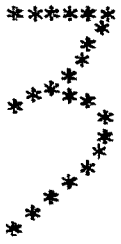
CHAPTER III

Principals and headmasters are the real educational leaders - in the institution. They are the real sources of inspiration to the teachers. The climate in the school is the measure of the efficiency and the authority exercised by the headmaster. He should be professionally efficient shrewd and intelligent. He should visit the classes in session and supervise teacher's academic activities. But, Mahajan (1970) reports that most of the principals fail to play effective leadership role in the academic field in schools because of the limitation of time and energy, lack of proper knowledge of the concept of supervision and non-cooperation from the teachers. Principals in most cases fail to impress upon the teachers that visits to their classes in session are meant for helping rather than finding fault with them.

- Professor D.M. Desai and Samgeeta Rao

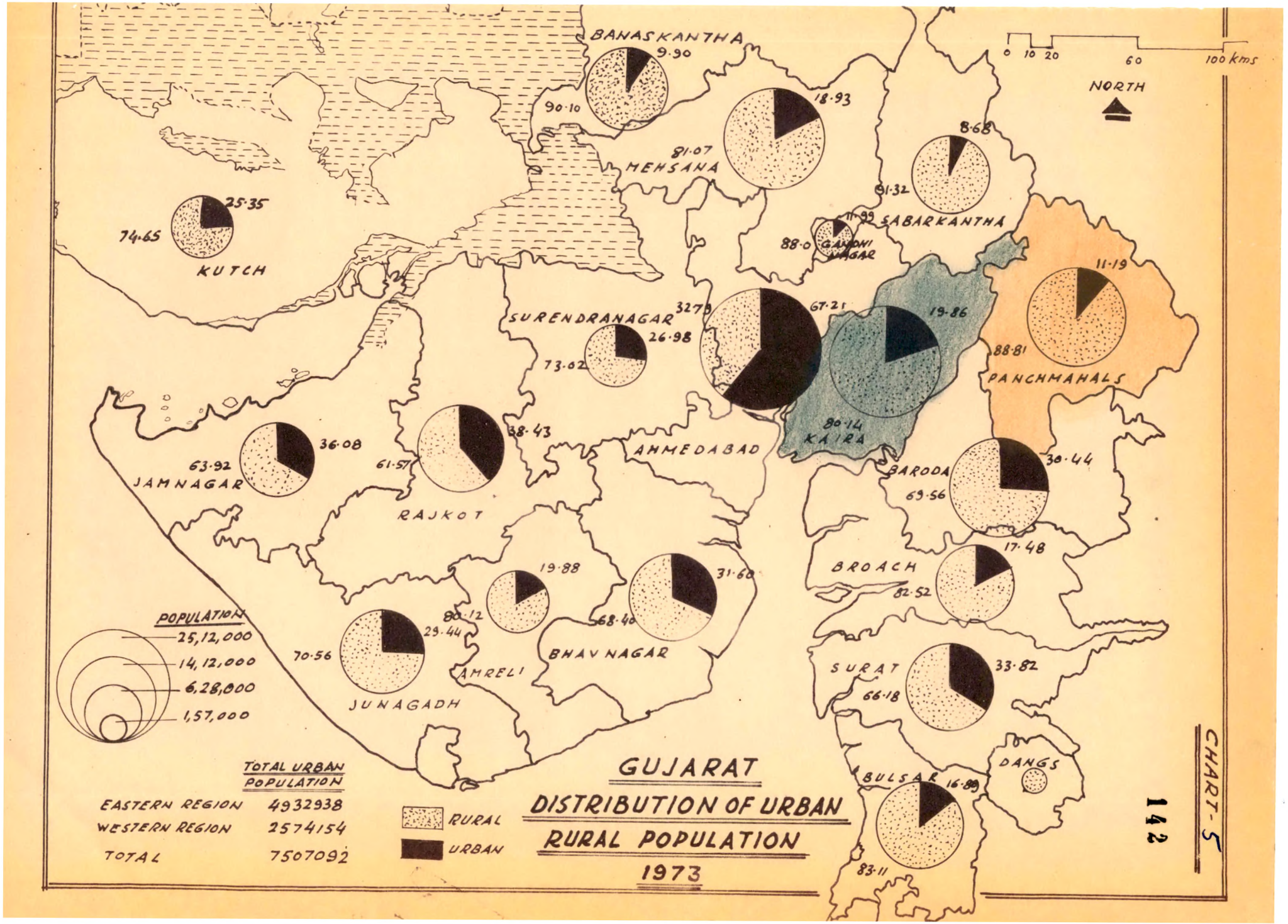
(in "A Survey of Research in Education")



THE RESEARCH DESIGN

3.1 INTRODUCTION

As pointed out in the concluding paragraph of the previous Chapter, there is a dearth of studies done on school supervision in India in general and Gujarat State in particular. The present study on school supervision constitutes an attempt to fill in the void left over in this neglected area of research. The study relates to Gujarat - to be more specifically - to two districts of Central Gujarat. Before the investigator presents his problem, plan and procedures of the study, he would like to survey briefly the few studies done on supervision and other related variables in the schools of Gujarat. This would indicate how the problem of school supervision has been tackled by researchers and administrators in Gujarat. The review of Gujarat studies on school supervision would be beneficial from another point of view. It would help in lending a perspective to the problem of school supervision and


BANASKANTHA
9·90
90·10
18·93
81·07
MEHSANA
8·68
91·32
SABARKANTHA
11·99
88·0
GANDHI NAGAR
25·35
74·65
KUTCH
SURENDRANAGAR
32·78
67·21
26·98
73·02
19·86
80·14
KAIRA
11·19
88·81
PANCHMAHALS
36·08
63·92
JAMNAGAR
38·43
61·57
RAJKOT
AHMEDABAD
BARODA
30·44
69·56
17·48
82·52
BROACH
19·88
80·12
31·60
68·40
BHAVNAGAR
29·44
70·56
JUNAGADH
AMRELI
SURAT
33·82
66·18
DANGS
BULSAR
16·89
83·11
NORTH
0 10 20 60 100 kms
POPULATION
25,12,000
14,12,000
6,28,000
1,57,000
TOTAL URBAN POPULATION
EASTERN REGION 4932938
WESTERN REGION 2574154
TOTAL 7507092
RURAL
URBAN
GUJARAT
DISTRIBUTION OF URBAN
RURAL POPULATION
1973
CHART-5
142

issues involved therein. It would be easier and more profitable to build up the research design of the present study, and a background setting would emerge to perceive and plan supervisory activities on need or deficit basis. During the course of this data collection, the investigator himself has collected some relevant facts and figures from the office of the District Inspectorate, individual high schools, and also from interviews with some of the persons connected with the high schools, regarding the secondary schools of Kheda and the Panchmahals Districts of Central Gujarat. These data will also be properly classified and briefly presented in the next section. The purpose of adopting this approach is to try to build up an essential background stage on which the present research is to be projected and discussed.

3.2 THE BACKGROUND SETTING OF THE PRESENT RESEARCH

As the major concern in the present research is to find out to what extent supervision is done effectively in the sampled high schools of the two districts of Central Gujarat, it is necessary first to define the requisites and conditions which, if satisfied, could assure the effectiveness of supervision if some other more directly concerned conditions are also satisfied.

(a) A school should have proper environment and physical facilities in terms of school plant, instructional equipment, school funds, etc.

(b) The standing of the school and the traditions built up in it are also important conditions conducive to effective or otherwise school supervision.

(c) The percentage of trained teachers in schools.

(d) The length of teachers' professional experience.

(e) The leadership characteristics of school principals and supervisors.

(f) The age structure of principals, supervisors and teachers.

(g) The open or closed school climate.

(h) The high or low teacher morale.

(i) The facilities for inservice professional growth of school teachers.

(j) The training facilities for school principals and supervisors.

(k) Some general findings on supervisory practices in schools.

In the present section these eleven aspects of secondary schools of the Kheda and Panchmahals Districts will be briefly dealt with. A reference to the Gujarat State as a whole in respect of secondary schools and secondary school supervision will be made whenever such a reference is deemed essential and when the relevant data on Gujarat as a whole are available.

SOME CHARACTERISTICS OF GUJARAT STATE, KHEDA AND PANCHMAHALS DISTRICTS

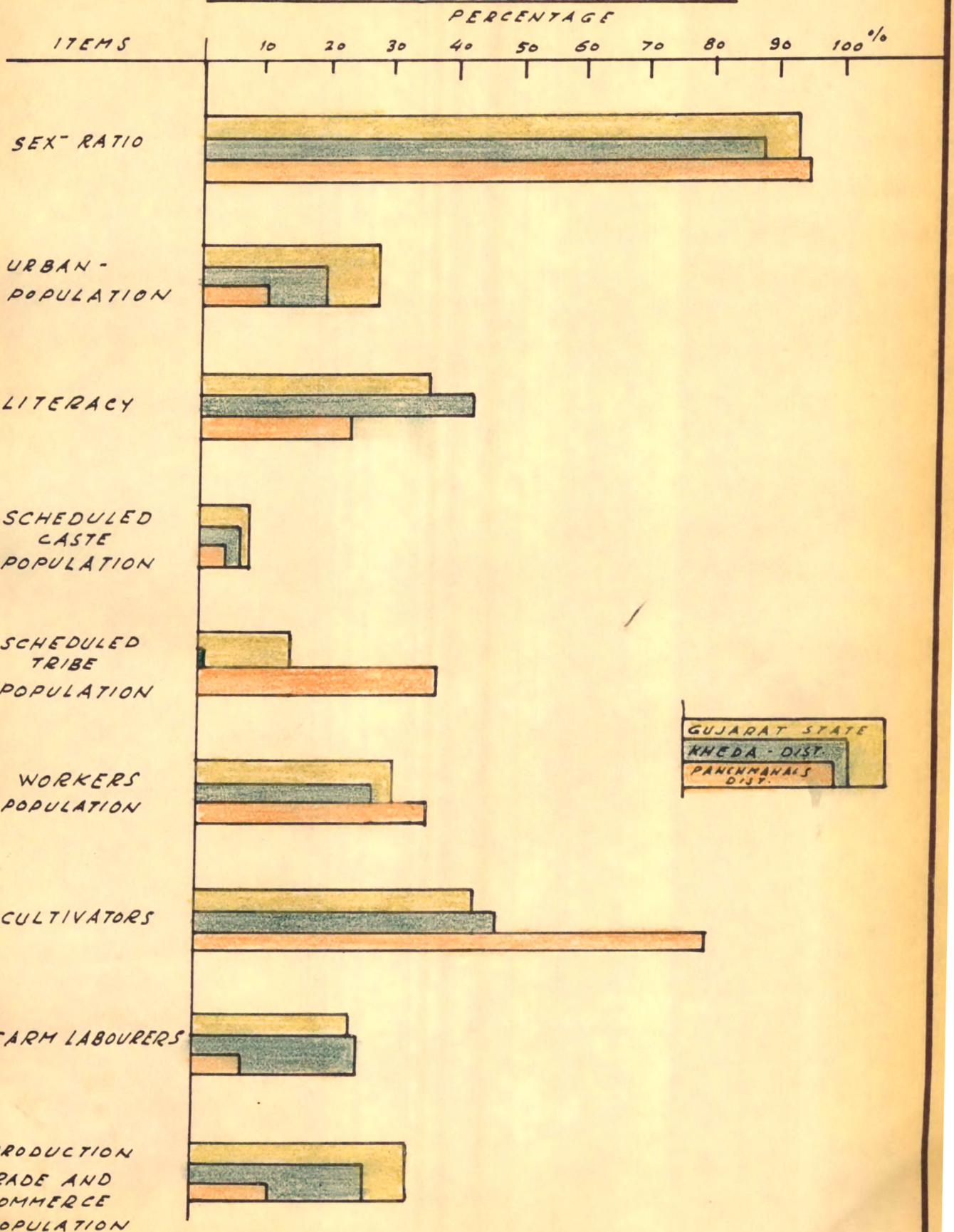


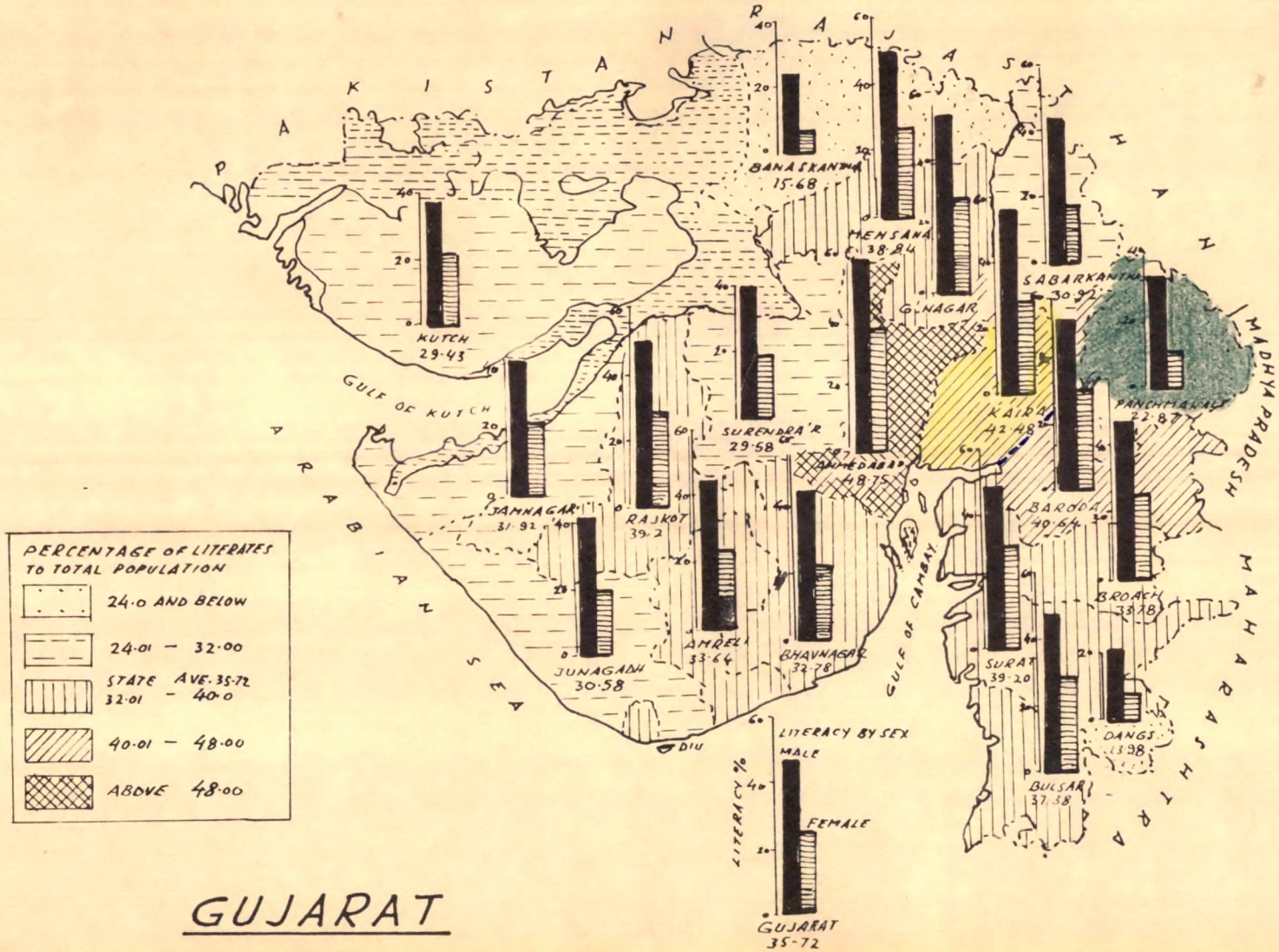
CHART- 6

However, the entire presentation will be prefaced with a short description of the Gujarat State in significant perspective.

Gujarat is one of the States situated in Western India. It covers an area of 1,95,984 sq. k.m. In area, it occupies 5.97 per cent of the total land in the country. Its total population according to 1971 census is about 2.67 crores which constitutes 4.87 per cent of the total population of the country. It occupies the seventh position in area and ninth position in population in the country. It has 19 districts, 216 cities and 18,697 villages.

The Kheda and Panchmahals Districts, along with the Baroda District, forms the Central Gujarat region. In area, the Kheda and Panchmahals Districts constitute 8.5 per cent of the total area of the State and in population 18.11 per cent of its total population. The two districts have an average density of population of 341 and 209 per sq. k.m., as against the density of 136 per sq. k.m. in the whole State. Of the total 216 city areas in the State, 26 or 12.04 per cent are in these two districts. These 26 urban areas cover 31.16 per cent of the total 74.97 lakhs urban population of the State. As against 35.79 per cent of literacy in the State as a whole, the Kheda and Panchmahals Districts have 42.53 and 22.82 per cent respectively. The percentages of population of scheduled caste population in the Kheda and the Panchmahals Districts are 6.05 and 3.68 respectively as against the State population of 6.84 per cent. The Gujarat State has a 13.99 per cent of its

(SOURCE: CENSUS OF INDIA-1971, PROVISIONAL POPULATION TOTALS)



GUJARAT
LITERACY - 1973

CHART-7

population consisting of scheduled tribes; in the Kheda and the Panchmahals Districts, the scheduled caste population constitutes 1.03 per cent and 38.55 per cent respectively. The economically active population in the Gujarat State is 83.96 lakhs (31.3 per cent) of which 43.12 per cent are farmers and 22.48 per cent are farm labburers and such other lower cadre of workers; in the Kheda and Panchmahals the economically active population is 29.6 per cent (of which 48.35 per cent are farmers and 23.82 per cent are farm-labourers, etc.) and 36.8 per cent (of which 79.80 per cent are farmers and 7.78 per cent are farm labourers, etc.) respectively.

In 1974, in Gujarat State, there were around 2,500 secondary schools[2]. In the two districts of Kheda and Panchmahals, there were in all 434 secondary schools which constituted 17.48 per cent of the total secondary schools in the State. Of the 434 secondary schools in the two districts under study, only 7.1 per cent in Kheda District and 4.9 per cent in Panchmahals District were purely girls' schools and the rest which is to a large extant, were mixed schools, and to a small extent purely boys' schools. In the post-independence period, a preference for mixed high schools is

apparent on the part of the school Managements. In March 1972, of the total 8.22 lakhs secondary school children in the State, 1.13 lakh in Kheda and 0.39 lakh in Panchmahals combined together constituted around 18.5 per cent of the total enrolment.

There is also a significant fact which emerges from the study of the annual statistics of secondary education in Gujarat State that the expansion has been continuous, steep and upward. Since 1960 when the new State of Gujarat was carved out by the Indian Parliament out of the former integrated bilingual Bombay State, there has been, on an average, an annual increase of 98 high schools in it.

According to the Census 1971, there is, on an average, one secondary school for a population of 8,786 in Kheda District and one for a population of 13,795 in the Panchmahals District. Thus, the Kheda District has proportionately more secondary schools in comparison to its population size than the Panchmahals District has.

Table 3.1 presents a picture of the proportion of secondary schools in urban areas per 1,000 population slab taluka-wise in both the Districts. A taluka is a smaller administrative and revenue division of a district. It would be seen from the table that in Kheda District there is, on an average, 0.133 high schools per a population slab of 1,000 in cities and in Panchmahals District this average is slightly higher - there is on an average one high school for a population of 0.150.

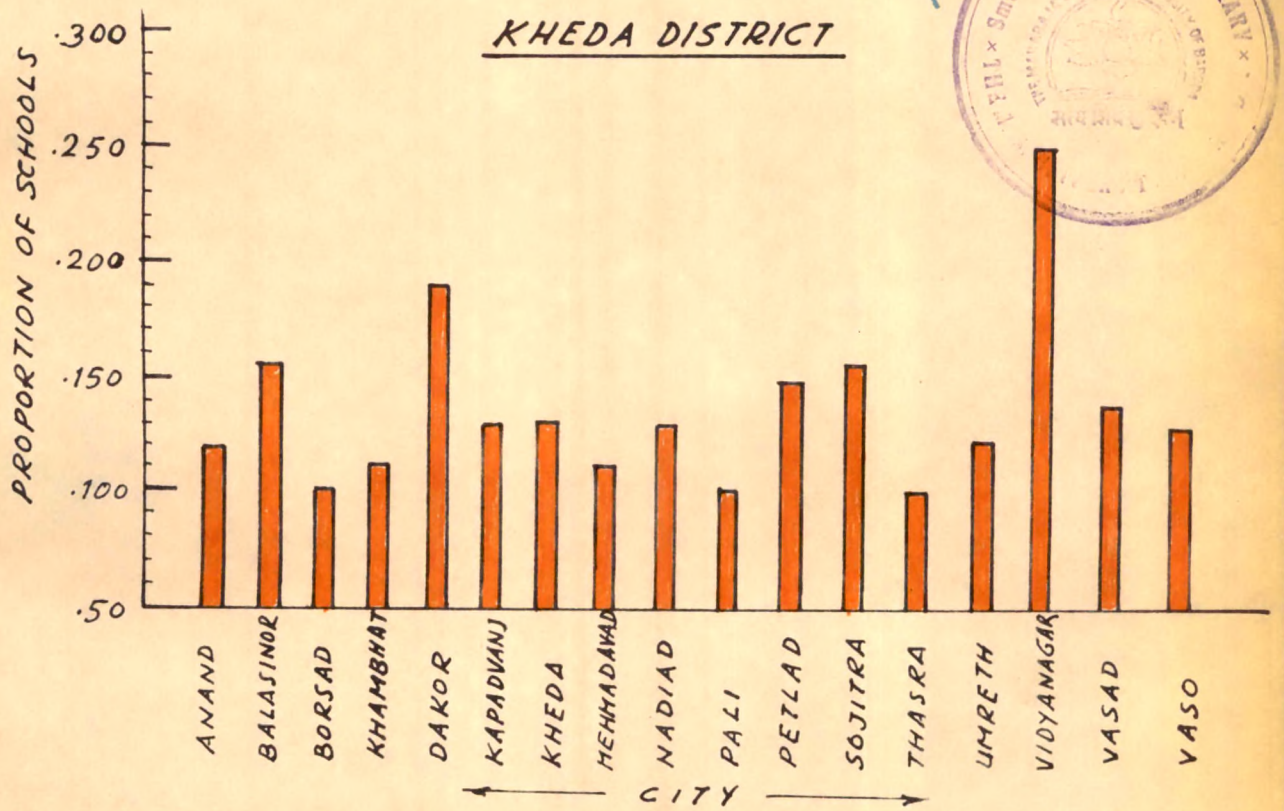
Table 3.1

Proportion of Secondary Schools in Kheda and Panchmahals Districts per 1,000 population in Cities (1971 Census)

Kheda District		Panchmahals District	
City	Proportion of Schools	City	Proportion of Schools
1. Anand	0.118	1. Devgadh Baria	0.152
2. Balasinor	0.156		
3. Borsad	0.098	2. Dahod	0.136
4. Khambhat	0.113	3. Freelandgunj	0.168
5. Dakor	0.124		
6. Kapadvanj	0.130	4. Godhra	0.135
7. Kheda	0.130	5. Halol	0.137
8. Mehmadavad	0.114		
9. Nadiad	0.139	6. Kalol	0.180
10. Pali	0.101	7. Lunawada	0.212
11. Petlad	0.151		
12. Sojitra	0.155	8. Santrampur	0.234
13. Thasra	0.102	9. Shivrajpur	0.210
14. Umreth	0.123		
15. Vidyanagar	0.258	Average :	0.150
16. Vasad	0.138		
17. Vaso	0.133		
Average :	0.133		

Source : Census Reports (Series 5), 1971, of Kheda and Panchmahals Districts edited by C.C. Doctor

PROPORTION OF SECONDARY SCHOOLS IN KHEDA AND PANCHMAHALS DISTRICTS PER 1000 POPULATION IN CITIES (1971 CENSUS)



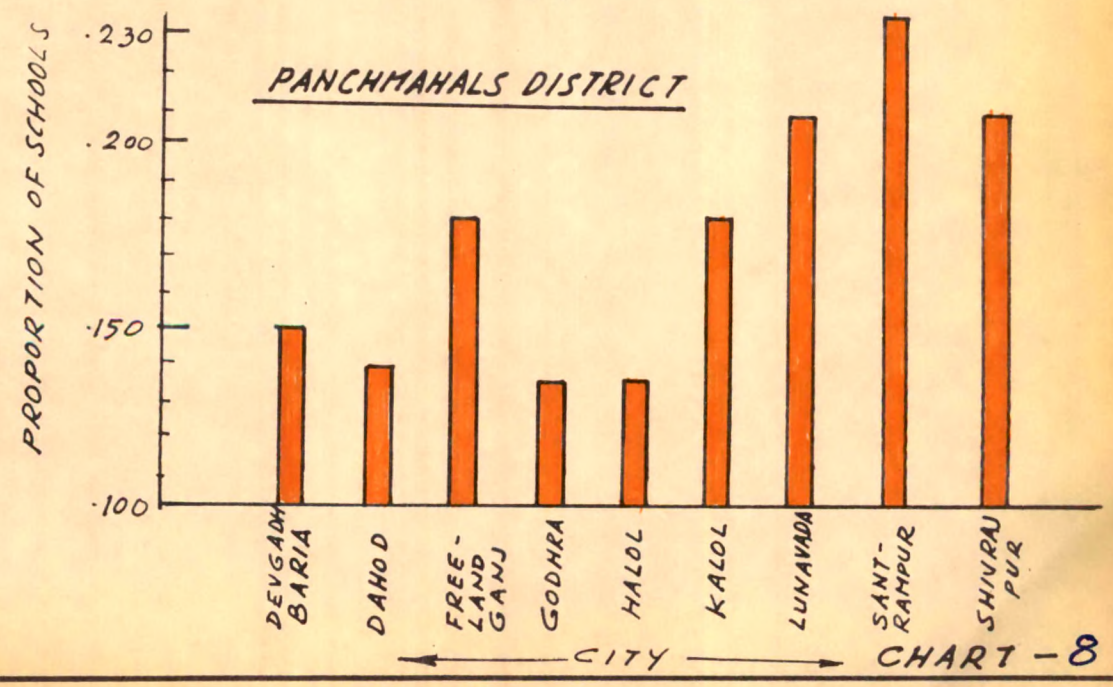


CHART - 8

It would be seen that the facilities of secondary education are fairly well developed in cities in both the districts, the position in the Kheda District being better than in the Panchmahals District.

Management :

Almost all the secondary schools in both the Districts are private.[4] Government conducts only one high school in the two districts. Most of the high schools were, even in the past, established and conducted by Private Managements which consist of registered Education Societies, Public Trusts, Panchayats, Christian Missionaries, Ram Krishna Mission and Welfare Institutions like the Bhil Seva Mandal in the Panchmahals. The number of schools conducted in 1973 in the Kheda and the Panchmahals Districts respectively by the Christian Missionaries were only 3 per cent, and around 1 per cent respectively. The Panchayati Raj bodies conducted about 2 per cent high schools only in the Kheda District. Among the Private Managements, there are some well organised and well managed societies dedicated to the cause of the advancement of secondary education like the S.V. Samaj Mandal, Vithal Kelvanit Mandal, Charotar Education Society, Charutar Vidya Mandal, Gujarat Vidyapeeth, Gujarat Electricity Board, Gram Vikas Sahakari Mandal in the Kheda District and Godhra Education Society, the New Education Society, the Group Gram Vikas Mandal, Dahod Anaj Mahajan Education Society, the Bhil Seva Mandal, Social Welfare and Education Society and Zalod

Kalvani Mandal in the Panchmahals District. Most of these Managements can be depended upon for their integrity, dedication and sincerity of purpose in education. But most of the other private enterprise consists of good, bad and worse managements. They conduct second and third class of high schools. In the case of the second and third categories of high schools, one cannot say to what extent schools are conducted with the primary objective of disseminating good, qualitative secondary education with the missionary spirit, using all honest means and procedures. This raises serious doubts about the supervisory practices and their effectiveness.

Establishment of the High Schools

The high schools of a long standing generally build up certain traditions and conventions which considerably affect attitude of leadership and teachers to the maintenance and upgrading of qualitative standards. As these schools of long standing have understood the test of time successfully, they have acquired certain strength in organization, programme, equipment of instructional materials and aids, and financial stability and have also built up a 'tone'. The high schools that have sprung up recently, that is in the course of a decade or so, have been able to go a long way in building up traditions and tone. Table 3.2 given on the next page divides the establishment of secondary schools in the two districts decade-wise beginning from the turn of the present century.

Table 3.2

Growth of Secondary Schools in Kheda and Panchmahals Districts (Before 1900 to after 1970)

Establishment Categories	Frequencies of High Schools					
	Kheda District	P.C.	Panchmahals District	P.C.	Total for the Two Districts	P.C.
Before 1900	10	3.45	2	1.42	12	2.81
1901-1910	6	2.05	3	2.13	9	2.10
1911-1920	10	3.45	3	2.13	13	3.01
1921-1930	8	2.75	0	0.00	8	1.88
1931-1940	15	5.20	5	3.55	20	2.68
1941-1950	23	8.05	1	0.71	24	5.38
1951-1960	60	20.95	44	31.24	104	25.37
1961-1970	127	44.30	65	46.10	192	45.97
After 1970	28	9.80	18	12.72	46	10.80
Total	287	100.00	141	100.00	428	100.00

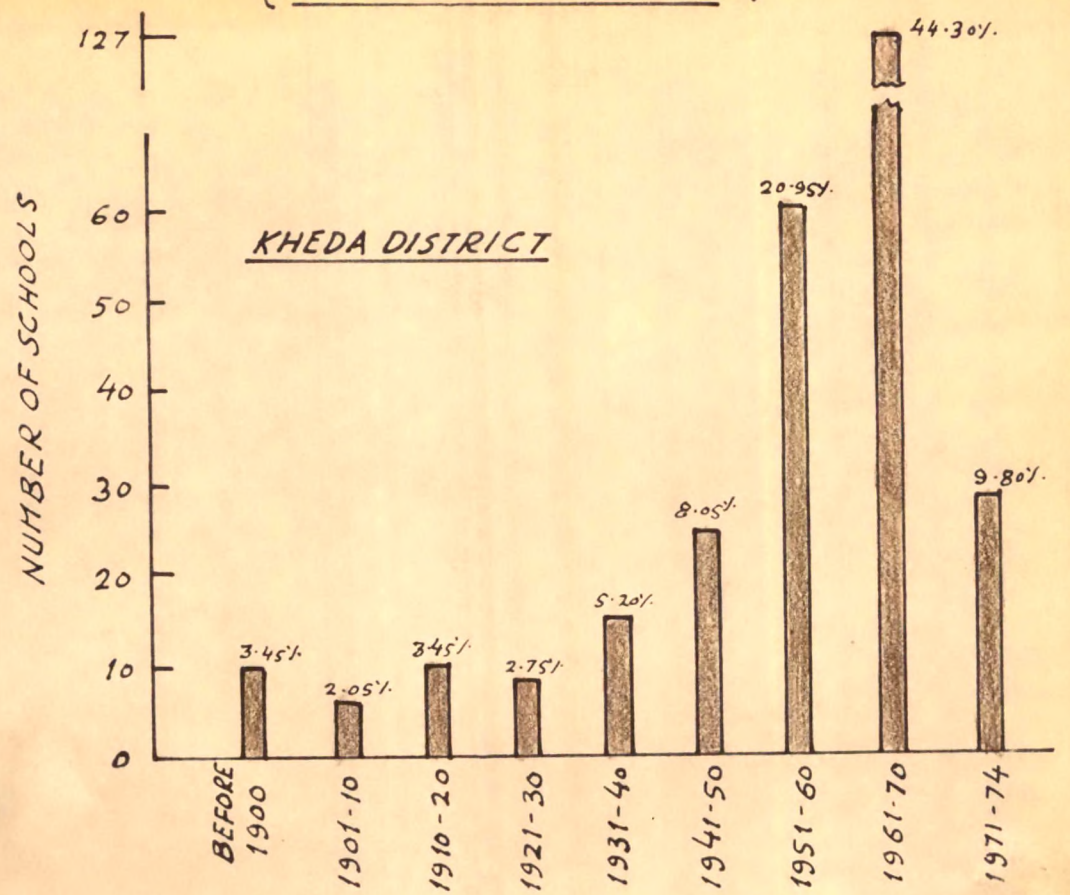
Source : Records of the Office of the District Education Officer, Kheda District and Panchmahals District.

Size[5] of the High School and Student-Teacher Ratio

In 1972, the average enrolment per a high school in Kheda District was 403 and in the Panchmahals District, it was around 291. Thus, the average size of a high school in the two districts is nearer to the normal size of 400 to 500 enrolment which was advocated by the Kothari Education Commission Report

GROWTH OF SECONDARY SCHOOLS IN KHEDA & PANCHMAHALS DISTS.

(BEFORE 1900 UPTO 1974)



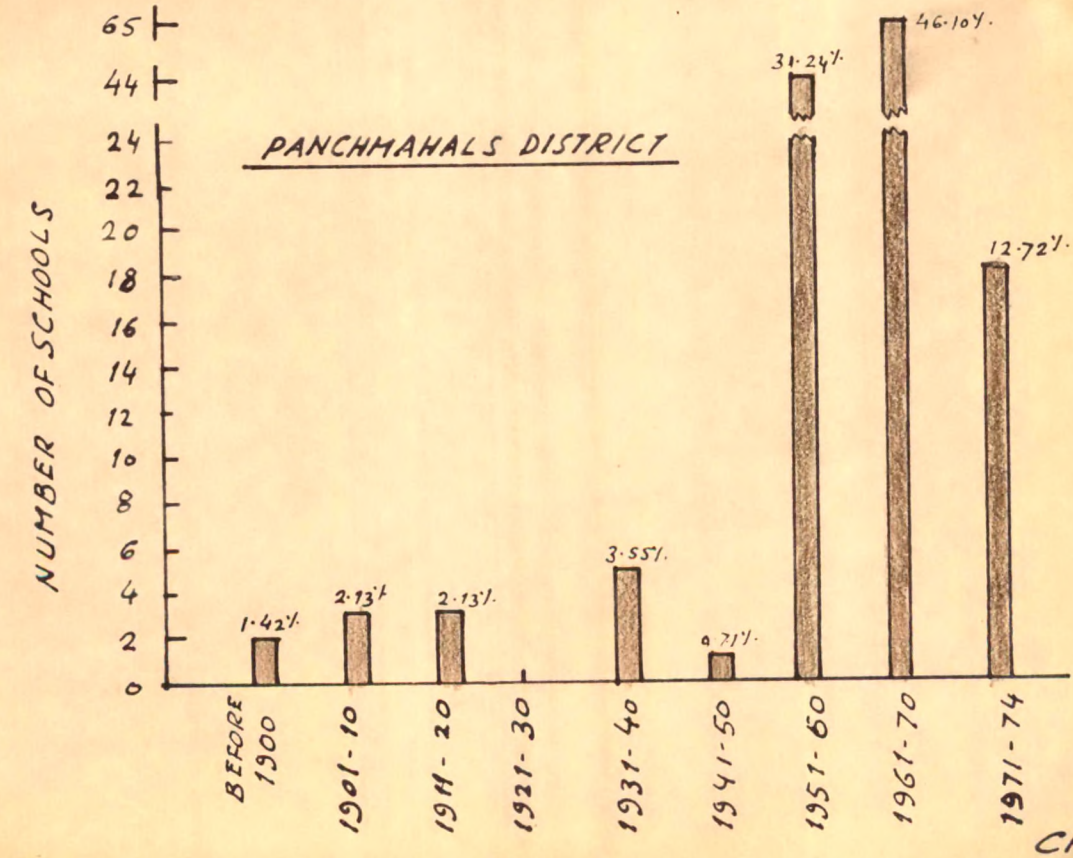


CHART-9

(Para 7.46). Comparing the average number of the teachers in the high schools of the two districts, the Kheda District, with its average of around 14 teachers stands a little higher than the Panchmahals District in which the average number of high school teachers is around 11. The combined picture of the two districts in the matter of ~~the~~ average size of a high school is 13 teachers and 366 pupils. The teacher-student ratio is 1:28 in Kheda District, 1:25 in the Panchmahals District, and 1:27 in the two combined districts. The size of the school as well as the teacher-student ratio are of the size that is not likely to come in the way of effective organization of supervisory services in the high schools of the two districts.

Classroom Area

The Second Educational Survey of Gujarat State[6] (1965-66) had revealed that the average area per class room of a secondary school in the State was 425.92 sq.ft. and per pupil 9.30 sq.ft. Ideally, the per pupil area of a classroom in a secondary school ought to be 8.00 sq.ft. (Formerly it was 12.00 sq.ft. per pupil). In this respect the classroom space available to a pupil was somewhat less, but not very much less. In the Kheda District secondary schools, the area per pupil was 10.4 and in the Panchmahals secondary schools, it was 11.90 sq.ft. This further substantiates the fact that the per pupil area in the classroom was below the normal requirements. In the course of the next eight or nine years, the position

cannot be expected to have improved significantly, looking to the spiralling cost of building materials and construction.

In terms of their academic status, the high schools constitute three distinct structures, viz., the academic or traditional schools, the multi-purpose schools and post-basic schools. In the Kheda District, out of the total 293 high schools, 2.7 per cent are multi-purpose, 2.4 per cent are post-basic and the remaining 94.9 per cent are the academic type. In the Panchmahals District, out of the total 141 high schools, 12.1 per cent are multi-purpose, 3.5 per cent are post-basic and 84.4 per cent are academic type of schools.

As regards the sex of the high school teachers[7] in the Kheda District, around 80.0 per cent of teachers are men and 20.0 per cent are women whereas in the Panchmahals District, the men-women teachers in the high schools are in the proportion of 87:13.

The age-wise distribution of high school teachers in the Kheda District is on the following lines : 41.7 per cent are in the age range of 20-25 years, 23.9 per cent are in the age range of 26-30 years, 11.4 per cent in the age range of 31-35 years, 10.6 per cent in the age range of 36-40 years, and the remaining 12.4 per cent are in the age ranges above 40 years. The mean age of a high school teacher in the Kheda District is 29.9 years. In the Panchmahals District, the proportion of younger teachers is comparatively less. Only 26.4 per cent

are either 25 years of age or below that age, 36.9 per cent in the age range of 26-30 years, 22.8 per cent in the age range of 31-35 years, 13.12 per cent in the age range of 36-40 years and 0.8 per cent above the age of 40 years. The average age of a high school teacher in Panchamahals is 28.6 years. Thus, the Panchmahals District has smaller proportion of both younger teachers (below 25 years) and older teachers (above 40 years).

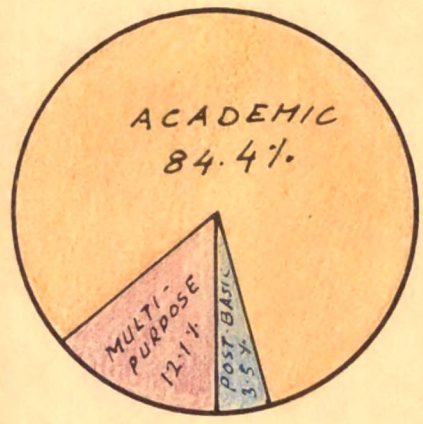
In the Kheda District, around 92.0 per cent of high school teachers are trained, and the size of the untrained teachers is only 210 or around 8.0 per cent. Teachers with only a bachelor's degree constitute 69.5 per cent, with a post-graduate degree 15.3 per cent and 15.2 per cent are under-graduates. In the Panchmahals District, teachers with post-graduate qualifications are smaller in proportion but the under-graduate or matriculate teachers are higher in proportion than in the Kheda District. The percentages of under-graduate, graduate, and post-graduate teachers are 24.9, 68.7 and 6.4 respectively. In the Panchmahals District, 15.88 per cent of teachers are untrained which is a higher proportion than in the Kheda District.

There are some implications for the basic data presented earlier on secondary education in Kheda and Panchmahals Districts to understand whether conditions are favourable or otherwise in developing supervisory activities in high schools of the two districts. In the Kheda and the Panchmahals

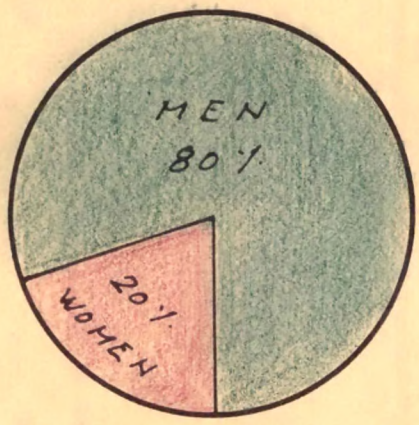
SOME CHARACTERISTICS OF HIGH SCHOOLS IN THE KHEDA AND PANCHMAHALS DISTRICTS

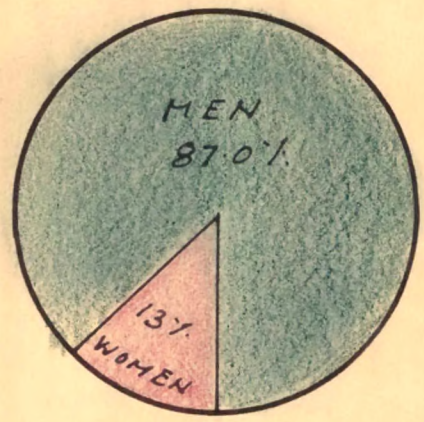
KHEDA DISTRICT

PANCHMAHALS DISTRICT

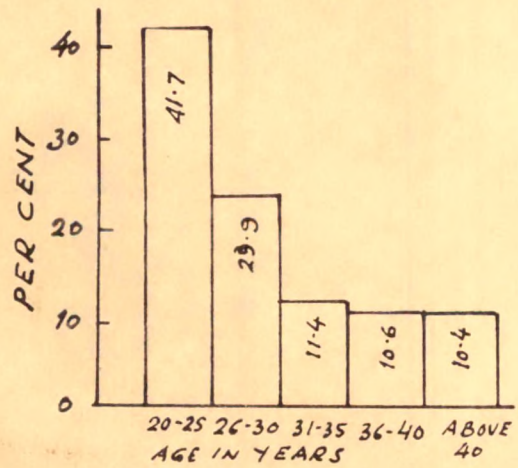


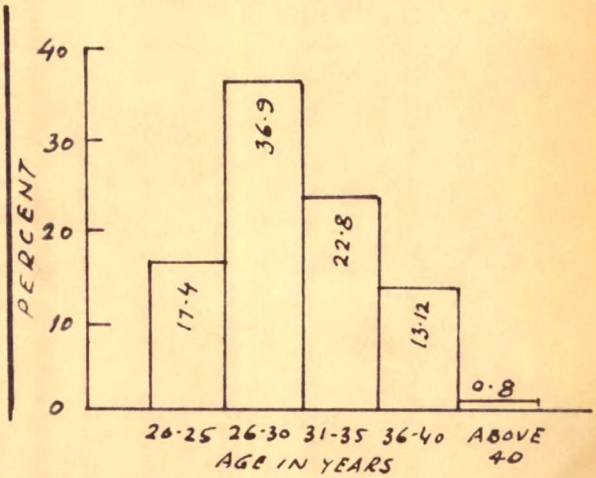
TYPES OF SCHOOLS





SEX OF TEACHERS





AGES OF TEACHERS

CHART-10

Districts, the urban population is around 20.0 per cent in the Kheda District and around 11.0 per cent in the Panchmahals District. The establishment of a high school is, therefore, relatively easier in the Kheda District than in the Panchmahals District. In the Kheda and Panchmahals Districts put together, there are around 14.0 per cent urban high schools; in the Kheda District, the semi-urban high schools are more - 17.0 per cent as against around 13.0 per cent in the Panchmahals District. Therefore, conditions in the Kheda District are better for developing effective supervisory services than in the Panchmahals District. This conclusion is based on Patel's[8] finding that urban schools are better equipped and they have better climate for effective instructional programme.

The average size of a high school in the Panchmahals District is smaller than in the Kheda District. Desai[9] has shown that it is easier to organise supervisory services on an effective footing in smaller schools than in larger sized schools. Therefore, the Panchmahals District high schools have a better potentiality for developing effective supervision work. The size of high schools in both the Districts is below 400, and therefore, it can be considered as average rather than very small or large. One can, therefore, expect with due justification that the high schools in the two districts can develop effective supervisory services.

The great hindrance to the development of effective supervisory services in both the districts is the fact that the high schools are all conducted by private enterprise except one high school in the Panchmahals District. The private enterprise, apart from its over-whelming size presents another problem - it does not have financial stability and quite a number of them cannot be said to possess the missionary spirit and the honesty and integrity of purposes and practices. The high schools have, therefore, turned out to be at least in some areas, mushroom schools with no genuine claim to be considered as modern secondary schools. There are indeed a few first rate Education Societies[10] where the administration, finance and school administration are excellent and imbued with a spirit of selflessness and service. In the high schools conducted by such Societies, the supervision work is better and is found to be effective.

These and other background data would be borne in mind while analysing and interpreting the data collected for the present investigation.

3.3 STATUS PICTURE OF SCHOOL SUPERVISION IN GUJARAT AS EMERGING FROM SOME PREVIOUS STUDIES

Before the research design of the present study is taken up for discussion, it will be worthwhile to review the findings of some of the studies done so far on supervision in secondary schools and some related areas in Gujarat State. This is done

because it may throw some significant light on the prevailing conditions of schools in the matter of supervisory programmes and their overall effectiveness in Gujarat State as a whole or in some of its regions. These findings would provide some help in interpreting some further data yielded by the present study.

Some studies on organizational climate of schools in Gujarat have been reported by researchers. Sharma, Buch and Rai[11] identified organizational climate of high schools in Gujarat in general, Patel[12] identified climate types among the high schools of Surat, Valsad and Panchmahals Districts and Shelat[13] in high schools of Baroda District. The Gujarat study showed 21.57 per cent of high schools having open climate and 22.55 per cent of them having closed climate, Patel's[14] study showed that high schools in Surat, Valsad and Panchmahals Districts have 17.30 per cent, 13.56 per cent and 5.56 per cent respectively open climate schools and 7.30 per cent, 18.90 per cent and 25.00 per cent closed climate schools. Shelat's[15] study revealed 19.0 per cent as open climate and 28.0 per cent as closed climate schools. Sharma's[16] study finding about Rajasthan high schools is that out of 98 secondary schools 11 were perceived as 'open', 19 as 'autonomous', 12 as 'familiar', 19 as 'controlled', 29 as 'paternal' and 8 as 'closed' climate schools. A Tamil Nadu Study (1973) by Pillai based on 190 secondary schools belonging to two districts of the State found more high schools (30.0 per cent) having 'open' climate schools than 'closed' climate schools. (25.3 per cent).

A trend which clearly emerges from these studies show that either there are more open climate schools or closed climate schools, but the over-riding tendency is to have more closed climate schools. The closed climate schools and familiar climate schools are more frequently perceived and familiar climate schools are least frequently perceived among Indian schools; the identification of Indian schools on a continuum based on the averages of the above studies yields the following rank order : Closed Climate - 1, Open Climate - 2, Paternal - 3, Controlled - 4, Autonomous - 5, and Familiar - 6; factors like teacher effectiveness, teachers' length of service and initiating structure behaviour of school principals are significant predictors of school climate; there is no significant difference found in the matter of school climates between urban and rural high schools, boys' and girls' high schools, school size and teacher stability in a particular school; though insignificant difference is found between schools having open or autnomous or familiar climate and a smaller staff as compared to schools having other types of climate; and there obtains significant correlation among the organizational climate of schools, their leadership, the staff morale, pupil motivation towards school and pupil achievement.

Kumar[17] found that different types of organizational climates exist in high schools of Gujarat. He also found that scholastic achievement of pupils of high schools show a higher index as one moves along the climate continuum from closed climate to open climate.

Lulla's[18] study on climate was focussed on high schools of the Baroda District. He found that most of the high schools in the District have either closed climate or paternal climate. He also found the following :

- More of small sized schools have open and autonomous climate where the possibility of improvement of supervisory practices exists.
- More of bigger sized schools have paternal or closed climate where the disengagement of teachers becomes the most disturbing factor.
- Mean age of teachers increases as schools move from openness to closed climate.
- More principals with a higher mean age are found in closed climate type schools.
- More open schools are found in urban areas than in rural areas. It is the reverse case with closed type of schools.
- Girls' schools have more of paternal climate.
- More of new schools rather than old established schools approach openness in climate.

Reddy's[19] study was based on a randomly selected 40 sampled secondary schools. It used Stern's tool to measure organizational climate index (O.C.I.). The results revealed that -

1. The small sized schools are better in intellectual climate than in the big sized schools.
2. The small sized schools are more flexible and are prone to change.

3. Teachers of big sized schools strive for power through their social actions.
4. The school achievement index as measured by pupil scholastic performance is also comparatively higher in small sized schools than in big sized schools.
5. The dependency on others is seen more in the big sized schools than in small sized schools.
6. Schools are affected in their climate by their location and urban-rural character.

Patel[20] also found correlation between organizational climate and teacher morale to the extent of 0.69 in highly progressive schools, to the extent of 0.54 in less progressive schools and to the extent of 0.52 in the least progressive schools.

Shelat[21] found that around 53.0 per cent of schools with a high level of teacher morale have open and autonomous climate; around 40.0 per cent to 47.0 per cent of schools with average level of morale have open and autonomous climates and very few low morale schools fall in these climate groups. As one moves away from open climate schools to closed climate schools, the percentages of schools having high morale decrease.

Some of Sharma's[22] findings have useful implications for evaluating effectiveness of supervision work in secondary schools in Gujarat though based on secondary schools of the

neighbouring State of Rajasthan. Sharma found that organizational climate bears negative relationship with faculty age. The value of the correlation coefficient obtained was -0.21, significant at 0.05 level. This implies that the higher the age of the teachers on the staff, the more closed is the climate of the school. Teachers' length of experience was also found to be significantly negatively related (r = -0.24) with school climate, implying thereby that the more experienced teachers a school has on its staff, the more closed is its climate as perceived by the staff. Faculty size and school climate do not seem to show any definite relationship - the obtained value of correlation. The school faculty stability appeared to be independent of climate as the obtained value of correlation between the two was only 0.02 which was insignificant. There also did not appear to be significant relationship between the headmaster's administrative experience and the school climate. But a significant correlationship (r = 0.36) was found to exist between school climate and teacher satisfaction. In an earlier study by Coughlan, a significant relationship was found between open climate of schools and teacher satisfaction. A positive and significant correlation (r = 0.20) was found between headmaster's effectiveness and school climate. A significant positive correlationship (r = 0.32) between school effectiveness and school climate was perceived by teachers. Andrew (1965) had also reported significant relationship between school effectiveness, teacher satisfaction and headmaster's effectiveness.

A significant positive correlation (r = 0.23 at 0.05 level) was also found between leadership behaviour and climate. Sharma and Parham (1972) reported significant difference between 'consideration' behaviour of leadership and school climate. In this investigation, no definite relationship could be found to exist between school academic achievement and school climate.

Patel's[23] study on leadership for improving instruction in high schools for selected districts of Gujarat is a study of great importance. It yields a number of significant facts relating to school supervision at the high school stage in Gujarat. Some of his pertinent findings are given below as they can provide a background picture :

1. The high schools can be educationally classified into three categories - advanced or most progressive, less advanced or average, and the least advanced or the backward. Their percentages were found to be 23.1, 31.7 and 45.2 respectively. The 't' value of 14.0 was found to be significant beyond 0.01 level of confidence.
2. The high schools are spread over all climate types, but most (19.7 per cent) of them were of closed types at one extremity and the open type were 12.9 per cent at other extremity. Slightly more than 50.0 per cent of schools of the most progressive type of schools were open or autonomous climate types; among the less progressive or average type of high schools, most of them were controlled

or familiar types and most of the backward schools were characterised by paternal or closed type.

3. Twenty-two out of forty characteristics were perceived to a great extent in principals of most progressive schools by their teachers; only 14 were perceived in principals of average high schools; and 5 in principals of backward high schools.

4. All the seven factors considered to be the components of teacher morale had internal correlations positive and sufficiently high. The correlations range was from 0.39 to 0.68. The means of teachers belonging to the most progressive, average and backward schools differed significantly. In the case of progressive high schools, the mean score of teachers' morale was 78, in average schools it was 49 and in the backward schools, it was 42. The analysis of teacher morale scores on some of its factors are significant for the present study. These findings are given below :

   (a) On the factor of coordination between principal and staff, the relative standings of the progressive, average and backward high schools were 91.7 per cent, 55.2 per cent and 10.9 per cent respectively. Thus, coordination between leadership and staff in school matters was most satisfactory in progressive schools and was least satisfactory in the case of backward schools.

(b) In progressive schools around 83.0 per cent of teachers, in average schools 55.2 per cent of teachers and in backward schools 28.37 per cent of teachers were satisfied with the subjects assigned to them on the school time table for teaching.

(c) So far as the satisfaction with salary and work-load is concerned, a large majority of the teachers of progressive schools, 55.2 per cent of average schools, and 28.37 per cent of backward schools appeared to have been satisfied.

(d) As regards appreciation of their work in the school by principal and other school authorities, it was found that three out of every four in progressive schools, two out of every four in average schools, and none in the backward schools were found to be happy and satisfied.

(e) Teachers involvement in schools' day-to-day work was most (91.7 p.c.) in progressive schools, somewhat (28.37 p.c.) in average schools and the least (14.2 p.c.) in the backward schools.

5. In the number of supervision programme or supervisory services provided for the benefits of teachers, the schools of Gujarat differed. The progressive schools had, on an average, 9 programmes and backward schools 4 programmes.

6. In all progressive schools, supervision is by supervisors and principals as well as vice-principals and to some extent by other knowledgeable teachers also. In average schools,

supervisors also do a good deal of supervision work, but the image of the principal and vice-principal as supervisor is also prominent. To a very small extent other knowledgeable teachers have involvement in supervisory activity. In backward schools, the bulk of supervision work, when it is done, is by the principal, then by the vice-principal or the senior-most teacher and only 1 in 4 such schools a supervisor is provided to attend to, partially, to supervision work.

7. Of the fourteen most prevalent methods of supervision, the progressive schools adopted, on an average, 9.80 to 10, the average schools 7.70 or 8 and the backward schools 5.88 or 6. The use of these methods was to the extent of 70.7 per cent in progressive schools, 55.6 per cent in average schools and 42.4 per cent in backward schools.

8. Teachers of progressive schools perceive greater number of benefits (out of 25, 11 to a great extent, 6 to some extent, and 8 not at all). In the case of backward schools, only 2 benefits are perceived to have resulted from supervision work done in school. A significant finding of this study is that teachers of progressive schools perceive more usefulness of the supervisory services offered by the supervisor in comparison to the teachers of average schools and backward schools.

9. The study also revealed that the new supervisory ideas which are perceived as practicable by the teachers of

progressive high schools are -

(a) methodical guidance,

(b) demonstrating new methods,

(c) adoption of programmed learning,

(d) use of projects in learning,

(e) adoption of free discipline,

(f) use of cumulative record cards,

(g) holding of regular staff meetings and conferences, and

(h) advanced planning of term's academic work. The ideas which were perceived to be the least practicable by teachers of progressive schools were -

(a) providing practical training to teachers in the use of audio-visual mechanical aids,

(b) use of standardised tests,

(c) planning of purposive teaching,

(d) seminars and paper reading by individual teachers, and

(e) deputation of teachers to inservice education programmes of teachers' colleges extension services.

10. The study also revealed that in Gujarat, the teachers of more progressive schools show a greater degree of preparedness for the accpetance of the new techniques of supervision and innovations and change in education than the teachers of less progressive schools.

Kantawala[24] found that the concept, programme and techniques of supervision used in the secondary schools have been more or less on the conservative and traditional lines.

A general trend that emerges from his survey is that class visitation and observation of the teaching work done by teachers in the classroom constitute mainly the supervision. The dominant ideology is control, direction and inspection. Supervision by the school headmaster continues to be the order of the day.

In a study on supervision (by Raval[25]) based on urban high schools, were found two main supervisory activities, viz., supervision of teachers' teaching work in the classrooms (57.0 p.c.) and supervision of the correction work by teachers in respect of pupils' composition exercises, homework, science experiments, etc. (43.0 p.c.). The guidance provided to teachers by supervisors was during actual teaching in 20.0 per cent cases, before the teaching work begins in 15.0 per cent cases, and after the teaching work was done in 65.0 per cent cases. The view perception of the supervisors was that 77.0 per cent teachers liked and welcomed supervision whereas 23.0 per cent were antagonistic to their supervision. A good majority of the teacher respondents said that the best way to earn teachers' approval and support in supervision work is to adopt a democratic attitude and human relation approach.

Thirty-six per cent of teachers faced the problem of class control, 27.0 per cent of the use of effective teaching methods and 37.0 per cent in the use of audio-visual aids and materials. The supervisory practices used in the schools were : classroom observation 22 p.c., daily lesson planning 22 p.c.,

personal conferences 20 p.c., demonstration lessons 18 p.c., and professional suggested reading, staff seminars and indirect supervision constituting remaining 18 per cent. The finding of the study relating to teacher involvement in the supervision work was 30 p.c. in delegating responsibilities to senior teachers to supervise the work of their junior colleagues in their subject area, 39 per cent in giving demonstration lessons and 31 per cent in other supervisory activities put together. Four types of obstacles to effective supervision work were pointed out by the responding teachers, viz., over-load of administrative duties (34 p.c.), lack of time (34 p.c.), rigid outlook and attitude of senior teacher (17 p.c.) and administrative hindrances (15 p.c.).

Patel,[26] in an evaluation study of supervisory practices in the secondary schools of the Baroda District, found that supervision tended to lean more on authoritarian side; it was not done in a regular, systematic and planned way; subject teachers' meetings to plan as well as discuss common problems was the feature of only a few urban progressive schools and they were almost non-existent in rural areas; staff meetings were not held in a democratic climate; and supervision had very little to offer by way of creative and constructive instructional innovative work.

> "No innovations are seen in the supervisor's activities. He visits the classes, sees that demonstration lessons are given, prepares the time tables, but does not plan systematically and regularly the co-curricular activities. Every thing is on set lines with little attempt to carve out a new path."

Desai[27], in a study of the supervision work in the high schools of Baroda City, identified eight most telling obstacles to the effectiveness of supervision work :

"- Supervision is not planned.

- It is formal.

- Supervisors are over-burdened with teaching and clerical work.

- Modern techniques of supervision are not properly understood and, therefore, not applied.

- Supervision, though not predominantly fault-finding, is not at the same time remedial and creative.

- It is not comprehensive - it is confined to only some important subjects like English, Mathematics, and Mother-tongue.

- It consists of only class visits and staff meetings.

- No school has yet evolved a tool for evaluating supervision work."

Buch's[28] study was focussed on principals of secondary schools in regard to their adoption of innovation and change. She found that the adaptability of a high school in Gujarat of innovation and change to the extent of 57 per cent is related to some of the characteristics of the school principals such as his inter-school visitation, self-rated administrative ability, parents' involvement, professional administrative meetings attended by them and a feeling of security generated in them.

In 1969, Jhaveri[29] studied innovative practices in some high schools of South Gujarat region. Her general conclusion was that of the schools which tried to be innovative, the

predominant motivation was that they wanted to appear as modern and progressive rather than they had developed a real conviction about the educational worth of their innovations or they had real commitment to adopt innovation and change. The study revealed that factors which served as obstacles to the adoption of innovations by schools were : heavy work-load of teachers, delaying tactics of school inspectors, the expensiveness of accompanying materials or aids, the natural tendency of conservativeness and resistance to change on the part of old and experienced teachers, the controlled climate of schools, the pressure groups within and without, the anxiety and over domination of the good S.S.C. results ideology, the traditional, conservative and cautious type of leadership of the school principal.

These studies are mostly done in the M.S. University of Baroda. Very few studies seem to have been attempted in other Universities of Gujarat. The findings of these studies do give a broad indication about the favourable as well as unfavourable conditions existing in secondary schools of Gujarat that have a bearing on the development of supervisory programme. Keeping this background in perspective, an attempt will now be made to develop and describe the research design of the present study.

After presenting the background as regards the high schools in Kheda and Panchmahals Districts and reviewing the findings of some of the studies done on supervision in Gujarat, an attempt will now be made to present the research design of the present study.

3.4 THE PROBLEM OF THE PRESENT RESEARCH

The present investigation deals with the broad evaluation of the effectiveness of supervision work being done by the school principals and supervisors of the secondary schools of the two districts of Central Gujarat, viz., the Kheda and the Panchmahals. An educational institution, in order that it does effective instructional or academic work should not only have an efficient staff, a stock of adequate uptodate instructional materials, aids and resources and provision of adequate financial support, but it should also have an effective organizational set-up, open or autonomous organizational climate, high teacher morale, high teacher-pupil motivation and effective in-built supervisory programme and supervision practices. Supervisory services, thus, have become inseparable from administration as the function of organizational and structural machinery and climate in an educational institution - for the matter of fact in any type of institution, whether a business concern, even an industrial plant or an educational institution. Effective supervisory services are not only necessary, but they are found to be crucial for the growth, development and effective functioning of an institution. It has, therefore, become customary to include 'supervision' in the term 'administration'. Supervision today has been accepted as an integral part of the administrative process. The focus in supervision is evidently on improvement which is a pre-requisite of growth, development and higher output or achievement. In the parlance of a high

school in Gujarat, the term 'supervision' largely means improvement of teachers' work in the classroom. But it is a teacher has other duties too - cocurricular, planning and administrative - to perform also, and as such supervision is generally perceived to be concerned with the effective performance of other tasks of teachers in the school pertaining to other normal duties.

The problem of the present research is worded as follows:

"A Study of Effectiveness of Supervision as a Function of Organismic Variables and Professional Equipment of High School Supervisors."

Thus, the main focus in the study is to investigate the extent of effectiveness of supervisory services in high schools. The effectiveness of school supervision is intended to be urban-rural location to some organizational factors such as urban-rural location of a school, the size of the school both in terms of total students and total teachers working in a school, the type of leadership in the school as exemplified by the Management Body and the School Principal, the organizational climate prevailing in the school, the structural organization of and the extent of harmony obtaining with different organs or components of schools. The length of establishment of an institution contributes quite often to building up certain traditions in a school. These traditions have also their effect on the functioning of the school as a

whole and the relationship among the different parts of the school organizational structure and the different sections of the school community. Similarly, the academic and professional background and equipment of the school supervisors, the principal, and supervisors affect the effectiveness of school.

The clarification of the major terms used in the statement of the problem of research will not only make the implications of the research at hand clear but will help, to some extent, in defining the scope of the research.

1. Supervision

Following the lead given by Boardman, Douglass and Bent[30] the term 'supervision' is used to mean efforts made by leadership in school to stimulate, coordinate and guide the continued growth of teachers in a school, both individually and collectively, in better understanding and effective performance of the functions of instruction which the State Department of Education has charged a school to perform while granting it recognition.

2. Supervisor

The principal of the school, the person recognised by the Education Department as the regular supervisor of the school and any other member of the school faculty such as the vice-principal, a senior teacher heading a section pertaining to a school subject or any knowledgeable teacher on the school staff who, under the direction of the school principal, discharges the responsibility of supervision.

3. Effectiveness

It would denote to the extent to which supervisory services result in the achievement of purposes for which they are pressed into action in a school situation.

4. Organismic Variables

Basically, organismic variables arise from 'ways in which organisms may be classified and from the observations and measurements of physical, physiological and psychological characteristics of organisms"[31](Allen Edward). In research, frequent use is also made of 'response inferred organismic variables' which mean a classification based upon prior observation of response. An organismic variable is, thus, a variable associated with an organism.

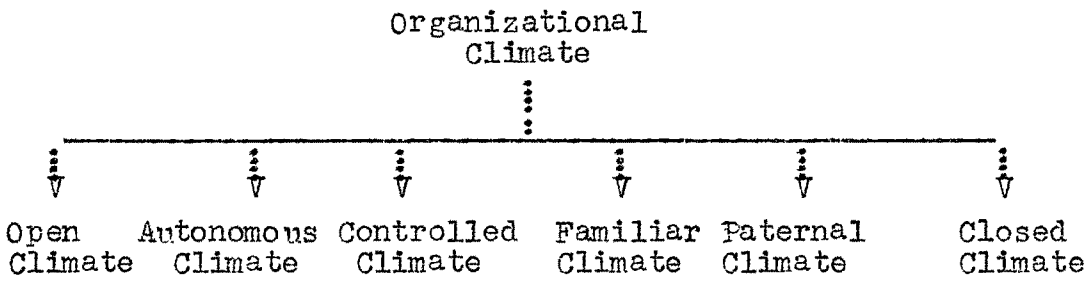
In the present research, the term 'organismic variable' is used to denote the classification of the respondents in terms of any characteristic which is actually possessed by the respondents who are the teachers of secondary schools in Kheda and Panchmahals Districts. Thus, classification of teacher respondents in respect of (a) their age, (b) educational qualifications, and (c) teaching experience is regarded here as based on organismic variables. In the present investigation the responses of teachers of advanced and backward districts to items on the research tools are compared in respect of the three organismic variables mentioned above.

5. Organizational Climate

The term here is used in the sense in which Andrew Halpin used it in his work 'Theory and Research on Administration'. Halpin observes :

> "As one moves from one school to others, one finds that each appears to have a 'personality' of its own. It is this 'personality' that we describe here as the 'organizational climate' of the school. Analogously, personality is to the individual what Organizational Climate is to organization." 32

The organizational climate is the result of the interaction of the disengagement, hindrance, esprit, and intimacy behaviour of the school faculty and aloofness, production emphasis, thrust and consideration behaviour of the school leader who is the school principal and the school supervisor. Six organizational climates have been identified by Andrew Halpin and Croft through the use of their research tool called O.C.D.Q. (Organizational Climate Description Questionnaire) which could be arrayed along a continuum defined at one end by an Open Climate and at the other by a Closed Climate.



The open climate school provides the best possibility for student and teacher motivation, effective leadership, effective

supervision, high staff morale, high school achievement index and many other accomplishments of a school. The closed climate schools provide almost a reverse situation to one that is provided by the open climate schools.

6. Teacher Morale

The dictionary meaning of the term 'morale' is : 'prevailing mood and esprit conducive to willing and dependable performance'. Patel[33] has defined it as 'dependable spirit of whole-hearted cooperation in a common effort by teachers in instructional or any field of activity of schools that can be expected of the staff, individually or collectively.

7. Professional Equipment

It denotes professional knowledge, skills, attitudes and experience possessed by the supervisor and the teacher.

(8. Secondary School

It means a high school teaching upto Std. XI or the S.S.C. Class.

3.5 OBJECTIVES OF THE RESEARCH

The research design of the present doctoral study has been architectured on the basis of the following objectives :

1. To survey the academic set-up of the secondary schools of Kheda and Panchmahals Districts in relation to certain related independent variables like age, urban-rural upbringing, teaching experience, etc.

2. To find out the prevailing ideology about supervision in schools and ascertain the extent of acceptability of the new ideology of supervision by school teachers which is being advocated in recent literature on supervision.

3. To survey the kinds of supervisory services available in the secondary schools of the two selected districts and ascertain teachers' views about their adequacy and effectiveness.

4. To examine critically the various emergent issues in the supervision work done in the high schools and determine the types of difficulties and problems being encountered by the school supervisors.

5. To evaluate the impact of Organizational Climate of school on the effectiveness of school supervision.

6. To evaluate the effectiveness of school supervision in terms of teachers' perceptions and attitude to the adoption of the innovations and change in school instruction.

7. To compare the supervisory services done in secondary schools of an advanced district and a backward district in Central Gujarat.

In the next section the sample selected for the research is described in detail.

3.6 THE SAMPLE

The present investigation on supervisory services is planned in the secondary schools of Central Gujarat. Actually, the sample is drawn from the two districts of Central Gujarat - Kheda and Panchmahals. The Baroda District is not included in the sample as a full-fledged doctoral study on school supervision by Shri M.C. Butala is under way in the M.S. University of Baroda which draws considerable data from Baroda Districts schools.

The sample of secondary schools is drawn from one educationally advanced district (Kheda District) and one educationally backward district (Panchmahals District).

The evaluative criteria for determining the advancement or backwardness of a district were decided on the basis of a pooled thinking after discussion with the following persons :

1. Professor D.M. Desai, Head and Professor of Educational Administration, M.S.University, Baroda.
2. Dr. N.S. Pathak, Reader in Psychology, M.S.University, Baroda.
3. Professor D.B. Desai, Professor of Education, M.S. University, Baroda.
4. Professor M.M. Joshi, P.T. Arts and Science College, Godhra.
5. Shri Jayant Danawala, District Education Officer, Kheda District, Nadiad.

6. Shri N.G. Shah, District Education Officer, Panchmahals District, Godhra.
7. Dr. Vishnubhai A. Patel, Principal, Sarvajanik College of Education, Godhra.
8. Dr. K.V. Sheth, Lecturer, South Gujarat University, Surat.
9. Dr. (Smt.) Neelaben A. Shelat, Coordinator, Department of Extension Services, M.S.University, Baroda.
10. Dr. B.N. Patel, Principal, Gangadhra High School, Gangadhra, Dist. Surat.

The criteria that were decided as a result of individual conferences with the above knowledgeable persons are as under:

(a) The literacy status of the district.
(b) The population of Scheduled Castes and Scheduled Tribes.
(c) The size of urban and rural habitations.
(d) The average size of population served by a high school.
(e) Expansion achieved in secondary education over a period of time.
(f) Types of secondary schools.
(g) Size of student population in secondary schools.
(h) Academic equipment of secondary school teachers.
(i) Stock of trained and untrained secondary teachers.
(j) Staff-student ratio in secondary schools.

(k) School building and instructional rooms

(l) Co-curricular activities

(m) Instructional A.V. aids.

(n) Supervisor-teacher ratio

(o) S.S.C. Examination results (1971-1975)

The Kheda District emerged as an advanced educational district and the Panchmahals as a backward educational district on the basis of pooled standings of both the districts on the above fifteen criteria.

The relative standing of the two districts on the above fifteen criteria are shown in the table given on the next page.

The two selected districts are also significant in the sense that Kheda District is economically, socially and educationally an advanced district whereas the Panchmahals District is economically, socially and educationally a still developing district. A combined sample of two districts is likely to give a better representative picture of the effectiveness of school supervisory services of Central Gujarat (and to some broad extent of the whole State also).

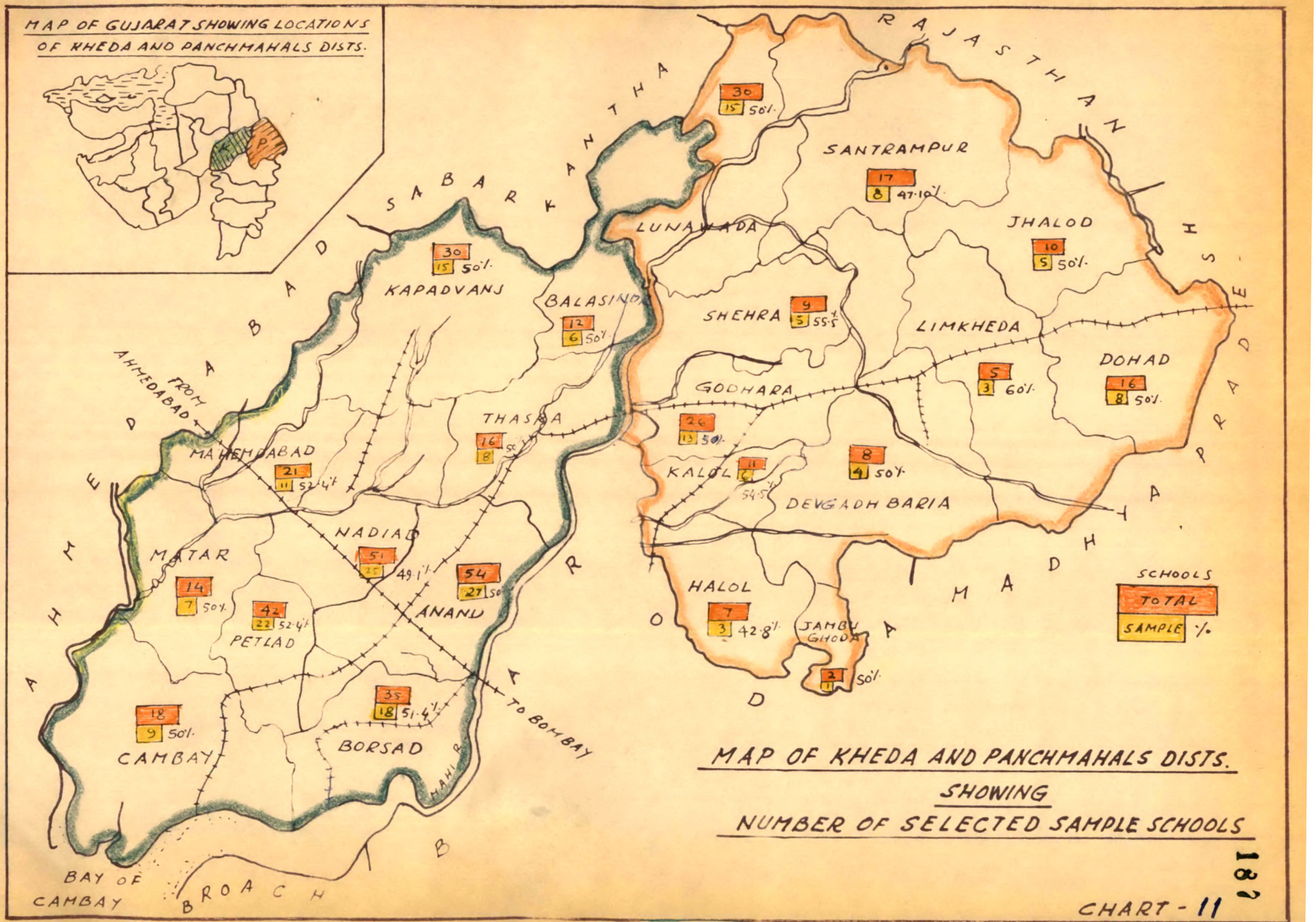
The Districts of Kheda and Panchmahals have today 21 Talukas and 435 secondary schools. Around fifty per cent of random and stratified (Taluka-wise) sample has been selected for the present study. The details of the sample are specified below.

Table 3.3 : (a) Taluka-wise School Sample (Panchmahals)

Taluka	Total High Schools	Sample	Percentage
Dahod	16	8	50.0
Godhra	26	13	50.00
Lunawada	30	15	50.0
Santrampur	17	8	47.1
Shehra	9	5	55.5
Jhalod	10	5	50.0
Limkheda	10	3	60.0
Baria	8	4	50.0
Halol	7	3	42.8
Kalol	11	6	54.5
Jambughoda	2	1	50.0
Total	141	71	50.35

(b) Taluka-wise School Sample (Kheda)

Taluka	Total High Schools	Sample	Percentage
Anand	54	27	50.0
Borsad	35	18	51.4
Balasinor	12	6	50.0
Cambay	18	9	50.0
Kapadvanj	30	15	50.0
Mahemdabad	21	11	52.4
Matar	14	7	50.0
Nadiad	51	25	49.1
Petlad	42	22	52.4
Thasra	16	8	50.0
TOTal	293	148	50.5



MAP OF KHEDA AND PANCHMAHALS DISTS.
SHOWING
NUMBER OF SELECTED SAMPLE SCHOOLS

CHART - 11

182

(c) Sample of School Teachers (Kheda)

Taluka	School Sample	Teacher's Sample
Anand	27	81
Borsad	18	54
Balasinor	6	18
Cambay	9	27
Kapadvanj	15	45
Mahemdavad	11	33
Matar	7	21
Nadiad	25	75
Petlad	22	66
Thasra	8	24
Total	148	444

(d) Sample of School Teachers (Panchmahals)

Taluka	School Sample	Teacher's Sample
Dahod	8	24
Godhra	13	39
Lunawada	15	45
Santrampur	8	24
Shehra	5	15
Jhalod	5	15
Limkheda	3	9
Baria	4	12
Halol	3	9
Kalol	6	18
Jambughoda	1	3
Total	71	213

(e) Location of Sampled Schools (Kheda)

	Universe	Sample	Percentage
Urban	41	21	51.2
Semi-urban	50	25	50.0
Rural	203	102	50.2
Total	294	148	50.5

(f) Location of Sampled Schools (Panchmahals)

	Universe	Sample	Percentage
Urban	20	10	50.0
Semi-urban	17	9	52.9
Rural	104	52	50.0
Total	141	71	50.35

The other aspects of the stratified sample used in the study are as under. In the Kheda District, there are 21 girls' secondary schools and 272 either boys' or mixed secondary schools. Of these, around fifty per cent sample - 11 girls' high schools and 137 boys' or mixed high schools are included in the sample. The same proportion in this respect operates in the Panchmahals District sample also. Of the total 141 high schools, 7 girls' high schools and 134 boys and mixed schools are included in the sample. The sample consists of 4 girls' schools and 67 boys' or mixed schools.

In the Kheda District, there are 263 academic types of high schools, 8 schools teaching multi-purpose courses and 7 post-basic high schools. Of these, the sample includes 140 academic schools, 4 multi-purpose schools and 4 post-basic schools. Thus, there is slightly more than 50 per cent representation of this strata also in the sample. In the Panchmahals District, these three types of high schools are : 119 academic, 17 multi-purpose, and 5 post-basic. The sample contains 59 academic schools, 9 multi-purpose schools and 3 post-basic schools.

It would, thus, be seen that the sample selected is stratified and fairly well representative of the universe. As all the secondary schools of the Kheda District are private, the sample from the district consists of all private schools. In the Panchmahals District sample also all high schools are private schools because there is only one Government conducted school in the district.

Further in the two districts of Kheda and Panchmahals, there are totally 21 Talukas with totally 434 high schools in them. Thus, the average number of high schools per Taluka in the two districts comes out to be nearly 20. The sample for the two districts consists of 219 high schools. This works out to be around 10 high schools per Taluka. This also shows that the sample has slightly more than 50 per cent representation.

From every sampled high schools of the Kheda and Panchmahals Districts, around three teachers were selected to constitute the teachers' sample. The total teachers' sample is 657, Kheda District contributing 444 teachers (out of total 4,215 teachers) and the Panchmahals District 213 teachers (out of total 1,591 teachers). The size of the sampled teachers is 10.5 per cent in Kheda District and in the Panchmahals District it is 13.4 per cent. The Kheda sample of teachers is around three per cent smaller than the Panchmahals sample, but in bare number it is much larger.

3.7 THE RESEARCH TOOLS

For the collection of data on supervision in the secondary schools included in the sample, the investigator has used research tools. Of these, the Tool V on organizational climate of schools is one that is originally prepared by Halpin and Croft.[34] It is called the O.C.D.Q. and has been used in most of the studies done in India on the organizational climate of schools. The Tool XI is also adapted from Halpin's "Leadership Behaviour Questionnaire Description" (L.B.D.Q.).[35] The Tool IX on 'Innovations and Change' is adapted from one used by Pratibha Jhaveri[36] in her study of 'Innovations and Change in High Schools of South Gujarat". The other research tools were from B.N. Patel's study[37] on "Leadership for Instructional Improvement in Selected High Schools of South Gujarat". These tools are pilot tested or are experimentally tried out in school situations in Gujarat.

All these tools are given in Appendix I. The tools used are as under :

(1) Proforma for Basic Data About Schools

This tool is developed by the investigator. It is so structured that it yields some meaningful data about the sampled schools regarding their location, years of standing, staff of teachers, physical facilities, instructional materials and aids, cocurricular activities and enables one to judge a school's instructional strength and weaknesses.

(2) A Rating Scale for Teachers' Sensitivity to New Ideas in Supervision

It has been adapted from the one developed jointly by Dr. B.N. Patel for his doctoral study in 1973 and the present investigator under the guidance of Professor D.M. Desai of the Baroda University. The tool is tested through a pilot try-out in South Gujarat high schools.

(3) Perception of Teachers about the Practicability of the Implementation of Innovative Instructional Practices in Schools

The tool consists of thirty-five statements about the instructional programmes of schools. The respondents are school teachers. The purpose of the tool is to get a picture of the new approaches, methods and materials being used by the secondary schools.

(4) Rating of Benefits to the Teachers derived from Supervisory Services of the School

Here, the focus is on finding out from the teacher respondents the benefits they feel they have derived from the different supervisory services being offered to them by their schools.

(5) Organizational Climate Description Questionnaire (O.C.D.Q.)

The tool is developed and standardised by Andrew Halpin and Don Croft. It has been used by several Indian researchers to identify organizational climate of secondary schools in Rajasthan, Gujarat, Delhi, and Tamil Nadu.

(6) A Survey of Methods and Programmes of Supervision in High Schools

This tool is for collecting data from schools about their innovative programmes, supervision work, methods used in supervision, frequency of supervision done and gains accrued from the supervision work. The respondents are students. It was originally prepared by the investigator in collaboration with Dr. B.N. Patel who did preliminary testing and improved it.

(7) A Survey of Problems and Difficulties of Supervisors in Secondary Schools

It consists of items dealing with practicability of the new concept, tools and practices in school supervision. The

respondents are supervisors. It was also jointly prepared by Dr. B.N. Patel and the investigator. The preliminary check up was done by Dr. Patel in his doctoral study referred to earlier.

(8) A Survey of Problems and Difficulties faced by Supervisors in Secondary Schools

This tool was originally developed and tested by Dr. Patel in his doctoral study in collaboration with the present investigator. The investigator has used it with slight modification to suit his research design. The respondents are supervisors which would include all who do supervision work in the school, i.e. principals and vice-principals. It seeks to collect data on the school programme for the improvement of instruction, conditions in schools that are favourable to adopt academic reforms and obstacles confronted by schools to bring about instructional improvement.

(9) A Study of Factors affecting Diffusion of Educational Innovations and Change in High Schools

This tool was originally adapted by Pratima Jhaveri of the V.T. Chokshi Sarvajanik College of Education in the South Gujarat University. It can be used to collect data on the attitude of teachers to innovative school practices, methods of popularising new instructional method or practice and adoption and diffusion of educational innovations.

(10) Leadership Behaviour Description Questionnaire (L.B.D.Q.)

This has been adapted from the L.B.D.Q. constructed and standardized by Andrew Halpin and this has been used by some Indian researchers in their studies on leaderhip.

(11) A Rating Scale for Measuring Instructional Leadership

This has been jointly developed by Dr. Patel and the present investigator in 1973. It was, however, tested and perfected by Dr. Patel in his study relating to improvement of instruction in secondary schools of South Gujarat. The respondents are teachers and they rate the subject-matter competence, expertise in curriculum development and instructional methods, professional abilities and skills, habits and attitudes and special training and professional orientation of school supervisors.

As stated earlier, the sample consisted of selected high schools from the two Districts - Kheda and Panchmahals. One of the objectives formulated for the study is also to identify an educationally advanced district and a backward district and compare the supervisory services done in their secondary schools. It was also stated earlier that some evaluative criteria were decided upon with the help of some experts. If these criteria are applied to the relevant educational data from the two districts, the Kheda District emerges from the pooled results as educationally advanced district and the Panchmahals District as educationally backward district.

Reference is invited to Table 3.4 given below in this regard :

Table 3.4 : Identifying an Educationally Advanced and Backward District (Kheda and Panchmahals Districts)

Criterion	Data for the District	
	Kheda	Panchmahals
1. Literacy Percentages :		
(a) Men	55.09	33.74
(b) Women	28.48	11.23
Total	42.53	22.82
2. Size of Backward Populations: (Percentage to the total District Population)		
(a) Scheduled Castes	6.05	3.68
(b) Scheduled Tribes	1.03	38.55
3. The Percentage of Urban and Rural Population		
(a) Urban	19.95	11.21
(b) Rural	80.50	88.79
4. The Average Size of Population served by a High School	8,786	13,795
5. Average number of High School per 1,000 Population	0.133	0.150

Table 3.4 contd....

Criterion	Data for the District	
	Kheda	Panchmahals
6. Number of High Schools established		
(a) Prior to 1900	6	4
(b) Between 1901 and 1947	69	10
(c) Between 1948 and 1960	125	43
(d) After 1960	93	84
Total	293	141
7. Types of secondary schools (in percentages)		
(a) Academic	89.8	86.1
(b) Multi-purpose	2.9	10.4
(c) Post-Basic	6.3	3.5
8. Size of Secondary School Population	1,16,263	39,967
(a) Rural Areas		
(i) Boys	71.27 p.c.	84.34 p.c.
(ii) Girls	28.73 p.c.	15.66 p.c.
(b) Urban Areas		
(i) Boys	60.07 p.c.	72.73 p.c.
(ii) Girls	38.93 p.c.	27.27 p.c.
(c) Scheduled Caste Students (in high schools)	4.00 p.c.	3.49 p.c.
(d) Scheduled Tribe Students (in high schools)	0.44 p.c.	10.18 p.c.

contd. ....

Table 3.4 contd.....

Criterion	Data for the District	
	Kheda	Panchmahals
9. Academic equipment of secondary school teachers (in percentages)		
(a) Graduate Degree or below	84.4	92.9
(b) Post-graduate Qualifications	15.6	7.1
10. Stock of Trained High School Teachers (in percentages)		
(a) Men	75.14	70.51
(b) Women	16.86	7.49
Total	92.00	78.00
11. Staff-student Ratio	1 : 34	1 : 20
12. S.S.C. Examination Results (in percentages)		
(a) 1970 March	45.50	44.70
(b) 1971 March	42.20	50.50
(c) 1972 March	45.84	42.06
(d) 1973 March	47.90	46.01
October	45.01	39.63
(e) 1974 March	59.72	56.06
March October	28.32	32.54
13. Percentages of Villages without Bus Transport Facilities (in percentages)	17.45	53.86

The sources of figures used in this table are Census Report of Gujarat 1971, Records from the Office of the District

Education Officer of the two districts and some files on Educational Statistics from the Office of the State Institute of Education, Ahmedabad.

The different statistics given for the Kheda and Panchmahals Districts are clear and the figures speak for themselves. The pooled evaluation from all the thirteen criteria clearly indicates that the Kheda District is educationally an advanced district and the Panchmahals an educationally backward district.

3.8 CLASSIFICATION, ANALYSIS AND INTERPRETATION OF THE DATA

The data for the present study was collected by the administration of the eleven research tools prepared or adapted for the purpose and from the official records of the Office of the District Education Officer of the Kheda and the Panchmahals Districts. For the questionnaires and the rating scales, the respondents were randomly selected - 657 teachers at the rate of three each of the 219 sampled high schools of the two Districts and one supervisor each from a sampled high school.

The collected data were classified and tabulated so that each of the following fourteen hypotheses could be structured and statistically treated :

Hypotheses

1. The teachers of advanced district schools tend to be more sensitive to new ideas of supervision and perceive better some of the innovative instructional practices than the teachers of backward district schools.
2. The schools of an advanced district would differ markedly from the schools of a backward district in respect of organizational climate, background of experience of teachers and some of the organismic variables.
3. The present supervision work would be perceived as more beneficial by the teachers of an advanced district than by the teachers of backward district.
4. The schools of an advanced district would have a new programme of supervision in comparison to the schools of a backward district.
5. The advanced schools are expected to differ from the less advanced schools in respect of persons doing the supervision work, maintenance of log book, keeping the teachers informed about various supervision related activities and the use of new instructional methods.
6. The quality of present supervision work is expected to be far more superior in the case of advanced schools than in the case of backward schools.
7. The advanced schools would have many achievements due to supervision work than the backward schools.
8. It would be more possible to implement new ideas of supervision in advanced schools than in the backward schools.

9. The advanced schools would differ markedly from backward schools in respect of various activities to be undertaken for educational improvements.
10. There would exist more favourable conditions for educational improvement in the case of advanced schools than in the case of backward schools.
11. The advanced schools in contrast to backward schools would be marked by the relative absence of some of the obstacles to the improvement of education.
12. The teachers of advanced schools would be more interested and more motivated in bringing about improvement in their schools.
13. Schools would differm markedly from the less advanced schools in respect of the procedure they adopt for popularising an idea, time taken for innovation and time taken for diffusion.
14. The advanced schools, in comparison to the backward schools will have an able leadership.

In the treatment of the above fourteen hypotheses, the following focal points will be the major issues :

1. Organizational climate of the sampled high schools;
2. The ability of the school principal and school supervisors to provide general leadership;
3. Their competence to prove instructional leadership to the school teachers;
4. The current supervisory practices in vogue in the sampled schools.

5. The actual benefits that accrue to the school teachers from the supervisory services being offered to the teachers;
6. Application (extent as well as nature) of newer methods of instruction at present in the schools;
7. The changing concept of school supervision and teachers' sensitivity to these new ideas about supervision.
8. Practicability of new modes of supervision in high schools of the selected districts;
9. Implications of innovative instructional practices for better instructional programmes in high schools; and
10. Factors favouring or obstructing instructional improvement in high schools; factors involved in the change process.

Five independent variables, viz., (1) Location (urban-rural) of the schools, (2) size, (3) equipment, (4) age of teachers, and (5) their experience are used only in the treatment of hypothesis II. In other hypotheses, the two categories, viz., 'the advanced district schools' and 'the backward district schools' are used.

It is also intended to tabulate some of the data yielded from the office records of the District Education Officer of the two districts and from the Basic Data Proforma administered to the sampled high schools to build up a more meaningful picture of the supervision work that is going on in the high schools of the two districts.

For the analysis of the data some simple and some sophisticated statistical techniques will be used. The relationship of organizational climate with age and experience of teachers as well as with school related variables will be tested by means of contingency coefficient, leadership qualities, present supervision work, benefits of supervision, innovativeness, obstacles in the implementation of the new concepts of supervision and such other variables will be studied in relation to some meaningful variables in terms of mean rating for the items of the respective variables. Wherever item mean ratings are obtained, they will be examined in relation to the selected variables each varying at certain number of levels. Since items are discrete and since they are not homogeneous, one composite score based on all items cannot be obtained. It is for this reason that the mean rating for each item has been obtained and discussed accordingly.

Fourteen different hypotheses were developed to study supervision practices, leadership behaviour, innovative instructional practices adopted in high schools, and educational improvement that took place as a result of the supervisory services followed. The data will be analysed using appropriate statistical devices. Item mean rating will be calculated for items which are highly heterogeneous in content. Item-wise mean ratings would make it possible to compare the advanced and backward schools in respect of specific contents. The advantage of item mean rating is that the details are not lost

as it happens in an item pool. The chi-square technique will be used to study whether advanced schools differ from the backward district schools in respect of certain areas of behaviour. While using the chi-square technique, the scores will be treated in three categories, viz., to a great extent, to some extent, and to less extent. Similarly the positive and negative responses will also be subjected to the chi-square statistical analysis. The significant value of chi-square will indicate the two groups of advanced and backward districts which differ significantly in respect of the underlying behavioural measure. The 't' test will be used mainly to study whether the teachers of advanced and backward schools differ in respect of sensitivity and perception. The significance of the difference between the two means will be thus tested. While applying the chi-square test, the categorisation will be based on the total score of each respondent on a certain variable. Score ranges will be used to designate different categories. Teachers of advanced and backward district schools will be also categorized in respect of number of years of teaching experience, age, etc. Wherever necessary, percentages will also be used for interpreting the data.

This would be, broadly, the pattern of analysis and statistical treatment of the data.

3.9 CONCLUSION

An attempt was made in the foregoing pages of the present chapter to describe and discuss the plan and procedures

intended to be used in the present study. It may be noted that the study uses a stratified randomly selected sample of 219 high schools, 627 teachers, and 219 school supervisors of the two districts of Kheda and Panchmahals. Eleven research tools are used of which two are from American experts, one from an Indian researcher and in the remaining eight the present investigator was a collaborator. The data were collected during the year 1973-74. Fourteen hypotheses have been formulated to study the data. Five independent variables have also been used to bring out more meaning from the data. In the analysis of the data, some meaningful statistics such as mean ratings, 't' test, chi-square, etc. are used.

The next chapter will be used to analyse and interpret the data yielded from the administration of the research tools.

Notes and References

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