CHAPTER – III

## GENERAL LAND USE

Man's interaction with nature is natural He is bound to do so as he has a desire to exist Man environment relation is so close that any one cannot be separated from the other The first and the foremost interaction that man started, and kept continuing has been that with the land Man, whether in urban or rural environment interacts with the land in varying situations and equations, in the former it is an indirect while in the latter it is direct

Empirical studies on the land-use over the years have established the dynamics of both general and crop land uses Our present study also testifies this fact Unfortunately the data at source being not available for the base year, the work is done on the available data for the second point of time In this connection the following assumption is made as a guideline to further assumption for the dynamics on the basis of the available data.

Assumption Like other phenomena of the environment land use whether general or crop land is dynamic (or subject to change) either negatively or positively

The study is largely confined to rural milieu and therefore, the rural levels of interactions have to be explained in this context The rural land has been categorised according to its varying functions in three broad based divisions

(1) Area available for cultivation
(2) Area not available for cultivation.
(3) Land under public uses.

These categories show that man's interaction with the land is not confined only to economic gains, but there lies demand of land other than those used for economic objectives Thus, the category

one is absolutely for economic gains while categories two and three are for various other socio-cultural purposes but not for cultivation

Generally in the rural areas the category of land available for cultivation occupies greater percentage of given land and the remaining goes to other categories It is mainly because the rural economic functions as against urban functions requiring bigger areas for smaller output while the counter part needs smaller areas for larger output.

The first category, therefore, bears great significance for the life and activities of rural folk It functions as a chief source of their livelihood With its varying qualities it contains greater or lesser gravitational force that leads to dense or otherwise sparse population concentration.

The table containing the different categories of general land-use prepared for only 59 villages of Padra and 45 villages of Karjan because inspite of untiring efforts, data for the remaining villages (23 of Padra and 48 of Karjan could not be procured) and the data of the base year for any of the villages of the two talukas was not available at all Thus, the work is done only on the available data of the given villages of the two talukas for the second point of time i.e. 1990-91.

Table No 3 1

Statement of Hectare age under General land use in Padra and Karjan 1990-91

| Categories | Padra | | Karjan | |
|---|---|---|---|---|
| | Area | Percent | Area | Percent |
| **Land Available for cultivation** | | | | |
| 1. N.S.A. | 29042.18 | 84.30 | 23768.06 | 85.95 |
| 2 The fallow land | 143.64 | 0.42 | 197.47 | 0.71 |
| 3. Culturable waste | 134.46 | 0 39 | 147.87 | 0.53 |
| **Land not available for cultivation.** | | | | |
| 1. Grazing land | 2413 34 | 7 18 | 1050.77 | 3 80 |
| 2 Settlement | 485 21 | 1 41 | 342 24 | 1 24 |
| 3 Road & Railways | 850 89 | 2 47 | 765 06 | 2 77 |
| 4 River, Ponds, Nadi, Nala | 799 11 | 2 32 | 1043 12 | 3 78 |
| 5 Others | 521 65 | 1 51 | 337 17 | 1 22 |
| **TOTAL** | **34450.52** | **100.00** | **27651.76** | **100.00** |

**Land Available for Cultivation** :

The data procured from the records of the study areas reveals the following sub-categories of the main category

(1) Net sown Area (N.S A )

(2) Current and Other Fallow (together)

(3) Culturable waste

**(1) N.S.A.** : Man's interaction with nature is natural and he is bound to do so as he has a desire to exist. It is therefore, natural that the largest share of the total land would go for it .Thus, the N S.A. holds the largest share 84 30 per cent and 85 95 per cent respectively in Padra and Karjan The remaining 15 70 per cent and 14.05 per cent respectively were shared by other uses

**(2) Fallow Land** . The fallow land in both the talukas in 1990-91 is quite insignificant with 0.42 and 0 71 per cent respectively. It is assumed that the demand of land in both the talukas for cultivation has an increasing trend. The innovations improved agricultural infrastructure and increasing demand of agricultural produce have developed the trend of leaving little land as fallow. Further, the decreasing agricultural land owing to various planned development and decreasing per capita land due to family divisions do not allow land to be kept as fallow rather more and more use of land for agro-economic purposes is attempted if the conditions allow

**(3) Culturable Waste** . This category of land having its quality of being used for agriculture awaits its use. Presently it is not under plough. However, its area in relation to other uses, is too insignificant to receive any attention In 1990-91 it was only 0.39 per cent in Padra and 0.53 per cent in Karjan. The region wise and village wise break up is given hereunder for each taluka separately

PADRA

The village wise distribution of this category of land in region I of Padra is given here-under As such there are 37 villages in this region but the data could be procured for eleven villages only Its area in these villages ranged between 0 50 and 2 per cent and above during 1990-91. Three villages Pavda, Luna and Majathan had only 0 - 50 per cent, other eight villages ranged between 0 50 and 2 and above per cent Table 3 2

For Region II data could be availed for only seven villages of them Bhoj and Sandhi villages had 0 – 0.50 per cent of culturable waste and Mural ranged between 1 50 and 2 00 per cent

In Region III information about twenty five villages was received, of them fifteen villages reported culturable waste in percentages varying between 0 50 and 2 and above Rest ten villages did not have it at the second point of time (Table 3 2).

The lower percentage of the culturable waste in a few villages indicates that their existence is vanishing away owing to the increasing demand of land for agriculture

Table 3 2

Distribution of Culturable Waste in the Villages of each Region of Padra

(in per cent)

| | Region - I | Region - II | Region – III | Total |
|---|---|---|---|---|
| 0 – 0 50 | 3,17,19 (3) | 33.45 (2) | 49.56 (2) | 7 |
| 0 50 – 1 00 | 7,10 (2) | - | 42,57,63,64,79 ,80 (6) | 8 |
| 1.00 – 1.50 | 14 (1) | - | 66,72 (2) | 3 |
| 1.50 – 2 00 | 4,18,18 (3) | 41 (1) | 54 (1) | 5 |
| 2 00 & above | 22,27 (2) | - | 51,55,68,71 (4) | 6 |
| TOTAL | 11 | 3 | 15 | 29 |

Karjan

Of the total 93 villages, data of general land use for 45 villages could be procured of them each village except Mankan has reported culturable waste in varying percentages.

In Region I out of 35 villages information of the culturable waste is available for 17 villages, of them only one village was in low range, five in moderate, two in high and two in very high range. In all, they ranged between 0.50 and 2 per cent and above.

Of the total fourteen villages of Region II data is available for only two villages, one in moderate and one is in very high range.

Of the total 44 villages of Region III data of only 26 villages could be procured Three are in very low range of 0 – 0 50 per cent, five in low range, nine in moderate range, one in high and six villages in very high range of 2 per cent and above at the second point of time. (Table 3.3).

Table 3.3

Distribution of Culturable Waste in the Villages of each Region of Karjan.

(in per cent)

| | **Region - I** | **Region - II** | **Region – III** | **Total** |
|---|---|---|---|---|
| 0 – 0 50 | 9<br>(1) | - | 60,78,83<br>(3) | **4** |
| 0 50 – 1.00 | 1,14,20,23,30,<br>32<br>(6) | - | 54,55,68,81,84<br>,86<br>(6) | **12** |
| 1.00 – 1 50 | 4,5.15,16,17,2<br>4<br>(6) | 48<br>(1) | 50.52,56,59,61<br>, 74.77,79<br>(8) | **15** |
| 1 50 – 2.00 | 3,7<br>(2) | - | 65,87<br>(2) | **4** |
| 2 00 & above | 6,37<br>(2) | 45<br>(1) | 53,71,72,73,75<br>,80<br>(6) | **9** |
| **TOTAL** | **17** | **2** | **25** | **44** |

The position of Karjan is similar to that of Padra The increasing demand of land for developing agriculture and other functions has the effect of reducing this category of land use at taluka and its smallest unit village levels.

This category of land is observed in both the talukas may be used for agriculture or as the need may occur any time The demand of land is an ever increasing phenomenon Even the increasing innovative measures adopted for increasing agricultural efficiency may also in one way or the other would have urged to use these hither to unused lands.

**Land Not Available For Cultivation**

It includes the following sub-categories

(1) Grazing land

(2) Tanks, Ponds, Rivers and Ravines.

(1) **Grazing Land**

Land is a feeder for both man and animals Where man in rural areas uses land for cultivation of various crops, animals being an integral part of the rural economy also use land for grazing The grazing land, therefore, has always remained an special allocation of a piece of rural land according to the size required. In Gujarati it is called 'Dhor Charan' and in Hindi 'Gauchar'. It is allotted by the allotting authorities for the grazing of the domesticated animals used in agricultural work or for milk. This land cannot be used for personal uses or for agriculture as it remains a public land Its area unusually changes but at times under essential needs both its area and location changes and re-allotment is made However, it takes place when a new land settlement scheme is implemented Thus this type of land very often remains static In 1990-91, the grazing land areas in Padra and Karjan were 7.18 and 3.80 per cent respectively.

PADRA :

A region wise and village wise study of grazing land of Padra for the second point of time on the basis of data available displays that this category of land use was distributed from the very low percentage of 0 – 2 to 8 and above.

Table . 3 4

Village wise Percentage Distribution of Grazing Land in Each Region of Padra 1990-91.

| | Region - I | Region - II | Region – III | Total |
|---|---|---|---|---|
| 0 – 2 | 4,9,14.20,21,26, 27,28,30,34,37, 46,47 (13) | 33,44,45,48,50 (5) | 42,49,63,68 (4) | 22 |
| 2 – 4 | 11,17,22,25,29, 35,36 (7) | 38 (1) | 59,66,77,78 (4) | 12 |
| 4 – 6 | 2,7,10,19 (4) | 41 (1) | 51,53,54,55,56, 57,58,64,72, 74,75,76,79,80, 81,82 (16) | 21 |
| 6 – 8 | 18 (1) | - | 71 (1) | 2 |
| 8 and above | 3,6 (2) | - | - | 2 |
| TOTAL | 27 | 7 | 25 | 59 |

In Region I out of 27 villages for which data could be available, 13 villages ranged at the very low percentage of 0 – 2. In the low range were seven (07), in the moderate range four (04), in high and very high ranges of 8 and above were only two (02) villages

This distribution pattern reflects the locational character of the villages of the region. Those nearer the southern bank of river Mahisagar have higher percentage of grazing land ranging between moderate and very high percentages The villages in the very low to moderate are located in the areas away from the influence of the rivers. Thus the grazing land areas of river side village do include parts of the ravines of Mahi river. (Table : 3.4).

Region II has eleven villages of which the data of only seven village could be procured. All these villages are confined upto moderate range with maximum five in the very low and one each in low and moderate ranges. These are the villages in the interior of the taluka away from any significant natural feature

Out of thirty-six (36) villages of Region III data for twenty-five (25) villages could be made available. These villages range from very low to high percentages In very low and low ranges are four (04) villages each The biggest number of sixteen (16) villages are placed in the moderate range and only one village in the high range.

Per chance the villages showing the moderate and high range of grazing land distribution are those located in the influence zone of river Dhadhar that passes from the southern part of the taluka making discretely its southern and south-west boundary The peripheral villages do include a part of its ravines in the grazing land areas.

KARJAN :

The problem of paucity of data is faced in case of each taluka, under study

In Region I of Karjan, data for seventeen (17) villages out of 35 is available. The distribution of grazing land is found in all ranges from very low to very high. There are three (03) villages in very low range, four (04) in low, eight (08) in moderate and one (01) each in high and very high ranges. The villages from moderate to very high are located in the vicinity of river Dhadhar and those in the low and very low are away from it

In Region II only two villages are brought under study, both of them are placed in low and moderate ranges

In Region III data for twenty six (26) out of forty four (44) villages is available. Of them five (05) villages are in very low, seven (07) in low, twelve (12) in moderate and two (02) in very high. The high range found vacant The villages in moderate and very high are located in the influence zone of Narmada river.

Thus a hypothesis is postulated on the basis of the observations that, if the villages are located nearer the river then higher is the percentage of the area under their grazing land This hypothesis is proved by the data available.

(2) **Tanks and Ponds, Rivers and Ravines**

Tanks have been an special feature of the southern talukas of Gujarat, more particularly of the areas under the marine influence zone of the Gulf of Khambhat It had been an inevitable feature specially constructed for storing rain water for drinking and other requirements. Since the drinking water in villages is now supplied by taps, the significance of this, once very important feature, is dwindling. Rural Padra, before sixties was largely depending on it for drinking water, but in later years the water supply schemes implemented here reduced the dependence on it They are now used casually, but their significance as a source of irrigation cannot be denied

Ponds were also man made features coming into existence owing to the extraction of mud for house building etc They are gradually disappearing and the land is brought under other uses

Rivers and Ravines

Rivers and ravines are natural features. There are two rivers in Padra (1) Mahisagar, a big river flowing and demarcating the north-western boundary of Padra. It has left a big scar of ravines which is now a very significant zone producing petroleum Thus, its utilization has taken a very significant economic status and used by Oil and Natural Gas Corporation. (2) The second river Dhadhar is discretely making the southern boundary of the taluka Its ravines are used as grazing land. In all these features together occupied 2.37 per cent of the total geographical area of the taluka. A region-wise and village-wise study of this land use of Padra and Karjan has been done separately for the second point of time on the basis of available data.

**Nadi, Nala, Kans, Kotar etc**

Region and village wise distribution of nadi, nala, kans and kotar which are natural feature are given here under

In Region I of Padra twenty seven (27) of the thirty seven (37) villages show that thirteen (13) villages were in the very low range of 0 – 2 per cent, seven villages (07) in low range of 2 – 4, four (04) villages in the moderate range of 4 – 6, one(01) in 6 – 8, and two (02) in eight and above

In Region II, data for seven out of eleven villages could be made available All of them ranged between the very low and low ranges Where 6 villages were in very low only, one was in low range This shows that such features are undesired in this region

In Region III twenty two (22) villages were confined only to low and very low ranges with eighteen (18) and four (04) villages respectively. The presence of rivers is responsible for higher or lower percentage of land under this category in the respective villages of this region

KARJAN

As stated in the preceding lines, the tanks are an inevitable man made feature for all the southern segment of Gujarat Their vital significance is that they have been the sole source of drinking water for all the rural folks prior to new arrangement of tap water This have been an associated constructed land feature in all villages of Karjan like Padra Partly they are doing their assigned function even today at critical moments of short supply of drinking water Ponds have also the same character as in Padra and vanishing away by the passage of time.

Rivers and Ravines : Rivers and ravines are the natural features Karjan is endowed with three small and big rivers, river Dhadhar passing through the north-western part in the close vicinity of the taluka boundary River Bhukhi from the south-central part and the Narmada, the biggest river of Gujarat constitutes the southern and

south eastern boundary. Their ravines have, by now lying like waste land used only as grazing land by the cattle and live stock

In all, these features together occupy 3 78 per cent of the total land (it is computed on the basis of data procured for 45 villages of the total 93).

Nadi, Nala, Kans, Kotar etc :

The area under Nadi, Nala, Kans, Kotar etc in Karjan is not available for all the villages. However, the range distribution on the pattern of Padra is made to look into the variability of these uses in regional and rural perspective.

In Region I at the second point of time eleven (11) and six villages (total 17) ranged in the very low and low percentages respectively Information of the remaining eighteen (18) villages could not be availed

In Region II, the data is available only for two (02) villages and both are placed in the low range

In Region III, out of forty four villages data could be available for twenty six only. The distribution of these features are thus given here under. It seems that this region has greater percentages of area under these categories. In the very low and low ranges are eight (08) and ten (10) villages respectively In moderate and high are four (04) and one (01) villages respectively, and in the very high range are three (03) villages (Table 3 5)

P.T.O.

Table · 3.5

Villagewise Percentage Area under Nadi, Nala, Kans, Kotar in each Region of Padra

(in per cent)

| | Region - I | Region – II | Region – III | Total |
|---|---|---|---|---|
| 0 – 2 | 1,6,7,9,14,16,20, 23,24,30,37 (11) | - | 50,55,60,63,65, 71,80,83 (8) | 19 |
| 2 – 4 | 2,4,5,15,17,32 (6) | 45,48 (2) | 52,54,56,59,61, 68,72,73,75,77 (10) | 18 |
| 4 – 6 | - | - | 53,59,84,86 (4) | 4 |
| 6 – 8 | - | - | 81 (1) | 1 |
| 8 and above | - | - | 74,78,87 (3) | 3 |
| TOTAL | 17 | 2 | 26 | 45 |

A notable fact emerges from this interpretation that, such categories largely depend on the size of the river passing through the areas. In Karjan the Dhadhar and Bhukhi passing through north western and south central parts are small rivers with less erosive force However Dhadhar do have its ravines. But Narmada is a gigantic river with enormous erosive force and thus left on and around its two banks giant scars locally known as kotar (ravines) Most of the area in this category is that of kotar only.

**Land Under Public Uses** .

The rural areas, use land not only for the economic purposes but a small chunk i e smaller than their N S A. is used for several other objectives – settlement, grave-yard and cremation grounds, schools, barns, garbage, dumping grounds specially for dumping cow dung for manure, easing ground for women an special allocation in the villages of Gujarat etc. and the road, railway, foot paths, cart track etc

**Settlement** :

A very important humanistic feature of general land use is the settlement An ideal place is always traced out in the extent of the village area for its location. Generally settlements are attempted to be located some where in the middle of the total extent, but it is not a general law. Often the ideal places are found nearer the boundaries In both Padra and Karjan talukas the location of villages is found nearer the center or nearer and on the boundaries

The area under settlement as available was 1.41 per cent and 1.24 per cent of the respective T.G.A.[s] of both the talukas (This percentage is worked out on the available data of 59 villages of Padra and 45 villages of Karjan respectively for 1990-91) This is subject to change (increase) with the increasing population of the villages.

PADRA

Settlements vary in area according to their population size It is evidenced from their region wise and village wise distribution, given here under.

Table 3.6

Village wise Percentage Area under Settlements in each Region of Padra 1990-91.

| | Region - I | Region - II | Region – III | Total |
|---|---|---|---|---|
| 0 – 0 50 | 22<br>(1) | - | - | 1 |
| 0 50 – 1 00 | 3,18<br>(2) | 41,45.48<br>(3) | 49,57.66,76,81<br>(5) | 10 |
| 1.00 – 1 50 | 2,4,6,9,10,19,20,<br>25,27,29,37,46,<br>47<br>(13) | 33,38,44,50<br>(4) | 56,58,71,74,75,<br>77,78,80<br>(8) | 25 |
| 1 50 – 2.00 | 17,26,35,36<br>(4) | - | 42,54,55,59,63,<br>72,79<br>(7) | 11 |
| 2.00 and above | 7,11,14,21,28,30,<br>34<br>(7) | - | 50,53,64,68,82<br>(5) | 12 |
| TOTAL | 27 | 7 | 25 | 59 |

In 1990-91, the settlements of Region I varied from very low range of percentage to very high In the very low range of 0 - 0 50 is only one (01) village, and in subsequent ranges are two (02), thirteen (13), four (04) and seven (07) respectively The distribution however, is based on the data available for only 27 villages.

Seven villages of Region II ranged in low and moderate ranges with three (03) and four (04) respectively

In region III 25 villages ranged from low to very high percentages with five (05), eight (08), seven (07) and five (05) respectively

From the distribution and extent of villages it is noted that most of them are placed in the moderate range (Table 3 6)

KARJAN .

In Region I of Karjan more or less similar pattern of distribution is seen Out of Seventeen (17) villages, in the very low range is only one (01) village and in subsequent ranges from low to high are six (06), seven (07) and three (03) villages and none in the very high range.

In Region II data for only two villages is in hand and both are placed in the low range.

In Region III all twenty six villages of which the data is procured, are distributed from low to very high range with three (03), fifteen (15), four (04) and four (04) villages respectively Table 3 7.

P.T.O.

Table : 3 7

Villagewise Percentage Area under Settlements in each Region of Karjan 1990-91

(in per cent)

| | Region - I | Region - II | Region – III | Total |
|---|---|---|---|---|
| 0 – 0.50 | 24 (1) | - | - | 1 |
| 0 50 – 1.00 | 1,7,9,16,23,32 (6) | 45,48 (2) | 50,55,63 (3) | 11 |
| 1.00 – 1.50 | 3,5,14,17,20,30, 37 (7) | - | 52,56,59,60,61, 65,71,72,74,75, 78,80,83,86 (15) | 22 |
| 1 50 – 2.00 | 4,6,15 (3) | - | 73,77,81,87 (4) | 7 |
| 2.00 and above | - | - | 53,54,79,84 (4) | 4 |
| **TOTAL** | 17 | 2 | 26 | 45 |

Like Padra the regions of Karjan have most of their villages placed in moderate range except Region II of which data is available for only two villages.

Apart from settlements the other public utility land has its own importance. Some of them are for community utility and some are personal or for the softer sex (easing grounds)

The gravegards and cremation grounds are usually allocated in those villages where the two communities Hindus and Muslims live together. This is an essential allocation for the disposal of dead bodies. Schools, playgrounds, the places for worship, easing grounds, garbage dumping places etc are in-variably allocated in all the villages

Such areas usually have less dynamics except in some special cases In all they occupied 1.51 per cent in 59 villages of Padra (of which data could be procured). These allocations are common for all villages in each taluka and serve the uniform purpose. They have been dealt in detail in case of Padra In Karjan the total land under these uses was 1.22 per cent in 45 villages (of which data is available)

**PADRA – (Other Use)**

Other uses of land include grave yards, cremation grounds, schools and play grounds, barns (Khali), garbage dumping pits (ukardo) etc In regional and rural Padra these uses have been allotted required areas of lands ranging in percentage between 0 – 0 50 and 2 and above In Region I there are 37 villages but the data procured is only for 26 villages, accordingly the distribution of the land under these uses has been computed. This is the method adopted has all other regions However Region I in the very low range are 7 villages, and in subsequent ranges are 2,4,2 and 10 villages respectively

In Region II data of only 6 villages out of 11 is available and their range of distribution lies between very low, moderate and very high In the first two ranges are 2 each and in the last two are one each

In Region III larger concentration of villages is seen in the low, moderate and very high ranges and the least in the very low range In this range is only one village and in the following ranges are 10,8 and 6 villages. However, the available data of 25 villages out of 34 gives the pattern that others may be having these uses in the same manner

Table : 3.8

Villagewise Percentage Area under Other uses in each Region of Padra 1990-91

(in per cent)

| | Region - I | Region - II | Region – III | Total |
|---|---|---|---|---|
| 0 – 0.50 | 3,4,17,18.19.26. 47(7) | 44,50 (2) | 49 (1) | 10 |
| 0.50 – 1.00 | 22,34,35 (3) | 33,41 (2) | 54,56,57,58,59, 66,72,79,81,82 (10) | 15 |
| 1.00 – 1.50 | 7,21,27,46 (4) | 45 (1) | 51,53,63,68,74, 76,77,80 (8) | 13 |
| 1 50 – 2.00 | 14,29 (2) | - | - | 2 |
| 2 00 and above | 2.6,9,10.11,25 2 8,30.36.37 (10) | 38 (1) | 42,45.64,71,75, 78 (6) | 17 |
| TOTAL | 26 | 6 | 25 | 57 |

These uses have their socio-economic importance in villages and usually they are allotted according to the size of population and size of the villages The greatest importance is always attached to the land used for agricultural purposes and remaining is distributed according to the demand, the size and the location of the remaining land.

KARJAN (Other uses) :

The pattern of distribution of the other uses of land in Karjan are similar to that of Padra.

In Region I, 16 villages of the 35 are distributed in the ranges from very low ( 0 – 0 50 per cent) to high (1 50 – 2 00 per cent) In the first range are 7 villages, in the following two ranges have 4 each and the last has only one. This gives to understand the pattern for the remaining 19 villages for which data could not be procured.

Table 3 9

Villagewise Percentage Area under Other Uses in each Region of Padra 1990-91.

(in per cent)

| | Region - I | Region - II | Region – III | Total |
|---|---|---|---|---|
| 0 – 0.50 | 1,3,5,6,14,23,24 (7) | 48 (1) | 52,56,60,71,75, 79,80,84 (8) | 16 |
| 0 50 – 1 00 | 9,17,30,37 (4) | - | 50,59,68,72,81, 83,86 (7) | 11 |
| 1 00 – 1 50 | 4,15,20,32 (4) | - | 73,78 (2) | 6 |
| 1 50 – 2.00 | 16 (1) | - | 61,63,74 (3) | 4 |
| 2.00 and above | - | 45 (1) | 53,54,55,65,77, 87 (6) | 7 |
| **TOTAL** | **16** | **2** | **26** | **44** |

Same is the case of Region II where data for only two villages could be procured, they are placed in first very low and very high range.

In region III, 26 of the 44 villages are distributed in each range with numbers varying from 8 in the very low, 7 in low, 2 in moderate, 3 in high and 6 in the very high range

These uses of land are essentially and invariably found in each village, but their size varies according to the significance of uses, and also the availability of land

**MEANS OF TRANSPORT** :

Road and Railways

Inlets and outlets are necessary for all mobile and living organisms Man by way of his superiority and ingeneousity has carved out ways and means for his mobility within and without his areas and habitats Linkages have ever been the need of time for undeterred movements In this age of technical development and the upraised status of life, better, convenient and direct linkages have become the primary demand of both the rural and the urban areas. Under the planned programmes of development, roads and approach roads have been given priority so that no village, even though in interior most parts be away more that 3 – 5 kms from the main roads.

In the light of these developments and their a priori position Padra and Karjan are studied and their net works of linkages have been observed

PADRA

Padra, a taluka headquarter and once an entrepot center for vegetables was well served with good roads and a narrow gauge railway from the period of the princely state of Gaekwad rulers. During the period of Sir Sayajirao Gaekwad III (one of the most fore sighted ruler) the narrow gauge railway was laid to connect the important centers of the state with the capital town Baroda Presently due to neck to neck competition with the state transport buses, this railway has lost its former glory

Padra taluka is well served by state transport buses, each village is enjoying them at least twice a day With in the villages there are foot paths, cart tracks and the paths connecting the agricultural fields locally known as 'hade – pakdelo-marg' They are used exclusively for all agricultural purposes. At the second point of time all route together had 2.47 per cent of the total geographical area of Padra taluka

Whatever data is procured shows that regional and rural Padra has been well knitted with roads and in some villages with railways (narrow gauge) However, the area under railways has remained static overtime, as the development of this gauge has been neglected for economic reasons. Roads posed a keen competition and impeded its growth. Road development, no doubt, has made rural Padra in easy and efficient access to the rest of Gujarat and also the country.

The villages of the regions enjoyed this amenity in all percentage ranges. In the low range are four villages and in all other subsequent ranges are 8,6,6 and 3. The last three villages are privileged by their close proximity to Baroda and thus have the very high percentage range of roads and railway and placed in the range of very high level of 4 – 5 per cent.

The seven villages of Region II, even though placed in the interior are having the areas under roads in all ranges. The villages in the very low range and in all subsequent ranges except the low range are one each, and 3 in the low range.

The road connectivity seems to be more efficient in region III where very low range has only 2 villages, low and very high have 3 villages each, moderate has 9 villages and high range has 8 villages.

Being a cotton dominated and vegetables producing segment of Padra it was well served with cart tracks and some pucca roads Now all cart tracks have been converted to metalled roads Thus this area has relatively greater level of accessibility to other villages of the taluka to the taluka headquarter and beyond The

cotton and vegetables factor is greatly responsible for its greater level of accessibility in the whole taluka

Inspite of the paucity of data, the trend that emerges from the little we have, is found very much on the growing side, as larger number of villages in the given table show higher percentage ranges for greater number of villages particularly in region I and III. It may be for region II as well, but its information could not be available

Table 3 10

Villagewise Percentage Area under Transport in each Region of Padra 1990-91

(in per cent)

| | Region - I | Region - II | Region – III | Total |
|---|---|---|---|---|
| 0 – 1 00 | 2,4,9,14 (4) | 41 (1) | 66,74 (2) | 7 |
| 1 00 – 2 00 | 3,7,10,11,20,36, 37,46 (8) | 33.44.45 (3) | 56,72,81 (3) | 14 |
| 2 00 – 3 00 | 06,18,19,22,29, 60 (6) | 48 (1) | 51,53,54,55,68, 71,76,79,80 (9) | 16 |
| 3 00 – 4.00 | 17,21,28,34,35, 47 (6) | 38 (1) | 42,49,57,58,89, 64,75,82 (8) | 15 |
| 4.00 and above | 25,26,27 (3) | 50 (1) | 63,77,78 (3) | 7 |
| TOTAL | 27 | 7 | 25 | 59 |

KARJAN

Unlike Padra, Karjan has an ideal location in respect of transport routes It is a junction on the former B.B and C I Railway now the Western Railway, joining Bombay with Delhi and other important centers enroute. It also had the Gaekwad Railway (narrow gauge) but now that is passing in dissuetude.

It has an efficient road network connecting its villages as well as the various major and minor centers of other talukas and districts

In respect of the connectivity or linkages with in the villages, Karjan has all traditional routes connecting the village to the fields,

fields to fields, foot-paths, cart tracks etc. The cart tracks by the second point of time, have been improved upon as all season roads and to be used by tractors, trollies, trucks and other vehicular traffic. At the second point of time Karjan had given 2 77 per cent of its total geographical area for various roads and railway routes

This statement of percentage of land routes is worked out from the available data of 45 villages of Karjan. However, on the basis of observation Karjan has relatively better linkages than Padra.

Karjan is a junction on the mainline of Western Railway, and also served by the Gaekwadi (narrow gauge) railway. Another merit of Karjan is that it is a big node on the National Highway No 8 These two prominent lines of transport make the rural Karjan well connected with the rest of the state and also the nation

The internal network in each region seems to have provided required connectivity occupying varying percentage ranges Region I with 17 villages has 2 villages in the very low range of percentage area under roads and railway. By their location also they are far away from the roads and railways. In the subsequent ranges of low to high are 10,3 and 2 villages showing the largest number of villages in the low and thereafter in the moderate range. The eastern and central part of region I is relatively better served than that of the western parts. (Table 3 11)

In region II data for only two villages could be had, they are one each in low and moderate ranges

In region III, out of 44 villages data for 26 villages could be procured of them 6 and 8 are in the very low and low ranges, 9 villages are placed in moderate range, the high and very high ranges have 2 and 1 villages, respectively.

However, it is noted that stress on better connectivity is laid by the planning authorities in the rural areas so that their growth in respect of agriculture and other suitable functions may be assured The available data, therefore, indicates that the villages, at least, by 1990-91 have been provided with better all season roads and

have joined by the asphalt or metalled roads with the nearest main road

Table : 3.11

Villagewise Percentage Area under Transport in each Region of Karjan 1990-91.

(in per cent)

| | Region - I | Region - II | Region – III | Total |
|---|---|---|---|---|
| 0 – 1.50 | 6,20 (2) | - | 50,55,61,65,78, 80 (6) | 8 |
| 1.50 – 3.00 | 3,5,7,9,15,16,17. 23,30,37 (10) | 48 (10) | 56,60,68,71,73, 75,77,81 (8) | 19 |
| 3.00 – 4.50 | 1,24,32 (3) | 45 (1) | 52,59,63,72,74, 79,84,86,87 (9) | 13 |
| 4.50 – 6.00 | 4,14 (2) | - | 53,83 (2) | 4 |
| 6 00 and above | - | - | 54 (1) | 1 |
| TOTAL | 17 | 2 | 26 | 45 |

It can be well assumed by having an overall view that the growing rural population on the one hand and diversifying occupation on the other, would have the effect of decreasing and increasing the areal extent of most of these uses in future It is thus, proving our assumption that each category of the general and crop land use is subject to change overtime; some rapid and some sluggish depending on the prevailing Geo-Socio-economic factors.