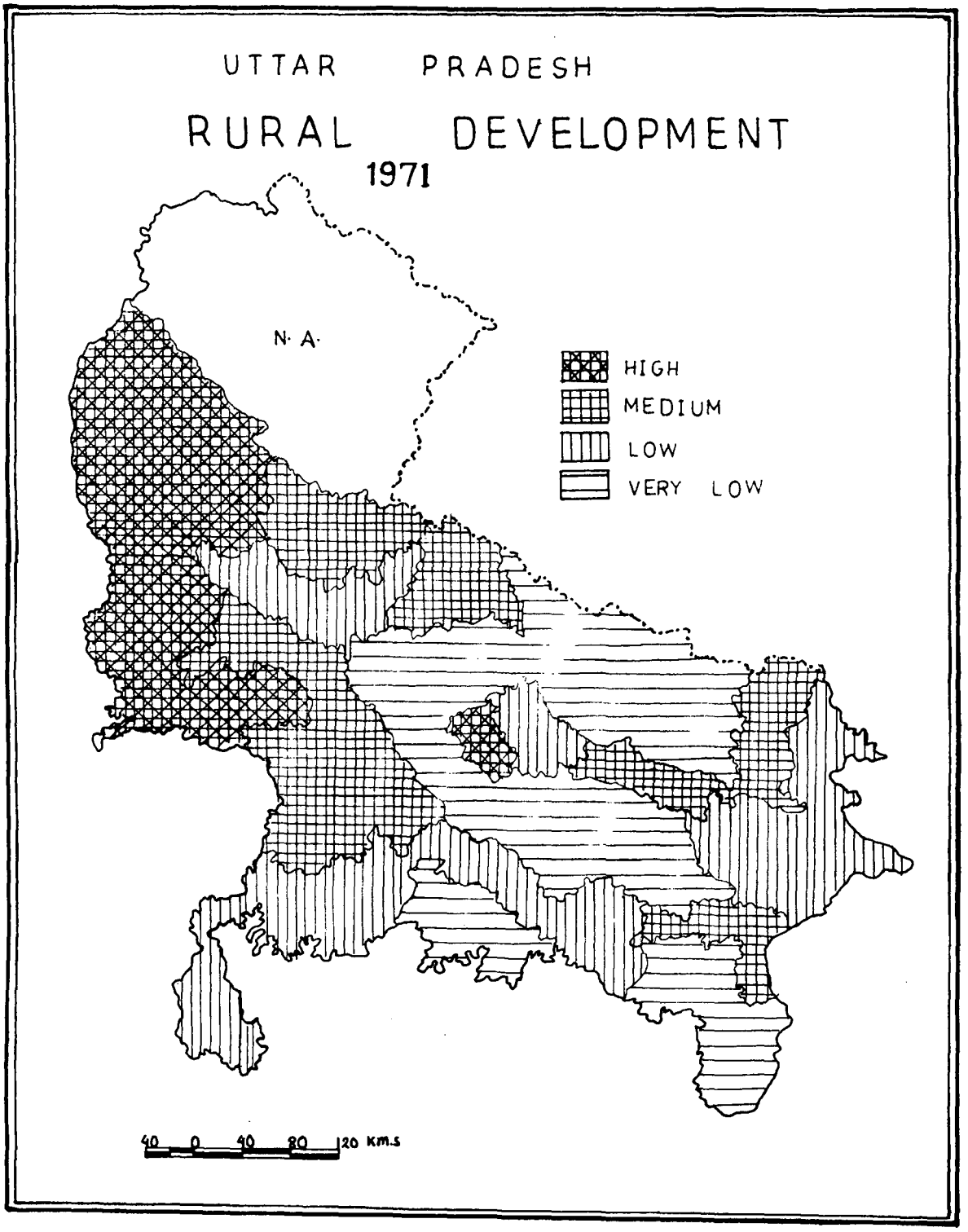

UTTAR PRADESH
RURAL DEVELOPMENT
1971
N. A.
HIGH
MEDIUM
LOW
VERY LOW
40 0 40 80 120 Kms

FIG. III.7

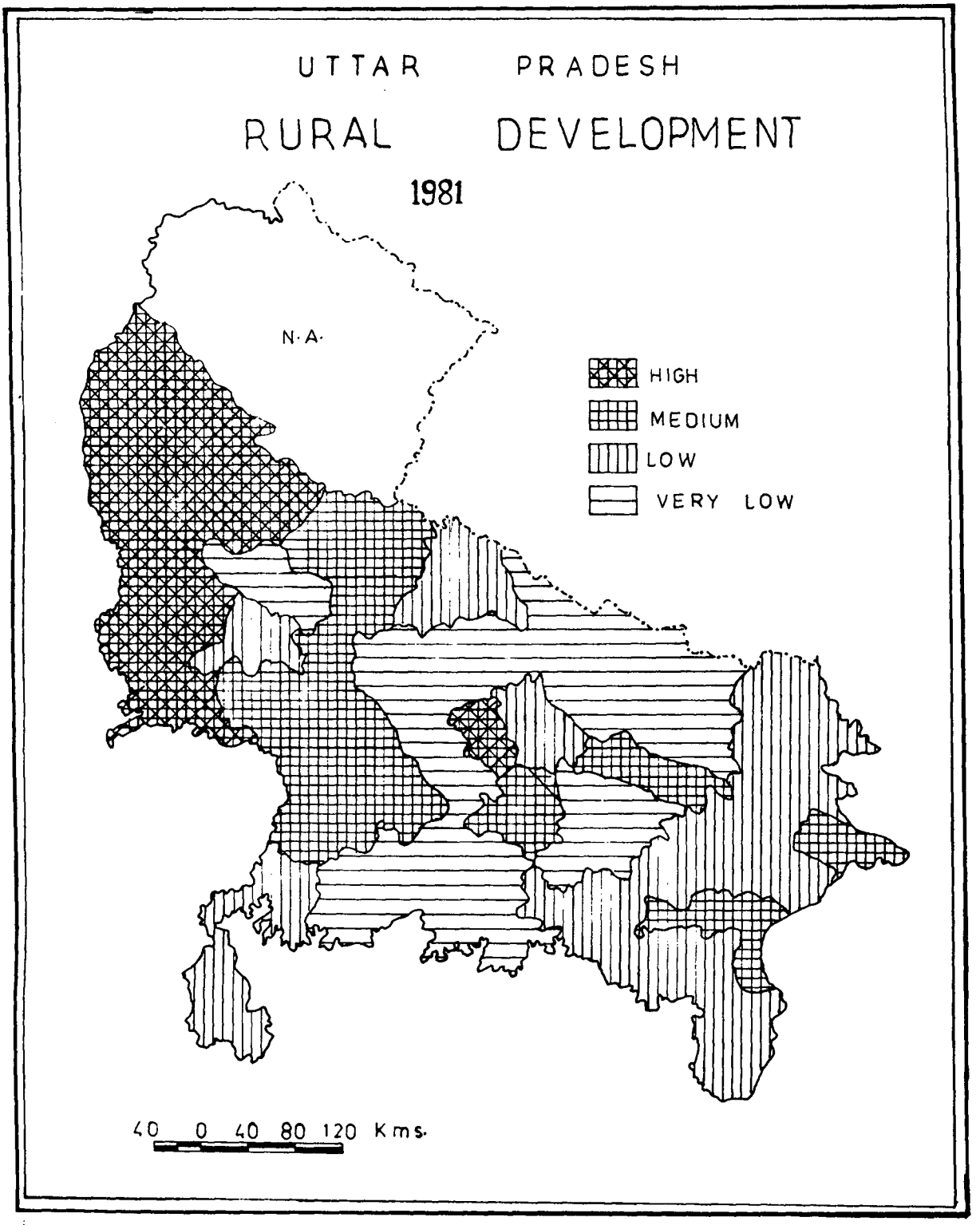

UTTAR PRADESH
RURAL DEVELOPMENT
1981
N.A.
HIGH
MEDIUM
LOW
VERY LOW
40 0 40 80 120 Kms.

FIG. III.8

CHAPTER IV

FEMALE WORK PARTICIPATION AND RURAL DEVELOPMENT

It is well known that rural women contribute through their work but this active involvement of rural females in the development of rural areas has always been overlooked, bypassed, underestimated and even neglected.

Economic contribution implies economically productive participation by physical or mental activity leading to production of goods and services either for consumption or for sale or for exchange. Household activities such as cooking, laundering, cleaning, rearing children, cattle servicing etc., which do not result in the production of goods or visible income and as do not have appropriate measurement criteria for national income account and obviously do not fall under the purview of this definition. Since most of the rural females are, in comparison to urban females, engaged in such unproductive and unremunerative activities, their economic contribution in terms of production and earning have been overlooked and generally labelled as supplementary, casual, optional and supporting. The value for imputation of rural female's activities is no doubt a problem. But this does not mean that they don't have any economic involvement in development activities. As Ashok Mitra[1] points

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1. Asok Mitra, L.P. Pathak and S. Mukherji, The Status of Women : Shift in Occupational Participation, ICSSR, JNU, 1980, p. 43.

out, "In reality, however, there are extraordinarily few areas or circumstances where women's economic contribution could be dismissed as merely supplementary or optional or dispensable. But this myth has been very successfully practised increasingly over the ages in protean forms to keep women under subjection politically, economically and socially". The unique feature of female participation is that they are workers, labourers, cultivators, producer and traders besides performing all the household duties which are generally considered to be unproductive.

IV.1 Female Work Participation and Agricultural Development

It is that it was women who first started cultivation of crop plants and initiated the art and science of farming even today, a majority of female workers in rural areas are engaged in agriculture and constitute a vast human resources. However, after the improvement in the spheres of hydro-technology, bio-technology and mechanical technology the productivity of the field has been increased tremendously. It has been argued that this process of technology transfer relinquished female labourers from the previous jobs. Simultaneously new avenues created by technological transfer are largely occupied by male workers. These developments tended to depress women's share directly. It would be of interest to note as to how much of such contention true with U.P. has been verified by calculating the correlation

coefficients of female work participation with major components of rural development and rural development as a whole.

From the negative value of correlation coefficients (r = - .3248 in 1971 and r = - .4806 in 1981) between productivity per hectare and female's workforce participation rate, it may be inferred that with the increase in production, females are withdrawn from activities on farm (for significance level, see the Table IV.1 and IV.2). In the initial phase only limited areas had the facility of mechanization in cultivation which is popularly known Green Revolution. It can be further extended to verify the relationship between major components of mechanization and FWPR. In the early days of traditional irrigation, women used to participate actively but after the introduction of modern means of irrigation through pumpsets, wells, canals etc., the earlier work of female workers is usurped by their male counterpart. Female work participation rate is negatively correlated with irrigation in 1971 (r = - .3872) but this negative correlation is further accentuated in 1981 (r = - .4408). In traditional farming, various kinds of manures were supplied in the field in place of chemical fertilizers. It is argued that chemical fertilizer in place of traditional manure relinquish women from labour force. Thus we find that a nagative bearing upon women workers which has strengthened over time as is clear from the correlation coefficients (r = - .2563 in 1971 and r = - .4408 in 1981). The use of tractor also has a negative

bearing upon female work force as suggested by the negative correlation between the two, i.e., r = - .3490 in 1971 and r = - .2882 in 1981. All the three variables irrigation, fertilizer and use of tractors (which are input in agricultural productivity) are seen as having a negative bearing upon female labour participation lending credence to contention that agricultural development leads to decline in female work participation. If this formulation is accepted these three variables should have positive correlation with productivity which indeed is true as productivity per hectare is positively correlated with irrigation, fertilizer consumption and the use of tractor. The value of correlation coefficient being 0.37 and 0.74; 0.37 and 0.52; and 0.71 and 0.63 for 1971 and 1981 respectively, which are significant at 1 per cent level of significance. They indicate that mechanization is positively related with productivity per hectarebut at the same time it also leads to withdrawl of female workers from the agricultural field.

The productivity per worker serves as a significant indicator of agricultural development. This indicator is also negatively related with FWPR. It simply means that improvement in productivity, area-wise or per worker will have it's negative influence on the absorption of females in labour - unless supported by skill upgradation, agricltural extension programme etc. addressed to women. It may be noted, however, that the negative correlation between female workers and productivity has

slightly decreased in 1981 over 1971, which is evident from the value of correlation coefficients (r = - .2807 in 1971 and r = - .1988 in 1981). Moreover, the value of correlation coefficient is insignificant even at 10 percent level of significance, which indicates that there is no such influencing relationship between female participation and productivity per worker.

The hypothesis as to whether agricultural development is associated with decline in female labour gets further substantiated as the following additional correlations show the higher percentage of net sown area does not correspond well with FWPR which is clearly evident from the negative value of correlation coefficients (r = - .2477 in 1971 and r = - .4295 in 1981).

The intensity of cropping is considered as one of the best indicators for measuring the agricultural development in a region which is not completely commercialized. The reason behind this hypothesis is that more than one crop from the same land is only possible after the introduction of mechanization of agriculture and availability of infrastructure. As one would anticipate intensity of cropping reflecting degree of mechanization is also negatively correlated with FWPR. However, 1981 has smaller negative value of correlation coefficients than 1971 (r = - .3473 in 1971 and r = - .2551 in 1981).

So far individual components of agricultural

developmenthas been considered. However, a compositing of all the components make it possible to have an overall index of agricultural development. It would not be wrong to contend that the overall developed agricultural context results in a decline in female work participation as observed through higher negative correlation coefficient between agricultural development and female participation in 1981 than 1971 (r = - .4078 in 1971 and r = - .4380 in 1981). It is important to note that the negative bearing of agricultural development on female participation has weakened over time i.e., in 1981 as compare to 1971. It may be inferred that by 1981, some sort of adaptability started appearing among female workers which were earlier excluded from agricultural activities. However, in the absence of definite data base and information, this supposition should be taken in a limited manner.

IV.2 Female Work Participation Rate and Infrastructural Development

The underlying hypothesis of this dissertation is that development (defined here in terms of availability of certain infrastructural variables) leads to withdrawl of women from labour force. The following section concentrates on infrastructural development. It may be argued that availability of educational institutions in a given district is indicative of its level of development. Given the framework of our argument so far the percentage of villages with educational institutes should

have a negative bearing upon female work. This indeed is the case as the coefficient of correlation between level of availability of educational institutions and female work participation is r = - .3602 in 1971 and r = - .2953 in 1981.

Likewise, electricity can also be considered as an indicator of development which again should be negatively correlated as is the case as r is -0.3882 in 1971. However, this relationship is quite weak in 1981, i.e., -0.13, although the negative sign remains.

It may be noted that in 1971, FWPR was negatively related with another indicator of development i.e., pucca road. However, the value of correlation coefficient was insignificant; in 1981, the development of pucca road is negatively correlated with FWPR and the value of correlation coefficient is significant at 1% level of significance (r = - .0910 in 1971 and r = - .3103 in 1981). FWPR has also negative association with post and telegraphic facilities in both points of time (r = - .2800 in 1971 and r = - .2211 in 1981).

In sum, when all the individual components of infrastructural development are combined into a composite index, the index shows that in 1971, FWPR is highly negatively correlated with infrastructural development (r = - .4557). However, in 1981 this negative association has become slightly weaker (r = - .3290).

IV.3 Female Work Participation Rate and Socio-Economic Development

The socio-economic status of a family is the guiding factor for female work participation rate in U.P. The socio-economic development of a region largely determines the kinds of jobs of female labourers. It is important to remember that in most of the situation they can not take independent decisions and they have to depend on males for that one. It is well known that it is only conservative social notion which largely prohibits the females to enter into job market. It is therefore, social development is one of the pre-requisites for large scale female participation.

In the context of our earlier argument, it is quite expected that literacy rate will have negative influence upon FWPR in U.P., which indeed is the case as reflected through negative correlation coefficients ($r = -.0715$ in 1971 and $r = -.0237$ in 1981). The value of correlation coefficient is insignificant in both points of time and this way we can not say much about the relationship between FWPR and literacy rate. Moreover, the value of correlation coefficient is higher in 1971 than 1981 which indicates that the negative influence of literacy on FWPR has declined in 1981. This may be seen as a hypothesis that in the initial stage spread of education or literacy adversely affects female participation but later on this relationship gets ameliorated.

The number of persons per room is negatively associated with FWPR and this negative association is increasing from one year to another (r = - .6719 in 1971 and r = - .7220 in 1981). The reason behind this high negative relationship may be traced as factor that the pressure of population on housing is increasing day by day but it can not get stride with the increasement in number of rooms.

Female participation is quite low under urban influence as compared to rural areas in the state as is the case with India as a whole. This is why with the increase in urbanization, the FWPR is expected to go down. In 1971 the value of correlation coefficient between the two was -0.3496 which went up to -0.3829 in 1981. This simply convey that urban areas have less avenues of jobs for females. This is why, as urbanization goes up, FWPR gets further deteriorated. Just like other indicators of welfare, per capita income is also negatively correlated with FWPR but the intensity gets slowed down in 1981 (r = - .4521 in 1971 and r = - .3300 in 1981).

The socio-economic status of scheduled caste is the most deplorable in the state. It is often argued that proportion of scheduled caste in population affects the level of female work participation positively. In U.P., this supposition seems to hold as the correlation between the two is r = + .2350 in 1971 and r = + .2798 in 1981. This positive relationship supports the

hypothesis that female participation is high in those region where the share of scheduled castes are significantly high.

In 1971, the dependency ratio is negatively correlated with female participation, but in 1981 it is positively related with FWPR. Moreover, in both points of time the value of correlation coefficient is insignificant ($r = -.0427$ in 1971 and $r = +.0717$ in 1981). As such, no concrete relationship can be established.

Even the variable like child-women ratio is negatively correlated with FWPR. The correlation coefficient was - .4299 in 1971 but in 1981 it went down to - .1769. As the value of correlation coefficient is insignificant in 1981, the perfect trend between child-woman ratio and FWPR can not be determined. However, declining trend of correlation coefficient indicates that with the progress in the society, fertility hinders FWPR. The same association emerges in case of male workers in non-primary sector and FWPR, although the correlation coefficient is insignificant ($r = -.1344$ in 1971 and $r = +.1994$ in 1981). It means that with the increase in the share of WFPR of male in non primary sector leads to high female participation in 1981. Here, it may be mentioned that male non-primary workers, taken as surrogate variable to indicate rural diversification and hence a better economic context should have resulted in having a negative bearing upon female labour suggesting that with improvement in

economic condition, there is a tendency to withdraw women from labour, i.e., prestige-linked withdrawl. However, in the absence of such association, it may be ventured that much of the low level of female labour participation is linked with a more developed scenario.

However, the overall socio-economic development is negatively correlated with FWPR in 1971 and 1981. However the intensity of negative association have declined in 1981 over 1971 ($r = -.3862$ in 1971 and $r = +.2595$ in 1981). It may be considered as a satisfactory change when slightly more proportion of female workers got adjusted with the new dimension of socio-economic development. Perhaps, it may be concluded that socio-economic status is an essential ingredient for large scale female participation.

To sum up, the overall rural development has negative relationship with FWPR because three main ingredients of rural development i.e., agricultural development, infrastructural development and socio-economic development, have established negative correlation with FWPR. The overall intensity of negative relationship has got marginally declined in 1981 over 1971 ($r = -.4978$ in 1971 and $r = +.4325$ in 1981). This means that rural development is not against FWPR because as soon as females got familiar with new tools and techniques of rural development, their proportion of participation got marginally increased. If

Table - IV.1

Correlation Matrix, 1971

	F_1	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}	X_{14}	X_{15}	X_{16}	X_{17}	X_{18}	X_{19}	CIAD	CIISD	CISED	CIRD
F_1	1.00																							
X_1	-.32**	1.00																						
X_2	-.28**	.36*	1.00																					
X_3	-.39*	.34**	.50*	1.00																				
X_4	-.26***	.37*	.28**	.61*	1.00																			
X_5	-.35*	.52*	.66*	.54*	.58*	1.00																		
X_6	-.25***	.16	.09	.42*	.36*	.22	1.00																	
X_7	.35*	.37*	.21	.60*	.64*	.35*	.15	1.00																
X_8	-.36*	-.05	.47*	.22	-.12	.39*	.01	-.17	1.00															
X_9	-.39*	.17	.28**	.46*	.48*	.08	.32**	.43*	-.04	1.00														
X_{10}	-.09	.24***	.52*	.59*	.50*	.57*	.20	.29**	.29**	.34**	1.00													
X_{11}	-.28***	-.06	.50*	.36*	-.02	.48*	.16	-.08	.83*	.09	.45*	1.00												
X_{12}	.07	.08	.04	.18	.21	.02	.20	.02	.04	.02	.03	.04	1.00											
X_{13}	-.67*	.42**	.47*	.47*	.30**	.38*	.20	.45*	.19	.47*	.21	.20	-.06	1.00										
X_{14}	-.35*	.04	.28**	.18	.23***	.16	-.06	-.03	.31**	.16	.18	.14	-.06	.29**	1.00									
X_{15}	.45*	.28**	.72*	.24***	.04	.48*	-.19	.20	.49*	.11	.17	.39*	-.17	.51*	.14	1.00								
X_{16}	.23***	-.14	-.08	-.26***	-.35*	-.24***	-.50*	-.30**	.11	-.23***	-.07	.001	-.11	-.44*	.14	-.07	1.00							
X_{17}	-.04	.31**	.53*	.52*	.26***	.31**	.28**	-.01	.09	.18	.46*	.17	.17	.32**	.21	.25	-.06	1.00						
X_{18}	-.43*	.24***	.63*	.25***	-.04	.33**	.005	-.08	.45*	.08	.11	.34*	-.06	.59*	.40*	.71*	-.06	.57*	1.00					
X_{19}	-.13	.13	.50*	.64*	.43*	.41*	.32**	.33**	.18	.39*	.65*	.34	.22	.32**	.18	.15	.11	.52*	.13	1.00				
CIAD	-.41*	.59*	.70*	.73*	.74*	.95*	.36*	.53*	.29**	.29**	.64*	.40*	.10	.48*	.20	.45*	-.31**	.43*	.33**	.53*	1.00			
CIISD	-.46*	.12	.58*	.59*	.35*	.44*	.30**	.25***	.61*	.71*	.65*	.74*	.04	.45*	.27***	.37*	-.12	.29**	.31**	.54*	.53*	1.00		
CISED	-.39*	.21	.59*	.48*	.34*	.37*	.05	.13	.43*	.29**	.41*	.34**	.35*	.46*	.77*	.36*	.12	.53*	.56*	.60*	.46*	.49*	1.00	
CIRD	-.50*	.47*	.78*	.77*	.66*	.82*	.32**	.43*	.48*	.46*	.70*	.55*	.19	.56*	.44*	.49*	-.19	.51*	.47*	.66*	.91*	.75*	.74*	1.00

* - Singificant at 1% level of significance

** - Singificant at 5% level of significance,

*** - Singificant at 10% level of significance

Table IV.2

Correlation Matrix, 1981

	F_1	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}	X_{14}	X_{15}	X_{16}	X_{17}	X_{18}	X_{19}	CIAD	CIISD	CISED	CIRD
F_1	1.00																							
X_1	-.48*	1.00																						
X_2	-.20	.54*	1.00																					
X_3	-.44*	.74*	.36*	1.00																				
X_4	-.29**	.71*	.24***	.64*	1.00																			
X_5	-.29**	.63*	.40*	.38*	.32**	1.00																		
X_6	-.43*	.42*	.24***	.36*	.33**	.24***	1.00																	
X_7	-.26***	.49*	.05	.59*	.54*	.04	.30**	1.00																
X_8	-.29**	.06	.17	.05	-.15	.21	.01	.28***	1.00															
X_9	-.13	.51*	.29**	.60*	.58*	.24***	.29**	.40	-.12	1.00														
X_{10}	-.31**	.59*	.16	.33**	.34**	.51*	.29**	.37*	.12	.42**	1.00													
X_{11}	-.22	.17	.25***	.20	-.02	.23***	.22	-.11	.68*	.21	.12	1.00												
X_{12}	-.02	.06	.18	.38*	.14	.09	.01	-.15	.26***	.28	-.21	.46*	1.00											
X_{13}	-.72*	.59*	.29**	.52*	.30**	.41*	.39*	.33**	.18	.32*	.39*	.12	-.05	1.00										
X_{14}	-.38*	.34**	.20	.35*	.26**	.25***	.06	-.11	.38*	.31	.30**	.14	.26***	.40*	1.00									
X_{15}	-.33**	.54*	.52*	.32**	.18	.38*	-.05	.06	.26***	-.05	.17	.08	-.08	.43*	.31	1.00								
X_{16}	.28***	-.30**	-.17	-.23***	-.31**	-.14	-.54*	-.42*	.06	-.20***	-.30**	-.07	.07	-.39*	.10	-.08	1.00							
X_{17}	.07	.39*	.27***	.31**	.40*	.18	.37*	.18	-.29**	.48	.20	-.03	.02	.32**	.05	.06	-.34*	1.00						
X_{18}	-.18	-.03	.06	-.17	.18	.18	.06	-.19	-.15	-.06	-.03	-.29**	-.25***	.35*	.02	.09	-.09	.19	1.00					
X_{19}	-.20	.32**	.23***	.47*	.35**	.17	-.03	.11	-.10	.65*	.19	.13	.46*	.08	.38*	.05	.02	.35*	.19	1.00				
CIAD	-.44*	.91*	.64*	.74*	.68*	.82*	.45*	.39*	.11	.53*	.54*	.24***	.19	.55*	.33**	.47*	-.31**	.38*	.02	.34*	1.00			
CIISD	-.33**	.52*	.35*	.51*	.36*	.42*	.33**	.18	.53*	.71*	.57*	.76*	.37*	.38*	.41*	.12	-.20	.22	-.21	.43*	.56*	1.00		
CISED	-.26***	.46*	.36*	.54*	.32**	.35*	-.01	-.07	.27***	.48*	.23***	.21	.48*	.43*	.86*	.42*	.17	.22	.03	.70*	.47*	.49*	1.00	
CIRD	-.43*	.82*	.59*	.76*	.60*	.71*	.34**	.24	.31	.66*	.54*	.41*	.39*	.57*	.62*	.46*	-.17	.35*	-.03	.57*	.89*	.76*	.78*	1.00

* - Singificant at 1% level of significance

** - Singificant at 5% level of significance

*** - Singificant at 10% level of significance

this process gets continued FWPR will be positively correlated with rural development. But certainly it will take a long time. Moreover, female work participation is negatively correlated with rural development in general.

Step-wise Regression Analysis

Having identified the major factors responsible for the operation of inter regional differentials of female work participation rate, step-wise regression analysis has been employed in order to ascertain the relative importance of these factors under the headings of FWPR and agricultural variables, FWPR and infrastructural variables, and FWPR and socio-economic variables for 1971 and 1981 as well.

Female Work Participation and Agricultural Variables

The explanatory variable in the 1st step IV.3 is irrigated area. The proportion of irrigated areas is the most important variable for FWPR in 1971. It is significant at 1% level of confidence and F value of R^2 is also significant on that very level. Here adjusted R^2 or $\bar{R}^2$ is the square of multiple correlation coefficient adjusted to the degrees of freedom, indicates the proportion of total variance accounted for by the equation. The inclusion of productivity per hectare in step 2 improves the overall fitness of the equation considerably as value of R^2 increases from .149 to .192 and $\bar{R}^2$ from .131 to .155.

Both F values and regression coefficients of irrigated areas are significant at 5% level of significance. However, it is important to note that both the variables have negative influence on female work participation rate. The value of R^2 is continuously decreasing after the 2nd step which means that other agricultural variables in explaining FWPR is not worthwhile in 1971. These two variables taken togather explain 15.5 percent of the variation in female participation, which is due to multi-collinearity in the variables of agricultural development. The final regression equation is as follow :

$$Y = 12.936 + (-.096)x_9^{**} + (-.004)x_7 + e$$

$$\bar{R}^2 = .155 \text{ or } 15.5 \text{ percent}$$

where, x_9 = Percentage of irrigated areas
x_7 = Productivity per hectare

Even in 1981, there are only two variables of agricultural development which explain differential rate of female participation at regional level and these variables are productivity per hectare and percentage of net sown area to total geographical area. Any other variables of agricultural development do not explain the variation of FWPR because after 2nd step $\bar{R}^2$ has got declined from 0.261 to 0.257. It means that the above two variables taken together explain 26.1 percent variation in female participation due to multi-collinearity. However, both productivity per hectare and percentage of net soon area to total geographical area have got negative influence upon

FWPR This way we find that productivity per hectare influences FWPR in both points of time. The final regression equation of 1981 is as follows :

$$Y = 17.639 + (-.004)x_7^{**} + (-.113)x_{12}^{***} + e$$

$$\bar{R}^2 = 26.1 \text{ percent}$$

where, x_7 = Productivity per hectare
x_{10} = Percentage of net sown area to total geographical area

Female Work Participation and Infrastructural Variables

It is clear from the Table IV.5 that in 1971, the single most important variable of infrastructure for FWPR is the availability of electricity and it is followed by educational facilities, pucca road facilities and post and telegraph facilities. The value of R^2 is .151. Regression coefficient and F value of electricity is significant at 1% level of significance. When we enter educational amenities in step 2, the value of R^2 increases from .151 to .291 and $\bar{R}^2$ from .131 to .258. At this stage of individual regression coefficients of both variables of F value of $\bar{R}^2$ are significant at 1 per cent level significance. In step 3, regression coefficients and F value of electricity and educational amenities are significant at 1% level of significance. R^2 has increased from .291 to .320 and even the value of $\bar{R}^2$ has increased from .258 to .272. However, in step 4, the value of $\bar{R}^2$ has declined from .272 to .253. It simply means that post and telegraph facilities is not dominant factor to

explain FWPR in the state whereas FWPR is strongly influenced by electricity educational institution and pucca road facilities in 1971. The three variables together explain 27.2% variation in female participation and it has the following regression equation:

$$Y = 11.061 + (-.148)x_{15}^{*} + (.140)x_{14}^{*} + (.206)x_{16} + e$$

$$\bar{R}^2 = 27.2 \text{ percent}$$

where X_{15} = electricity
X_{14} = educational institution
X_{16} = pucca road.

The result of Table IV.6 leads to determine that pucca road facilities explains the maximum proportion of variation in FWPR and it is followed by educational institution, electricity and post and telegraph facilities. However, the contribution of electricity and post and telegraph facilities is negligible for measuring the differentiation of FWPR because the value of $\bar{R}^2$ declines from .125 to .107 in third step. These two variables explain only 12.5 percent variation of female participation in 1981. The final regression equation of 1981 is as follows :

$$Y = 13.375 + (-.123)x_{16}^{*} + (.073)x_{14}^{*} + e$$

$$\bar{R}^2 = 12.5 \text{ percent.}$$

where X_{16} = pucca road
X_{14} = educational institution.

Female Participation and Socio-Economic Variables

It is clear from the Table IV.7 that most important variable of socio-economic development in determination of FWPR

is the number of persons per room in 1971. The R^2 value is .451 and $\bar{R}^2$ is .439 in the 1st step whereas in the 2nd step, they are raised to .485 and .461 respectively. At this particular stage, regression coefficients of no. of persons per room and dependency ratio are significant at 1% and 10% level of significance respectively and F value is also significant at 1% level of significance. This process is followed till 4th step but when we enter from step 4 to step 5, there is decrease in $\bar{R}^2$. It indicates that the variables included till step 4 influence the variation of FWPR. These variables may be counted as persons per room, dependency ratio, urbanization and per capita income. But at the same time it is noticed that except dependency ratio all the above variables are negatively correlated with FWPR However, these four variables together explain 49.7 percent variation in female work participation. The final regression equation has been expressed as follows :

$$Y = 10.498 + (-6.453)x_{19}^{*} + (.148)_{23}^{**} + (-.089)x_{20}^{***} + (-.011)x_{21} + e$$

$$\bar{R}^2 = 49.7 \text{ percent}$$

where, x_{19} = persons per room
x_{23} = dependency ratio
x_{20} = urbanization
x_{21} = per capita income.

It is evident from the Table IV.8 that the number of persons per room is the most important variable in determination of inter regional disparities of FWPR in 1981. Both F value of R^2

and value of regression coefficient are significant at 1% level of significance when we enter from step 1 to step 2 we observe that R^2 and $\bar{R}^2$ get increased from .521 to .625 and .510 to .608. Moreover, this trend of increase in R^2 and significance of regression coefficients goes till the 6th step. It means that FWPR gets influenced by the factors like, no. of persons per room, dependency ratio, participation of male non-primary workers, literacy rate urbanization and child-woman ratio in 1981. But it should be clarified here that dependency ratio and participation of male non primary workers are positively correlated with FWPR whereas the number of persons per room, literacy rate and urbanization are negatively related with FWPR However, this six variables together explain 66.1 percent of variation of female participation. The final regression equation is as follows :

$$Y = 6.314 - 5.742x_{20} + 0.183x_{24} + 0.203x_{26} - 0.115x_{19} - 0.071x_{21} + 0.073x_{23}$$

$$\bar{R}^2 = 66.1 \text{ percent}$$

where X_{19} = no. of persons per room
X_{23} = dependency ratio
X_{25} = participation of male non primary workers
X_{18} = literacy rate
X_{20} = urbanization
X_{24} = child-woman ratio.

Table IV.3

Step-wise Regression Result of FWPR and Agricultural Variables, 1971

Variables	Inter-cept	Regresion Coeffici-ent	t	R^2	$\bar{R}^2$	F
Step-1						
x_9	9.821	-.118	-2.785*	.149	.131	7.758*
Step-2						
x_9	12.936	-.096	-2.150**	.192	.155	5.119**
x_7		-.004	-1.503			

* - Significant at 1% level of Singificance
** - Significant at 5% level of Singificance
*** - Significant at 10% level of Singificance

Table - IV.4

Step-wise Regression Result of FWPR and Agricultural Variables, 1981

Variables	Inter-cept	Regresion Coeffici-ent	t	R^2	$\bar{R}^2$	F
Step-1						
x_7	11.437	-.005	-3.635*	.231	.213	13.212*
Step-2						
x_7	17.639	-.004	-2.587**	.294	.261	8.963*
x_{12}		-.113	-1.964**			

* - Significant at 1% level of Singificance
** - Significant at 5% level of Singificance
*** - Significant at 10% level of Singificance

Table - IV.5

Step-wise Regression Result of FWPR and Infrastructural Variables, 1971

Variables	Inter-cept	Regresion Coeffici-ent	t	R^2	$\bar{R}^2$	F
Step-1						
x_{15}	7.892	-.122	-2.794*	.151	.131	7.806*
Step-2						
x_{15}	13.612	-.127	-3.129*			
x_{14}		-.122		.291	.258	8.832*
Step-3						
x_{15}		-.148	-3.430*			
x_{14}	11.061	-.140	-3.220*	.320	.272	6.599*
x_7		-.142	1.343			

* - Significant at 1% level of Singificance
** - Significant at 5% level of Singificance
*** - Significant at 10% level of Singificance

Table - IV.6

Step-wise Regression Result of FWPR and Infrastructural Variables, 1981

Variables	Inter-cept	Regresion Coeffici-ent	t	R^2	$\bar{R}^2$	F
Step-1						
x_{17}	9.745	-.136	-2.165*	.096	.076	4.689**
Step-2						
x_{17}	13.375	-.123	-1.988**	.164	.125	4.219**
x_{14}		-.073	-1.866**			

* - Significant at 1% level of Singificance
** - Significant at 5% level of Singificance
*** - Significant at 10% level of Singificance

Table IV.7

Step-wise Regression Result of FWPR and Socio-Economic Variables, 1971

Variables	Inter-cept	Regresion Coeffici-ent	t	R^2	$\bar{R}^2$	F
Step-1						
x_{19}	21.786	-7.237	-6.018*	.451	.439	36.214*
Step-2						
x_{19}	11.564	-7.898	-6.345*	.485	.461	20.207*
x_{23}		-.122	1.660***			
Step-3						
x_{19}		-7.373	-5.893*			
x_{23}	9.898	.139	1.919***	.520	.486	15.174*
x_{20}		-.087	-1.765***			
Step-4						
x_{19}		-6.453	-4.608*			
x_{23}	10.498	.148	2.074**	.542	.497	12.133*
x_{20}		-.089	-1.824***			
x_{21}		-.011	-1.402			

* - Significant at 1% level of Singificance
** - Significant at 5% level of Singificance
*** - Significant at 10% level of Singificance

Table IV.8

Step-wise Regression Result of FWPR and Socio-Economic Variables, 1981

Variables	Inter-cept	Regresion Coeffici-ent	t	R^2	$\bar{R}^2$	F
Step-1						
x_{19}	18.345	-5.848	-6.921*	.521	.510	47.907*
Step-2						
x_{19}	-4.891	-6.742	-8.437*	.625	.608	35.886*
x_{23}		.260	3.456*			
Step-3						
x_{19}		-6.688	-8.540*			
x_{23}	-1.891	.214	2.735*	.649	.324	25.898*
x_{25}		.103	1.687***			
Step-4						
x_{19}		-6.759	-8.893*			
x_{23}	2.595	.193	2.509**	.678	.647	21.591*
x_{25}		.166	2.452**			
x_{18}		-.132	-1.921***			
Step-5						
x_{19}		-6.128	-8.893*			
x_{23}		.163	2.104*			
x_{25}	4.202	.206	2.916**	.698	.661	18.515*
x_{18}		-.118	-1.738***			
x_{20}		-.060	-1.636			
Step-6						
x_{19}	-.241	-5.742	-6.315*			
x_{23}		.183	2.301**			

Contd.....

Contd...

x_{25}	-.241	.203	2.870*	.707	.662	15.695**
x_{18}		-.115	-1.688***			
x_{20}		-.071	1.863***			
x_{22}		.073	1.086***			

* - Significant at 1% level of Singificance
** - Significant at 5% level of Singificance
*** - Significant at 10% level of Singificance

CHAPTER V

CONCLUSION

The main thrust in the present study was to evaluate the importance of rural development in determining the participation of female workforce through presenting the spatial and temporal variation of U.P. in two points of time (i.e., 1971 and 1981). The principal components of rural development i.e., agricultural development, infrastructural development and socio-economic development have been measured by the method of composite indices for each district and a relationship have been sought to identify with female work participation. In addition, how female participation has been determined by each variable of rural development is measured by correlation matrices and step-wise regression analysis.

The underlying hypothesis is that development leads to decline in female labour participation. Development can be seen in various spheres and it is further hypothesised that agricultural development is especially significant in withdrawal of women from labour force participation. All the districts of Western region and the district of Lucknow of Central gregion have got high level of rural development, whereas districts like Banda, Gonda, Bahraich, Hamirpur, etc. of Eastern region and Bundelkhand region have experienced low level of rural development. The most important characteristics of these

districts or regions is that the district or region with low level of rural development is categorised under high level of female participation and vice versa. It is also true with more developed rural areas. Furthermore the negative value of correlation coefficients ($r = -.4978$ in 1971 and $r = -.4325$ in 1981) justifies the above hypothesis that female participation is negatively related with rural development.

There has been an uneven kind of development in agricultural sector which can be determined by observing the relative position of composite indices for different district in two different points of time i.e., 1971 nd 1981. However there is no marked change in the overall spatial pattern of development in two different points of time. The districts of wextern region continue to enjoy a high level of agricultural development as compared to the districts of Eastern region, Central region and Bundelkhand region. Simultaneously this agricultural development relinquishes women from the participation of economic activity. The districts like Jalaun, Shahjahanpur, Rae Bareli and Ghazipur have made tremendous progress in agricultural sector in 1981 over 1971 but at the same time these districts are also characterized by the withdrawl of female labourer from economic activity on a large scale. It is important to note that the negative bearing of agricultural development on female participation has weakened over time i.e., in 1981 as compare to 1971. It may be inferred

that by 1981, some sort of adaptability started appearing among female workers which were earlier excluded from agricultural activities. However, in the absence of definite data base and information, this supposition should be taken in a limited manner.

Furthermore, the negative value of correlation coefficients (r = -.4078 in 1971 and r = - .4380 in 1981) between overall agricultural development verifies the above hypothesis quantitatively that agricultural development is negatively related with female participation. The higher value of negative correlation coefficients in 1981 also indicates that the relationship has got more deteriorated in 1981 after having more prosperity in the field of agricultural sector leads to the withdrawl of women from economic activity.

The society as well as region has to get transformed from primitive mode of production into modern means of production for the welfare of the people. Skill formation is precondition for modern means of production which can only be generated through education and literacy. However the disseminating of literacy has also got some adverse effects in female participation at the initial phase of development which may be justified by the fact that when literacy level was comparatively low in 1971, it was positively related with female participation. But when literacy level increased marginally in 1981, it is

negatively correlated with FWPR However the above hypothesis is not completely verified here because there is insignificant correlation coeffieicnt in both points of time.

The scheduled caste people are socially and economically the most deprived section of the society. Just like other upper classes, there is no such social and family restriction for female to work outside home. This is the reason, the districts like Lucknow, Mirzapur, Sitapur, Hardoi, Unnao, Allahabad etc. have high FWPR The reason behind this high participation of females are influenced by other factors too but high concentration of scheduled caste is considered as major factor behind higher participation of females. The positive correlation coefficient ($r = +.2356$ in 1971 and $r = + .2798$ in 1981) between scheduled caste, and FWPR indicates that female participation is high in those regions where the share of scheduled castes are significantly high.

The disparity between male and female work participation rate is found in highest order where very low level of female participation is observed. Furthermore, those districts of western region are also charecterized by high level of developed rural landscape. Although, the combination complex of social and economic factors determine female participation, it appears that where male labour is hard working, female participation is low and vice versa. This very Western region has also high disparity

in primary sector but the level of disparity between male and female is at the lowest level. This leads to conclude that female workers are mostly engaged in high status job where social curtoms do not come as a barrier in work of participation.

It is a truth that the progress in economic sector leads labourers to get absorbed in industrial and tertiary sectors. The above fact is also true with U.P. in a modified form. The distrits of Western and Central region have gat more progrress in rural development, are also characterized by high percentage of female workers in non-primary sector. The above argument gets justified by the fact that there is stong positive correlation between female participation in non-primary sector and overall rural development ($r = .6880$ in 1971 and $r = .5597$ 1981).

Except the variable of scheduled caste, all the variables of agricultural development and socio-economic development are negatively correlated with female participation in 1971. But at the same time the value of correlation coefficients are insignificant for the variables like, pucca road, literacy, dependency ratio and male non-primary workers. However in 1981, the correlation coefficients of productivity per worker, electricity, literacy, dependency ratio, child-woman ratio and male non-primary workers are insignificant. Simultaneously, female participation is also positively related with the indicators like male non-primary workers and dependency

ratio besides scheduled caste. however step-wise regression analysis convey the message that among all the variables of agricultural development, productivity per hectare is the most influential indicator for determining the female participation, which alone explains 21.1 per cent variation of female participation and it is followed by percentage of net sown area in 1981. These two indicators of agricultural development only explain the variation of female participation. On the other hand, irrigated areas and producitivity per hectare explain 15.5 percent variation in female participation in 1971. Furthermore, the variables of infrastructurel development, like electricity, educational institution and pucca road together explain 10.7 per cent variation of female prticipation in 1981 whereas the above three variable together explain 27.2 percent variation in 1971. Lastly 66.2% variation in female participation is explained by the number of persons per room, dependency ratio, participation of male non primary worker, literacy, urbanization child-woman ratio and scheduled castes in 1981. Moreover the variables like the number of persons per room, dependency ratio, urbanization and per capita income explain 49.7 percent variation of female participation in 1971.

Such a study is very helpful for preparation of spatio-sectoral plan, allocation of budgetary funds, grants and subsidies to comparatively less developed districts and promotion of household industries for large scale female particiption.

Identification of rural disparities and variation in female participation is an essential step for putting rural development on the balance path. Furthermore the intertemporal comparison in terms of agricultural, infrastructural and socio-economic disparities are required to carve out appropriate development strategies for the future.

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Appendix - A.II.1

Female Work Participation Rate in India

	States	Female Work Participation Rate 1971	1981
	India	13.44	16.00
(1)	Andhra Pradesh	27.37	31.94
(2)	Bihar	9.31	9.70
(3)	Gujarat	12.07	13.46
(4)	Haryana	2.29	4.89
(5)	Himachal Pradesh	21.69	13.98
(6)	Karnataka	15.77	22.28
(7)	Kerala	14.08	13.47
(8)	Madhya Pradesh	20.75	25.78
(9)	Maharashtra	24.39	31.39
(10)	Manipur	24.95	38.85
(11)	Orissa	6.83	11.07
(12)	Punjab	0.72	1.72
(13)	Rajasthan	9.27	10.58
(14)	Sikkim	44.59	38.01
(15)	Tamil Nadu	17.62	27.85
(16)	Uttar Pradesh	7.27	5.90
(17)	West Bengal	4.58	6.19

Source: (i) Census of India, 1971, General Economic Tables, Series I, Part II - B(i)

(ii) Census of India, 1981, General Economic Tables, Series I, Part III - A(i)

Appendix A. II.2

District Wise Female and Male Work Participation Rate (1971-81)

District	Male		Female	
	1971	1981	1971	1981
1. Bijnor	1.28	1.71	51.72	50.94
2. Moradabad	1.22	0.77	54.07	52.51
3. Budaun	0.86	0.73	57.76	57.22
4. Rampur	0.77	0.55	56.34	54.46
5. Bareilly	0.69	0.51	56.33	53.68
6. Pilibhit	0.90	0.70	58.25	55.61
7. Shahjahanpur	1.45	0.61	59.26	57.16
8. Saharanpur	1.48	1.36	53.87	53.22
9. Muzaffarnagar	1.60	1.76	51.92	51.76
10. Meerut	1.49	1.80	49.31	48.81
11. Bulandshahr	1.35	1.39	48.27	47.17
12. Aligarh	1.15	1.15	49.66	48.34
13. Mathura	1.69	1.43	49.02	48.99
14. Agra	1.03	0.93	50.60	49.88
15. Etah	0.76	0.64	52.06	51.51
16. Mainpuri	0.67	0.49	50.79	49.50
17. Farrukhabad	1.07	1.25	52.76	51.64
18. Etawah	1.20	0.84	49.08	47.41
19. Kanpur	3.14	3.32	51.42	50.17
20. Fatehpur	12.06	8.05	53.65	51.03
21. Allahabad	14.21	10.07	51.03	49.12
22. Jhansi	6.09	4.90	53.54	37.04
23. Jalaun	3.99	4.23	50.74	49.61
24. Hamirpur	10.91	8.66	53.33	51.46
25. Banda	12.64	12.74	54.10	52.04
26. Kheri	1.43	1.15	59.97	57.59
27. Sitapur	1.55	1.08	57.58	56.87
28. Hardoi	1.57	0.85	56.12	55.26
29. Unnao	4.16	3.88	53.85	52.78
30. Lucknow	3.73	3.53	55.60	54.08
31. Rae Bareli	9.22	8.97	54.17	52.57
32. Bahraich	3.77	2.44	62.19	58.68
33. Gonda	7.28	4.92	60.11	56.84
34. Barabanki	6.31	5.69	59.02	66.70
35. Faizabad	9.49	6.22	53.45	50.16
36. Sultanpur	9.69	8.02	52.39	49.41
37. Pratapgarh	12.05	9.00	49.13	46.42
38. Basti	10.56	6.66	57.81	52.92
39. Gorakhpur	11.07	7.54	53.29	48.92
40. Deoria	7.78	9.56	51.94	48.00
41. Azamgarh	9.23	8.24	47.69	45.12
42. Jaunpur	7.74	5.65	46.39	44.98
43. Ballia	8.96	7.38	46.62	42.75
44. Ghazipur	11.17	6.69	48.10	44.71
45. Varanasi	9.19	6.75	48.48	47.32
46. Mirzapur	16.55	15.55	52.88	54.33

Soirce :- (i) Census of India 1981, General Economic Tables, Uttar Pradesh, Series 22, Part III and B (i).
(ii) Census of India 1971, Economic Tables, Uttar Pradesh, Series 21, Part II B(i).

Appendix - A.II.3

Inequality Between Male and Female Work Participation Rate

	District	Disparity Between Male and Female Work Participation Rate	
		1971	1981
1.	Bijnor	1.73	1.60
2.	Moradabad	1.78	1.96
3.	Budaun	1.97	2.04
4.	Rampur	2.01	2.13
5.	Bareilly	2.05	2.16
6.	Pilibhit	1.96	2.04
7.	Shahjahanpur	1.76	2.12
8.	Saharanpur	1.69	1.72
9.	Muzaffarnagar	1.64	1.59
10.	Meerut	1.64	1.55
11.	Bulandshahr	1.67	1.64
12.	Aligarh	1.77	1.74
13.	Mathura	1.58	1.65
14.	Agra	1.82	1.85
15.	Etah	1.96	2.03
16.	Mainpuri	2.01	2.13
17.	Farrukhabad	1.82	1.74
18.	Etawah	1.73	1.87
19.	Kanpur	1.34	1.30
20.	Fatehpur	0.76	0.91
21.	Allahabad	0.65	0.79
22.	Jhansi	1.07	0.96
23.	Jalaun	1.22	1.18
24.	Hamirpur	0.80	0.88
25.	Banda	0.74	0.71
26.	Kheri	1.77	1.84
27.	Sitapur	1.71	1.86
28.	Hardoi	1.69	1.95
29.	Unnao	1.24	1.26
30.	Lucknow	1.31	1.31
31.	Rae Bareli	0.89	0.88
32.	Bahraich	1.37	1.53
33.	Gonda	1.06	1.20
34.	Barabanki	1.11	1.23
35.	Faizabad	0.86	1.02
36.	Sultanpur	0.84	0.90
37.	Pratapgarh	0.71	0.81
38.	Basti	0.86	1.02
39.	Gorakhpur	0.79	0.93
40.	Deoria	0.94	0.80
41.	Azamgarh	0.81	0.83
42.	Jaunpur	0.88	1.00
43.	Ballia	0.81	0.86
44.	Ghazipur	0.73	0.92
45.	Varanasi	0.82	0.96
46.	Mirzapur	0.60	0.65

Appendix - A.II.4

Rate of Change in Female Work Participation Rate Between, 1971 and 81

	District	Growth Rate of Female Work Participation Rate Between 1971 and 81
1.	Bijnor	33.59
2.	Moradabad	-36.89
3.	Budaun	-15.12
4.	Rampur	-28.57
5.	Bareilly	-26.09
6.	Pilibhit	-22.22
7.	Shahjahanpur	-57.93
8.	Saharanpur	-8.11
9.	Muzaffarnagar	10.00
10.	Meerut	20.81
11.	Bulandshahr	2.96
12.	Aligarh	0.00
13.	Mathura	-15.38
14.	Agra	-9.71
15.	Etah	-15.79
16.	Mainpuri	-26.87
17.	Farrukhabad	16.82
18.	Etawah	-30.00
19.	Kanpur	5.73
20.	Fatehpur	-33.25
21.	Allahabad	-29.13
22.	Jhansi	-19.54
23.	Jalaun	6.02
24.	Hamirpur	-20.62
25.	Banda	0.79
26.	Kheri	-19.58
27.	Sitapur	-30.32
28.	Hardoi	-45.86
29.	Unnao	-6.73
30.	Lucknow	-5.36
31.	Rae Bareli	-2.71
32.	Bahraich	-35.28
33.	Gonda	-32.42
34.	Barabanki	-9.83
35.	Faizabad	-34.46
36.	Sultanpur	-17.23
37.	Pratapgarh	-25.31
38.	Basti	-36.93
39.	Gorakhpur	-31.89
40.	Deoria	22.88
41.	Azamgarh	-10.73
42.	Jaunpur	-27.00
43.	Ballia	-17.63
44.	Ghazipur	-40.11
45.	Varanasi	-26.55
46.	Mirzapur	-6.04

Appendix - A.II.5

Inequality Between Male and Female Work Participation Rate in Primary Sector

District	Disparity Between Male and Female Work Participation Rate in Primary Sector 1971	1981
1	2	3
1. Bijnor	0.25	0.51
2. Moradabad	0.15	0.42
3. Budaun	0.15	0.30
4. Rampur	0.20	0.32
5. Bareilly	0.14	0.42
6. Pilibhit	0.12	0.22
7. Shahjahanpur	0.12	0.27
8. Saharanpur	0.14	0.18
9. Muzaffarnagar	0.11	0.19
10. Meerut	0.20	0.15
11. Bulandshahr	0.19	0.18
12. Aligarh	0.19	0.20
13. Mathura	0.53	0.13
14. Agra	0.12	0.13
15. Etah	0.11	0.28
16. Mainpuri	0.18	0.29
17. Farrukhabad	0.42	0.78
18. Etawah	0.15	0.15
19. Kanpur	0.01	0.00
20. Fatehpur	-0.06	-0.05
21. Allahabad	-0.08	-0.09
22. Jhansi	-0.01	-0.02
23. Jalaun	-0.01	-0.03
24. Hamirpur	-0.04	-0.03
25. Banda	-0.04	-0.03
26. Kheri	0.04	0.06
27. Sitapur	0.06	0.09
28. Hardoi	0.10	0.15
29. Unnao	0.01	0.03
30. Lucknow	-0.01	0.01
31. Rae Bareli	-0.04	-0.04
32. Bahraich	-0.01	0.02
33. Gonda	-0.02	0.00
34. Barabanki	0.00	0.03
35. Faizabad	-0.04	-0.01
36. Sultanpur	-0.04	-0.03
37. Pratapgarh	-0.06	-0.04
38. Basti	-0.03	-0.02
39. Gorakhpur	-0.06	-0.06
40. Deoria	-0.04	-0.06
41. Azamgarh	-0.03	-0.04
42. Jaunpur	-0.04	-0.06
43. Ballia	-0.05	-0.04
44. Ghazipur	-0.03	-0.05
45. Varanasi	-0.13	-0.17
46. Mirzapur	-0.08	-0.15

Appendix - A.II.6

Inequality Between Male and Female Workers in Non Primary Sector

District	Disparity Between Male and Female Workers Non-Primary Sector 1971	1981
1	2	3
1. Bijnor	-0.43	-0.66
2. Moradabad	-0.46	-0.79
3. Budaun	-0.60	-0.91
4. Rampur	-0.65	-0.87
5. Bareilly	-0.44	-0.86
6. Pilibhit	-0.45	-0.65
7. Shahjahanpur	-0.49	-0.82
8. Saharanpur	-0.29	-0.37
9. Muzaffarnagar	-0.23	-0.38
10. Meerut	-0.27	-0.23
11. Bulandshahr	-0.36	-0.36
12. Aligarh	-0.37	-0.39
13. Mathura	-0.69	-0.29
14. Agra	-0.23	-0.24
15. Etah	-0.42	-0.73
16. Mainpuri	-0.47	-0.66
17. Farrukhabad	-0.80	-1.11
18. Etawah	-0.45	-0.45
19. Kanpur	-0.05	-0.01
20. Fatehpur	0.41	0.28
21. Allahabad	0.38	0.34
22. Jhansi	0.03	-0.15
23. Jalaun	0.05	0.18
24. Hamirpur	0.29	0.16
25. Banda	0.32	0.28
26. Kheri	-0.21	-0.38
27. Sitapur	-0.30	-0.43
28. Hardoi	-0.48	-0.64
29. Unnao	-0.02	-0.15
30. Lucknow	0.04	-0.02
31. Rae Bareli	0.30	0.23
32. Bahraich	0.08	-0.14
33. Gonda	0.14	0.04
34. Barabanki	-0.03	-0.11
35. Faizabad	0.28	0.07
36. Sultanpur	0.24	0.14
37. Pratapgarh	0.37	0.26
38. Basti	0.25	0.10
39. Gorakhpur	0.47	0.34
40. Deoria	0.28	0.36
41. Azamgarh	0.12	0.15
42. Jaunpur	0.21	0.26
43. Ballia	0.19	0.19
44. Ghazipur	0.10	0.16
45. Varanasi	0.37	0.39
46. Mirzapur	0.51	0.66

Appendix II.7

District Wise Analysis of Female Work Participation Rate in Primary Sector

	District	1971	1981
1.	Bijnor	54.62	34.56
2.	Moradabad	73.42	46.32
3.	Budaun	76.88	61.35
4.	Rampur	70.00	58.90
5.	Bareilly	73.68	47.85
6.	Pilibhit	77.86	67.43
7.	Shahjahanpur	79.65	64.34
8.	Saharanpur	65.18	64.29
9.	Muzaffarnagar	68.15	61.47
10.	Meerut	50.84	57.73
11.	Bulandshahr	61.17	63.72
12.	Aligarh	61.37	63.22
13.	Mathura	33.94	67.36
14.	Agra	66.86	62.66
15.	Etah	77.42	61.76
16.	Mainpuri	68.61	58.49
17.	Farrukhabad	47.22	24.20
18.	Etawah	72.24	73.17
19.	Kanpur	86.31	87.79
20.	Fatehpur	95.25	93.61
21.	Allahabad	93.02	91.00
22.	Jhansi	89.26	86.25
23.	Jalaun	91.54	93.94
24.	Hamirpur	94.86	92.76
25.	Banda	96.02	95.39
26.	Kheri	89.16	88.03
27.	Sitapur	85.98	82.74
28.	Hardoi	81.62	76.80
29.	Unnao	88.10	87.29
30.	Lucknow	87.34	84.61
31.	Rae Bareli	94.66	93.35
32.	Bahraich	95.71	92.64
33.	Gonda	95.30	94.52
34.	Barabanki	90.16	89.21
35.	Faizabad	94.43	90.44
36.	Sultanpur	93.56	91.81
37.	Pratapgarh	94.63	93.71
38.	Basti	95.31	92.45
39.	Gorakhpur	96.22	94.14
40.	Deoria	95.11	94.00
41.	Azamgarh	90.15	89.37
42.	Jaunpur	92.16	90.62
43.	Ballia	89.96	90.11
44.	Ghazipur	87.57	87.62
45.	Varanasi	88.04	85.04
46.	Mirzapur	95.68	94.59

Soirce :- (i) Census of India 1981, General Economic Tables, Uttar Pradesh, Series 22, Part III and B (i).
(ii) Census of India 1971, Economic Tables, Uttar Pradesh, Series 21, Part II B(i).

Appendix A. II.8

District Wise Analysis of Female Work Participation Rate in Non Primary Sector

	District	1971	1981
1.	Bijnor	45.38	65.44
2.	Moradabad	26.58	53.68
3.	Budaun	23.12	38.65
4.	Rampur	30.00	41.10
5.	Bareilly	26.32	52.15
6.	Pilibhit	22.14	32.57
7.	Shahjahanpur	20.35	35.66
8.	Saharanpur	34.82	35.71
9.	Muzaffarnagar	31.85	38.53
10.	Meerut	49.16	42.27
11.	Bulandshahr	38.13	36.28
12.	Aligarh	38.63	36.78
13.	Mathura	66.06	32.64
14.	Agra	33.14	37.34
15.	Etah	25.58	38.24
16.	Mainpuri	31.39	41.51
17.	Farrukhabad	52.78	75.80
18.	Etawah	27.76	26.83
19.	Kanpur	13.69	12.21
20.	Fatehpur	4.75	6.39
21.	Allahabad	6.98	9.00
22.	Jhansi	10.74	13.75
23.	Jalaun	8.46	6.06
24.	Hamirpur	5.14	7.24
25.	Banda	3.98	4.61
26.	Kheri	10.84	11.97
27.	Sitapur	14.02	17.26
28.	Hardoi	18.37	23.20
29.	Unnao	11.90	12.71
30.	Lucknow	12.66	15.39
31.	Rae Bareli	5.34	6.65
32.	Bahraich	4.26	7.36
33.	Gonda	4.70	5.48
34.	Barabanki	9.84	10.79
35.	Faizabad	5.57	9.56
36.	Sultanpur	6.64	8.19
37.	Pratapgarh	5.37	6.29
38.	Basti	4.69	7.55
39.	Gorakhpur	3.78	5.86
40.	Deoria	4.89	6.00
41.	Azamgarh	9.85	10.63
42.	Jaunpur	7.84	9.38
43.	Ballia	10.04	9.89
44.	Ghazipur	12.43	12.36
45.	Varanasi	11.96	14.96
46.	Mirzapur	4.32	5.41

Soirce :- (i) Census of India 1981, General Economic Tables, Uttar Pradesh, Series 22, Part III and B (i).
(ii) Census of India 1971, Economic Tables, Uttar Pradesh, Series 21, Part II B(i).

Appendix - A.III.1

District-Wise Analysis of Agricultural Variables, 1981

District	Productivity Per Hect. (Rs.)	Productivity Per Male Worker (Rs.)	Percentage of Gross Irrigated Area to Gross Cropped Area	Fertilizer Consumption Per Hect. (kgs.)	No. of Tractor Per Thousand Hect.	Percentage of Net Sown Area to Total Geographical Area	Cropping Intensity
1	2	3	4	5	6	7	8
1. Bijnor	1381.43	1956.24	34.72	28.02	2.53	66.64	129.34
2. Moradabad	1047.62	1277.87	45.01	24.32	1.96	79.33	133.68
3. Budaun	908.05	1008.90	35.49	17.78	0.66	77.76	127.00
4. Rampur	1011.62	1273.08	36.38	35.37	4.98	79.65	143.77
5. Bareilly	972.28	1038.72	38.38	22.18	1.36	79.62	132.47
6. Pilibhit	1074.21	1526.90	33.33	22.25	2.96	53.10	145.50
7. Shahjahanpur	941.15	1065.10	37.82	15.62	1.31	66.88	135.24
8. Saharanpur	1378.97	1968.76	48.91	31.50	4.56	67.67	148.67
9. Muzaffarnagar	1822.84	2375.47	73.43	48.00	18.62	77.88	146.33
10. Meerut	1625.85	2216.51	79.44	46.00	6.89	77.41	152.26
11. Bulandshahr	1293.90	1922.42	68.45	28.47	2.79	76.25	152.00
12. Aligarh	1146.07	1782.82	65.07	19.09	1.41	77.23	152.86
13. Mathura	1034.56	1747.60	57.84	11.59	3.68	82.80	131.71
14. Agra	828.74	1135.86	40.85	21.30	2.52	73.29	124.42
15. Etah	980.43	1188.98	50.56	17.52	1.60	65.52	144.47
16. Mainpuri	946.06	1129.30	56.99	20.22	2.20	64.72	138.76
17. Farrukhabad	944.30	988.01	45.26	35.67	1.34	67.29	134.26
18. Etawah	1018.16	1235.70	47.80	15.16	0.72	65.43	133.72
19. Kanpur	967.71	1176.20	34.10	15.75	0.76	69.67	121.86
20. Fatehpur	903.81	1155.71	28.93	11.32	0.18	68.54	123.06
21. Allahabad	817.36	926.07	24.88	18.12	0.56	64.54	130.63

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1	2	3	4	5	6	7	8
22. Jhansi	670.92	1376.84	19.70	4.29	0.91	46.78	112.25
23. Jalaun	733.94	1579.71	35.23	9.78	3.14	78.28	105.95
24. Hamirpur	687.57	1550.92	14.86	2.36	0.66	69.58	103.15
25. Banda	696.00	1377.12	17.24	2.76	0.13	62.39	118.98
26. Kheri	978.81	1261.31	12.46	14.85	2.23	55.15	130.20
27. Sitapur	885.61	903.14	19.62	10.98	0.60	73.99	126.62
28. Hardoi	912.59	939.30	26.30	8.99	0.67	64.36	134.96
29. Unnao	842.56	890.90	36.41	10.62	0.45	62.48	135.86
30. Lucknow	844.39	756.92	36.60	28.95	0.63	59.56	129.23
31. Rae Bareli	863.46	898.26	41.41	13.08	0.21	61.85	136.10
32. Bahraich	616.55	713.11	8.84	8.94	0.45	64.91	135.57
33. Gonda	776.57	848.07	20.42	16.28	0.98	69.10	138.67
34. Barabanki	909.84	844.05	31.28	25.16	0.97	67.82	141.17
35. Faizabad	956.76	865.60	45.32	36.48	0.83	69.74	139.57
36. Sultanpur	832.43	871.10	34.74	21.02	0.15	70.13	130.27
37. Pratapgarh	774.91	790.05	34.20	16.94	0.48	68.73	123.36
38. Basti	921.24	899.74	37.64	23.63	0.74	76.63	138.77
39. Gorakhpur	978.88	925.87	36.39	27.28	1.37	75.16	138.00
40. Deoria	1068.70	967.43	35.11	34.93	1.30	81.80	137.94
41. Azamgarh	866.23	1047.30	44.14	17.83	0.47	77.08	128.08
42. jaunpur	898.56	901.98	45.10	24.26	0.59	74.80	130.00
43. Ballia	896.50	898.73	34.97	18.11	0.55	74.26	131.51
44. Ghazipur	809.18	891.70	35.52	17.67	1.11	81.60	129.33
45. Varanasi	875.84	996.20	39.81	32.00	1.03	64.91	139.01
46. Mirzapur	828.98	1170.12	22.58	9.31	0.95	28.00	129.05

Source : (i) G.S. Bhalla and D.S. Tyagi, "Patterns in Indian Agricultural Development : A District Level Study", Institute for Studies in Industrial Development, New Delhi, 1989, pp. 239.241.

(ii) Statistical Abstract, Uttar Pradesh, 1972-73, Economics and Statistics Division, State Planning Institute, Lucknow.

Appendix - A.III.2

District-Wise Analysis of Agricultural Variables, 1981

District	Productivity Per Hect. (Rs.)	Productivity Per Male Worker (Rs.)	Percentage of Gross Irrigated Area to Gross Cropped Area	Fertilizer Consumption Per Hect. (kgs.)	No. of Tractor Per Thousand Hect.	Percentage of Net Sown Area to Total Geographical Area	Cropping Intensity
1	2	3	4	5	6	7	8
1. Bijnor	1969.42	2540.07	53.49	73.16	4.47	70.34	130.32
2. Moradabad	1725.15	1953.49	61.66	63.14	4.04	81.15	147.41
3. Budaun	1173.21	1229.13	41.60	52.98	1.23	77.68	139.72
4. Rampur	1719.37	1954.34	57.09	88.46	7.43	80.79	157.92
5. Bareilly	1458.56	1517.66	48.45	58.50	2.58	82.48	145.79
6. Pilibhit	1742.92	2454.83	60.28	83.61	4.74	62.07	158.37
7. Shahjahanpur	1445.52	1707.35	55.28	67.43	3.08	76.43	142.20
8. Saharanpur	1934.48	2329.94	62.77	78.15	7.49	69.79	156.20
9. Muzaffarnagar	2397.11	2769.53	79.61	86.84	13.86	79.59	152.76
10. Meerut	2140.44	2628.44	87.65	99.07	8.22	77.15	161.10
11. Bulandshahr	1696.08	2322.20	83.53	85.75	3.64	78.32	168.20
12. Aligarh	1375.69	2173.56	72.09	48.17	2.23	78.03	164.79
13. Mathura	1325.42	2007.59	66.27	38.47	5.86	81.18	136.68
14. Agra	1189.85	1410.15	50.54	49.32	4.08	72.65	128.68
15. Etah	1230.57	1348.76	59.83	44.27	1.60	68.05	158.76
16. Mainpuri	1157.47	1290.88	65.78	49.31	2.05	65.96	140.15
17. Farrukhabad	1165.94	1068.25	50.60	92.66	2.70	65.43	149.50
18. Etawah	1325.03	1469.80	61.33	59.83	1.67	66.36	142.68
19. Kanpur	1278.36	1413.16	50.81	53.94	2.40	68.86	137.06
20. Fatehpur	1157.16	1272.38	40.20	44.11	1.31	70.64	133.03
21. Allahabad	1121.29	1115.30	38.59	51.46	1.44	64.69	135.93
22. Jhansi	895.09	1599.98	26.65	16.48	1.48	49.15	108.84

Contd.....

Contd...

1	2	3	4	5	6	7	8
23. Jalaun	1053.00	1855.55	51.90	28.29	7.31	76.82	105.41
24. Hamirpur	809.64	1604.25	16.15	5.94	1.50	71.01	103.32
25. Banda	758.20	1236.59	21.51	11.00	0.60	62.42	118.49
26. Kheri	1385.18	1615.29	26.51	53.35	4.22	59.98	132.68
27. Sitapur	1178.88	1117.90	28.89	34.64	1.13	74.04	133.03
28. Hardoi	1149.34	1042.85	44.80	37.82	0.94	68.42	135.30
29. Unnao	1079.69	979.23	54.47	44.87	0.92	62.59	139.00
30. Lucknow	1198.03	957.12	52.91	81.97	1.80	60.77	137.27
31. Rae Bareli	1161.41	1030.28	55.23	50.45	5.76	62.18	136.38
32. Bahraich	964.75	894.91	14.83	34.14	0.27	65.18	154.65
33. Gonda	978.50	1016.09	27.41	37.05	1.09	68.52	157.96
34. Barabanki	1308.96	1150.53	45.77	54.99	2.00	65.24	155.42
35. Faizabad	1417.42	1303.92	51.65	81.54	2.03	67.75	155.07
36. Sultanpur	1133.62	1080.43	38.80	41.78	0.81	67.36	144.90
37. Pratapgarh	1164.13	1079.50	45.39	67.44	1.09	63.16	141.86
38. Basti	1070.44	1052.27	40.36	37.92	1.06	76.14	151.87
39. Gorakhpur	1261.45	1252.81	43.57	55.34	2.19	75.02	156.18
40. Deoria	1517.23	1436.29	48.54	75.17	2.24	82.15	150.12
41. Azamgarh	1175.14	1194.87	50.71	52.03	1.76	74.81	148.18
42. jaunpur	1300.90	1232.39	46.82	84.94	1.79	72.78	146.31
43. Ballia	1179.63	1286.57	41.49	61.83	1.48	74.64	150.58
44. Ghazipur	1134.53	1238.56	50.94	78.35	1.92	77.86	149.77
45. Varanasi	1289.95	1322.28	59.91	77.94	2.86	63.22	145.82
46. Mirzapur	951.85	1325.50	33.59	29.21	2.45	31.86	135.71

Source : (i) G.S. Bhalla and D.S. Tyagi, "Patterns in Indian Agricultural Development : A District Level Study", Institute for Studies in Industrial Development, New Delhi, 1989, pp. 253-255.

(ii) Statistical Abstract, Uttar Pradesh, 1982-83, Economics and Statistics Division, State Planning Institute, Lucknow.

Appendix - A.III.3

District-Wise Growth Rate of Agricultural Variables, 1971 & 1981

District	Productivity Per Hect. (Rs.)	Productivity Per Male Worker (Rs.)	Percentage of Gross Irrigated Area to Gross Cropped Area	Fertilizer Consumption Per Hect. (kgs.)	No. of Tractor Per Thousand Hect.	Percentage of Net Sown Area to Total Geographical Area	Cropping Intensity
1	2	3	4	5	6	7	8
1. Bijnor	42.56	29.84	54.06	161.10	76.68	5.55	0.76
2. Moradabad	64.67	52.87	36.99	159.62	106.12	2.29	10.27
3. Budaun	29.20	21.83	17.22	197.98	86.36	-0.10	10.02
4. Rampur	69.96	53.51	86.57	150.10	49.20	1.43	9.84
5. Bareilly	50.01	46.11	33.18	163.75	89.71	3.59	10.06
6. Pilibhit	62.25	60.77	80.86	275.78	60.14	16.89	8.85
7. Shahjahanpur	53.59	60.30	46.17	331.69	135.11	14.28	5.15
8. Saharanpur	40.28	18.35	28.34	148.10	64.25	3.13	5.06
9. Muzaffarnagar	31.50	16.59	8.42	80.92	-25.56	2.20	4.39
10. Meerut	31.67	18.58	10.33	115.37	19.30	-0.34	5.81
11. Bulandshahr	31.08	21.20	22.03	201.19	30.47	2.71	9.95
12. Aligarh	20.04	21.92	10.79	152.33	58.16	1.04	7.80
13. Mathura	28.11	14.88	14.57	231.92	59.24	-1.96	3.77
14. Agra	43.57	24.15	23.72	131.55	61.90	-0.87	3.42
15. Etah	25.51	13.44	18.33	152.68	00.00	3.86	9.89
16. Mainpuri	22.35	14.31	15.42	143.87	-6.82	1.92	1.00
17. Farrukhabad	23.47	8.12	18.97	159.77	101.49	-2.76	11.35
18. Etawah	30.14	18.94	28.31	294.66	131.94	1.42	6.70
19. Kanpur	32.10	20.15	49.00	242.48	215.79	-1.16	12.47
20. Fatehpur	28.03	10.10	38.96	289.66	627.78	3.06	8.10
21. Allahabad	37.18	20.43	55.10	184.00	157.14	0.23	4.06
22. Jhansi	33.41	16.21	35.28	284.15	62.64	5.07	-3.04

Contd...

1	2	3	4	5	6	7	8
23. Jalaun	43.47	17.46	47.31	189.26	132.80	-1.87	-0.51
24. Hamirpur	17.75	3.44	8.68	151.50	127.27	2.06	0.16
25. Banda	8.94	-10.20	24.77	298.55	361.54	0.05	-0.41
26. Kheri	41.52	28.06	112.76	259.26	89.24	8.74	1.90
27. Sitapur	33.12	23.78	47.25	215.48	88.33	0.07	5.06
28. Hardoi	25.94	11.02	70.35	320.69	40.30	6.31	0.25
29. Unnao	28.14	9.91	49.60	322.50	104.44	0.18	2.31
30. Lucknow	41.88	24.96	44.56	183.14	185.71	2.03	6.22
31. Rae Bareli	34.51	14.70	33.37	285.70	2642.86	0.55	0.21
32. Bahraich	56.48	25.49	67.76	281.88	-40.00	0.43	14.07
33. Gonda	26.00	19.81	34.23	128.00	11.22	-0.84	13.91
34. Barabanki	43.87	36.31	46.32	118.56	106.19	-3.80	10.09
35. Faizabad	48.16	50.64	22.05	123.52	144.58	-2.85	11.11
36. Sultanpur	36.18	24.03	11.69	98.76	440.00	-3.95	11.23
37. Pratapgarh	50.23	36.64	32.72	298.11	127.08	-8.10	15.00
38. Basti	16.20	16.95	7.23	60.47	43.24	-0.64	9.44
39. Gorakhpur	28.87	35.31	19.73	102.86	59.85	-0.19	13.17
40. Deoria	41.97	48.46	38.25	115.20	72.31	0.43	8.83
41. Azamgarh	35.66	14.09	14.88	191.81	274.47	-2.94	15.69
42. jaunpur	44.78	36.63	3.81	250.12	203.39	-2.70	12.55
43. Ballia	31.58	43.15	18.64	241.41	169.09	0.51	14.50
44. Ghazipur	40.21	38.90	43.41	343.41	72.97	-4.58	15.03
45. Varanasi	47.28	32.73	50.26	143.56	177.67	-2.60	4.90
46. Mirzapur	14.82	13.28	48.76	213.75	157.89	13.79	5.16

Appendix A.III.4

Level of Agricultural Development

Districts	Composite Index of Agricultural Development	
	1971	1981
1. Bijnor	8.68	9.00
2. Moradabad	7.76	8.55
3. Budaun	6.05	5.98
4. Rampur	9.59	10.17
5. Bareilly	6.83	7.21
6. Pilibhit	7.84	9.27
7. Shahjahanpur	6.34	7.68
8. Saharanpur	10.49	10.36
9. Muzaffarnagar	20.49	13.88
10. Meerut	13.90	12.51
11. Bulandshahr	9.93	9.58
12. Aligarh	8.38	7.81
13. Mathura	8.82	8.52
14. Agra	7.30	7.09
15. Etah	7.12	6.45
16. Mainpuri	7.61	6.57
17. Farrukhabad	7.40	7.16
18. Etawah	6.45	6.79
19. Kanpur	6.01	6.65
20. FAtehpur	5.25	5.08
21. Allahabad	5.40	5.64
22. Jhansi	4.59	4.53
23. Jalaun	7.12	8.14
24. Hamirpur	4.65	2.88
25. banda	4.33	3.93
26. Kheri	6.12	6.85
27. Sitapur	5.09	5.20
28. Hardoi	5.19	5.38
29. Unnao	5.29	5.54
30. Lucknow	6.09	6.51
31. Rae Bareli	4.43	7.45
32. Bahraich	4.12	4.31
33. Gonda	5.43	5.07
34. Barabanki	6.29	6.36
35. Faizabad	7.15	7.17
36. Sultanpur	5.63	5.34
37. pratapgarh	5.39	5.96
38. Basti	6.43	5.50
39. Gorakhpur	6.97	6.56
40. Deoria	7.50	7.40
41. Azamgarh	6.16	6.34
42. Jaunpur	6.46	6.92
43. Ballia	5.87	6.29
44. Ghazipur	6.16	6.90
45. Varanasi	6.92	7.35
46. Mirzapur	7.79	5.04

Appendix - A.III.5

District Wise Analysis of Infrastructural Variables, 1971

District	Percentage of Village Having Educational Amenity	Percentage of Village Having Electricity	Percentage of Village Having Approach by Pucca Road Facility	Percentage of Village Having Post & Telegraph Facility
1	2	3	4	5
1. Bijnor	28.83	57.42	34.21	7.61
2. Moradabad	48.19	39.65	26.68	7.12
3. Budaun	43.79	38.36	16.80	10.98
4. Rampur	31.96	7.69	29.95	7.05
5. Bareilly	39.59	21.54	21.54	7.49
6. Pilibhit	36.59	16.52	24.31	6.40
7. Shahjahanpur	38.12	16.67	19.88	6.13
8. Saharanpur	50.12	23.22	32.64	9.42
9. Muzaffarnagar	73.43	11.02	44.92	23.22
10. Meerut	70.71	51.73	42.88	22.17
11. Bulandshahr	55.80	60.20	36.85	13.51
12. Aligarh	50.55	43.27	25.39	18.99
13. Mathura	73.64	6.22	30.09	17.99
14. Agra	63.11	36.63	36.13	20.14
15. Etah	48.56	19.75	29.72	12.86
16. Mainpuri	58.70	33.21	27.94	11.41
17. Farrukhabad	44.71	30.07	25.09	10.64
18. Etawah	54.30	13.88	26.13	10.97
19. Kanpur	56.56	8.28	21.56	10.81
20. Fatehpur	46.38	11.39	34.54	11.69
21. Allahabad	33.40	19.86	28.92	6.66
22. Jhansi	63.54	3.25	24.65	16.99

Contd.....

Contd...

1	2	3	4	5
23. Jalaun	62.94	7.53	23.01	15.17
24. Hamirpur	75.59	3.44	26.45	18.82
25. Banda	69.18	4.89	19.55	14.17
26. Kheri	55.06	24.81	23.73	11.56
27. Sitapur	39.97	20.71	19.34	10.83
28. Hardoi	47.44	13.47	20.18	11.13
29. Unnao	51.18	4.36	28.24	9.96
30. Lucknow	56.12	24.81	33.52	9.26
31. Rae Bareli	39.08	2.64	28.53	13.01
32. Bahraich	44.69	18.47	19.75	12.95
33. Gonda	46.73	14.50	20.82	10.23
34. Barabanki	48.78	16.03	25.17	9.19
35. Faizabad	38.39	39.26	24.11	10.17
36. Sultanpur	45.36	21.32	36.65	10.76
37. Pratapgarh	32.18	6.25	28.34	11.09
38. Basti	20.61	19.03	24.59	3.86
39. Gorakhpur	33.33	25.36	27.15	8.09
40. Deoria	35.94	21.97	22.37	6.97
41. Azamgarh	23.91	31.60	28.55	7.83
42. Jaunpur	28.80	4.03	23.23	6.66
43. Ballia	36.40	31.30	35.62	11.82
44. Ghazipur	25.06	16.61	26.22	6.53
45. Varanasi	28.50	12.73	22.28	4.77
46. Mirzapur	30.20	1.00	22.05	4.91

Source : Census of India 1981, Uttar Pradesh, Series 22, District Census Handbook, Part XIII - A, Village and Town Directory.

Appendix - A.III.6

District Wise Analysis of Infrastructural Variables, 1981

District	Percentage of Village Having Educational Amenity	Percentage of Village Having Electricity	Percentage of Village Having Approach by Pucca Road Facility	Percentage of Village Having Post & Telegraph Facility
1	2	3	4	5
1. Bijnor	40.90	73.17	46.75	10.91
2. Moradabad	58.19	67.37	51.52	9.87
3. Budaun	52.93	39.83	28.74	14.29
4. Rampur	48.90	46.57	53.57	8.88
5. Bareilly	55.29	41.29	52.34	10.78
6. Pilibhit	48.45	31.49	39.80	9.24
7. Shahjahanpur	48.68	33.19	41.43	9.75
8. Saharanpur	58.71	46.47	49.12	13.35
9. Muzaffarnagar	78.43	71.09	62.68	26.54
10. Meerut	78.12	76.32	49.27	26.32
11. Bulandshahr	68.79	82.27	40.51	23.22
12. Aligarh	61.50	59.86	39.55	23.42
13. Mathura	79.24	50.18	39.91	19.61
14. Agra	67.34	69.82	45.22	22.57
15. Etah	52.11	54.63	37.65	15.54
16. Mainpuri	67.69	41.43	41.36	14.44
17. Farrukhabad	59.73	48.38	24.67	13.89
18. Etawah	65.38	37.79	25.64	18.53
19. Kanpur	65.68	23.02	33.69	14.54
20. Fatehpur	52.11	45.89	28.98	14.08
21. Allahabad	42.00	51.99	38.50	10.22
22. Jhansi	72.46	14.56	33.43	17.43

Contd.....

Contd...

1	2	3	4	5
23. Jalaun	73.59	23.22	39.30	21.73
24. Hamirpur	81.79	18.54	28.90	21.48
25. Banda	75.06	19.06	22.70	17.98
26. Kheri	65.27	30.19	36.49	18.01
27. Sitapur	48.25	24.62	32.55	17.21
28. Hardoi	60.12	18.66	35.19	15.41
29. Unnao	62.24	8.25	28.57	12.44
30. Lucknow	73.86	72.64	49.05	10.79
31. Rae Bareli	52.17	42.98	43.67	17.91
32. Bahraich	64.81	26.22	58.07	14.76
33. Gonda	63.73	25.13	38.73	13.21
34. Barabanki	65.83	29.26	43.84	12.77
35. Faizabad	50.01	61.28	37.69	18.14
36. Sultanpur	56.14	46.27	43.94	14.45
37. Pratapgarh	47.05	17.62	37.76	14.28
38. Basti	28.81	18.40	35.21	5.17
39. Gorakhpur	42.15	28.50	36.72	10.81
40. Deoria	50.96	39.85	37.28	10.88
41. Azamgarh	33.88	68.25	38.82	10.31
42. jaunpur	39.32	57.66	35.96	11.00
43. Ballia	52.08	72.81	49.21	24.09
44. Ghazipur	30.59	76.42	33.63	10.75
45. Varanasi	38.07	61.80	37.19	9.39
46. Mirzapur	41.30	43.51	34.18	6.23

Source : Occasional Paper - 1 of 1986, Study on Distribution of Infrastructural Facilities in Different Regions and Levels and Trends of urbanization.

Appendix - A.III.7

District Wise Growth Rate of Infrastructural Variables, 1971-1981

District	Percentage of Village Having Educational Amenity	Percentage of Village Having Electricity	Percentage of Village Having Approach by Pucca Road Facility	Percentage of Village Having Post & Telegraph Facility
1	2	3	4	5
1. Bijnor	41.87	27.43	36.66	43.36
2. Moradabad	20.75	69.91	93.10	38.62
3. Budaun	20.64	3.83	71.07	30.15
4. Rampur	53.00	427.57	78.86	25.96
5. Bareilly	39.66	91.69	142.99	43.93
6. Pilibhit	32.41	90.62	63.72	44.38
7. Shahjahanpur	27.70	99.10	108.40	59.05
8. Saharanpur	17.14	95.82	50.49	41.72
9. Muzaffarnagar	6.81	545.10	39.54	14.30
10. Meerut	10.48	47.54	14.90	18.72
11. Bulandshahr	23.28	36.66	9.93	71.87
12. Aligarh	21.66	38.34	55.77	23.33
13. Mathura	7.60	706.75	32.64	9.01
14. Agra	6.70	90.61	25.16	12.07
15. Etah	7.31	176.51	26.68	20.84
16. Mainpuri	15.32	24.75	48.03	26.56
17. Farrukhabad	33.59	60.49	-1.68	30.55
18. Etawah	20.41	172.26	-1.88	68.92
19. Kanpur	16.12	178.02	56.26	34.51
20. Fatehpur	12.35	302.90	-16.10	20.44
21. Allahabad	25.75	161.78	33.13	53.45
22. Jhansi	14.04	348.00	35.62	2.59

Contd.....

Contd...

1	2	3	4	5
23. Jalaun	16.87	208.37	70.80	43.24
24. Hamirpur	8.20	438.95	9.26	14.13
25. Banda	8.50	289.78	16.11	26.89
26. Kheri	18.54	21.68	53.77	55.80
27. Sitapur	20.72	18.88	68.30	58.08
28. Hardoi	26.73	38.53	74.38	38.45
29. Unnao	21.61	89.22	1.17	24.90
30. Lucknow	31.61	192.79	46.33	16.52
31. Rae Bareli	33.50	1528.03	53.01	37.66
32. Bahraich	45.02	41.96	194.03	13.98
33. Gonda	36.36	73.31	86.02	29.13
34. Barabanki	40.49	82.53	74.18	38.96
35. Faizabad	30.27	56.09	56.33	78.37
36. Sultanpur	23.77	117.03	19.89	34.29
37. Pratapgarh	46.21	181.92	33.24	28.76
38. Basti	39.79	-3.31	43.19	33.94
39. Gorakhpur	26.46	12.38	35.25	33.62
40. Deoria	41.79	81.38	66.65	56.10
41. Azamgarh	41.70	115.98	35.97	31.67
42. Jaunpur	36.53	1330.77	54.80	65.17
43. Ballia	43.08	132.40	38.15	103.81
44. Ghazipur	22.07	360.08	28.26	64.62
45. Varanasi	33.58	358.47	66.92	96.86
46. Mirzapur	36.75	4251.00	55.01	26.88

Appendix A.III.8
Levels of Infrastructural Development

Districts	Composite Index of Infrastructural Development	
	1971	1981
A. High		
1. Bijnor	5.33	4.29
2. Moradabad	4.58	4.51
3. Budaun	4.41	3.51
4. Rampur	2.80	3.73
5. Bareilly	3.36	3.95
6. Pilibhit	3.06	3.19
7. Shahjahanpur	2.91	3.31
8. Saharanpur	4.25	4.20
9. muzaffarnagar	5.87	6.35
10. Meerut	7.60	6.11
11. Bulandshahr	6.68	5.65
B. Medium		
12. Aligar	5.82	5.00
13. Mathura	4.62	4.85
14. Agra	6.27	5.42
15. Etah	4.25	4.15
16. Mainpuri	4.92	4.14
17. Farrukhabad	4.29	3.70
18. Etawah	3.80	3.89
19. Kanpur	3.39	3.50
20. FAtehpur	3.88	3.63
21. Allahabad	3.34	3.57
22. Jhansi	3.97	3.61
23. Jalaun	3.94	4.27
C. Low		
24. Hamirpur	4.47	4.03
25. banda	3.73	3.53
26. Kheri	4.30	3.96
27. Sitapur	3.55	3.37
28. Hardoi	3.42	3.40
29. Unnao	3.25	2.83
30. Lucknow	4.47	4.90
31. Rae Bareli	3.19	4.19
32. Bahraich	3.75	4.19
33. Gonda	3.40	3.55
34. Barabanki	3.58	3.83
D. Very Low		
35. Faizabad	4.53	4.43
36. Sultanpur	4.33	4.11
37. pratapgarh	3.04	8.14
38. Basti	2.61	2.16
39. Gorakhpur	3.67	3.04
40. Deoria	3.28	3.47
41. Azamgarh	3.80	3.81
42. Jaunpur	2.27	3.64
43. Ballia	4.67	5.42
44. Ghazipur	2.89	3.84
45. Varanasi	2.48	3.64
46. Mirzapur	1.96	2.99

Appendix - A.III.9

District-Wise Analysis of Socio-Economic Variables, 1971

District	Literacy Rate	No. of Persons Per Room	Percentage of Urban Population	Per Capita Income	Percentage Seheduled Cartes	Dependency Ratio	Child Women Ratio	Percentage Male Non Primary Workers
1	2	3	4	5	6	7	8	9
1. Bijnor	17.91	2.95	18.10	443	23.26	106.82	88.95	19.61
2. Moradabad	11.75	2.88	23.77	349	18.55	104.01	88.87	10.00
3. Budaun	10.84	2.84	9.35	369	16.91	96.69	84.45	6.28
4. Rampur	9.09	2.66	19.53	360	13.79	104.97	92.76	7.67
5. Bareilly	11.97	2.77	22.28	358	13.17	96.69	87.93	10.34
6. Pilibhit	13.75	2.29	13.67	474	16.01	90.61	81.86	8.36
7. Shahjahanpur	14.05	2.33	15.24	392	18.10	86.03	75.81	7.09
8. Saharanpur	17.14	3.05	23.50	434	27.95	102.83	80.82	19.56
9. Muzaffarnagar	20.04	2.63	13.86	468	17.72	104.84	85.03	20.07
10. Meerut	22.98	2.55	24.26	474	19.51	102.52	84.19	29.72
11. Bulandshahr	19.87	2.96	13.33	399	21.81	102.37	83.65	19.00
12. Aligarh	21.34	2.75	17.85	414	22.71	101.67	86.95	18.59
13. Mathura	20.77	2.83	16.49	415	21.05	104.33	91.51	18.18
14. Agra	20.48	2.92	33.61	276	21.48	102.30	86.50	20.85
15. Etah	19.77	3.14	9.82	390	17.05	99.11	86.59	10.47
16. Mainpuri	22.27	2.55	8.44	326	18.15	96.23	75.88	11.85
17. Farrukhabad	22.94	2.44	10.91	338	17.66	95.10	75.81	10.68
18. Etawah	26.93	2.34	9.79	351	25.70	100.72	86.99	12.36
19. Kanpur	26.04	1.94	42.80	341	23.92	98.62	84.19	11.80
20. Fatehpur	19.87	1.63	5.63	314	24.21	97.30	75.38	15.79
21. Allahabad	17.57	1.87	18.46	276	27.01	100.65	75.82	11.45
22. Jhansi	17.89	2.15	24.58	338	27.62	93.95	83.95	9.37

Contd.....

Contd.....

1	2	3	4	5	6	7	8	9
23. Jalaun	24.87	1.79	13.75	321	28.71	94.81	85.06	9.85
24. Hamirpur	18.31	1.91	9.91	414	26.37	99.55	90.06	8.18
25. Banda	16.40	1.97	8.21	422	23.03	98.34	94.93	6.77
26. Kheri	12.65	2.21	6.21	446	28.30	87.48	73.64	7.35
27. Sitapur	14.38	1.93	7.54	325	34.24	92.64	77.50	6.54
28. Hardoi	17.64	2.31	7.90	332	33.61	90.25	77.21	11.32
29. Unnao	18.84	2.04	2.57	323	20.52	96.73	75.09	17.74
30. Lucknow	16.51	1.86	50.90	227	39.36	90.79	68.98	10.40
31. Rae Bareli	17.55	1.72	3.40	297	31.03	93.40	68.00	5.05
32. Bahraich	10.70	2.30	5.93	284	18.37	67.66	60.96	6.43
33. Gonda	12.48	2.18	5.65	275	17.11	82.38	65.51	9.28
34. Barabanki	13.11	1.62	5.76	306	29.13	86.86	69.31	10.44
35. Faizabad	17.03	1.62	9.56	245	25.76	93.49	68.03	10.87
36. Sultanpur	17.24	1.70	1.97	295	24.20	93.75	63.76	12.18
37. Pratapgarh	17.84	1.76	1.96	284	21.52	101.40	68.00	8.13
38. Basti	14.91	2.09	2.52	275	20.48	87.30	70.99	10.75
39. Gorakhpur	17.01	2.34	7.90	260	22.47	92.16	71.47	9.18
40. Deoria	17.16	2.15	2.96	247	15.82	96.52	70.44	12.85
41. Azamgarh	17.94	1.85	5.21	223	25.26	106.27	71.95	12.48
42. jaunpur	20.02	2.07	6.21	224	21.76	101.41	68.70	15.27
43. Ballia	20.74	2.12	4.58	221	14.22	93.36	64.56	15.33
44. Ghazipur	19.07	1.95	4.50	248	19.76	103.41	65.45	25.91
45. Varanasi	21.61	2.26	25.13	255	20.42	94.39	69.32	13.23
46. Mirzapur	16.49	2.19	12.03	413	36.37	99.00	88.93	10.72

Source : (i) Census of India 1971, Uttar pradesh, Primary Census Abstract, Series 21, Part II-A.
(ii) Census of India 1971, Uttar pradesh, House Hold Tables, Series 21, Part IV.
(iii) Government of Uttar Pradesh, District Domestic Product-Indictor of Intra State Economic prosperity, Economics and Statistics Division, State Planning Institute, 1982.

Appendix - A.III.10

District-Wise Analysis of Socio-Economic Variables, 1981

District	Literacy Rate	No. of Persons Per Room	Percentage of Urban Population	Per Capita Income	Percentage Seheduled Cartes	Dependency Ratio	Child Women Ratio	Percentage Male Non Primary Workers
1	2	3	4	5	6	7	8	9
1. Bijnor	24.64	3.21	24.8	468	24.77	104.76	81.39	19.30
2. Moradabad	15.24	3.23	26.9	360	20.61	106.86	84.45	11.22
3. Budaún	13.44	2.94	16.1	351	18.04	94.53	74.83	5.31
4. Rampur	11.59	3.11	26.7	411	16.35	108.85	85.18	7.11
5. Bareilly	15.38	2.88	29.0	419	14.83	102.73	83.94	9.24
6. Pilibhit	17.20	2.62	16.2	633	18.99	98.37	81.49	8.01
7. Shahjahanpur	17.66	2.49	19.4	435	20.10	91.38	74.39	6.40
8. Saharanpur	22.62	3.33	27.1	539	26.96	99.16	72.48	16.95
9. Muzaffarnagar	26.87	2.82	21.7	440	16.51	99.32	69.78	18.20
10. Meerut	29.91	2.63	36.5	573	18.75	99.45	41.63	27.49
11. Bulandshahr	27.29	2.99	19.3	355	23.36	103.44	74.69	17.55
12. Aligarh	27.29	2.93	23.0	398	23.95	99.73	72.51	16.77
13. Mathura	26.71	2.98	21.1	398	21.42	97.45	73.91	18.20
14. Agra	26.57	2.98	38.1	250	22.61	97.08	75.86	23.57
15. Etah	24.77	3.20	15.5	351	17.75	96.03	69.12	8.39
16. Mainpuri	31.04	2.66	11.1	347	18.86	93.33	69.15	10.84
17. Farrukhabad	29.64	2.57	16.2	341	17.96	95.14	71.54	9.14
18. Etawah	34.83	2.49	14.8	329	27.18	96.61	72.26	10.38
19. Kanpur	34.09	2.15	46.3	404	24.43	94.50	70.00	11.94
20. Fatehpur	24.42	1.75	9.0	364	24.56	95.79	70.04	11.86
21. Allahabad	21.02	1.89	20.4	364	26.99	97.77	73.69	18.77
22. Jhansi	24.73	2.10	29.7	332	29.77	96.58	70.76	9.87

Contd.....

Contd.....

1	2	3	4	5	6	7	8	9
23. Jalaun	32.92	1.88	19.9	328	28.42	90.08	70.16	9.03
24. Hamirpur	23.10	2.09	16.6	390	25.22	101.87	72.67	10.39
25. Banda	20.56	1.97	11.8	419	24.57	98.87	73.58	8.60
26. Kheri	15.12	2.36	9.6	407	27.82	93.15	72.34	5.14
27. Sitapur	16.45	2.12	10.2	342	33.63	94.20	70.62	6.72
28. Hardoi	19.97	2.47	11.1	366	32.43	92.55	72.26	5.80
29. Unnaó	23.11	2.26	11.9	323	32.29	92.86	64.45	9.18
30. Lucknow	22.61	2.18	52.6	262	39.15	89.39	65.77	14.61
31. Rae Bareli	21.48	1.94	7.4	377	30.66	93.61	66.83	11.01
32. Bahraich	13.75	2.47	7.0	324	17.42	90.56	72.84	5.25
33. Gonda	14.50	2.21	7.3	291	16.07	89.39	68.53	5.98
34. Barabanki	17.30	1.70	8.9	358	29.57	91.02	64.18	8.51
35. Faizabad	22.81	1.76	11.0	254	25.81	93.83	65.10	11.02
36. Sultanpur	21.44	1.82	3.3	282	23.56	96.17	65.43	11.13
37. Pratapgarh	22.72	1.83	5.0	264	22.15	99.81	65.94	11.13
38. Basti	19.09	2.04	4.8	275	20.31	93.83	68.47	9.44
39. Gorakhpur	20.22	2.42	10.6	270	27.76	96.87	70.69	12.46
40. Deoria	21.75	2.39	6.6	267	17.84	102.48	72.39	13.19
41. Azamgarh	23.11	1.92	9.2	250	26.26	107.21	69.83	14.62
42. Jaunpur	25.04	2.10	6.7	247	22.31	104.41	69.94	16.61
43. Ballia	26.47	2.12	9.1	196	16.00	103.99	65.59	14.46
44. Ghazipur	25.96	2.02	7.9	268	21.38	103.38	68.33	17.59
45. Varanasi	26.52	2.06	26.9	309	21.33	97.91	71.40	33.28
46. Mirzapur	20.13	2.01	13.1	409	35.67	97.06	71.74	22.48

Source : (i) Census of India 1981, Uttar pradesh, Primary Census Abstract, Series 1, Part II, B(i)

(ii) Census of India 1981, Uttar pradesh, House Hold Tables, Series 22, Part VIII, A & B(iiii)

(iii) Government of Uttar Pradesh, District Domestic Product-Indictor of Intra State Economic prosperity, Economics and Statistics Division, State Planning Institute, 1982.

Appendix - A.III.11

District-Wise Growth Rate of Socio-Economic Variables, 1971-1981

District	Literacy Rate	No. of Persons Per Room	Percentage of Urban Population	Per Capita Income	Percentage Seheduled Cartes	Dependency Ratio	Child Women Ratio	Percentage Male Non Primary Workers
1	2	3	4	5	6	7	8	9
1. Bijnor	37.58	8.81	37.02	5.64	6.49	-1.93	-8.50	-1.58
2. Moradabad	29.70	12.15	13.17	3.15	11.11	2.74	-4.97	12.20
3. Budaun	23.99	3.52	72.19	-4.88	6.68	-2.23	-11.39	-15.45
4. Rampur	27.50	16.92	36.71	14.17	18.56	3.70	-29.73	-7.30
5. Bareilly	28.49	3.97	30.16	17.04	12.60	6.25	-4.54	-10.64
6. Pilibhit	25.09	14.41	18.51	33.54	18.61	8.56	-0.45	-4.19
7. Shahjahanpur	25.69	6.87	27.30	10.97	11.05	6.22	-1.87	-9.73
8. Saharanpur	31.97	9.18	15.32	24.19	-3.54	-3.57	-10.32	-13.34
9. Muzaffarnagar	34.08	7.22	56.57	-5.98	-6.83	-5.27	-17.93	-9.32
10. Meerut	30.16	3.14	50.66	20.89	-3.90	-2.99	-50.55	-7.50
11. Bulandshahr	37.34	1.01	44.79	-11.03	7.11	1.37	-10.71	-7.63
12. Aligarh	30.22	6.55	28.85	-3.86	5.46	-1.91	-16.61	-9.79
13. Mathura	28.60	3.53	27.96	-4.10	1.76	-6.29	-19.23	0.11
14. Agra	29.74	2.05	13.36	-9.42	5.26	-5.10	-12.30	13.65
15. Etah	25.29	1.91	57.84	-10.00	4.11	-3.11	-20.18	-19.87
16. Mainpuri	39.38	4.31	31.52	6.44	3.91	-3.01	-8.87	-8.52
17. Farrukhabad	29.25	5.33	48.49	0.89	1.70	0.04	-5.63	-14.42
18. Etawah	29.34	6.41	51.17	-6.27	5.76	-4.08	-16.93	-16.02
19. Kanpur	30.91	10.82	8.18	18.48	2.13	-4.18	-16.85	1.19
20. Fatehpur	22.90	7.36	59.86	15.92	1.45	-1.55	-7.08	-24.89
21. Allahabad	19.64	1.07	10.51	31.88	-0.07	-2.86	-2.81	63.93
22. Jhansi	38.23	-2.33	18.67	-1.78	7.78	2.80	-15.71	5.34

Contd.....

Contd.....

1	2	3	4	5	6	7	8	9
23. Jalaun	32.37	5.03	44.73	2.18	-1.01	-4.98	-17.52	-8.32
24. Hamirpur	26.16	9.42	67.51	-5.82	-4.36	2.33	-19.31	27.02
25. Banda	25.37	0.00	43.73	-0.71	6.69	0.54	-13.36	27.03
26. Kheri	19.53	6.79	54.59	-8.74	-1.70	6.48	-1.77	-30.07
27. Sitapur	14.39	9.84	36.60	5.23	-1.78	1.68	-8.88	2.75
28. Hardói	13.21	6.93	40.51	10.24	-3.51	2.55	-6.41	-48.76
29. Unnao	22.66	10.78	363.04	0.00	5.80	-4.00	-14.17	-48.25
30. Lucknow	36.95	17.20	3.34	15.42	-0.53	-1.54	-4.65	40.48
31. Rae Bareli	22.39	12.79	117.65	26.94	-1.19	0.22	-1.72	118.02
32. Bahraich	28.50	7.39	18.04	14.08	-5.17	33.85	19.49	-18.35
33. Gonda	16.19	1.38	29.20	5.82	-6.08	8.51	4.61	-35.56
34. Barabanki	31.96	3.66	54.51	16.99	1.51	4.79	-7.40	-18.49
35. Faizabad	33.94	7.32	15.06	3.67	0.19	0.36	-4.31	1.38
36. Sultanpur	24.36	7.06	67.51	-4.41	-2.64	2.58	2.62	-8.62
37. Pratapgarh	27.35	3.98	155.10	-7.04	2.93	-1.57	-3.03	36.90
38. Basti	28.03	-2.39	90.48	0.00	-0.83	7.48	-3.55	-12.19
39. Gorakhpur	18.87	3.42	34.18	3.85	23.54	5.11	-1.09	35.73
40. Deoria	21.24	11.16	122.97	8.10	12.77	6.17	2.77	2.65
41. Azamgarh	28.82	3.78	76.58	12.11	3.96	0.88	-2.95	17.15
42. jaunpur	25.07	1.45	7.89	10.27	2.53	2.96	1.80	8.78
43. Ballia	27.63	0.00	101.33	-11.31	12.52	11.39	1.64	-5.68
44. Ghazipur	36.13	3.59	75.56	8.06	8.20	-0.03	4.40	-32.11
45. Varanasi	22.72	-8.85	7.04	21.18	4.46	3.73	3.00	151.55
46. Mirzapur	22.07	-8.22	8.89	-0.97	-1.92	-1.96	-19.33	109.70

Table III.12
Levels of Socio-Economic Development

Districts	Composite Index of Socio-Economic Development 1971	1981
A. High		
1. Bijnor	9.76	9.97
2. Moradabad	8.55	8.63
3. budaun	6.95	6.95
4. Rampur	7.69	7.80
5. Bareilly	8.13	8.33
6. Pilibhit	7.53	8.16
7. Shahjahanpur	7.30	7.50
8. Saharanpur	10.20	9.98
9. muzaffarnagar	9.21	8.99
10. Meerut	10.95	10.70
11. Bulandshahr	9.15	9.05
B. Medium		
12. Aligarh	9.56	9.28
13. Mathura	9.45	9.12
14. Agra	10.50	10.20
15. Etah	8.04	7.68
16. Mainpuri	7.61	7.69
17. Farrukhabad	7.69	7.74
18. Etawah	8.50	8.33
19. Kanpur	10.57	10.14
20. FAtehpur	7.41	7.29
21. Allahabad	8.07	8.58
22. Jhansi	8.76	8.61
23. Jalaun	8.20	8.13
C. Low		
24. Hamirpur	7.77	7.90
25. banda	7.26	7.36
26. Kheri	7.10	6.91
27. Sitapur	7.11	7.08
28. Hardoi	7.82	7.38
29. Unnao	7.76	7.51
30. Lucknow	10.58	10.33
31. Rae Bareli	6.41	7.31
32. Bahraich	5.67	6.06
33. Gonda	6.04	5.84
34. Barabanki	6.65	6.75
D. Very Low		
35. Faizabad	6.90	6.93
36. Sultanpur	6.50	6.47
37. pratapgarh	6.22	6.56
38. Basti	6.28	6.28
39. Gorakhpur	6.88	7.42
40. Deoria	6.43	6.96
41. Azamgarh	6.04	7.40
42. Jaunpur	7.20	7.37
43. Ballia	6.67	6.94
44. Ghazipur	7.78	7.51
45. Varanasi	8.61	9.99
46. Mirzapur	8.58	8.92

Appendix A.III. 13
Levels of Rural Development

Districts	Composite Index of Rural Development 1971	1981
A. High		
1. Bijnor	24.72	24.25
2. Moradabad	21.89	22.70
3. budaun	18.40	17.44
4. Rampur	21.09	22.69
5. Bareilly	19.31	20.49
6. Pilibhit	19.39	21.62
7. Shahjahanpur	17.94	19.49
8. Saharanpur	25.92	25.54
9. muzaffarnagar	36.56	30.22
10. Meerut	33.42	27.16
11. Bulandshahr	26.76	25.28
B. Medium		
12. Aligar	24.77	23.10
13. Mathura	23.88	23.49
14. Agra	25.08	23.71
15. Etah	20.43	19.28
16. Mainpuri	21.15	19.39
17. Farrukhabad	20.39	19.60
18. Etawah	19.74	20.01
19. Kanpur	20.97	21.29
20. FAtehpur	17.55	17.01
21. Allahabad	17.82	18.79
22. Jhansi	18.32	17.75
23. Jalaun	20.26	21.54
C. Low		
24. Hamirpur	17.89	18.81
25. banda	16.32	15.82
26. Kheri	18.53	18.71
27. Sitapur	16.76	16.65
28. Hardoi	17.49	17.16
29. Unnao	17.31	16.88
30. Lucknow	22.16	22.74
31. Rae Bareli	16.05	19.95
32. Bahraich	14.54	15.57
33. Gonda	15.89	15.46
D. Very Low		
34. Barabanki	17.53	17.94
35. Faizabad	19.56	19.53
36. Sultanpur	17.46	16.93
37. pratapgarh	15.66	16.67
38. Basti	16.33	14.94
39. Gorakhpur	18.52	18.02
40. Deoria	18.23	18.82
41. Azamgarh	17.89	18.55
42. Jaunpur	16.94	18.93
43. Ballia	18.20	19.65
44. Ghazipur	17.84	19.25
45. Varanasi	19.00	21.98
46. Mirzapur	16.33	17.95