CHAPTER 2

POPULATION

Introduction

Population is the core point of all habitat transformation, as all development, resource generations, economic upliftment social and cultural progress, behavioral refinement etc are only and only for population with its defined extents including its settlements. Population is the most dynamic phenomenon having the following attributes: Growth, density and distribution, resource relationship, mobility, literacy and so on Following are the enunciation of a few of them in the context of the topic of study.

2.1. Population Distribution

Population distribution in an area is the indicator of the quality and sustainability of the land. It is an apparent fact that all the areas are not, suitable and were never suitable for population habitation. Thus it is true to say that 'man lives there where the land is capable to support him' Such locations have, therefore a pull force that pull in the population and support them to grow

Karjan by its resource potentials has the capacity to attract the population. It has a flat and gently rolling plain area with fertile black cotton soils and dependable water resources, promising agricultural environment,

adequate and efficient transport and communication facilities, and also bright prospects for industrial development.

The Karjan taluka has a total land area of 586 663 square Kms distributed over 93 villages of unequal sizes and (excluding the urban area) numbers of population. In 1970-71 with the same areal extent and number of villages the population was 103081. Their per capita average share of total geographical area was 0 57 hectare. But in 1990-91 population- a growing phenomenon, added 19952 more making the total 123033, which had the effect of reducing the per capital share to 0 48 hectare

To see at regional level the three edaphic regions of Karjan are variable both in theirareal extent,number of villages,and number of persons Table 2.1 shows this variability

Table 2.1

REGION WISE ABSOLUTE POPULATION OF KARJAN

(1970-71 & 199-91)

Regions	1970-71		1990-91		Difference	
	Number	%	Number	%	Number	%
I	42186	40 94	49064	39.87	6878	34.47
II	21471	20.82	26901	21.86	5430	27.22
III	39424	38.24	47068	38.27	7644	38.31
Taluka	103081	100	123033	100	19952	100

When seen in each region the population distribution is found roughly proportionate to the extent of each one Region I is the largest in area

and population and second largest in number of villages (i.e.35 villages) At the base year it had 42186 persons (i.e 40.94percent of the total population) distributed over 35 villages comprising 2575 90 hectares. By the second point of time an addition of 6878 persons made the total 49064.

Region II the smallest in area and number of villages had smallest population. At the base year, its population was 21471 (20 82%) distributed over 14 villages it grew to 26901 (21 86 %) in 1990-91

While region III second largest in area and largest in number of villages, had 39424 (38 24 %) and 47068 (38 27%) of population at the two points of time respectively,

The per capita share of total area of all the three regions in 1970-71 was 0 61,0.53 and 0.54 respectively In 1990-91 the increased number of persons reduced it to 0.52, 0.42 and 0.45 The decrease in per capita share proves the fact that population is elastic and land is inelastic but notable is the fact that physical land had no elasticity, but its qualities have shown greater attributes of it as decreased amount of land has assured support to increased population.

The distribution variance is more discernible in the village wise distribution(given in the table 2.2)of population in the villages of each region of the taluka. The village wise distribution, is, as usual,found depending on the variable size and capacity of the villages To describe and map the rural distribution of population, it is condensed into five range distribution comprising very high (4000 and above), high (3000 –4000), moderate (2000-3000), Low (1000-2000 and very low (< 1000)

Table 2.2.

VILLAGE-WISE DISTRIBUTION OF POPULATION IN THREE REGIONS OF KARJAN TALUKA (1970-71 & 1990-91)

	1970-71				1990-91			
%range distribution	I	II	III	Total	I	II	III	Total
Above-4000	1	1	0	2	2	1	1	4
3000-4000	1	1	1	3	0	1	0	1
2000-3000	0	1	1	2	1	1	2	4
1000-2000	18	5	13	36	22	6	14	42
Below-1000	15	6	29	50	10	5	27	42
Total	35	14	44	93	35	14	44	93

In region I, at the base year, one village each was in the range of very high and high population i.e. >4000 and 3000-4000, none in the moderate range of 2000–3000. 18 in low range (1000-2000) and 15 villages were in the very low range. But by the second point of time the order of distribution seems to have altered as two villages in place of former one went up to very high range, keeping the high range blank, and the moderate range which was blank got one, 22 villages in place of 18 in the low range and in the very low range remained only 10 villages in place of the former15. Thus five villages in the previous very low range went up to low, one village from low rose to moderate, and the former one village of high range went to very high range. Some village of the former point of time enjoying the status of very high range retained it

e g Miyagam with its former 4359 persons went further to have 4652 persons in 1990-91 In its contrast is its adjacent village Vadava having the lowest population all over rather showing the signs of depopulation as it depicted a down swing from 64 of the former year to 57 at the second point of time. Thus it retained the status of being the least populated village in the entire Karjan taluka.

Region II with its 14 villages, at the base year, had one village each in very high, high and moderate ranges, five village in low range and rest six in very low ranges i.e. below 1000. By the second point of the time very high, high and moderate range remained unmoved But low and very low ranges went upside down as the former 5 and 6 turned to 6 and 5 respectively. Valan is the village with highest population not only in this region but also in the whole taluka It had 5830 persons at the first and 7753 persons at the second point of time, while in its contrast is the Nisalia village with its lowest population of 417 and 521 in this region during the two points of time

In region III, at the base year, the very high range was blank, high and moderate ranges were with one village each, three village in low and 29 villages in the very low range. In 1990-91 one village entered very high range in place of none,the high range was reduced to none ~~against one~~ against one of the former year. One village was added to moderate range making a total of two villages. In low and very low ranges, were 16 and 25 villages respectively Sansrod of this region had the highest population of all its villages with 3388 persons and 4935 persons at both the points of time, while Bakapura had the lowest population with 69 and 83 at the two points of time One notable feature of Sansrod is observed that it is a small village in respect of its areal extent that it has an area of 930 92 hectares only. In 1970-71 its population comprised

3388 persons and in 1990-91 it made an abrupt swing to 4935 persons This shows the disproportionate concentration of the population in sucha small village, further this village, barring, the settlement areas and other public utility lands, has two major lines of transport passing through it i e. the National Highway –8 and western railway broad gauge line It is an important node of the state bus service, and passenger trains of western railways because of these two privileges the people of Sansrod do not only depend on their traditional resources- agriculture but promising commercial activities have been found developing here, this indicates that the increase in the population of Sansrod is not only by the natural growth of its own population but a sizeable population has made its way to this village for commercial activities and it is also seen that around the bus stop and railway station a growing trend of kiosks the tea-farsan shop, 'pan-bidi gallas' etc are emerging out. Thus the village has not increased in its population by the innate sources but the favourable circumstance created by the major lines of transport making it an ideally located place On the other hand its location which has favoured it to become the node on the important arteries of transport as the national highway and western railway broad gauge and approach roads leading to the adjoining villages, has made it a place of a-boarding and alighting the passengers. It has, thus, availed the opportunities for the growth of commercial activities

Pattern Of Distribution

A glance at the population distribution figure.2 1 That the two enclaves of very high range of population lie in the western part of the taluka one is Miyagam adjoining Karjan town, the other is Valan in southwestern part. These enclaves are escorted by a host of low and very low ranges villages from north to south However, besides Valan, Sansrod is also placed in high range,

where as Miyagam is sheltered by Karjan town. The eastern side depicts a linear block of very low ranging villages. These linear blocks are enclaved by moderate and low ranging villages placed at the eastern peripheral margins.

The Valan and Sansrod enclave of very high and high range of population distribution lie on the main line of the western railway and the national highway 8 running almost parallel to it, while Miyagam also lies on the same but in addition it is served by two state highways on the western side Beside, it is highly influenced by Karjan town having a common boundary from the east However, invariably the effect of main arteries of transport even including the narrow gauge railway line is very conspicuous that all the nodal villages are seen either in the very high (on western side) high and moderate (on the east) ranges of population accompanied by low and very low ones. This pattern of distribution is found at the first point of time

By 1990-91- very high populated enclaves of the western side maintained status quo, Sansrod went up from its former position and shared status with them. Kaliyad sharing border with Sansrod rose to moderate, while four of the six very low enclave of the former year on the west of the national highway, and influenced by the state highways went up to low range On the north east and east of the main line of transport are Kandari, Dhawat, Vemar and in down south Moti-Koral of them Kandari went up to very high, Vemar remained in moderate Dhawat went up from low to moderate and Moti-Koral remained unmoved. The rest of the villages reeled in either very low or low ranges which are placed around margins of the taluka and its regions from all the directions. This may be taken as demographic transformation of rural habitat of Karjan

KARJAN TALUKA

POPULATION DISTRIBUTION

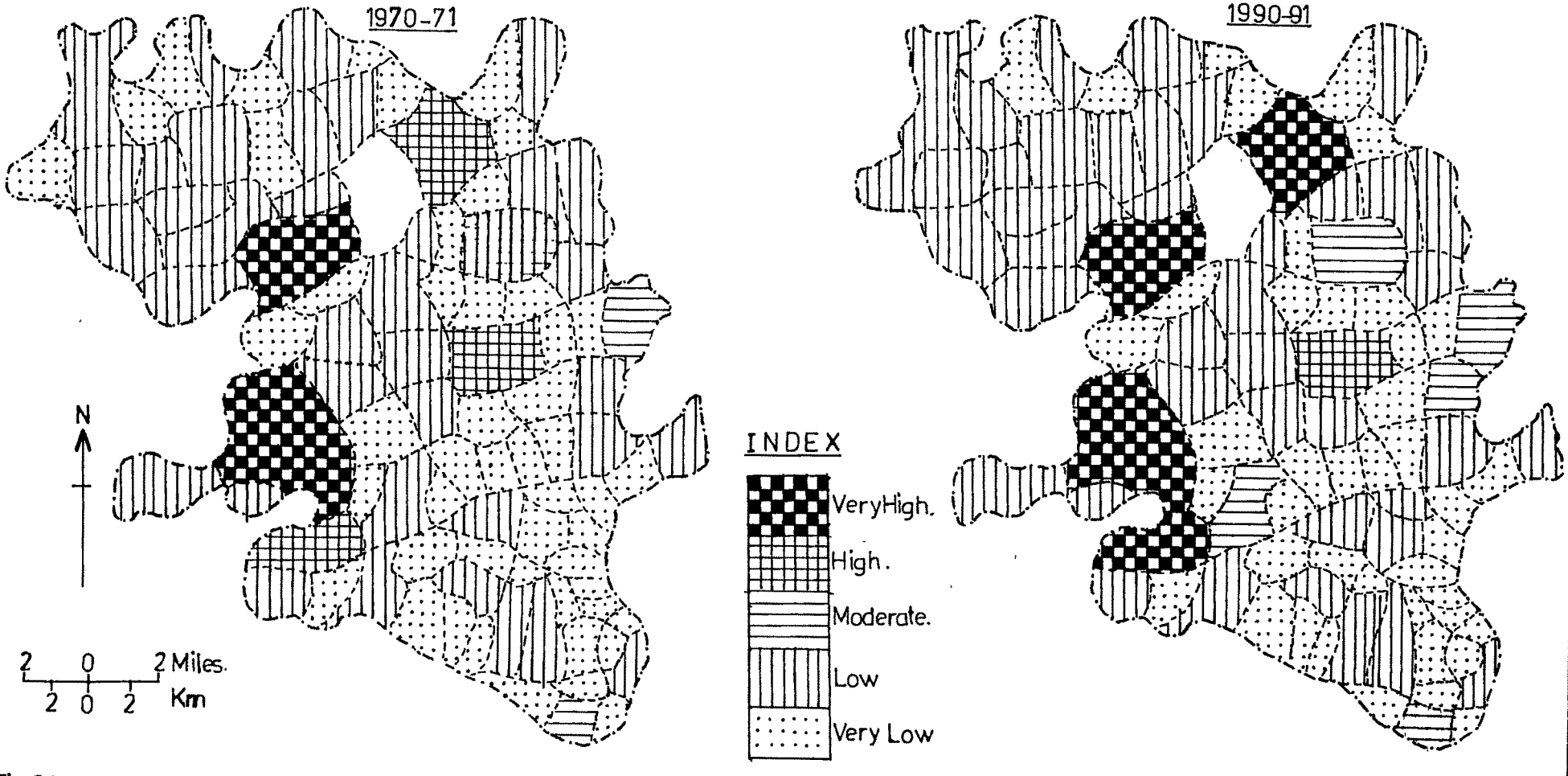

Fig.2.1

2.2 Crude Density

Density is a variable phenomenon, changing from place to place, according to the economic viability of the areas. Density in an area shows the population pressure on the land.

Density of the Karjan taluka at the first point of time was 176 persons per square Kilometer But by the second point of time it increased to 210 persons per square kilometer while per hectare density of the taluka was 1 76 and 2 10 respectively As such the densities of both the point of time do not give to understand the arising problems, generally faced by the densely populated areas. The over all density of the taluka is slightly above the ward's scale of 1:200 The total population of the taluka at the first point of time was 103081 and that of the second point of time was 123033 distributed over 58566.30 hectares or 585.663 square kilometer. This density is concordant with more or less the density of Gujarat State i e 198 and 211 per square Kilometer respectively.

Table 2.3

PER HECTARE DENSITIES OF KARJAN TALUKA AND ITS REGIONS
(1970-71 & 1990-91)

Regions	1970-71	1990-91
I	1.65	1 90
II	1.90	2.37
III	1 83	2 19
Taluka	1.76	2.10
State	1 98	2 11

Table 2.3. shows the varying densities of all the three regions of the taluka. The regional density is varying according to their variable areas and their sustainability.

Region I has the lowest density of all the three regions. At the first point of time. It was 165 persons per square Kilometer or 1 65 persons per hectare which increased with the growth of population in two decades to 190 persons per square Kilometer or 1.90 per hectare. Region II the smallest of all in area, number of villages, and population, but had greater density than region I with 1.90 persons per hectare or 190 persons per square Kilometer at the first point of time, it shows that what was the density of region I at the second point of time was that of region II at the first It wen up to 2 37 persons per hectare or 237 persons per square Kilometer at the second point of time, which is 0.47 more than the first region at the same period Region III, though much greater in area, number of villages and population than region II and smaller in area and

population but greater in number of villages than region I, had higher density than region I , and lower than region II at the two points of time. It had 1.83 persons per hectare or 183 persons per square Kilometer at the first point of time and 2.19 or 219 at the second point of time. It therefore shows that region II has relatively higher pressure of population on its total land than the other two The densities of three regions are seen in accordance with the taluka's and Gujarat State's densities at both the points of time However, those of region II and III are more near to them than that of region I as it is remotely placed in relation to both taluka and state.

A view over the village wise densities show interesting change over the two decades. Table 2.4 shows the range distribution of densities of each village of the three regions.

Table 2.4

VILLAGE WISE DENSITY OF POPULATION IN THE REGIONS OF KARJAN TALUKA (IN %) (1970-71 & 1990-91)

	1970-71			1990-91		
%Range distribution	I	II	III	I	II	III
Above-3.60	1	0	1	1	0	4
2.70-3 60	0	0	2	3	3	3
1.80-2 70	6	4	26	13	8	16
0.90.-1.80	27	10	14	17	3	20
Below 0.90	1	0	18	1	0	1
Total	35	14	44	35	14	44

In 1970-71, one village in region I, was placed in very high range of 3.60 percent and above, the high range of 2.70-3.60 remained vacant, six village were in moderate range of 1 80-2.70, and in subsequent ranges of low (0 90-1.80), and very low (0.90 and below) were 27 and one villages respectively. At the second point of time, both very high and very low maintained status quo. Three villages came up in the high range against none of the former. Seven villages more were added to the existing six in the moderate range of 1.80-2.70. a major drop from 27 to 17 is notable in the low range of 0.90-1.80. Thus, a notable reshuffle occurred in their growth of population and resultant densities.

In region II at the base year, the very high and high range remained totally vacant The moderate range of 1 80- 2.70 percent had only 4 villages, and ten villages were placed in low range of 0.9-1.80. The very low range remained vacant. At the second point of time a remarkable change is noteworthy that 3 villages appeared in the high range against none of the former year, very high and very low remained unchanged While in moderate range four more villages were added to the former make the total 8. The low range could retain only 3 villages as against 10 villages of the former year. This notable change is owing to the variable growth of population which is its natural characteristics

In region III none of the range are found vacant at any point of time During the year 1970-71 there was only one village in the very high range, two in the high range of 2.70 to 3 60 percent, 26 villages in the moderate range, 14 in the low range of 0 90 to 1 80 percent and only one in the very low range (0 90) At the second point of time the very high range went up four times from one to four villages. The high range increased from 2 to 3 while

moderate range drifted down from its higher number of 26 to 16 i e a decrease of 38.46 percent but the low range made a spurt from 14 to 20, while very low remained unchanged. This variability in density ranges would definitely be attributed to the variable growth of population.

Pattern Of Crude Density

The observation gives a haphazard pattern of the crude density of the taluka As such majority of villages reel in the low range interspersed by high and very low, high and moderate in the western half. On the south eastern fringe lies Hajipura in the very low range followed by Ropa, Rarod, Malod and Alampura in the moderate range and a small village Moti-Koral in the high range Toward central and northern side are two and one block of moderate range separated by low ranges and on the northern side is a single block of moderate range lying on the north-eastern fringe of Karjan. The north western part has one compact block of moderate range including a small piece of very high range and two small blocks of moderate range separated by low ranged villages, one on the southern bank of Dhadar and the other a bit away from it. One small village of high range lies on the southern fringe of Karjan and down south are a big village Valan in moderate range, a relatively small village Sansrod in very high and another village Haldarva on the northern bank of Narmada in the moderate range. This is the pattern of density distribution emerging from the density map of Karjan taluka of the year 1970-71 (Figure 2.2)

After a span of two decades in 1990-91. The density pattern is found substantially changed Most of low ranging villages went up to moderate and moderate to high and further on. The two very low ranging villages one in

KARJAN TALUKA

CRUDE DENSITY

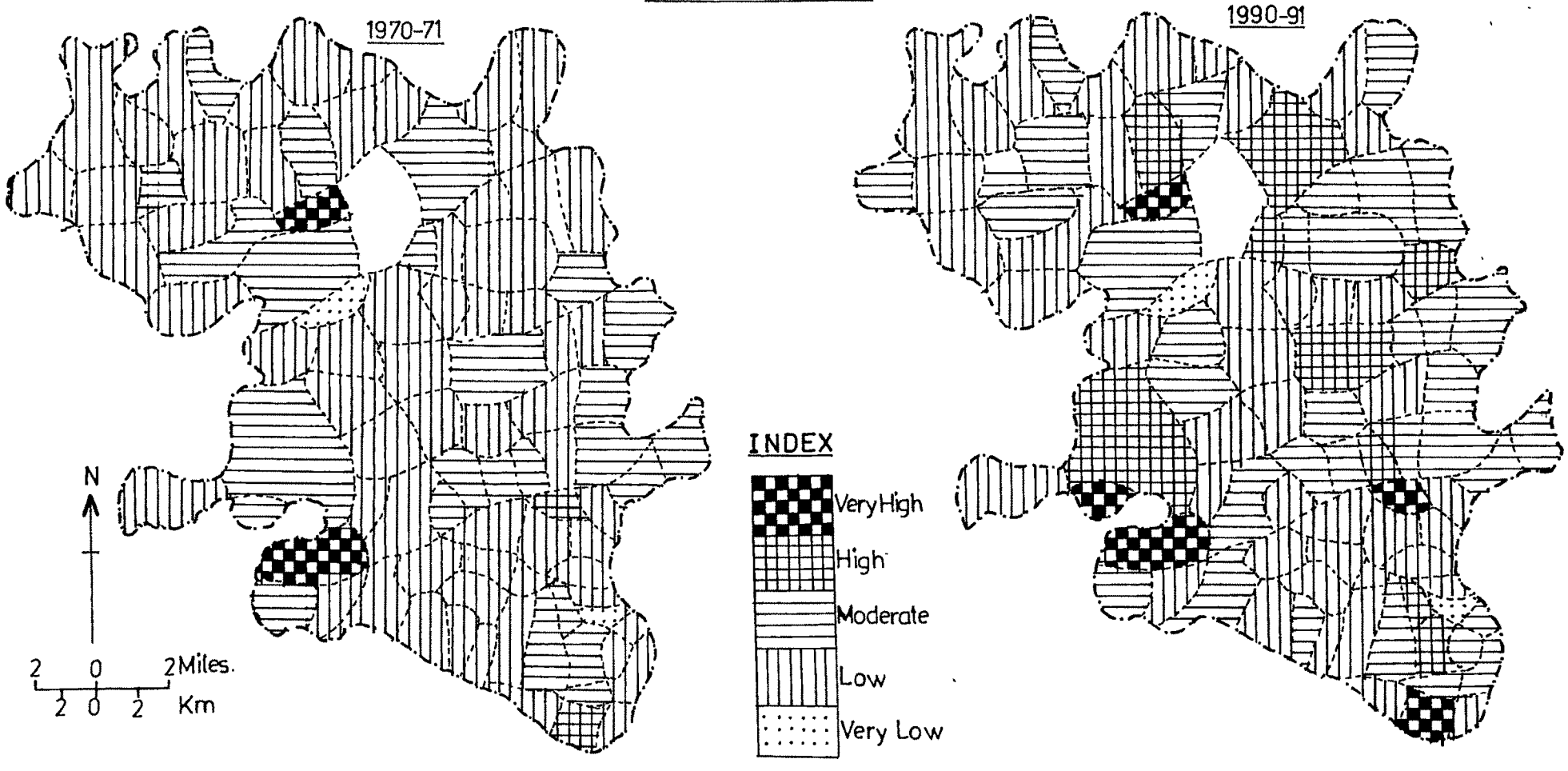

Fig.2.2

bottom of Karjan and one on the south eastern margin remained unmoved Thus, an almost oval shape pattern is seen emerging out from the map (referred to above) in which if taken from down south a mixed picture of moderates, highs and very high starts from the head of the loop of Narmada in down south from the village Manatroj and slantingly going up taking a tilt towards east from there going up in a big and wider block enclosing one or two low ranging villages go right up to the top north and top north eastern fringe. Further encircling Karjan it extends towards west and covering the western fringe of Karjan comes down south to the last village Sansrod (very high) and Haldarva (moderate)other enclaves of moderate, high and very high of small size are found on the south eastern side, and two blocks of moderates one including four villages and one of one only lie on north western and extreme north western part of the taluka It therefore reveals that very low and low ranging villages have substantially decreased during this point of time and many of them have gone up to moderates high and very high levels of density laying greater pressure on the land. Probably it is the increasing pressure of population on the land resource mainly agriculture that has moved a system of developing the primary resources and diversified occupations in rural habitat. Thus it may also be reckoned with an habitat transformation in rural Karjan

2.3. Population Growth

Of all the phenomena in space population is seen to have the most dynamic character. For a long time, dating back from the birth of Jesus Christ, its growth was sluggish owing to the external factors causing increased death rate But from 1750 onwards due to the effect of industrial revolution its pace is found accelerated and doubling time mitigated. Since the industrial revolution had revolutionized all aspect of human activities the improving

economic status, increasing production and use of life saving drugs has added values in this respect. Thus population growth touched the scales of population explosion and this encompassed all nooks and corners of the world and made to raise hue and cry of population problem in both developing and developed world. The accelerated growth rate made planners the world over to seek artificial measures to bring the explosive situation under control

Karjan also paced with the global population growth between 1970-71 and 1980-81 when its absolute population was 103081 in 1971 and 211876 in 1981. The total addition, thus, was 18789 persons (18.22%) But the same growth between 1981 and 1991 was only 123033 which shows that only 1157 (0.95%) persons were added to that population in a decade. This is definitely misleading However the fact that growth of population had ascending trend during the first decade, and descending during the next. Possibly there lies some computing errors. Looking at the bi-decadal growth the reflections of ascent and descent are definitely sensed, that the total 1991 population was 123033 giving an addition of 19952 persons in the 1971 population of 103081 in a span of two decades. This addition however, consist of larger lot of previous decade and smaller of the second decade. It is because a brisk family planning scheme was launched during the second decade, it comes to 9976 persons per decade. But according to available statistics it is also misleading as the addition of the second decade is too small to be authentic. But whatever be the case these figurers have to be accepted for all practical purposes

A regional survey explain the variability of growth in each region shown by the table

Table 2 5

POPULATION GROWTH OF KARJAN AND ITS REGIONS

(1970-71 & 1990-91)

Regions	1970-7	%	1990-91	%	Growth	% Growth
I	42186	40 93	49064	40 00	68.78	16 30
II	21471	20 83	26901	21.86	54.30	25.29
III	39424	38 24	47068	38.24	7644	19 39
Taluka	103081	100	123033	100	19952	1936

In the regional context, region I had largest population of all the edaphic regions at both the points of time At the base year its total population was 42186 and in 1990-91 it went up to 49064, giving an increase of 6878 persons The decadal growth was 343 90 persons. At the first point of time, nearly 41 percent of the total taluka population was settling in this region, while at the settling second point of time, it slightly reduced by nearly one per cent, it remained approximately 40 ;percent against the 41 percent of the former year

Region II the smallest region had the smallest population of 21471 (20.82%) in 1970-71. By the second point of time it increased to 26401 persons, giving an absolute addition of 5430 persons.' In all 21 86 percent was the population of this region in respect of the total taluka population.

Region III with largest number of villages had a population of 39424 at the base year, it increased to 47068 by the second point of time that is

an increase of 7644 persons in a span of 20 years. Though the population of this region has increased by 7644 persons, its percentage from the taluka population remained 38.24 at the two points of time showing no change.

Thus region I the largest in area and population added 6878 persons, region II the smallest added 5430 persons and region III the second largest added 7644 persons. Thus region III surpassed all in the absolute growth followed by region I and II changing their hierarchy in respect of the total population.

Growth Rate

The bi-decadal growth rate of Karjan was 19 35 percent, while the average decadal growth rate was 9 67 percent. Computing per annum rate comes to 0.97 percent, which is less by 0.03 percent than one percent and much less than the national growth rate of 2.28 percent, and the per thousand growth being 193.35 only reflects the consciousness of the people of Karjan towards family planning and also their available resources

In the regional context it is noted that region I is largest in area, and population and second largest in the number of villages, but when calculated its growth rate gives different look that it manifested the lowest bi-decennial growth rate of 16.29 percent in comparison to the other two regions Further, the decennial growth rate thus calculated gives 8.15 percent and on the same lines the annual growth rate is 0.82 percent When drawn out of 1000, the growth rate shows 163 per 1000

Region II is the smallest of all the three regions in respect of the area, the population and the number of villages In spite of these attributes, its

growth percentage is the highest (25.29%) of the other two regions. Its decadal and annual growth rates are 12.65 and 1 26 percent respectively. Therefore its per thousand growth is 254 persons. It, thus surpasses the other two regions, in respects of the rate of population growth.

Region III is the second largest in area and population and largest in number of villages, its bi-decadal growth rate is also enjoying the same 19.38 percent It is placed the second highest surpassed only by region II. Its decadal growth rate was 9.69 percent and its annual growth rate, was 0.97 percent and the per thousand growth in two decades was 194 persons. Thus the significant variance in the regional growth rates gives to assume an increased rate eof migration (though data could not be made available) from region I or an effective family planning measures adopted en masse by the people in productive age group However this region surpasses the other two in the growth of literacy and has been found well established in, other amenities and living standards as well as the privileges of urban neighbourhood.

A eye on the table 2.6 giving the negative trend of the population growth shows that 10 villages of both small and big size of population at the first point of time have gone against the usual positive to negative trend at the second point of time. Of them 4 were from region I and 6 from region III and none from region II

Table 2.6

VILLAGE OF KARJAN SHOWING NEGATIVE GROWTH BETWEEN (1970-71 & 1990-91)

Regions/Name of villages	Population		Different	Percentage Growth
	1970-71	1990-91		
I Viraj	1424	1417	-07	-0.49
Chorbhuj	1405	1087	-318	-22 63
Kambola	1395	1256	-139	-9 66
Vadava	64	57	-07	-10 93
III Sharupura Timibi	636	549	-87	-13 67
Manatroj	702	650	-52	-9 30
Sherupura	664	650	-14	-2.10
Delwada	474	437	-37	-7 80
Rarod	1405	1345	-60	-4.27
Mani-Koral	549	532	-17	-3.09

The numerical decrease ranges from the lowest –07 in Virjai and Vadawa to highest –318 in Chorbhuj (all from region I) others in ascending numerical negative order are Sherupura (-14), Nani-Koral (-17), Delwada (-37), Mantroj (-52), Rarod (-60) and Sharupura-Timbi (-87) (all from region III) and one Kambola (-39) from region I Thus, the lowest (-07) and highest (-318) numerical decrease is seen in region I and the figures varying below 100 are in region III

Table 2.7

Villages Of KARJAN SHOWING PERCENTAGE RANGE OF NEGATIVE GROWTH BETWEEN 1970-71 & 1990-91

Percentage Range Distribution	Negative Growth		
	I	II	III
40 +	0	0	0
30-40	0	0	0
20-30	1	0	0
10-20	1	0	1
Below-10	2	0	5
Total	4	0	6

The table 2.7 shows that there had been 2,1 and 1 villages of region I in the negative percentage range of very low (below 10) low (10-20) and moderate (20-30) respectively. Similarly 5 and 1 villages of region III were only in the very low and low ranges respectively. In all there were six villages of region III and 4 of region I

The only believable reason of this decrease may be cited that these villages have probably greater streams of migration both from the groups of literate and also from that of artisans and non- agricultural workers, as their literacy rates are reportedly high and these villages had a sizable population of artisans, masons and others

Table 2 8 shows that excepting the above cited ten villages showing a negative growth all 83 villages of the taluka have maintained the normal positive growth rate at the second point of time over the first.

Table 2.8

VILLAGE WISE RANGE OF POSITIVE GROWTH IN THE THREE REGIONS OF KARJAN TALUKA (1970-71 & 1990-91)

Percentage Range Distribution	Positive Growth		
	I	II	III
Above -40	3	2	5
30-40	3	3	7
20-30	11	4	6
10-20	6	3	12
Below-10	8	2	8
Total	31	14	38

The table shows that of the 31 villages of region I, eight villages were in very low,6 in low, 11 in moderate, 3 each in high and very high ranges.

From the 14 villages of region II (with no negative change) 2 were in very low, 3,4,3,2 in the subsequent ascending ranges.

Excepting six villages in negative range, the remaining 38 villages of the region III were placed in the order of 8 in very low, 2 in low, 6 in moderate, 7 in high and 5 in very high ranges.

Thus it is notable that each region whether big or small has remained in the order of growth from the lowest 10 percent and below to highest 40 percent or so

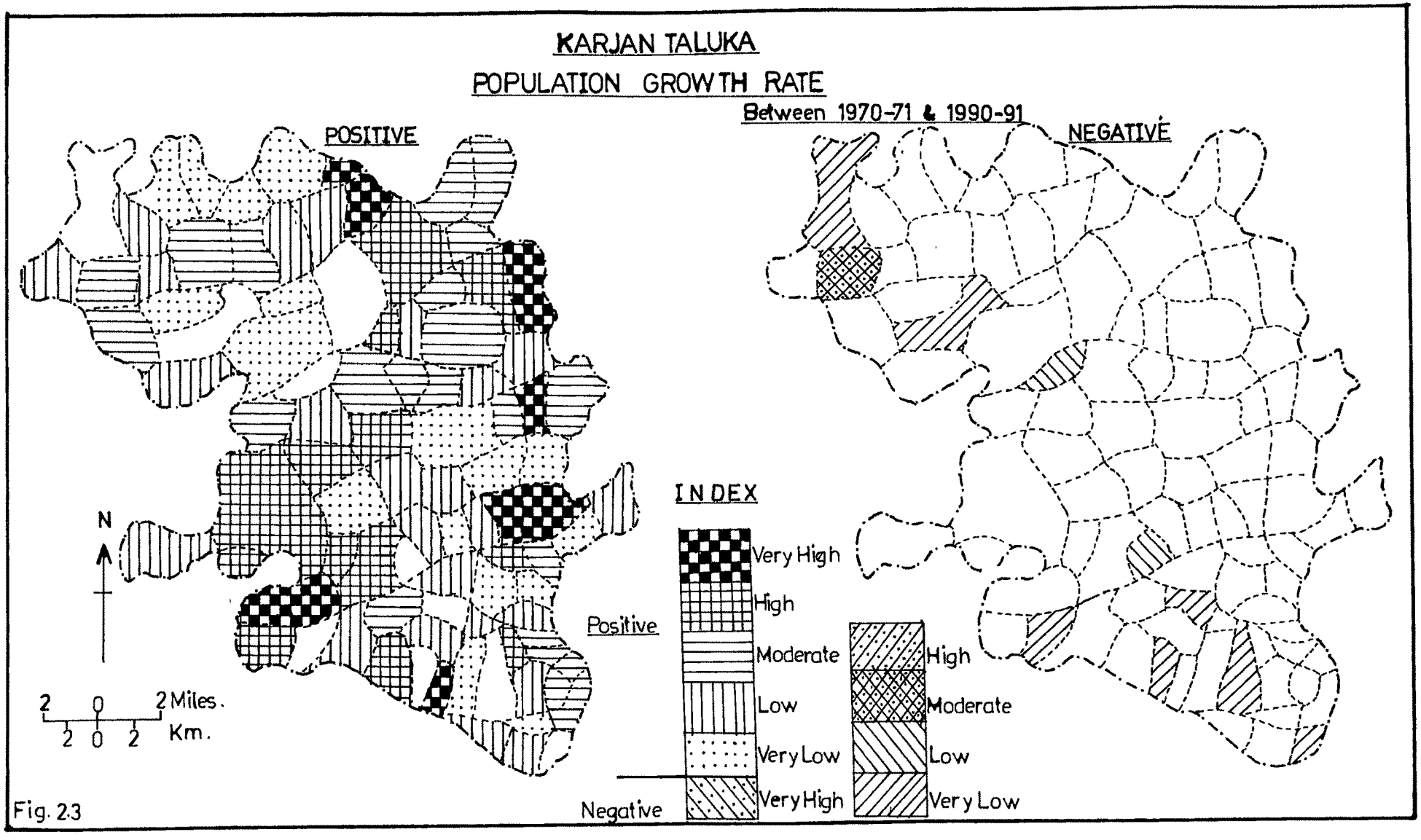
KARJAN TALUKA
POPULATION GROWTH RATE
Between 1970-71 & 1990-91
POSITIVE
NEGATIVE
N
2 0 2 Miles.
2 0 2 Km.
INDEX
Positive
Very High
High
Moderate
Low
Very Low
Negative
Very High
High
Moderate
Low
Very Low

Fig. 2.3

However, in comparison to region I the growth rate in other two regions has been pretty bigger. Region II has larger number of villages in high (7) and very high (5), moderate (6), low (12) and very low (8). While region II had 2 villages each in very low and very high ranges, 4 in moderate 3 each in low and high ranges Thus its growth is seemingly higher than all. Region I is found to have a sluggish growth.

However, this pattern of growth rate emerging from the figure 2.3. Reflects that the central belt of the taluka comprising partly region III and region II have shown very high range of growth rate, another belt of the same range developed on the north eastern side of Karjan town. Villages in other ranges are found scattered all over the taluka showing a mixed pattern of very low, moderate and high and along with them are the villages of negative growth as well

2.4. Physiological Density

Physiological density gives the actual measurement of absolute pressure of agricultural population on the net sown area of the villages

Karjan had a very satisfactory per capita share of net sown area at the first point of time This ratio was nearer to ward's scale of 1:2 00 and may be deemed to have given desired sustenance to, the then people depending directly on agriculture Thus the former point of time was the period of a greater dependency on agricultural and less diversification of profession.

The second point of time revealed a different picture that the total population increased so the agricultural population (cultivator + agricultural workers) also increased Former physiological ratio with the total depending

population was 33461:50532 13 i e 1:1 51. Thus on an average each person in agriculture profession had 1.51 hectares of land, that may be deemed enough for the sustenance. The same ratio is found disturbed with the increased agricultural population and decreased N. S. A. making the ratio 42123 49839 52 i.e. 1.18 In the period of growing population growing desires and rising up living standards this ratio seems inadequate in terms of the physical area, but the improvement in the qualities of land, its productivity, etc. through the uses and application of modern innovations. These scientific method[5]have the effect of increasing the sustainability of decreasing amounts of land to support increased number of its dependants. It is probably the attraction of advantages accruing from the increasing capabilities of land that, in spite of, the in creasing percentage of literacy as well as increasing higher levels of education i e. graduation and post-graduation and other vocational qualifications, the number of the agricultural workers has increased, at the second point of time. This to some extent negates the formerly established hypothesis that "Literacy is inversely related with agriculture". Karjan proved that if the land responds well, and assures better support comfortably, even the literate prefer to work on their own land rather than serving out side their homesteads If compared with the base year a sizeable increase of literate agricultural workers is notable at the second point of time

A more comprehensive relation between the two-(literates and agricultural workers) emerges from their distribution in the three edaphic regions. Table 2 9. shows the absolute numbers and percentages of villages where their relations have accordance or vice versa. (Fig.2.4 and 2.5)

Table 2 9

INCREASE AND DECREASE IN LITERATE AND AGRICULTURAL WORKERS IN KARJAN (1970-71 & 1990-91)

	1st Step		Second step		Third step		Cumulative Picture	
Regions	Increase in literate & A/W		Increase in literate Decrease in A/W		Decrease literate Increase A/W		Decrease in Both	
	No of Village	%	No of villages	%	No. of Villages	%	No. of villages	%
I	17	48.57	13	37.14	2	5.71	3	8 57
II	8	57.14	6	42.86	0	0	0	0
III	23	52 73	18	40 90	3	6 80	0	0
Total	48	51 61	37	39.78	5	6 45	3	3.23

According to the given table, 2 9 all the three edaphic regions of Karjan have shown substantial percentage of literate and agricultural workers. In region I, of the 35 villages 17 (48 57%) indicate bigger number of literates preferring to continue with their ancestral profession and 13 villages (37 14%) have indicated decrease of agricultural workers with the effect of increase in literacy Besides two villages have shown inverse relation between the two by indicating decrease in literate and increase in agricultural workers and 3 villages have given different effect showing the decrease in both that is the decrease in agricultural workers and also literate.

Region II has maintained a semblance with region I showing 8 villages (57, 14%) in the first step and 6 villages (42 86%) in the second step other remained blank

Region II has maintained a semblance with region I showing 8 villages (57,.14%) in the first step and 6 villages (42.86%) in the second step other remained blank.

Region III has also paced with region I up to three steps, with majority of villages 23 (57.73%) in the first step, 18 villages (40 71%) in the second and a nominal 3 (6.80%) in the third step the last step remained blank.

The regions have, thus, exhibited the over all conditions of the taluka

Thus the picture emerging from the table 2.9 here leads to accept the former hypothesis of inverse relation between the literacy and agricultural workers. This hypothesis is proved by the II and III steps of the talukas literacy and agro-workers position. The last step is giving some what the symptoms of depopulation, as both literacy and agricultural workers have indicated decrease.

However, a new trend is being found emerging from the first step of the table 2 9 and also from figure 2.6 that may well be explained in a hypothetical frame that "the more attractive prospects of advantages from agricultural the more would be the attraction of rural people towards it". The first step of the table proves that gradually with the increasing literacy among the rural people the inverse relation between the literate and agricultural workers is ~~urning~~ turning towards the positive side. Even though it is at the initial stages and in smaller number, it is assumed that with the progress of literacy and education that bright future seems to be in close proximity when each village will have 100 percent literacy and probably larger number of the rural literate may be holding higher academic degrees. On the other hand prospective development is also seen on the agricultural front as several factors

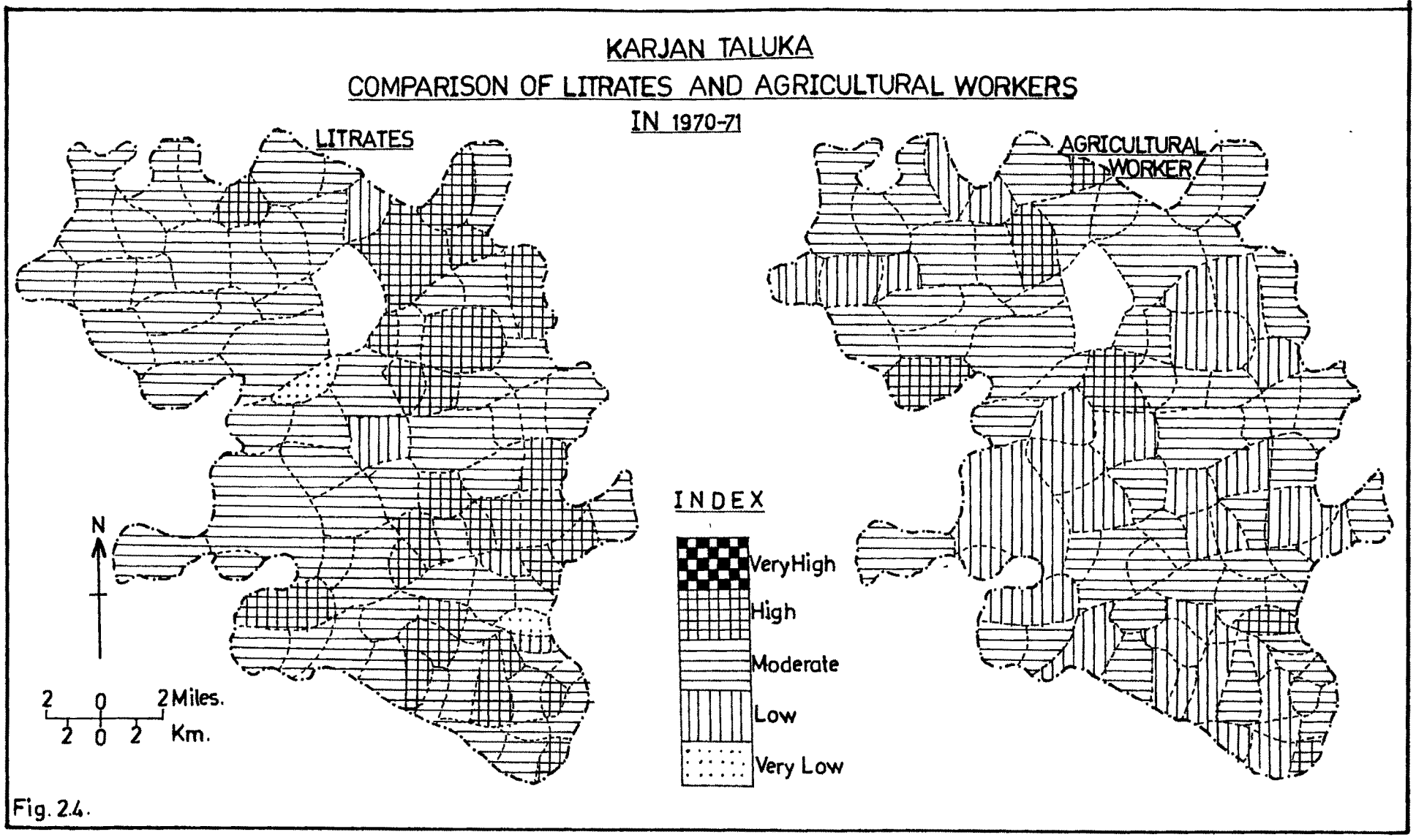
KARJAN TALUKA
COMPARISON OF LITRATES AND AGRICULTURAL WORKERS
IN 1970-71
LITRATES
AGRICULTURAL WORKER
N
2 0 2 Miles.
2 0 2 Km.
INDEX
VeryHigh
High
Moderate
Low
Very Low

Fig. 2.4.

KARJAN TALUKA

COMPARISON OF LITRATES AND AGRICULTURAL WORKERS

IN 1990-91

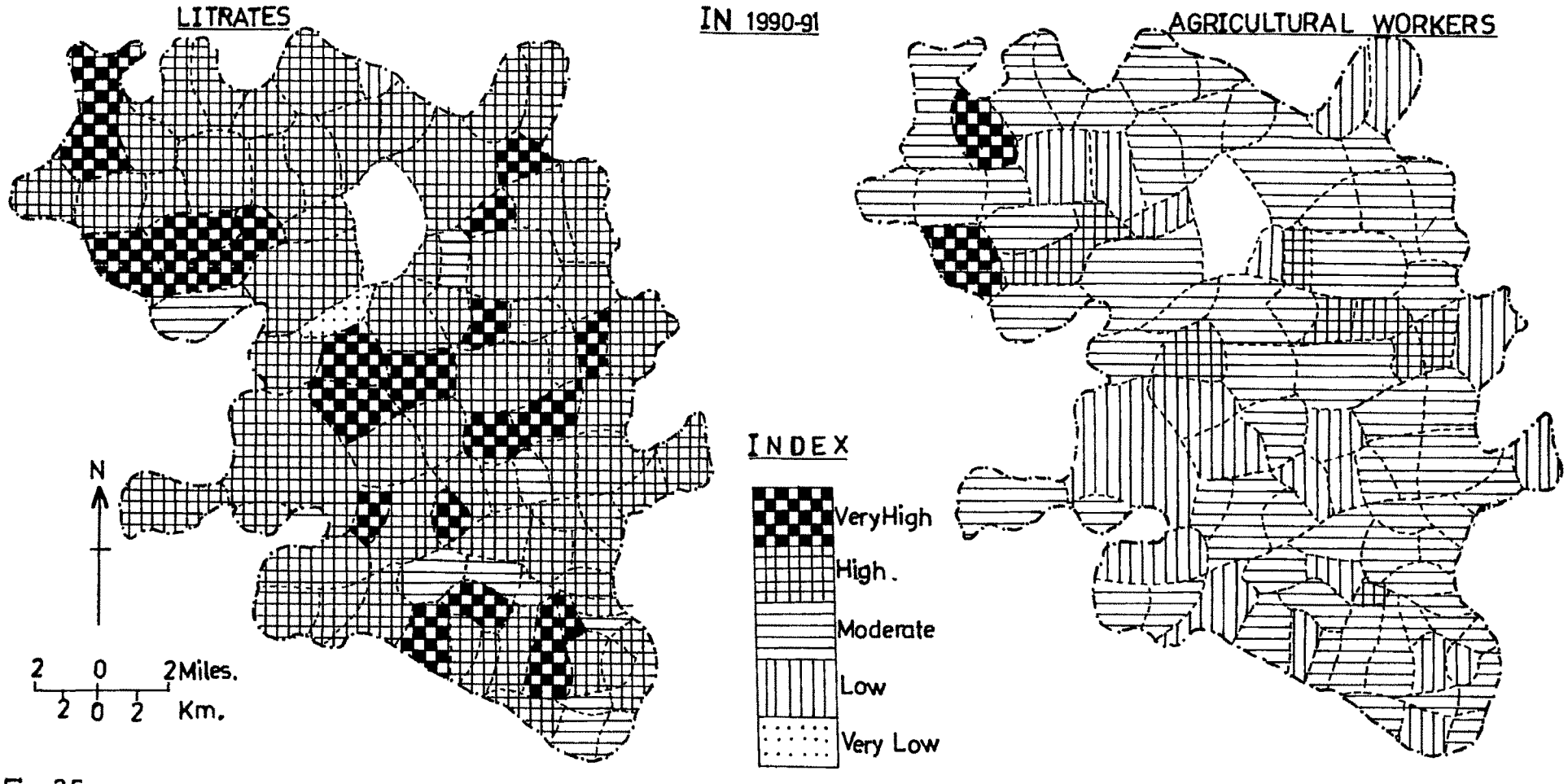

Fig. 2.5

like the scientific tool and implements, scientific methods of cultivation increasing use of innovation and increasing liberation of agriculture from the environmental control, together making it more lucrative, comfortable and profitable. Under these conditions it may be found that, the agricultural workers will no more remain illiterate rather they may be doing this job in spite of holding higher academic degrees from higher institutions of learning.

The fast changing physiological aspects of the rural areas (based on observation from Karjan) reflects that slowly and steadily our farm society is marching towards the pattern of agriculture in western countries i e. U. S. A U.K. etc., where the literate farms worker cultivate their land and the agricultural profession will become attractive in terms of higher incomes accruing comfortably It may also be assumed, that the agriculture may also be transformed to a "white collared job", this is indicating the physiological and agricultural transformation of the taluka.

A more minute picture of diverse physiological densities emerging from the three edaphic regions is exhibited from the table below

Table 2.10

PHYSIOLOGICAL DENSITY OF TALUKA AND ITS REGIONS

(IN HECTARES) 1970-71 & 1990-91)

	Per capital NSA in percentage	
Regions	1970-71	1990-91
I	1 57	1.22
II	1 55	1 26
III	1 41	1.14
Total	1.51	1.18

The table 2 10 gives the Physiological densities of the taluka and its three edaphic regions. During the first point of time, the physiological density of region I was 1.57 hectares per person that went down by the second point of time. Region II, at the base year, had this density to the tune of 1.55 hectares per person, and only 1 26 hectares at the second point of time. Same was the fate of region III that its former high density of 1 41 hectares per person decreased in 1990-91 to 1.14 hectares per person It is therefore obvious that in all the three regions the agricultural population is increasing and the per capita net sown area is decreasing, which is consequential to a perpetually increasing population pressure on the cultivable land (Fig. 2.6).

When seen at the village level it is found that these diversities maintain their character cited above Table 2 11 explains this fact

Table 2 11

VILLAGE WISE PHYSIOLOGICAL DENSITY OF THE THREE REGIONS OF KARJAN TALUKA (1970-71 & 1990-91)

% Range Distribution	1970-71			199091		
	I	II	III	I	II	III
Above 4	1	0	1	1	0	1
3 –4	0	0	0	1	1	0
2–3	9	4	5	0	0	4
1 –2	23	10	31	26	9	25
Below –1	2	0	7	7	4	14
Total	35	14	44	35	14	44

At the base year, region I had one village in the very high percentage range of 4 and above, none in the high range. 9 villages in moderate range of 2 –3% and 23 villages (i.e. 65.71%) in the low range of 1 –2 percent, while only two in the very low range of below 1 percent. By the second point of time notable change has occurred in the high and moderate ranges. The high range got one and moderate lost nine villages of the former year. The very high range remained unchanged. Low range got three more villages added to the form. . years number making it 26. The former two villages of the very low range got five more to become in all 7. Increasing number of villages in the low and very low ranges indicates the increasing pressure on net sown area, as the ,man increases and in ratio land decreases.

During the base year, region II had all the villages concentrated only in moderate and low ranger with 4 and 10 villages respectively, keeping the very high, high and very low ranges totally vacant. By the second point of time a notable shift is seen that moderate range lost all four villages, the high ranges got one, 9 villages went low against the former 2 and, 4 villagers to very low against none. It shows that the moderate range went directly to the very low , and one of the low went to high. It reflect increase of depending population in the one village and decrease in 4 villages of the former moderate having gone to very low range.

Region III at the base year, had only one village in very high range, keeping high range vacant,five villages in the moderate range, 31 in the low range of 1 –2 percent, and seven in the very low range. In 1990-91, the very high and high maintained status quo. The moderate range had four villages i.e. one less than the former, while the low range was reduced from 31 to 25, 7 more villages were added to the former 7in the very low range making

KARJAN TALUKA

PHYSIOLOGICAL DENSITY

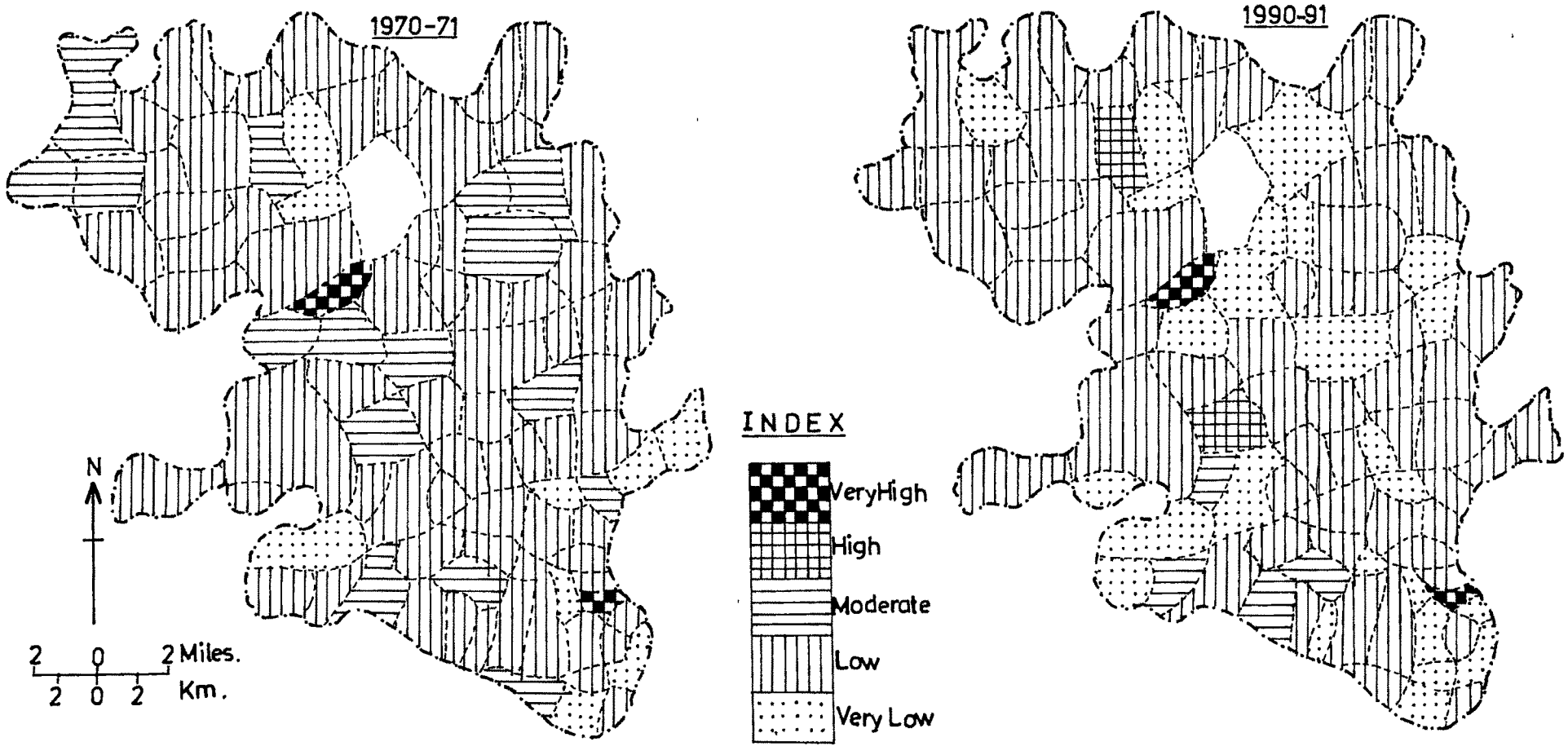

Fig. 2.6

it in all 14 Thus the increase in very low and decrease in low and moderate ranges shows the decrease ~~of~~ of depending population in the villages.

To sum up, the majority of the villages in almost all the regions have been found in the low and very low ranges of the physiological density distribution that indicates that the capacity of the land to support the increasing population shows declining trend. This is a natural result of the ever growing population in the rural area. Since the use of innovations increasing productivity of land, greater comparative advantage in the cash crops, and others, the agriculture in recent years has become somewhat more alluring, that even the literate now prefer to stay on it. But it appears that the land, in spite of the better methodologies has not been capable of sustaining the increased lot of the depending population. This state has led to either migration or to diversification of occupation, which is found an increase at the second part of time.

2.6 Literacy

A glance in the past can well explain the significance of literacy, which, by all means may be taken as the architect of the ancient illuminating civilization The names of Phoenicians, Greeks and Romans, in the history of the pre scientific geography emerged as the philosopher, mathematicians etc. and left their valuable contributions to the development of the science of geography and also other sciences may very definitely be attributed to literacy and education.

It reflects the awareness of the ancient man that literacy is the basic requisite for development, even though it remained confound to a few pockets ~~confined~~ of the globe. It denotes that literacy cultivates in man , the

personality development in term of manner, behaviour, skills, work aptitude, etc. It also leads to economic development. The renowned and river valley civilizations are renowned the brilliant examples

In the modern world social order the changing hierarchy is taking place mainly because of the improving levels of literacy, even the work efficiency may be cited a result of the improving literacy, and education.

India never lagged behind in literacy at least from the days of its known history The concepts of "Gurukuls". "Pathshalas" etc., were all developments for the sake of improving literacy and education. The revelation of the pious scriptures like 'Vedas', 'Purans' and Upanishads, would never have taken place without literacy, Indian philosophers, like Panini, Aryabhatt, Shri Narhari, Charack etc have been world famous in their work. The establishment of Nalanda 'Vishwavidayalya' during Chandra Gupta Mauriya, the works like Kautillya's 'Arthshastra' and many such works of esteem are the products of literacy in those ancient days of our history Thus the literacy has given a ray of development in all periods of ours and the word's history.

Today the Indian position of literacy may be divided into two parts – before independence, after independence. The position of literacy before independence was quite poor, as it reached to only the higher strata of society the lower strata could not avail it except under unusual circumstances. But after independence a 'literacy boom' is seen that encompassed all strata and all sections of the society all over the country. It was envisaged as a priority item in the first plan, and retained in all the subsequent plans During 1951 – the eve of the first plan total literates were 19.74 percent, but with persevering efforts and 'literacy drive' the percentage rose to 30.11 in 1961,

thereafter was a sluggish growth of 36 49 and 43.56 in 1971 and 1981 respectively. But after making the girls education free at all levels, the percentage made sharp upswing to 52.11 percent in 1991, further more is expected

Gujarat, and particularly Karjan-being a dynamic taluka of a dynamic district under a dynamic Princely ruler having already impact of literacy policies of Maharaja Sayaji Rao Gaekwad III of Baroda. Who for the first time in India made education free and compulsory in his state, Karjan also enjoyed the fruits of these policies. Karjan has also implemented all educational policies of before and after independence. During 1970-71 literate in Karjan were substantially above the levels of Gujarat and India as shown in the table 2 12

Table 2 12

PERCENTAGE LITERATE OF NATION GUJARAT AND KARJAN TALUKA (1971-81 & 1990-91)

Years	Nation	Gujarat	Karjan
1971	34 40	38.60	41.43
1981	41 04	43 56	49.65
1991	52 21	61.20	54 91

The tri-decadal comparative percentage figures in the table shows that Karjan maintained its supremacy in the total strength of literate over India and Gujarat in 1971 and 1981, but in 1991 though it surpassed India it was surpassed by Gujarat. However, Karjan maintained a steady pace in literacy on the lines of national progress, but Gujarat made a precipitous upswing between 1981 and 1991. It is because of the intensive literacy drive in its tribal areas and greater incentives given for girls education.

The regional impression in respect of literacy in the three edaphic regions is as good as the whole taluka. Table 2 13 gives the number and percentage of literate in each region at the two points of time.

Table 2.13

NUMBER AND PERCENTAGE OF LITERATE IN KARJAN AND ITS REGIONS (1970-71 & 1990-91)

	Literate			
Region	1970-71		1990-91	
	Number	Percentage	Number	Percentage
I	17271	40..94	26421	53 85
II	8694	40 49	15022	55.84
III	16745	42.47	26126	55.50
Taluka	42710	41.43	67569	54.91

Table 2 13 shows that literacy in Karjan in its regional context also shows a satisfactory progressive trend In 1970-71, region I the biggest in area and population had biggest number of literates too. They constituted approximately 41 percent of the total population of the region. Region II being in all respect smaller than other two had its level 40 49 percent in close proximity to region I. An appreciable move in this direction is seen in region III the smaller in area and population than region I but largest of all in the number of villages, that it surpassed all regions in literacy with its 42.47 per cent.

1990-91 was the year of appreciable progress in literacy where in all the past census years even till 1981, the literacy remained much below the 50 percent mark, in this year it crossed it by fairly a good margin. Region I went up to 53 85 percent, region II to 55.84 per cent, and region III 55.50 percent Thus, in respect of these percentages, region II is found more progressive than all by making a momentous upswing of 15.35 percent over its own former percentages.The other two regions i.e. I and II also followed suit by increasing 12 91 and 13.03 per cent respectively. (Table 2.13 and Figure 2.7)

To see at yet another micro level, the villages of Karjan have also made a progressive march in the field of literacy as well. Table 2.14 gives the levels of literacy in villages in the percentage ranges from very low to very high

Table 2 14

VILLAGE WISE LITERATE IN KARJAN TALUKA (in Percentage)

(1970-71 & 199-91)

% Range Distribution	1970-71			1990-91		
	I	II	III	I	II	III
< 60	0	0	0	6	6	7
45 –60	8	1	16	24	8	34
30 –45	25	12	24	3	0	3
15 –30	1	1	3	1	0	0
Below –15	1	0	1	1	0	0
Total	34	14	44	35	14	44

In 1970-71, the villages of region I ranged between very low to high keeping very high range blank, of them were one each in very low and low, 25 in moderate and 8 in high range. Region II kept top and bottom blank and one each in low and high and 12 in moderate range. Region III gives similar picture with one in very low, 3 in low, 24 in moderate and 16 in the high and none in the ~~high~~ very high range.

In 1990-91 a fairly progressive trend is seen in the villages of each region. Where the very high of < 60 per cent having none in the former year, recorded 6,6 and 7 villages in each region respectively,in the high range, each region recorded 24,8 and 34 respectively The moderate range that enjoyed the highest number of villages was reduced to 3, 0,3 respectively.and in low and very low ranges only region I maintained status quo, by keeping one each, but in its low range formerly was the village Kherda which made an

appreciable progress and went up to high range, instead came the village Haresandu which was reduced from moderate to low, i.e. giving an example of decline in the days of fast progression of literacy. (Figure 2.7) thus in the former year the larger concentration was in moderate and high ranges that shifted to high and very high ranges

Male and Female Literacy

There was a time when schooling of females was considered equivalent to sin. Male children and adults of the middle and upper class were sent to schools, while females were educated for the domestic work. However for a little knowledge of their respective faiths they were allowed to go in the 'path shalas; and 'madarasas', during their under teen age. The unprivileged section of the society could rarely see the face of even the primary schools but. This practice got reduced by the temporal urge and slogan of "education and literacy for all" made it easily approachable by all. But ladies were, however, not given the free hand particularly in staunch conservative societies. Now, since the last two decades their number is found increasing in all institutions of literacy knowledge and research

Karjan is a taluka which had the taste of free and compulsory education right from the days of Princely rule and both sexes, in this respect, were given equal opportunity and treatment. It made a rapid stride after 1970-71 in the field of literacy. Table 2.15 gives the literacy percentage of males and females in Karjan over the two points of time.

Table 2.15

LITERACY PERCENTAGE OF MALES AND FEMALES IN KARJAN AND ITS REGIONS (1970-71 & 1990-91)

Regions	1970-71		1990-91		Difference	
	Male	Female	Male	Female	Male	Female
I	26.61	14.31	33.42	20.42	25 59	42 69
II	26.53	13 99	36 44	19.40	37 53	38.67
III	28.19	14.27	34.96	20.53	24.01	43.86
Taluka	27.19	14.23	34.67	20.24	27.51	42.23

It is seen that male literacy, at the first point of time, in the taluka was only 27.19 per cent and females was around 50 percent of that of males (14.23%) which give a ratio of 1.90:1 (1.90 males to one female). Where as in 1990-91 the percentage literacy went up to 34.67 for males and 20.24 for females. The ratio of females, therefore, went, slightly up to 1.73.1 (1.73 male to 1 female).

As such the males are yet dominating the number of female literate in both percentage and ratio, but when the growth of literacy among the females is computed they exceedsthat of male showing 42 43 percent against 27.51 percent of males over the second points against the first This has revealed the fast growing literacy among the rural females rather than rural males, and now they fearlessly travel far distances to urban areas for higher education. Similar growth of literacy is found in the three edaphic regions, as shown by the table 2.15.

In region I percentage of literate males was 26.61 and around half of it i.e 14.31 was that of females (1.86.1), and the other two regions also show almost the same ratios, with 26.53 and 13.99 (1.89 1) and 28.19 and 14.27 (1.97·1) respectively Where as a uniform trend of growth is seen in them over 1990-91, when region I went up to 33.42 and 20.42 showing a percentage increase of 25.59 of males and 42.69 per cent of females. In region II the position was 37.33 males and 38 67 females; and in region III, the growth rate of male literacy was only 24.01 per cent, that of females was 43.86 percent (Table 2.15)

Literacy Rate

When the literacy rates are computed the cumulative rate of the taluka 58.20 per cent and the regions shows 52.98, 72.78 and 56.02 per cents respectively at the second point of time over the first. But when the individual rates of males and females are worked out an astonishing rate comes to sight, showing that the males are surpassed by females byawide margin of the percentage. Table 2.16 below gives the real scenario of male-female literacy.

Table 2.16

PERCENTAGE LITERACY RATES 1991 OVER 1971

Regions	Cumulative Male-Female	Males	Females	Difference
I	52 98	46.69	65.85	19 76
II	72.78	72.31	73.67	1.36
III	56.02	48.06	71.73	23 67
Taluka	58 02	54.00	69 71	15.71

As apparent from the table the cumulative literacy rates has gone up over a period of two decades. However, the computed derivation in table speaks that females, who have been an unprivileged component of the society for all the past year under the strict domination of males, have taken lead in literacy surpassing the males by a wide margin.

The cumulative rates for the taluka and its three edaphic regions, as derived are 58 20 (taluka), 52.98, 72.78, and 56.02 were of region I, II and III respectively. An appreciable response to literacy is found to have been given by all region, but region II the smallest has made the greater stride to acquire 72.78 per cent-the highest of all the regions.

This exercise aims at finding the male-females comparison of literacy rate at the second point of time in relation to the first When computed it is giving an interesting advancement in literacy rate among the fair sex. The rate of both for the taluka was 54 percent males and 69.71 percent females The same trend is followed in the three regions where males lagged far behind females as in region I had 46 09 and 65 85 percent for literacy of male and female respectively. In region III it was 48.06 and 71 73 respectively. While

KARJAN TALUKA

CHANGE IN LITRACY LEVELS

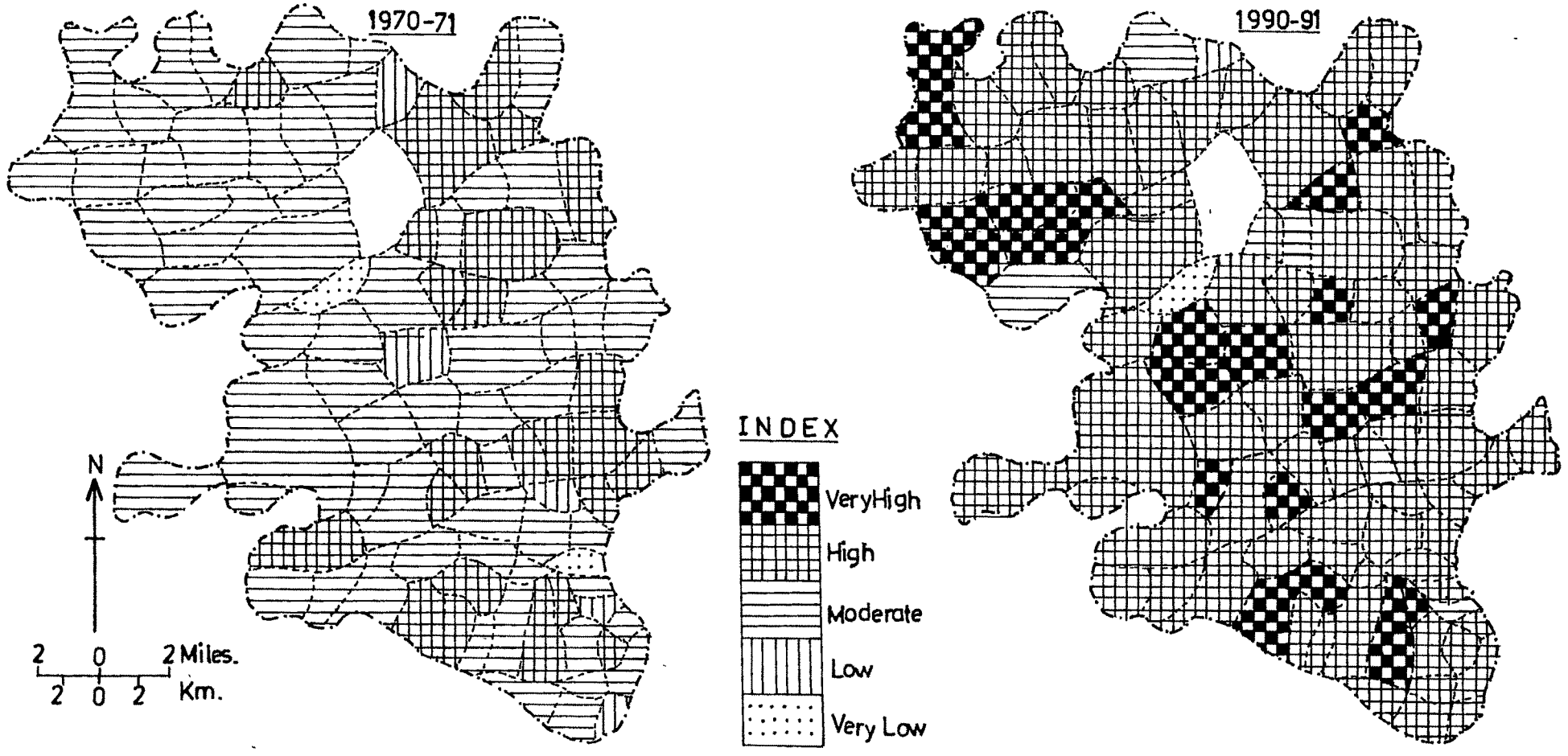

Fig. 2.7

region II has shown a near equivalence as the male had 72 31 percent and females had 73.67 percent. So difference in the respective rates were 15.71 percent in the taluka 19.76, 1.36 and 23.67 percent in regions, I, II, and III respectively.

The changing trend of literacy in a period of two decades invites the attention of a researcher to assess deeply the factors responsible for such a great and impressive change in literacy among the most depressed sex of the society in the past. It is therefore established that no factor other than the government polices of family planing,raising the marriage age, making female education free from the monetary involvement; and reserving women's quota in employment. This has brought a radical change among them that is on one hand, their liberation from the old taboos of the society, and on other hand improving their status from a mere housewife to an important component of the family, society, and state ((Figure 2 7).

Thus, this is an interesting change and a qualitative habitat transformation in the entire taluka at macro level and almost in each family at micro level.

2.7. Occupational Structure

Over the world people are engaged in varying occupations, and their character of occupation reflects the type of economy of the areas.

After his advent on the earth, man, for a long time was merely a food-gatherer.With the passage of time he learnt the art of raising crops that gave birth to agricultural activities Thus, the occupation of the pre primary agriculture came into being, Which in due course become a dependable

primary occupation and continues in changing structure and techniques till now. With the inception of industrialization, not only the industrial but other occupation's got a rapid pace of growth especially in methodology and the resultant yields Thus by and by a host of occupations such as primacy, secondary, tertiary, quaternary, and further the main and their ancillaries came into being giving employment to varying qualities of workers as skilled, unskilled, and all those given in the census reports

Population of any area is composed of working and non-working groups that reflects the structural variability and age composition It is however established that normally children up to the age of 14 and adults crossing mid sixties no more remain a recorded worker, the persons from 15 years to around 60 or 65 are considered registered workers, there is a big hue and cry for child labour and it exists and persists particularly in the lower economic strata of the society but nowhere it is found an accounted labour, except, by the casual planned surveys conducted for in small or big area and available number of such worker are recorded

In Karjan taluka, total working population at the base year, was 35 67 percent among them males dominated with 79·54 percent and females shared with only 20.46 percent The non-working population comprised 64 33 percent, in which females constituted 63 10 percent and males 36 90 percent. It shows that 35 67 percent persons were working and over them were depending 64 33 percent, that makes the ratio of 1.1.80. By the second point of time, total working population was 40.56 percent which is more by 4 89 per cent than the base year This figure does not include 5.99 percent marginal workers If their percentage is accounted, the total rises to 46 55 percent andgiving an absolute difference of 10 88 percent in total working population over the base year a

comparative study of the non-working population of the two points of time shows a decline of 10.92 percent from the former percentage keeping the total 53.41 per cent at the second point of time Among the working population of the second point of time the males share decreased by 1.73 per cent and that of females increased by 1.70%. Even though males percentage yet dominates that of females, the increase in women's share gives that the threshold for future increase is set. It is, therefore, expected that the increasing literacy among them would increase their share in the working group. Table 2.17 shows the working population- both males and females at the two points of time.

Table 2.17

WORKING POPULATION IN KARJAN AND ITS REGIONS

(1970-71 & 1990-91)

Region	1970-71				1990-91			
	Male %	Female %	Total	%	Male %	Female %	Total	%
I	76.23	23 77	15739	37.05	73 08	26 92	20949	42 69
II	82.25	17.75	7198	33.12	81 04	18 96	10591	39.37
III	80.15	19.85	13826	35.57	79 40	20 60	18373	39.03
Taluka	79.54	20.46	36763	35 67	77 81	22 16	49913	40.56

Table 2 17 gives the holistic and regional picture of working population In 1970-71, total working population, of region I was 37 05 in which males comprised 76.23 and females 23.77. By the second point of time total went up to 42.69 percent, where of that males strength was 73 08 and females was 26.92. In region II and III, at the base year total working population was 33 12 and 33.57 percent of that males percentage was 82.25

and 80.15 and that of females was 17 75 and 19 85 per cent respectively. By the second point of time working population increased to 39.37 and 39.03 where as males share was 81 04 and 79.40, females constituted 18.96 and 20.60 percent. In this year the total working population inclusive of the marginal workers in each region was 37.05 +4.27, 33.12 + 6.80, and 35 37 + 7.32 percent of all the three regions (The added percentage was of the marginal worker).

Type Of Workers

The census has divided the working population into six categories: agriculture, industries construction, trade, services and others. Each of them are explained in the following

Agricultural Workers

Agriculture being the mainstay, engages larger percentage of working population in the rural areas All 93 villages of Karjan have been mostly composed of cultivators and agricultural workers. Table 2.18 reveals this position in taluka and its three edaphic regions.

Table 2.18

AGRICULTURE WORKERS IN KARJAN AND ITS REGIONS

(1970-71 & 1990-91)

Regions	1970-71		1990-91	
	Absolute No.	%	Absolute No.	%
I	14495	92 09	17793	84.93
II	6418	89.16	8610	81.29
III	12548	90.75	15720	85 56
Taluka	33461	91 01	42123	84.39

At the base year cultivators and agriculture workers together constituted 91.01 per cent of the total working population of the taluka By the second point of time it went down to 84.39 percent. This descent may be owing to the separation of marginal workers (Mentioned on Page 91).

In region I, at the base year, 92.09 per cent workers of its total working population were engaged in agriculture, but in 1990-91 it descended to 84.93 per cent. Region II had 89.16 per cent at the base year, which also decreased to 81.29. per cent in 1990-91 The same down ward swing is noticed in region III where at the base year these workers were 95.75 per cent but went down to 85.56 per cent at the second point of time.

This is to say here that the percentage of these workers for the second point of time has decreased only due to computation of the increased number of workers from increased number of working population. But their absolute number have increased both in the holistic and regional scenario. They are 42123 against the former 33461 which is more by 8662 persons for the

taluka, and similar are the cases of regions that in region I, II, and III the two figures of 190-91 and 1970-71 were 17793 vs 14495, 8610 Vs 6418 and 15720 Vs 12548 giving differences of 3298, 2191, 3172 respectively

This reveals that persons engaged in agricultural work have substantially increased at the second point of time over the first. It shows gravity of agriculture work owing to its increasing profitability.

A glance at the village wise position of such workers is necessary at this juncture in order to have an idea of the increase or decrease in their numbers and percentages at the grass root level of different regions. Table 2.19 gives the village-wise distribution of agricultural workers in the three regions of Karjan taluka at the two point of time.

Table 2.19

PERCENTAGE OF AGRICULTURAL WORKERS IN THE VILLAGE OF KARJAN (1970-71 & 190-91)

Percentage Range Distribution	1970-71			1990-91		
	I	II	III	I	II	III
+45	4	0	2	4	4	2
40 –45	3	2	3	11	1	6
35-40	12	3	13	8	2	9
30-35	7	2	7	6	2	17
Below-30	9	7	19	6	5	10
Total	35	14	44	35	14	44

In region I, at the has year the agricultural workers in 4 of the 35 villages were in very high range of above 45 per cent, subsequently, 3 villages were in the high range of 40-45 per cent. 12 villages in moderate range of 35-40 percent 7 and 9 villages in low and very low ranges of 30-35 and below 30 per cent. By the second point of time the number of villages with such workers in the very high range remained unchanged, but their code numbers and locations changed (Figure 2.8). While the villages in the high range with such workers went up from 3 to 11, but moderate range reduced from 12 of the former to 8. Low range also slashed down from 7 to 6 only. Where as villages in the very low dropped from 9 to 6.Thus the increase in the high range and decrease in subsequent low ranges reveals the increasing strength of agricultural population.

At the bas year, region II had no village in the very high range, 2 were in high range, 3 in moderate range of 35-45 per cent , 2 in low range and 7 villages in the very low range of below 30. BY the second point of time an ostensible shift is notable in all the ranges from very high to very low, as 4 villages came up against none of the former year, in the very high range one in high range against two of the former year, but the two former villages either went up or down and altogether a new village skipped into this range (Figure 2.8). The moderate range decreased to 2 from 3 The low range remained unchanged and very low retained 5 villages against the 7 of the former year. However, the shift of the former villages at the second point of time is very much conspicuous in almost all the range even though ,some of them have retained the same number of villages

In region III, in 1970-71, two of 44 villages were in very high range, 3 in high, 13 in moderate 7 in low, and 19 in very low range In 1990-91

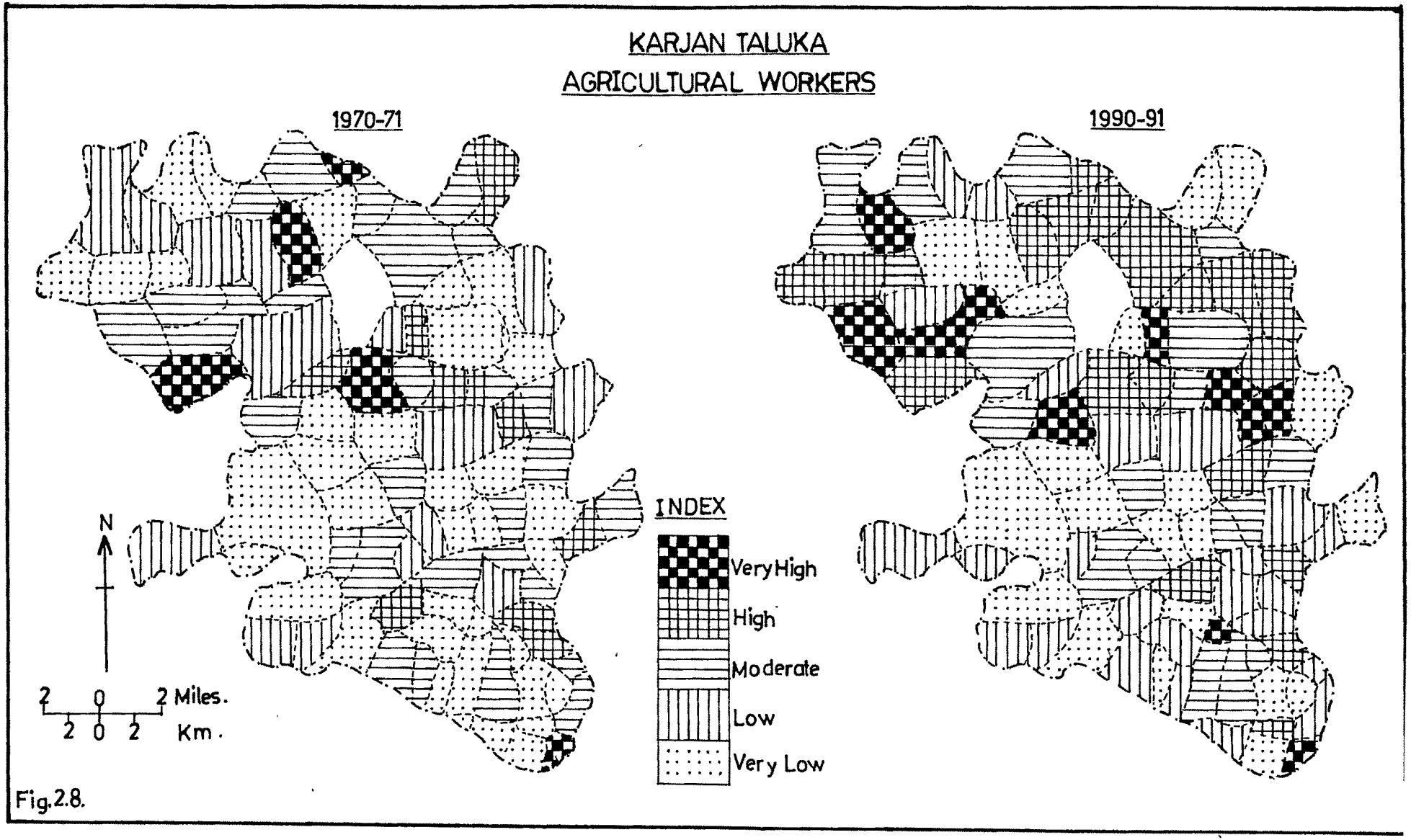
KARJAN TALUKA
AGRICULTURAL WORKERS
1970-71
1990-91
INDEX
Very High
High
Moderate
Low
Very Low
N
2 0 2 Miles.
2 0 2 Km.

Fig.2.8.

the very high range retained the same number of villages, but with the fall of one and rise of another in its place (Figure 2.8). High range moved up to 6 villages against 3 of the former year, while in moderate range 13villages slipped down to 9. In the low range another 10 villages were added to the former 17, making in all 17, and the 19 villages in the very low range were slashed down to 9 only.

It may, thus be stated that the force of transformation is actively operating upon the various aspects of habitat of Karjan of which the agricultural work force being one of them is under going the process of transformation This may be called the futurology of agricultural work force

INDUSTRIAL WORKERS

The industrial workers are, not only a characteristic feature of the urban areas but, their roots are well established in the rural areas also. However, urban areas are mostly characterized by all scales of industrial activities, where as rural areas rest with the cottage and small scale industries Since the industrial activities are supportive to agricultural activities, their existence is essential in rural areas where they are functioning as a complimentary profession helping economically the rural people.

The cottage and handicraft industries are well established in Karjan from prior to the first point of time Since Karjan is ideally located between two giant industrial enclaves the Vadodara in the north east and the Bharuch in the South west Having two big markets at hand Karjan got a fair chance to establish not only the cottage industries, but also small and a few medium scale industries as well The cottage industries enfold, the carpentry, black smithy, cloth, papad making etc Plastic based industries making toys,

bag etc are of recent origin. The small and medium scale industries are cement pipe, dolomite powder. Now the diamond cutting has taken a fair base in the taluka They all together have engaged a sizeable number of workers AT the base year their working strength was 2.56 percent of the total working population which went up by more than two times (5.16%) by the second point of time.

Table 2.20

INDUSTRIAL WORKERS IN KARJAN AND ITS REGIONS

(1970-71 & 1990-91)

Regions	1970-71		1990-91	
	Absolute No	%	Absolute No.	%
I	371	2.36	908	4.33
II	225	3 12	662	6 25
III	345	2.49	1010	5 49
Taluka	941	2 56	2580	5 16

A glance at the table 2.20 reflects that in region II at the base year, was comparatively greater percentage of industrial workers i.e. 3.12 per cent followed by region III (2 49 per cent) and region I (2.36). But by the absolute figures region I is first, region III is second and region II is third in order It is owing to their absolute number of population. But by the second point of time the order of percentage, and absolute figures has slightly changed Region I got second place in respect of its absolute number and third in percentage Region III got the first place in absolute, and second in percentage. While region II got the first place in percentage and third in absolute numbers. This development may be owing to the general impact of industrialization, all

over the surrounding areas. The government policies, in favour of the development of the problem and poverty stricken areas in particular and rural areas in general, and also the infrastructure facilities available. Recently the schemes of rural industrialization are also operative in the rural Karjan However, it may strongly be attributed to the dynamic nature of people.

It is seen that industrial workers were distributed in almost each village of each region Table 2.21 gives the village wise strength of industrial workers in the three regions of Karjan taluka. The industrial workers are exhibited in percentage ranges from very low to very high.

Table 2 21

PERCENTAGE OF INDUSTRIAL WORKERS IN THE VILLAGES OF KARJAN (1970-71 & 1990-91)

% Range Distribution	1970-71			1990-91		
	I	II	III	I	II	III
+2 00	2	1	3	11	4	16
1.50-2 00	1	2	3	4	2	10
1.00-1 50	6	1	7	13	2	4
0.50-1 00	13	7	12	5	5	6
Belos-0.50	10	3	14	2	0	5
Nil	3	0	5	0	1	3
Total	35	14	44	35	14	44

In 1970-71, 2 villages of region I were in the very high range of 2 per cent and above, one in the high range of 1.50-2 00 percent, six in the moderate range of 1.00 – 1.50 per cent, 13 were in the low range of 0.50 – 100

per cent and 10 in very low range of below 0 50 percent Only three villages Harsunda, Kurai Vadhava had no industrial workers at all. By the second point of time, sizeable change took place in the very high range that 11 villages appeared against 2 of the former, 4 villages against 1 in the high range 13 against 6 in the moderate range While low and very low ranges made a down swing from 13 to 5 and 10 to 2 respectively. However, these figures of industrial worker are not all from the rural industries. Many of them live in their rural houses, but work in urban areas. As the facilities of transport have facilitated the commutation of such workers.

This shows the diffusion of industries in rural areas, as urban areas are already saturated and further the solution of the increasing urban pollution has also forced for the diffusion of industries in the rural areas, it may have the effect of retarding the increasing rural urban migration, and improve the rural economy

Region II at the base year, had only one of 14 village in the very high range 2 in the high, one in the moderate, 7 villages in low and 3 in the very low range. In 1990-91, the number of villages having industrial workers, was reduced from 14 to 13 One village Bharthali had such workers in the former year but all migrated to other places. Thus this village is omitted from the list of those having industrial workers 3 more villages came along the former one in very high range, at the second point of time. 2 each came up in the high and moderate ranges. A down drift is notable in the lower ranges that the low range reduced to 5 from 7 and the very low range, lost its existence, though formerly it had 3 villages

In region III,39 of the 44 villages had shown industrial workers at the base year, of them there were three village each in the first two range i.e. very high and high. 7 in moderate 12 and 14 in the low and very low ranges. By the second point of time. Very high range increased by 13 villages making the total to 16. While in high range 7 more villages appeared along with the former 3 Moderate range reduced to 4 from 7 of the former year. Low range reduced to 6 from 12, and the very low range went down from 14 to 5. Thus, in all 41 villages have reported industrial workers at this point of time.

When compared, it is found that the work force in agricultural operations shows a down swing from the base year to second point of time (See physiological density) while the industrial workers in contrast to it have shown upswing during the same period of time. Where in agriculture, the upper ranges have reduced and lower ranges have increased with the number of villages in case of, industrial workers the upper ranges have increased with the number of villages and the lowers have decreased

A glance at the figure 2 9 gives the spatial `distribution of industrial workers at the two points of time, where in 1970-71 most of the villages were ranging between very low and low, a few in moderate and much less in high and very high ranges. But, the other point of time has shown a big change that the number of villages in the high and very high has surpassed the lower three ranges. The high and very high together form two big enclaves one in south from the southern bank of Bhukhi to northern bank of Narmada, including almost all the villages of the southwest part of the taluka other smaller enclaves are, sporadically distributed in the east southeast, and mid north i e. on the west of Karjan town Others are placed around or in between the high and very high ranges

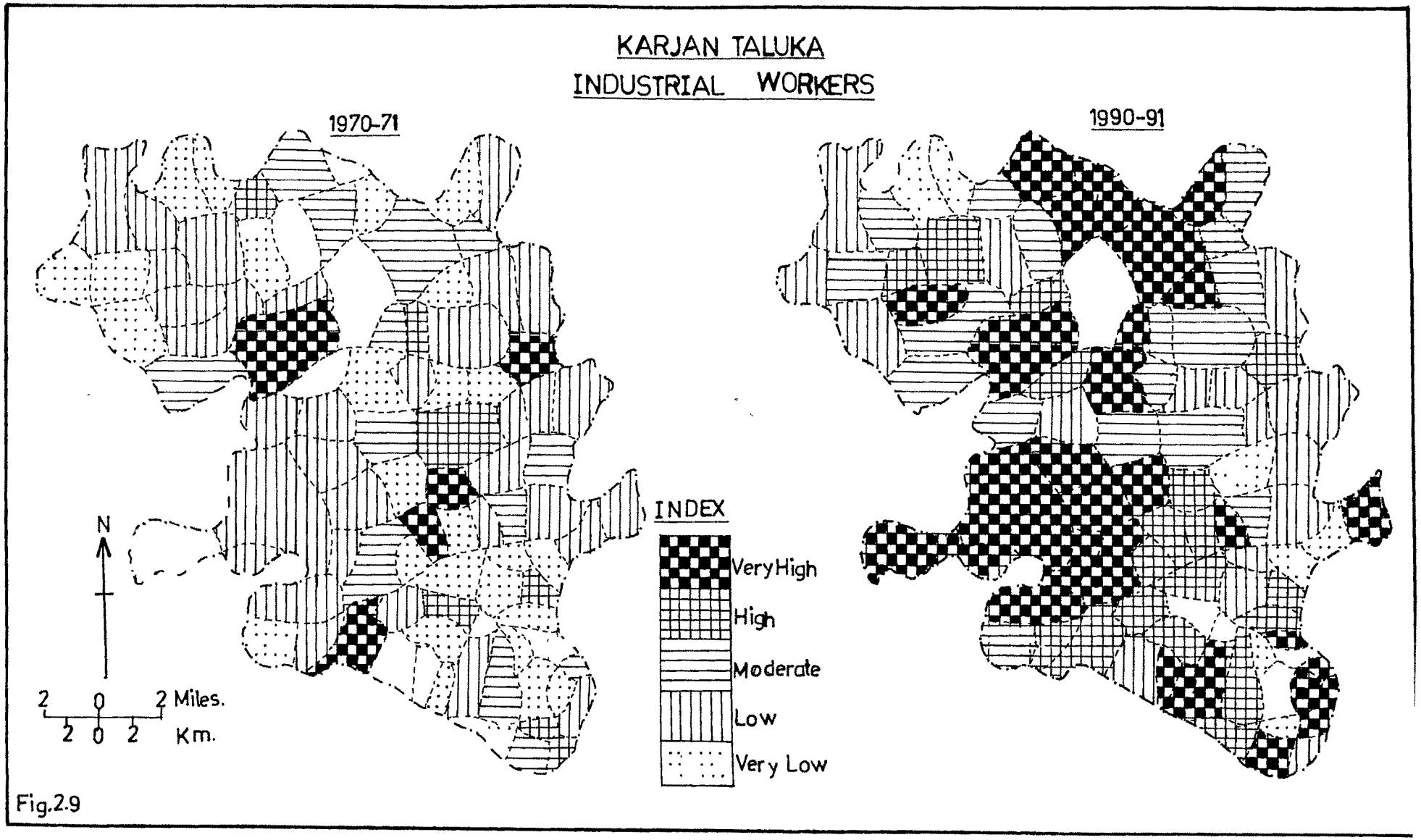
KARJAN TALUKA
INDUSTRIAL WORKERS
1970-71
1990-91
INDEX
Very High
High
Moderate
Low
Very Low
N
2 0 2 Miles.
2 0 2 Km.

Fig.2.9

This steady increase . in the industrial workers in Karjan may be attributed to the development of linkages within and between the taluka and its adjoining areas. Secondly the radical decrease in the most profitable crop cotton has encouraged for this development in view of making good the loss accrued from the profitable crop Thirdly the incentives, financial support, and marketing facilities provided by the government to up-lift the economic status of the rural people, and providing employment, this way check the influx of rural people to urban areas.

Thus, the increasing number of industrial workers in rural areas reflects a deviation from their traditional occupation in view of increasing the family income by this way of additional income and enjoying a better and comfortable life This is also one of the aspects of habitat transformation which is through the diversification of the rural occupations.

Construction Workers

In fact most of the manual workers come from the rural areas As long as the mud houses were constructed in villages their makers were experts in this type of construction. Since these houses were cheap in building and costly in up keep So the wave of pukka houses has engulfed the rural areas as well, the house construction workers have also switched over to this technique with a hope to find job in cities also. Construction work requires both skilled and unskilled labours and both of them are available in rural areas.

Rural Karjan, at the base year, had 168 (0 46%) such workers, because at that time the housing transformation from Kuccha to pukka though, started was sluggish in its pace. But by the passage of time from the ending seventies onward up to the second point of time pucca construction went on

with fast and steady pace This has increased the number of such workers to about more than four times i.e. from 168 to 659 (0.46% to 1.32%) This increase in the construction workers reveals the demand of the day. These people are needed in ~~ate need din~~ both villages and the towns as well as in the adjoining areas as the wave of total transformation of housing style is now rolling every where. Other reason is that most of the villages are enjoying more or less the urban amenities and facilities. Above all increasing income resources are the chief cause of changing housing environment in the rural areas.

The regional distribution of these workers is revealed by Table 2 22.

Table 2.22

CONSTRUCTION WORKERS IN KARJAN AND ITS REGIONS

(1970-71 & 1990-91)

Regions	1970-71		1990-91	
	Absolute No	%	Absolute No	%
I	40	0 25	355	1.69
II	11	0.15	160	1.51
III	117	0.85	144	0 78
Taluka	168	0 46	659	1.32

The year 1970-71, even though a prosperous year for Karjan, was not a progressive year in respect of housing and construction. The region I, that has several privileges better than the other two regions as, it is the highest of all in area and population, by virtue of the location of Karjan town in it, it is very

much in the direct influence zone of this growing town, and it has enjoyed the urban amenities more and earlier than other regions. Even then its number of the construction workers was two meager i e. only 40 though more was expected. It was only 0.25 percent of the total worker's class of the region. The only reason in its favour may be given, that this was the period of cotton domination, and the earning out of it was enough to sustain with. So the need of other occupation lied with the small and marginal class of the farming society, and those classed as land less. But by the second point of time, the loss of cotton on one hand, and a general development on the other of rural area, shot their number to 3.55 (1.69%). This is the growth not for the region or the taluka only but also for the fast growing urban areas in the neighbourhood

Region II with its small extent comprising only 14 villages, and less developed, had 11 such workers during the base year. But with the pace of its development, and the desire for conversion of houses from kaccha to pucca attracted more persons to opt for this work. So their number went up to 160 (1.51%) at the second point of time, to meet the construction needs of the region, taluka and its adjoining areas.

Region III had 117 such workers (0 85%) the largest of all the region at the first point of time, and increased only 27 more (144 i e 0.78%) It produced such workers not on the merit of its won demands, but on the demand in nearby giant urban complexes like Bharuch across Narmada and others. However, the need of this region would be taken as one component of this fact

Village wise construction workers strength is given in table 2.23 Which shows that the workers engaged in construction work are in varying percentage ranges from very high to very low

Table 2.23

PERCENTAGE OF CONSTRUCTIONAL WORKERS IN VILLAGES OF KARJAN 1970-71 & 1990-91

Percentage Range Distribution	1970-71			1990-91		
	I	II	III	I	II	III
+ 0.60	0	0	2	4	3	9
0.45-0.60	1	0	1	2	3	0
0.30-0.45	2	1	1	3	1	5
0 15-0 30	2	1	5	8	3	7
Below-0.15	6	4	7	6	1	11
Nil	24	8	28	12	3	12
Total	35	14	44	35	14	44

Table 2.23 shows that in region I at the base year workers engaged in this profession were distributed in only 11 of the total 35 villages There range of distribution were spread over from very low to high, comprising 6, 2, 2 and 1 in the ascending order ~~from very low to high~~ The very high had none. The number of villages having these workers went up to more than two times i e. from 11 to 23 at the second point of time as more such workers were needed during the span of the two decades within and outside the taluka.

Increasing economic status and changing a rural life style needed a radical transformation of their housing style Thus these workers emerged in varying percentage ranges The former low range maintained status quo, while other ranges in order of ascendance went up to 8, 3,2 and 4, in each case a rise of either 1.5 or 2 times While the very high range keeping none, reported 4 villages with such workers.

Similar trend of increase is seen in the region II where at the base year only 6 out of 14 villages had these workers concentrated in the low to moderate ranges in the order of 4 villages in very low and one each in low and moderate. But the expanding opportunities made very low from 4 to 1 and low from 1 to 3, moderate remained unmoved, high and very high ranges got 3 village each at the second point of time.

Region III seems to have a better position in respect of these workers, at the first point of time, where it had 7 villages in the very low range, 5 in the low, one each in moderate and high and 2 villages in the very high range/ It reveals that this profession was a source of livelihood for a sizeable part of the regions population owing to the relatively sub order economic status of a greater section of the regions total population By the second point of time this region exceeded in respect of such workers over the other, two regions that its lowest went up from 7 to 11, low from 5 to 7 moderate from 1 to 5,high reduced from 1 to 0, but very high swung from 2 to 9 villages. This has revealed the significance of this profession, and also indicates the velocity of the rate of transformation of rural settlement from the former mud houses to brick, cement and R C C type. Now most of the villages of Karjan do not give the appearance of rural housing style but of their counterpart urban housing style

A better explanation is accruing from the figure 2.10 that in 1970-71, these workers were confined to low and moderate ranges placed on the peripheral areas of the taluka, but a dense picture with more of moderate and high ranges emerged over a greater area in the inner part of the taluka . Most of the villages in the low and moderate ranges, same have gone up to high the former low ranging villages have gone up to moderate, while a new set of villages have been found entered in the low range.

It therefore appears that the trend is rising upward, and more village are producing such workers as the wages of such workers has gone up in recent years, both in rural and urban areas.

Trade Workers

Trading is the important activity relating the producers with the consumers. No area on the earth is capable to produce all type of commodity to satisfy the ever increasing desires of its ~~their~~ people. Thus trading is not only confined to non agricultural areas, but the agricultural areas also have a great need in order to acquire all those commodities of their daily life which they themselves do not produce Where earlier, the rural folk were either procuring such items of their requirements from the hats, weekly markets, from the peddlers or by travelling to remotely placed urban areas, now the shops and establishments are gradually growing up in these areas as well

Rural Karjan, though prominently an agricultural area, and agriculture has been the mainstay of the people, had trade and business activities at micro scale as a complimentary profession of a few of its people. The increasing population and decreasing per capita share of arable land urges

KARJAN TALUKA

CONSTRUCTIONAL WORKERS

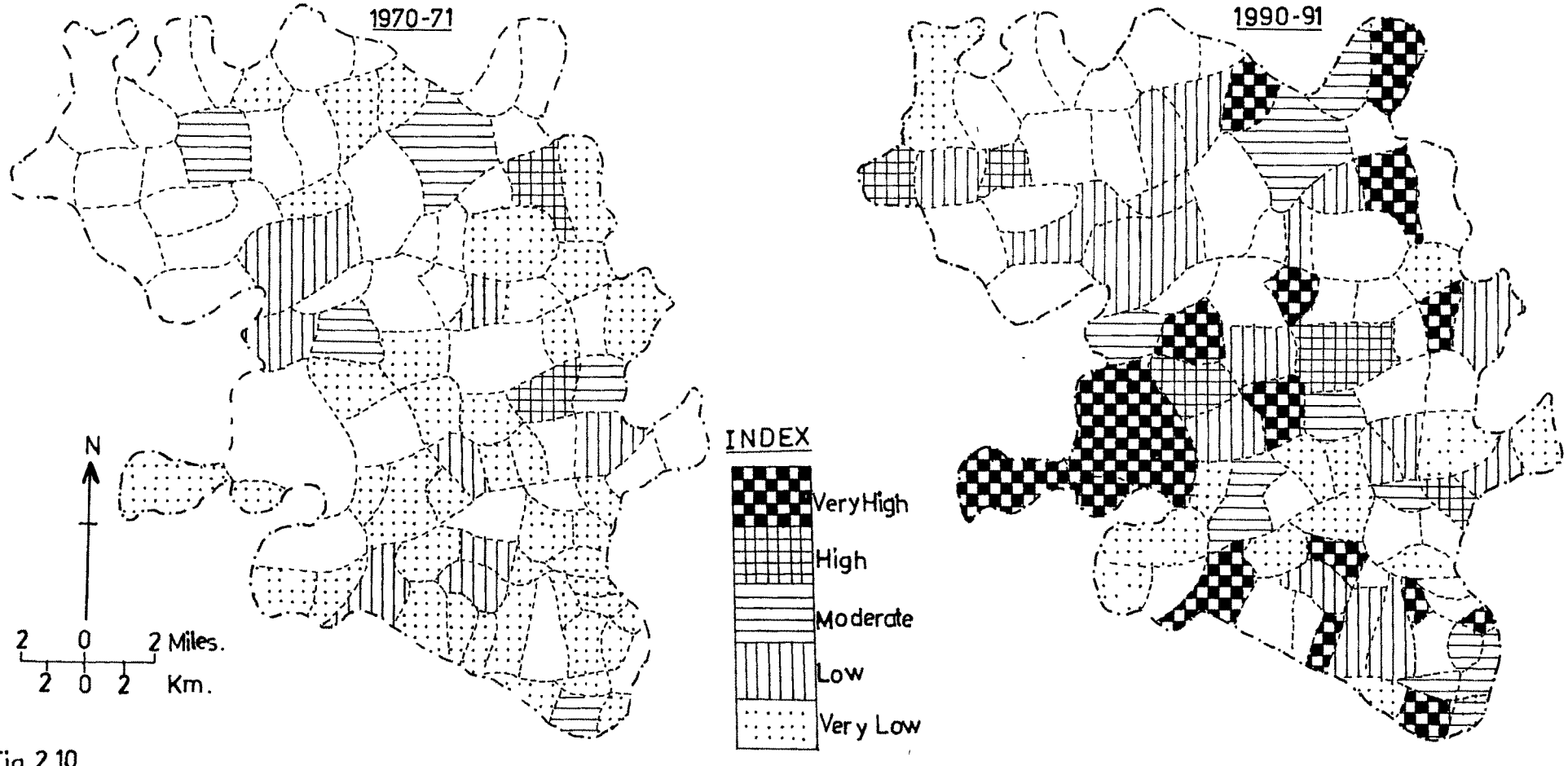

Fig. 2.10

for such a diversification of occupation in the agricultural milieu of the rural habitats.

Where in 1970-71 rural Karjan had in all 500 persons (1.36%) engaged in the trading and shop keeping professions But over a span of two decades the living style, and a major part of economic environment has changed. More particularly, the economically dependable crop i.e. cotton receded to a very low level giving a severe economic and financial blow to the farmers. The spurt in population made it difficult to keep life depended on agriculture only. Thus a sizeable population i.e. 1542 persons (3.08%), as against 1.36 percent of the former year, devoted themselves to commercial work. So as to maintain themselves in the conditions of ever increasing cost of living On the other hand the developing linkages also gave incentive for such works, since the people of the area had several other demands than what could have been satisfied by their own produce. The commercial minded people reaped the harvest of opportunities arising at home.

As such, the usual behaviour of transport linkages is to generate commercial activities at their stoppages very often, tea, farsan, pan bidi shops, and eating sheds i.e. dhabas etc. begin, and develop to pucca construction keeping other items of passenger's use

The trend thus shows that along with the increasing population and decreasing sustainability of land the rural areas, in the long run, should have to switch more and more over to non-agricultural professions This is what in miniature has just begun

To identify the developing trend of commercial activities, it is advisable to cast a glance at its micro level development The regional

diffusion of these activities would unveil the dynamicity of each of them at block level and further their component villages at still micro level. The Table 2.24 gives the number and percentage of persons doing trading and commercial activities in rural areas of Karjan.

Table 2.24

TRADE WORKERS IN KARJAN AND ITS REGIONS

(1970-71 & 1990-91)

Regions	1970-71		1990-91	
	Absolute No.	Percentage	Absolute No.	Percentage
I	258	1.64	549	2.62
II	117	1.62	351	3.31
III	175	1.26	642	3.49
Taluka	550	1.36	1542	3.08

At the first point of time region I had 258 workers (1.64 %) in this activity, it went up to 549 (2.62%) at the second point of time. Region II went up from 117(1 62%) of the former year to 351 (3.31%) that this region involved a greater percentage of its population in this profession when compared with other two regions Region III made an appreciable increase from 175(i.e. 1.26)of the past to 642 (3.49%) at the second point of time. This explains greater inclination of the people towards these professions and also explains that favouring environment is developing within and neighbouring areas for them. Thus the inflow of money in any area increases demands and encourages commercial activities in it i e. by nature supply follows the demands.

It needs now to see the position of each villages of each region in connection with their commercial and trading activities. Table 2.25 below gives that the two points of time

Table 2.25

PERCENTAGE TRADE WORKERS IN VILLAGES OF KARJAN

(1970-71 & 1990-91)

%range of con workers	1970-71			1990-91		
	Regions			Regions		
	I	II	III	I	II	III
+0 60	9	2	12	22	8	30
0 45-0 60	5	4	4	4	1	7
0.30-0 45	7	2	2	3	3	2
0.15-0.30	5	2	12	2	0	1
Below–0.15	4	0	1	2	0	0
Nil	5	4	13	2	2	4
Taluka	35	14	44	35	14	44

Table 2.25 shows the village wise distribution of workers engaged in trading and commercial activities Their pattern can well be discerned from the figure 2.11 By their percentage range distribution it is found that such workers, barring a few, occupy almost all ranges from the very high to very low (from 0.60% and above to 0 15 % and below).

Region I and III being well served with the nodes of road and rail routes possessed 9 and 12 villages respectively at the first point of time, that further swung up to 22 and 30 at the second point of time in the very high percentage range of distribution. In the descending ranges both of them respectively had 5,7,5 and 4 villages and 4,2,12 and 1 at the first point of time, and 4,3,2,2 and 7,2,10 at the second point of time. Where as 5 and 13 at the first point of time and 2 and 4 villages at the second point of time had none of such workers,

Region II, in spite of its small size did not lag behind the other two. It had 2,4,2,2 villages in the very high to low ranges, and none in the very low range 4 villages reported none of such works. By the second point of time 8 villages entered very high range, the high range could retain only 1 against 4 villages of the former year, the moderate range got 3, low and very low ranges did not have any. Among the villages reporting nil were 2 against 4 of the former year.

With this development in commercial activities a trend is emerging out that villages are marching towards being a self reliant and less depending on other big or small commercial centers for most of their daily necessities, and further this development also reveals that they attempt to generate venues of additional income for their increased number of persons. So that the influx to cities for other jobs may be blocked. By engaging them in such occupations they serve both aspects of their livelihood that is agriculture as well as their commercial activities. This is a significant indication of the rural habitat transformation in Karjan taluka and likewise happening elsewhere also

Service Workers

People who are earning their livelihoods by serving the other people and other organization as offices, schools, commercial establishment, societies, banks etc are categorized under service class. The strength of these workers is increasing with the ever increasing population.

In Karjan, at the base year, 408 (1.10%) persons were in this occupation. This work force, increased to 1022 persons in 1990-91, making an spurt of 2.5 times.

Table no. 2.26 gives the region wise distribution of service class in Karjan and its three edaphic regions.

Table 2.26

SERVICE WORKERS IN KARJAN AND ITS REGIONS

(1970-71 & 1990-91)

Regions	1970-71		1990-91	
	Absolute No.	%	Absolute No.	%
I	37	0.24	506	2.41
II	110	1.53	283	2.67
III	261	1.88	283	1.26
Taluka	408	1.10	1022	2.04

Region I at the base year, had only 37 persons in this occupation i.e. 0.24 percent of total working population, by the second point of time it went up to 506 persons(92.41%). In region II 110 persons (1.53%), at the base year were in this occupation while in 1990-91 their number increased to 238

persons (2.67%). Region III had 261 person at the base year, which increased to 283 persons (i.e. 1.26 percent of its total working population) by the second point of time. Region I, even though relatively more developed than the other two, had a meager number of 37 persons in this class, region II had 110 though much smaller than the former, region III had 261 the greatest of all at the first point of time. But by 1990-91, region I surpassed all with its 506 persons leaving region II with 283 at the second and region III with its 233 persons at the third place. Thus the order of the first point of time was rearranged by the second point of time.

Villages wise service worker's strength is given in table 2.27 and Figure for the two points of time.

Table 2.27

PERCENTAGE OF SERVICE WORKERS IN VILLAGES OF KARJAN
(1970-71 & 1990-91)

	1970-71			1990-91		
Regions	I	II	III	I	II	III
+0.60	0	3	2	6	3	10
0.45-0.60	1	0	4	4	2	1
0.30-0.45	3	1	0	4	3	9
0.15-0.30	6	2	6	9	4	8
Below–0.15	9	2	9	9	0	10
Nil	16	6	23	3	2	7
Taluka	35	14	44	35	14	44

In region I, at the base year, only 19 out of 35 villages reported these workers of them no village was placed in the very high range of +0.60 per cent only one village was in the high range of 0.45–0.60 percent . three

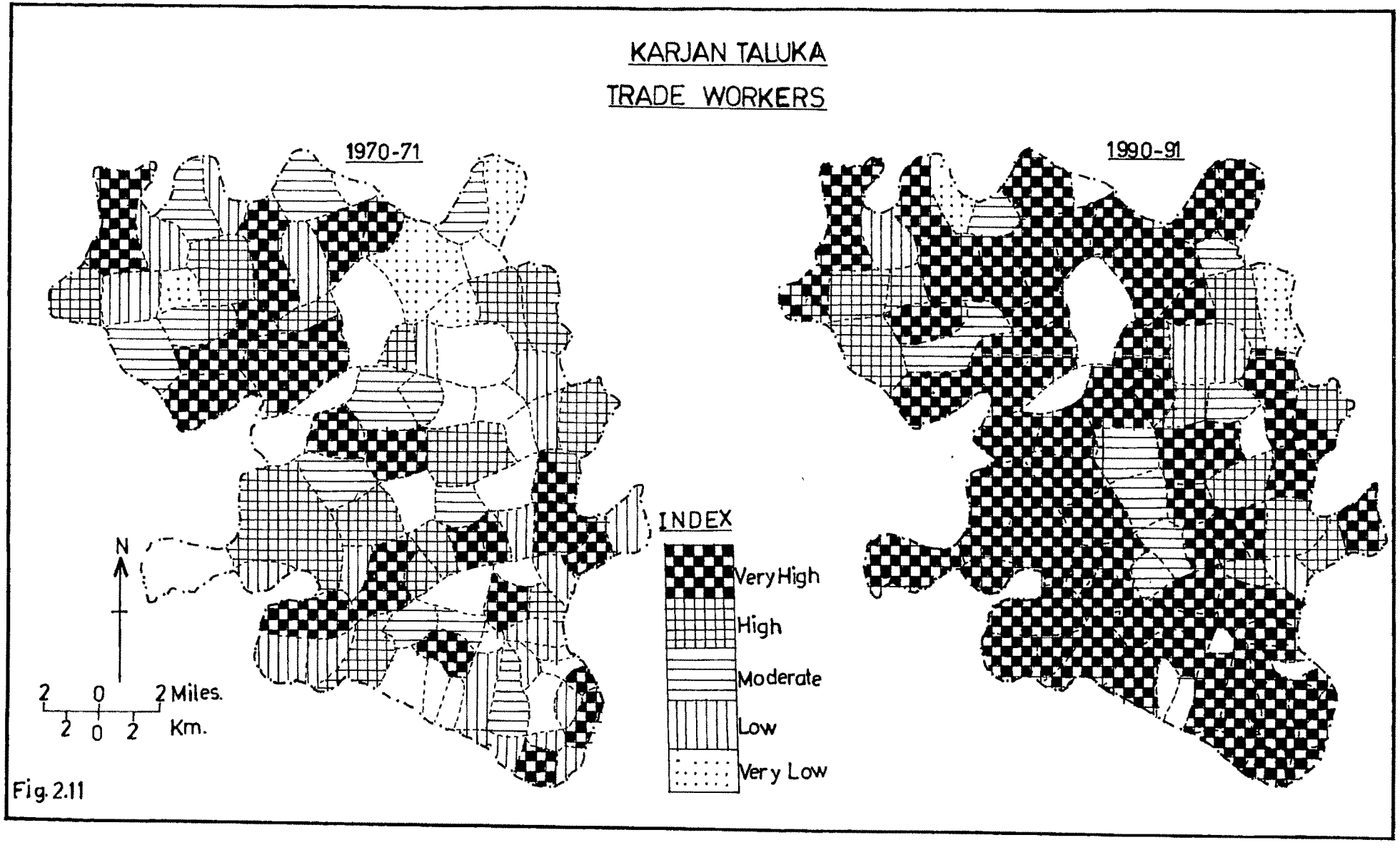
KARJAN TALUKA
TRADE WORKERS
1970-71
1990-91
INDEX
Very High
High
Moderate
Low
Very Low
N
2 0 2 Miles.
2 0 2 Km.

Fig. 2.11

villages were in the moderate range of 0 30–0 45,6 villages in the low range of 0.15–0.30 percent and 9 villages in the very low range of below 0.15 percent, while 16 villages were without such workers. By the second point of time 6 villages entered the very high range against none of the past 4 against one in the high range, 4 against 3 in the moderate range. Where as 9 villages in place of former 6 in the low range, and the very low range remained unchanged in respect of number of villages but changed in respect of their locations. (Figure 2.12)

At the base year in region II, 3 villages were in the very high range, none in the high range, 1 in the moderate range. 2 each in low and very low range. 6 village remained without service class By the second point of time, very high range remained unchanged . 2 villages each added to high, moderate and low ranges respectively. None in very low. 2 reported nil. This shows that 4 villages of the former 6 with no such persons got them at the second point of time

Region III at the base year had 2 in the very high, 4 in the high, none in moderate, 6 in low and 9 in very low range respectively 23 villages had none. By the second point of time 2 of the former year went up to 10 villages in the very high range High range reduced from 4 to 1. The moderate range got 9 against none. The low range got 2 villages more in addition to its former 6 and the low range added one to its former 9 to make in all 10 villages.

Thus the number of workers in service class substantially increased along with the number of villages. By the second point of time, barring only 7 villages, rest all had such workers.

KARJAN TALUKA

SERVICES WORKERS

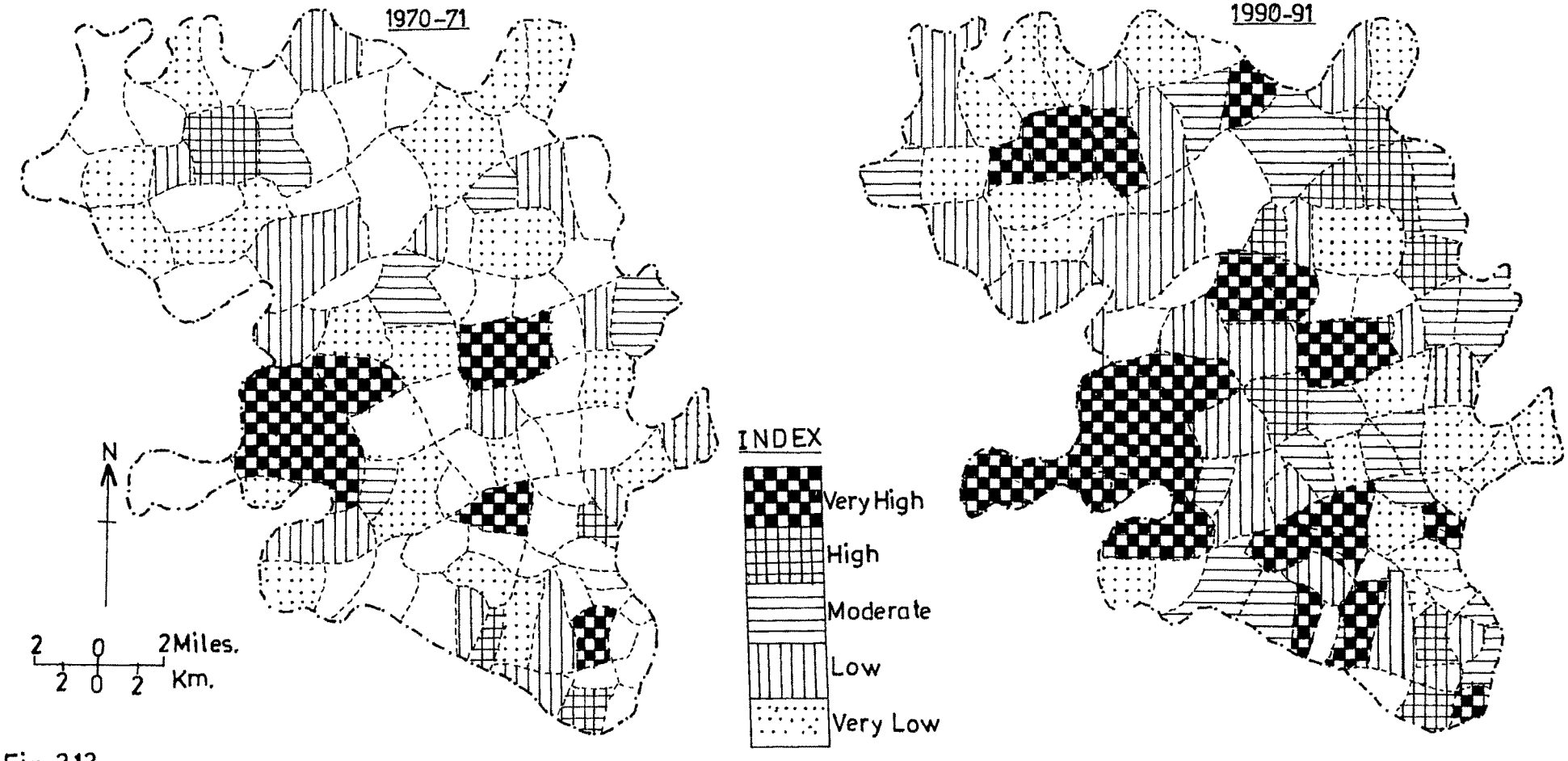

Fig. 2.12

The trend reveals that by the passage of time and increasing levels of literacy and other developing opportunities the rural areas also have a greater diversification of occupation against the mono occupation of agriculture.

Other Workers

This class of workers includes, the people engaged in dairy farming, poultry farming, fishing, rope making etc. In all there were 1285 (3.48%) workers in this category in Karjan at the first point of time, which went up to 1987 i.e. 3.98 percent in 1990-91 The increase in the workers other than agricultural workers indicates that agriculture alone is incapable of satisfying the increasing desires and demands of the people. A better understanding of the variability in distribution of such workers may be had from the region wise and village wise statistics of these workers given in table 2.28.

Table 2.28

OTHER WORKERS IN KARJAN AND ITS REGIONS

(1970-71 & 1990-91)

Regions	1970-71		1990-91	
	Absolute No.	%	Absolute No	%
I	538	3.42	838	4.00
II	317	4.40	525	4 96
III	380	2.75	624	3 39
Taluka	1285	3.48	1987	3.98

At the base year region I had 538 (3.42%) of these workers indicating that this region was well established in several economic activities other than agriculture. It was followed by region III with 380 (2.25%) and region II 317 (4.40%) according to the numerical strength of their total working population However percentage wise it may be said that such workers are more in region II (4.40%) followed by region I (3.42%) and region III (2.25%). The same trend is visible in pattern of increase that numerically region I has the largest population engaged in this category followed by region III and lastly region II, but by percentage of these workers to the total working population of each region, like the previous trend is found maintained where region II had the largest percentage of such workers (4.96) followed by region I and III with 4.00 percent and 3.39 percent respectively.

A further micro level observation gives the distribution of other workers in the three region of Karjan Table 2.29 and figure2.13give notable change of location of villages having this category of workers in different percentage ranges varying from very high to very low range.

Table 2.29

PERCENTAGE OF OTHER WORKERS IN THE VILLAGES OF KARJAN 1970-71 & 1990-91)

Regions	1970-71			1990-91		
	I	II	III	I	II	III
+0 60	4	1	3	8	3	12
0 45-0.60	5	3	4	5	0	2
0 30-0.45	8	4	11	10	7	9
0.15-0.30	12	4	14	10	2	14
Below–0.15	3	2	10	1	2	5
Nil	3	0	2	1	0	2
Taluka	35	14	44	35	14	44

Region I at the base year had these workers in 32 of its 35 villages 4 of them were in the very high range of 0.60 percent and above, 5 in the high range of 0 45 – 0 60 percent and 8 in the moderate range of 0.30-0.45, 12 and 3 in low and very low ranges of 0 15 –0.30 and below 0.15 percent. Only three village did not have it. By the second point of time, the very high range went up to 8 from the previous 4 . High remained unchanged. 2 more went to moderate range making 10, 2 went off the low range making 10, and only one village of the previous 3 remained in the very low range. Only one of the previous three villages reported no other workers, while two of them joined the fray of other villages.

In 1970-71, region II, showed, one village in the very high range. 3,4,4, and 2 in high, moderate, low and very low ranges By the second point of time, the very high range got 3, the high range lost all the 3 villages, which went down to moderate range making it, 7, and 2 village of 4 in low range went to the next higher range keeping 2 each in low and very low ranges.

In region III at the base year, 3 villages were in the very high range, 4 in the high range, 11 in the moderate, 14 in low range and 10 in very low range, only 2 villages reported none of this class of workers. In 1990-91, very high range with an addition of 9 more went up to 12, 4 of the high range was reduced to 2, the moderate range came down to 9 from 11 of the base year Low range remained unchanged in number of villages but their locations changed (Figure 2 13) 5 of the 10 remained in the very low range, and the 2 village having none of this category of workers maintained status quo

KARJAN TALUKA

OTHERS WORKERS

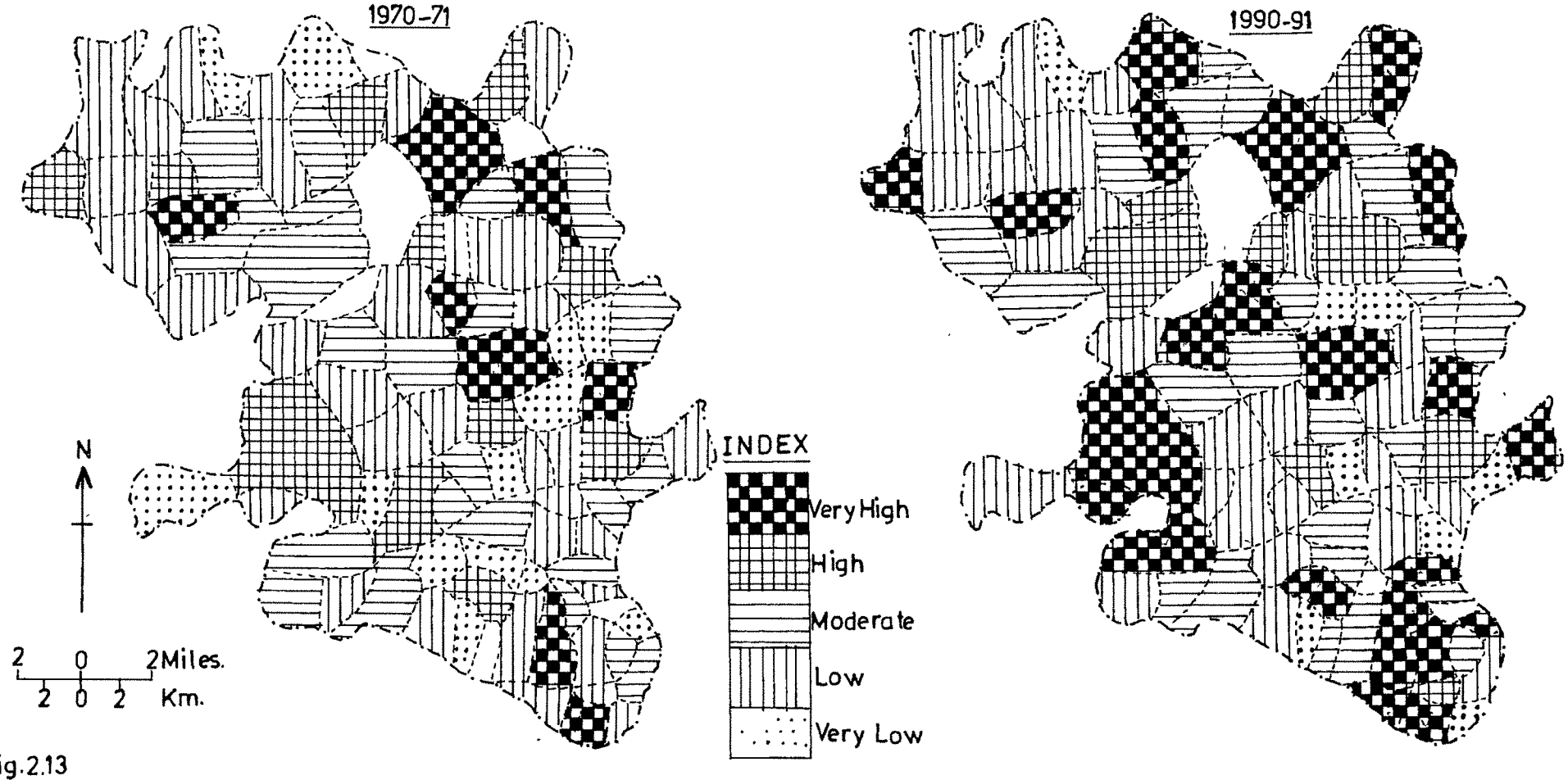

Fig.2.13

Increase in this category of workers indicates that workers want to have several channels of income, and do not like to remain stuck to their ancestral profession It is demand of the day and also the demand of a better upkeep of their families. This is also a way to generate venues of employment to the excess population in their own homestead This is also a step towards the rural habitat transformation.

Marginal workers

Prior to 1981 census there had been no category of marginal workers It is from that census year that this is added to the workers classified by the census administration. These workers give their services wherever, whenever and whatever work they avail

Table 2.30

MARGINAL WORKERS IN KARJAN AND ITS REGIONS

(1970-71 & 1990-91)

Regions	Marginal Workers 1990-91					
	Male	%	Female	%	Total	%
I	30	1.43	2065	98 56	2095	4.27
II	70	3.82	1760	96.17	1830	6.80
III	150	4.35	3297	95 65	3447	7.32
Taluka	250	3 099	7122	96 61	7372	5 99

In Karjan taluka total 7372 persons were notified as marginal workers, in which 250 were males and 7122 females. While region wise, region

I, had 2095 persons, among them 30 males and 2065 females, region II reported 1830 persons 70 males and 1760 females, where as region III shows 347 marginal workers of which 150 males 3297 females. In all the females strength in this category has been much more than the males.

Since most of the males have almost regular jobs in established working organizations. The females a new entrant in working groups (where earlier they were notified as non-workers), having no place in the established organization have been categorized as marginal workers. A few males sailing in the same boat have also been registered in this class of workers. However, this category shows that females have also become partial earning member of the family changing the work environment of earlier days when they have been working as the house wives busy in their domestic duties.

Non-Working Population

Non-working population includes all those persons who are dependent upon others, such as the children of minor age, women and adult of major age beyond 60s. when they became incapable for any work.

The table 2.31 gives the information of non-working population in Karjan taluka at the two point of time

Table 2 31

NON-WORKING POPULATION IN KARJAN AND ITS REGIONS

(1970-71 & 1990-91)

Regions	Non-working Population							
	1970-71				1990-91			
	Male %	Female %	Total	%	Male	Female %	Total	%
I	37.26	62.74	26555	62.95	38 72	61.28	26020	53.04
II	37.52	62.48	14361	66.88	39 52	60.48	14480	53 83
III	36.17	63.83	25402	64.43	39.10	60.89	25248	53.64
Taluka	36.90	63.10	66318	64.33	39.04	60.96	65748	53.41

In 1970-71, 64.33 percent of the total population was non-working of which females comprised 63.10 percent and males 36.90. By the second point of time the total non-working population decreased to 53.41 percent and so the percentage of females reduced to 60.96 percent but males strength slightly increased to 39.04 percent.

At the regional level, region I, at the base year had 62.95 percent of its total population as non-working The females with 62.74 percent were a major component in it. Males comprised only 37.26 percent. By the second ;point of time the non-working population decreased to 53 04 percent of the regions total population. The male-female shares were 38 72 And 61.28 percent respectively While in region II and III at the base year 66.88 and 64.43 percent of the respective regions total population was non-working. The male and female shares were 37.52 and 62-48 and 36.17 and 63.83 percent respectively. By the second point of time region II had 53.83 percent total non-working population, the males were 39.52 and females 60-48 percent. In region III the

non-working population was 53.64 and male-female share were 39.10 and 60 98 percent. However, this category largely comprised the minor males in males strength and minor females in females strength Aged males and aged females and the woman doing only domestic work are also included in this category

The general decrease in this percentage at the second point of time is the effect of the general decrease in the birth rate mainly due to the effective family planning observance. The decreasing trend in the birth rate, decreasing the total non-working population has the effect of decreasing the pressures of upkeep on the working group, and the emergence of marginal workers is the partial addition in the working and earning class. This may also be deemed a factor in the totality of the habitat transformation.

2.8. Population and Settlement

A rural habitat is characterized by a group of settlements along with their agricultural work shop as well as its total economic environment. The arable land, the non arable land, tanks, ponds, rivers etc, all together, constitute the habitat of which settlement is an inseparable component "Any change in the agricultural landscape" and others "brings modification in the rural habitat". (Mehta 1977). The settlements, like other human belonging are subject to change over time. They grow along with the population growth, and also face structural changes along with economic growth.

Karjan had in all 93 villages during 1970-71, of varying numbers, sizes and structures. No change in number of villages occurred in 1990-91 It

is natural that numbers, sizes and structures are directly linked with the sustainability of the sources of livelihood. Karjan being a progressive taluka has seen development in several fields of activities cited in previous pages, however in case of the settlement transformation both growth and structural changes have played their significant role (Table 2.32)

Table 2.32

OCCUPIED RESIDENTIAL HOUSES IN KARJAN TALUKA

(1970-71 & 1990-91)

Regions	1970-71	1990-91	Difference
I	7051	9464	2413
II	3466	4773	1307
III	6454	8907	2453
Taluka	16971	23144	6173

In 1970-71, the taluka has as many as 16971 house holds (family residential houses) which grew to 23144 (36.37%) over a period of two decades Thus, as many as 6173 new houses have been added up in the former total These are distributed in almost each village of the taluka.

To see at the regional level, region I in its 35 villages had the largest number of residential houses followed by region III and region II, which were 7051, 6454 and 3466 respectively (Table 2.33). However, there are some big villages with greater number of households in each region, they are Valan of region II having the credit of being the biggest village with 883 houses, followed by Miagam with 793, and Kandari with 591 (both of region I) other

in each region were below these villages in respect of the numbers of their households.

By 1990-91, a general growth is noted in each region. Region I maintaining its magnitude went up to 9464, followed, as in previous order, by region III 8907 and region II 4773 residential houses. The order of the growth of the big villages has a bit changed as Valan went up to 1242, Kandari to 909 and Miagam to 883. In this year, Valan remained unchallenged but the next in order Miagam was overtaken by Kandari. Thus the new order of the big villages was Valan I Kandari II and Miagam III at the second point of time.

Table 2.33

VILLAGES WISE OCCUPIED RESIDENTIAL HOUSES IN KARJAN AND ITS REGIONS (1970-71 & 1990-91)

Absolute Range Distribution	1970-71			1990-91		
	I	II	III	I	II	III
Above-500	2	2	1	3	2	3
375-500	0	0	1	1	0	1
250-375	2	1	2	12	3	10
125-250	24	7	14	15	7	13
Below-125	7	4	26	5	1	18
Total	35	14	44	35	14	44

If seen from the village wise angle an interesting pattern of change is notable. (Table 2.33) At the base year in region I there were only 2 villages in the very high range of above 500 houses, none in the high range of 375-500, 2 in the moderate range of 250-375. 24 in low range of 125-250 and only 7 in the very low range of below 125 Pattern in this year was higher number of villages in lower range order.

In 1990-91 the very high ranging villages of region I remained unchanged One village appeared in the formerly vacant high range, 12 villages in place of only two came up in moderate range, low range decreased from 24 to 15, and the very low range from 7 to 5. Thus the higher ranges increased and lower ones decreased

Region II also had 2 villages in the very high range of residential occupied houses, none in the high range, 1 in moderate, 7 in low and 4 in very low. At the second point of time these ranges were filled in with 3,0,3,7 and 1 showing increase in very high and moderate ranges, decrease in very low and no change in the high and low ranges

Region III more or less followed suit showing 1,1,2,14,26 in very high to very low ranges at the first point of time By the second point of time it made a sizeable increase in its moderates range showing10 villages in place of 2 of the former, very high range got 1 more making in all 2. Low range lost one and retained 13 of the former 14, and very low range declined from 26 to 8.

The trend remained unaltered as the lower ranges have decreased and higher ones increased in all the village of the three regions excepting a few that have maintained unchanged status, or those have shown negative growth.

As regards the structural changes in the rural habitat of Karjan, it is observed that transformation has gone to such a scale that the villages appear like towns with pucca houses, and different types of house hold amenities as those enjoyed by urbanites. The house built mostly of brick mortar, and some of R C. C., with several residential rooms, as well as storing places for agricultural produce, bed rooms, drawing rooms and flesh latrines, bath room etc

Thus a sizeable structural change have been brought in the residential occupied houses in almost each village of Karjan taluka but especially in those houses owned by the NRIs. However, mud houses are not totally extinct, but found only with those having the poverty stricken economic status. On the observed lines of growth it may be predicted that future may favour them also.