



Chapter - 4

CHAPTER IV

PLANNING AND PROCEDURE

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4.1 Introduction

The investigator had taken a problem which requires appropriate planning for the collection of data. Planning is a necessary adjunct to any activity. Research is a cumbersome activity which goes wrong when planning is not followed. Again to keep the attention of the investigator riveted to the objectives of the study, the formulation of the hypotheses of the study is also required. This also comes in the planning stage. This calls for the selection of variables. So the independent and dependent variables were identified for the present study.

4.2 Variables of the study

The study was concerned with the comparison of expenses of the schools situated in rural and urban areas of the Mehsana district and the impact of expenses upon the achievement of the pupils. Hence the following variables were identified.

(1) Area of the schools

Mostly the Taluka places were taken as urban area. This consistent with the definition of Revenue Department of

the state of Gujarat wherein all the taluka places have been regarded as having urban setting while other places smaller than taluka places are taken as having rural setting.

The investigator had taken all the 11 talukas of the Mehsana District. Hence 11 schools of the taluka were selected. How this selection was made would be treated elsewhere in this chapter.

(2) When area variable is acting as independent variable, the dependent variable would be expenditure of the schools in the form of the unit cost.

(3) When the unit cost is acting as independent variable, the achievement of the pupils would be taken as dependent variable.

(4) Expense heads of the secondary school expenditure would be acting as dependent variable while area of the school would be independent variable.

(5) Size of the school would be acting as independent variable while achievement of the pupils of Std. X and XII would be acting as dependent variables.

4.3 Formulation of Null Hypotheses

Hypothesis is a conjecture regarding the outcome. It is a supposition made by the investigator.

The investigator had formulated the following hypotheses in Null forms :

- (1) There is no significant mean difference in the achievement at SSCE (Std. X) of rural and urban secondary schools.
- (2) There is no significant mean difference in the achievement at HSSCE (Std. XII) of the rural and urban secondary schools.
- (3) There is no significant mean difference between the per capita expenses of the Urban and Rural schools of the State of Gujarat.
- (4) There is no significant difference between the achievement percentages of the schools having high and low per capita expenses.
- (5) There are no significant differences among the expenses under different important heads of the schools located in rural and urban areas.
- (6) There is no significant Linear Trend of per capita expenses across the years in rural schools.
- (7) There is no significant Linear Trend of per capita expenses across the years in urban schools.

- (8) There is no significant difference between the overall per capita expenses of the rural and urban schools.
- (9) There is no significant Linear Trend of achievement in Std. X across the years in Rural schools.
- (10) There is no significant Linear Trend of achievement in Std. XII across the years in Rural schools.
- (11) There is no significant Linear Trend of achievement in Std. X across the years in Urban schools.
- (12) There is no significant Linear Trend of achievement in Std. XII across the years in Urban schools.
- (13) There is no significant difference in the mean achievement percentages of small size and large size schools at SSCE level (i.e. Std. X)
- (14) There is no significant difference in the mean achievement percentages of small size and large size schools at H.S.S.C.E. level (i.e. Std. XII)

4.4 Description of the Variables under different studies

- (1) As stated earlier, area variable has been taken from the Revenue Department of the State of Gujarat. Hence no description is required for that.

(2) The Achievement of the Pupils

The achievement of the pupils was not taken yearly. The Gujarat Secondary Education Board has decided to hold public examinations at the end of Std. X and XII. The investigator therefore decided to take the results of the schools at Stds. X and XII because of the following reasons :

- (i) The question papers at Stds. X and XII are uniform at each level. Hence the consistent tools ^{that far} _{reliable?} are employed in evaluating the achievement.
- (ii) The scoring is supposed to be objective; hence it is reliable.
- (iii) The above two arguments were weightier than the school-based examination for the evaluation of the achievement of the pupils. Every school had to evaluate its own performance. So the whole show would be subjective and hence non-reliable. Therefore the investigator had taken the achievement of the pupils at X and XII only.

It was decided to study the impact of the school upon the achievement.

It was also decided to study the trend to pupils' achievement of Std. X and XII across the year in rural as well as urban schools.

(3) Per Capita Cost or Unit Cost

Unit cost is an important tool in education as in any developing sector of an economy. It helps to study cost-quality relationship and in the planning of educational development within the four walls of available resources. Although the concepts and methodology of working out unit costs would be the same for all levels of education, yet the departure of calculating unit cost has been worked out in this thesis.

Per Capita Expense or Unit Cost is defined as an expense incurred by the institution on a single pupil. It is arrived at when the total expenditure of the school is divided by the number of pupils in a particular year.

It was planned to study per capita expenses of the schools of rural and urban areas. It was also planned to study the achievement of the schools having high and low per capita expenses disregarding the area of the school.

It was also planned to study the trend of per capita expenses across the years in rural as well as urban schools.

- (4) There are many heads under which the total expenses are divided. Different schools spend differently on each head.

The investigator was interested in studying the relationship between the expense under different heads and the achievement of the schools.

4.5 Sample of the Study

The State of Gujarat consists of 19 districts formed by Revenue Department. But educationally there are 20 districts, Ahmedabad city being given a separate district. There are four tribal districts of Panch Mahals, Dang, Sabarkantha and Banaskantha. The population of these four districts is mainly tribal.

North Gujarat has been divided into four districts of Mehsana, Banaskantha, Sabarkantha and Gandhinagar. Gandhinagar district is very small having only one taluka. The two of the four districts i.e. Sabarkantha and Banaskantha are backward with a tribal population. Mehsana District is the only district which can be compared with the rest of the other districts of Gujarat. Secondly, it is bigger in size as well as in population. The population profile of the district is very much like the other district except tribal districts. Hence, Mehsana district was selected for the study because of its representative characteristics.

Mehsana District is comprised of eleven talukas. The investigator took all the eleven talukas for the study.

The schools of the talukas were listed alphabetically. The taluka place was considered as urban area (The Revenue Department of Gujarat considers Taluka place as urban area). But of rural area, one school was selected randomly. Hence there were two schools in a taluka selected for the sample. If there are more schools in a taluka place, random sampling procedure was adopted for the selection of the school.

So the sample consisted of 22 schools - each taluka contributed two schools, out of which one was from rural and the other was from urban area.

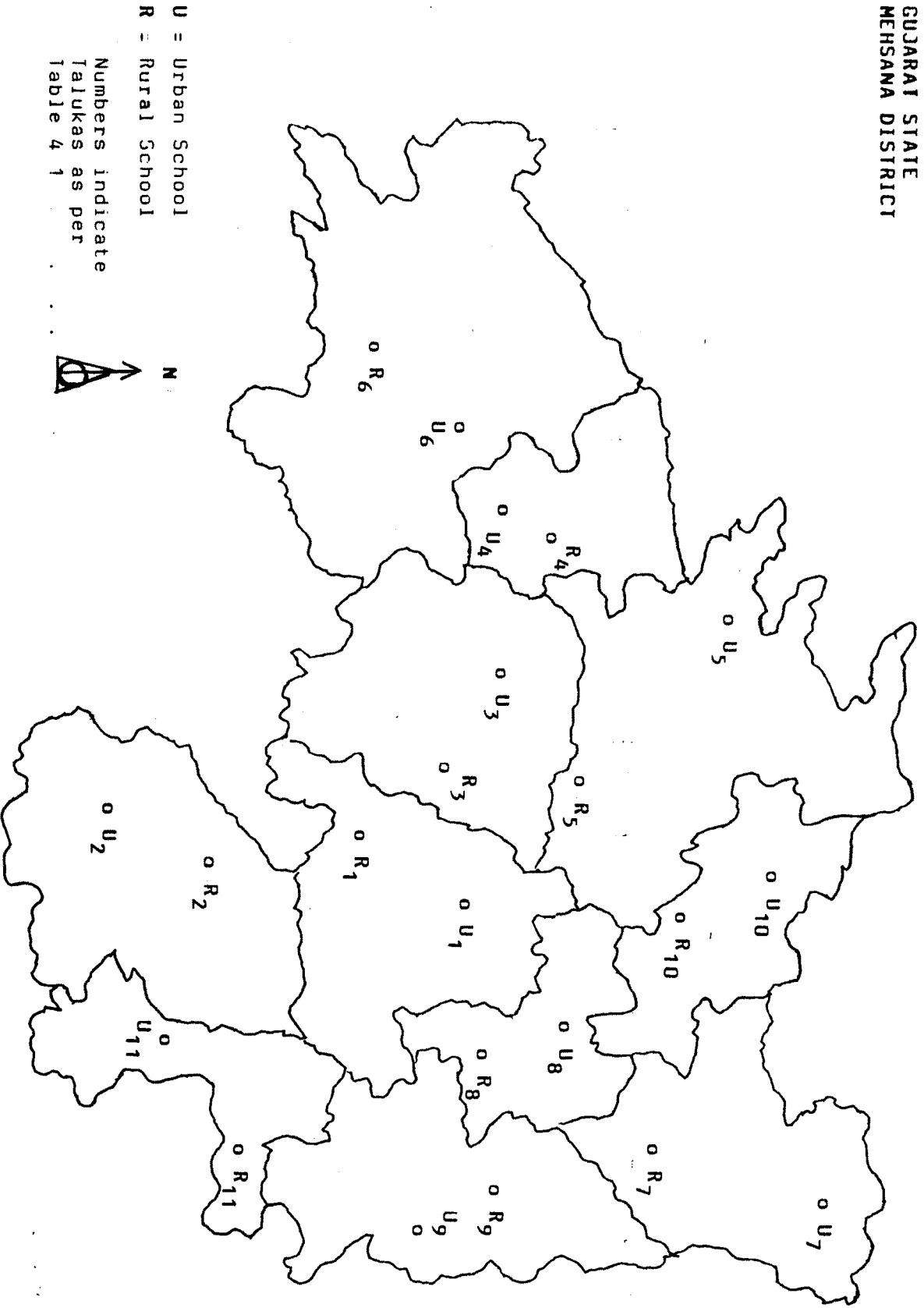
The investigator considered that the sample so selected was random and it reflected the characteristics of the whole Mehsana District.

The names of the schools have been given in table 4.1 Taluka-wise below.

Table 4.1 : Names of the Sample of Schools of Mehsana District

Sr. No.	Name of Taluka	No. of School in Taluka	Urban Area's School	Rural Area's School
1.	Mehsana	52	Vivekanand Exp. High School, Mehsana.	Sonal Vidyalaya, Boriyavi.
2.	Kadi	39	Zaveri R.I. High School, Kadi	Sarvjanik Vidyalaya, Suraj.
3.	Chansma	42	P. P. Patel High School, Chansma.	K.K. Patel High School, Gorad.
4.	Harij	08	K.P. High School, Harij.	B. U. B. High School, Juna Manka.
5.	Patan	35	M. N. High School, Patan.	B. K. Amrit High School, Manud.
6.	Sami	17	Sami Madhyamik Shala, Sami.	R. L. Vaghela High School, Motichandur.
7.	Kheralu	44	Smt. D. B. Thakkar Girls High School, Kheralu.	Navin Sarva Vidyalaya, Vadnagar.
8.	Visnagar	33	Adarsh Vidyalaya, Visnagar.	J. M. Sarvodaya High School, Kadi
9.	Vijapur	63	Zaveri V. R. High School, Vijapur.	D. M. Patel High School, Ladol.
10.	Siddhpur	35	M. P. High School, Siddhpur.	Miradatar High School, Unava.
11.	Kalol	31	Shanti Niketan High School, Kalol.	Swaminarayan High School, Balva.
	Total	399		

GUJARATI STATE
MEHSANA DISTRICT



4.6 Collection of the Data

Various data concerning the results of S.S.C.E. and H.S.S.C.E. of the schools for five years, the expenses incurred by the schools were collected under different heads as prescribed by the Educational Department. The investigator had prepared different data-sheets to enter such data as were required. The data sheets were given in the Appendix.

The investigator approached District Education Officer, Mehsana District and explained him the plan of the study and the requirement of the data of the schools selected. He obtained the necessary office letter from D.E.O. to each of the schools to furnish such data as were required by the investigator. The investigator collected the following data :

- (a) Receipts and Expenditure of the schools from 1982-83 to 1986-87.
- (b) Results of the schools from Std. VIII to XII. The investigator was interested in the results of S.S.C.E. and H.S.S.C.E. from 1982-83 to 1986-87.
- (c) Expenditure under different heads from the year 1982-83 to 1986-87.

The above data were entered to the general data-sheets and the contents were checked under each head.

The necessary information regarding the means and the standard deviations were computed for each school and then the areawise means and SD's were computed. These statistics would be used in testing the null hypotheses.

The calculation of unit cost or per capita expenses for each school, each area together with their SDs were carried out. These would also help in examining the veracity of the null hypotheses.

4.7 Research Design and Statistical Techniques

The present study could be viewed as survey study or survey research. Survey research as defined by Kerlinger¹ deals with the incidence, distribution and interrelations of sociological and psychological variables. The objectives of the present survey research were set out in the first chapter. Briefly they were concerned how the different variables are related.

The present study could be viewed as a sample survey which involves in selecting a random sample and attempting to make inferences about the population from the sample observations. If the entire population is measured there is no inferential aspect concerning the statistics of the study.

A parallel-samples design was selected. In this sampling design, one variable (say, Area) was selected. The equal number of schools from each of the levels was selected. That is, eleven schools from rural and eleven schools from urban area.

The statistical technique pertaining to 't' test was utilized in testing the null hypotheses.

The investigator would also test the trend. For this trend test Polynomials would be used in calculating sums of squares for different trend lines as suggested by Winer².