

CHAPTER IV

PLAN AND PROCEDURE OF THE PRESENT INVESTIGATION

- I. The Present Investigation
 - II. The Planning of the Present Work
 - III. The Procedure of the Present Work
 - (a) Library Study
 - (b) School Visits
 - (c) Questionnaire Construction
 - (d) The Selection of the Sample
 - (e) Interviews
 - IV. The Revision of the Work
- References.

Having defined and delimited the scope of the investigation, having discussed the administrative set-up of the Gujarat State and having reviewed the previous research work done in the field, the next task was planning and its actual implementation. The present chapter comprises of a brief account of planning, procedure followed, questionnaire construction, sample selected, interviews, and revision of the questionnaire in the light of experts' criticisms.

I. THE PRESENT INVESTIGATION

As regards the present investigation, it can be said that:

- it is a type of normative survey, it attempts to survey the present position of the secondary schools in the Gujarat State,
- the purpose of the present investigation is to study the various aspects of the schools, and
- to propose alterations and extensions by which the services may be improved.

It includes the following characteristics of

survey:

- (1) It specifies the general nature of the phenomena to be investigated i.e. the schools in their various aspects.
- (2) It specifies the methods through which such a study is to be made.
- (3) It shows clearly the population in which the phenomena are to be found, i.e. the sample is clearly stated.

Carter V. Good gives the types of school surveys as follows:

As regards the purpose, modern school surveys may be divided into three types: Comprehensive survey, educational survey and building survey. The comprehensive survey usually covers the following aspects of the school system:

- (1) Aims, outcomes, pupil achievement, curriculum, method and instructional aids.
- (2) Administrative problems and procedures of the schools.
- (3) Financial policies and procedures.
- (4) Operation and maintenance of the physical plant.

- (5) Pupil transportation.
- (6) Staff and personnel.
- (7) School plant and related factors.¹

Looking to the set-up and organisation of the schools in the Gujarat State, the investigator divided the aspects in the following way:

- (1) The philosophy and purposes of schools.
- (2) The physical facilities.
- (3) The administration and organization of schools.
- (4) The curricular and co-curricular programme of schools.
- (5) The pupil welfare and school community relations.

¹ C.V.Good, Introduction to Educational Research, (New York: Appleton Century Crafts, Inc., 1963), p. 264.

II. THE PLANNING OF THE PRESENT WORK

Mildred Parten emphasizes the need for pre-planning of survey research, in the following words:

In order to ensure that the survey will yield returns which are meaningful and are secured in the most efficient manner possible, it is essential that the entire plan of the survey be prepared before the collection of data is begun. Each stage of survey should be planned with all the preceding and succeeding stages in mind.....in so far as possible, this plan should be recorded so that it can be referred to constantly.²

In the present revision of this investigation, the data was collected first of all, through a revised questionnaire. As doubt was raised about the validity of the data through mailed questionnaires and regarding the interpretation of the questions and the objectivity involved, interviews and school visits were planned to avoid the ambiguity in the meanings of questions. All the terms were clearly defined. During the interview and the school visit, data was collected on all

² Mildred Parten, Samples, Polls and Surveys, (New York: Harper and Brothers, Publishers, 1950), p. 55.

questions in the questionnaire. Thus, the factor of subjective interpretation of certain questions was effectively controlled by the personal visit of the investigator.

The original plan of the work was phased over a period of four years. Subsequently, revision was undertaken in February, 1964, according to the suggestion of the University. In the light of the suggestions made by the experts, the entire work was revised, the questionnaire was reconstructed more systematically. It was administered to the same 120 schools, which were originally selected in the sample. This administration was done through personal visits of the investigator. He recorded the data himself on the basis of the interviews of the principal and other school personnel. This was done to eliminate the subjective factor of the interpretations of the items in the questionnaire. The analysis of the data was done mainly on the basis of the ratings of the different conditions. All this procedure took about two years of intensive

work.

III. THE PROCEDURE OF THE PRESENT WORK

The following techniques were used by the investigator for collecting the data:

(a) Library Study

The investigator reviewed the existing literature on the subject for two purposes: Firstly, for studying the present position of secondary education and secondary schools in India in general and in Gujarat in particular and secondly, for developing the criteria for evaluating secondary schools. The following procedure was followed in the library study:

(a) Study of the present position of secondary schools: The present position of the schools was studied on the basis of several reference books mentioned in the Bibliography (on page appendix 607); but out of these; three books were the main source books.

(1) The Secondary Education Commission's Report:

This report was published in India in the year 1953. There was no work on the secondary education on the national basis, only except this report. In the year 1952, a national commission under the chairmanship of Dr. L. Mudaliar was appointed to survey the position of secondary schools in particular and secondary education in general in India. The commission did good work and produced the report within one year of its appointment. On the basis of this report, various steps of reform in secondary education are being taken up. Therefore, this report forms a basis for studying secondary schools.

(2) The Integration Committee Report: This

committee was appointed by the Bombay State in the year 1958-59. The committee produced the report which formed a basis for certain rules for running secondary schools. On the basis of this report, the grant-in-aid code was revised in the year 1964.

(3) The Grant-in-Aid Code: The grant-in-aid

code is prepared by the committee appointed by the State Department of Education. This report is followed by almost all the schools of Gujarat. The code lays down the rules of pay scales, leave, service conditions of

teachers for secondary schools. The code forms the basis for certain points which are taken for granted in this research work.

(b) On finding that very few standard Indian books were available on the subject, the investigator leaned more upon the articles in the Indian Journals and Reports of Seminars, regarding secondary education and secondary schools. The departments of extension services functioning throughout India are meant to improve upon the various aspects of secondary education through in-service education of the secondary school personnel. The reports of these work groups were immensely helpful in identifying the detailed aspects of study and their nature.

(c) Certain books and reports were studied from the point of view of selecting different aspects of secondary schools. As a result of library study, the notes were made on various points regarding secondary schools, namely, the purposes of schools, staff and management, school pupils, school programmes, school budgets, school inspection, etc. This step was necessary for getting the preview of the entire work and in designing the investigation.

(b) The School Visits

While visiting secondary schools, the investigator studied the following points:

- (1) He studied various aspects of the school.
- (2) He tried to jot down the condition of a good school from an informal discussion with the headmaster of the school.
- (3) He tried to study the impact of recent developments in class teaching and the implications of Secondary Education Commission's Report on schools.
- (4) He tried to find out the difficulties of schools regarding its functioning in an effective way.

The schools were visited, to get guiding lines for framing evaluative criteria, and for organizing evaluative criteria for its functional value. After every visit, the points of observations and discussions were noted down. Thus, as a result of visits to ten different schools, and as a result of the library study, an exhaustive list of conditions of a good school was

prepared.

The school visits and interviews were covered at three levels in the present research:

- (i) Initial interviews for jotting down the criteria and problems of secondary schools.
- (ii) While trying out the first draft of the questionnaire, the investigator himself went to schools and conducted interviews with the headmasters.
- (iii) Finally, with the revised questionnaire the investigator went to all the 120 schools. During such school visits, the investigator observed the details regarding the five aspects of schools taken for study. Moreover, the details regarding the following were obtained:
 - (a) The school plant and physical facilities.
 - (b) The school budgets and facilities for students.
 - (c) The school records and other documents.

Thus school visits and interviews played an important role in this study.

(c) Questionnaire Construction

As discussed earlier, the investigator studied the criteria of evaluation of schools on the basis of certain library studies. The investigator developed the following formula: /

(1) First of all certain aspects of schools must be studied. The investigator enumerated several aspects and grouped them into five categories:

(i) The purposes of the schools, (ii) The physical facilities of the schools, (iii) The curricular and co-curricular programmes of the schools, (iv) The organization and administration of the schools, and (v) The community relations and pupil welfare activities, etc.

(2) Then the investigator studied each aspect and divided it into various criteria, for example, ^{the} physical facilities aspect is

divided into: (i) the site; (ii) the building; (iii) the special rooms; (iv) the room facilities and (v) the building services. In this way, certain criteria were fixed up.

- (3) Each criterion was split up into certain conditions. For fulfilling each criterion certain "conditions" were decided. These "conditions" were listed through library study and were decided after careful thinking.

The list of "conditions" was, thus, compiled and each condition was a stem of every question or item prepared for the questionnaire. The approach to evaluation was two dimensional; qualitative and quantitative. Certain questions were meant for qualitative rating, while for studying the conditions in terms of factual data, survey type of questions were prepared.

After a comprehensive tryout of the questionnaire, the investigator discussed the questionnaire with some experts in the field of educational administration. The experts gave suggestions regarding the shape of the

questions and regarding weightages of the questions also. The broad categories of criteria for evaluation listed thus were as follows:

TABLE IV-1

Showing the Aspects, Criteria and Conditions of a Good School, Included in the Present Questionnaire

Aspects of school	Criteria under these aspects	Total number of conditions in each criterion
I. The Purposes of School	1. Specification of purposes	3
	2. Teachers and purposes	3
	3. Pupils and purposes	1
	4. Community and purposes	1
	Total: 4 Criteria	8 conditions
II. The Physical Facilities	1. The site	4
	2. The building	5
	3. Classrooms and special rooms	8
	4. Furniture, equipment and facilities	4
	5. Materials and storage facilities	3
	6. Maintenance	2
	Total: 6 Criteria	26 conditions

Aspects of school	Criteria under these aspects	Total number of conditions in each criterion
III. Administration and Organization of the School	1. The selection and composition of the staff. 5 2. Conditions of service. 6 3. Staff organization 4 4. The Managing committee. 6 5. The role of the principal. 4 6. Health and medical staff. 4 7. Pupil records 3 8. Reports to parents 3 9. School finance 6 10. School schedule & time-table 6	
	Total: 10 Criteria	47 conditions
IV. The Curricular Programme of the Schools	1. Syllabus 3 2. Learning process 6 3. Use of instructional material 3 4. School libraries 4 5. Co-curricular programme 6 6. Evaluation of pupil progress 7	
	Total: 6 Criteria	29 conditions
V. Pupil Welfare and School Community Relations	1. Pupil guidance 3 2. Services to pupils 7 3. Home-school relations 4	

Aspects of school	Criteria under these aspects	Total number of conditions of each criterion

	4. School-community co-operation	4

	Total: 4 Criteria	18 conditions

Grand Total:	30 Criteria	128 conditions
Five aspects		
=====		

In the revised version, all the questions were presented in the order shown in the table IV-2 and the investigator himself filled in the data. The detailed discussion regarding the administration of the questionnaire is given in the succeeding pages. This direct interview with the principals along with the questionnaire helped the investigator in many ways. The respondents to this questionnaire were headmasters of the schools. Thus, it was a homogeneous group of respondents all throughout the collection of the data. This helped the investigator in collecting the data in a uniform, systematic and consistent way.

Preparation of certain questions: The questionnaire containing 134 questions was in the form of a

questionnaire booklet. (Vide Appendix 'A'). The questions were of two types: (A) Closed form and (B) Open end. Closed questions were framed as a result of library study and school visits. The probable answers were jotted down from school visits and interviews with the headmasters. Where the response could be given in a limited way, it was found better to use more closed questions than open end questions. Closed questions are easy to administer and fill out and help to keep the respondent's mind fixed on the subject. As Van Dalen points out:

But they (closed form questions) often fail to yield the respondent's motives, do not yield information of sufficient scope or depth and may not discriminate between fine shades of meaning.³

It is for this reason that open end questions were also constructed; in these the opinions, remarks, suggestions, criticisms of the respondents counted more valuable.

Some of the points that the investigator kept

3 Deobold Van Dalen, Understanding Educational Research, (New York: McGraw Hill Book Co., Inc., 1962), p. 255.

in view while framing the questions were:

(1) The questions were stated in a clear and simple language and were sharply focussed in meaning.

(2) An exhaustive list of alternative choices was provided so as to explore various shades of decision.

(3) The items were placed in a psychologically and logically sound sequence, simple and interesting questions preceding more difficult or personal ones, and those that establish a frame of reference or provide keys to recall before those asking for details.

(4) A smooth transition is made from one group of questions to the next.

(5) The directions given, were clear and complete, concerning the type and scope of information that is wanted. The categories, format and directions were designed to elicit, accurate unambiguous answers, to require a minimum of the respondent's time, to facilitate the tabulation and interpretation of data, and to furnish the quantification of results.

(6) The directions and questions were worded and ordered so as to ally any fears, suspicions,

embarrassment or hesitating on the part of the respondents. Here the investigator himself filled in the revised version of the questionnaire.

(7) The guarantee and assurance for the secrecy and about the privacy of the responses was given.

(8) Specific questions were asked in interviews to check the truthfulness of the answers to general questions.

Parten gives three points for organizing questionnaire:

- (1) Appearance: The questionnaire should be attractive in appearance. This can be accomplished by the appropriate use of spacing, type, arrangements, etc.
- (2) Content: The validity of the topics about which the informant is to report should be as limited as possible. Parten suggests that a number of unrelated subjects dealt with is an even more objectionable feature in a questionnaire than is considerable length.
- (3) Length: Most recommendations for the best length for the questionnaire point to the rule, 'as short as possible to get all

the information needed by the survey'. Still, there is experimental evidence which suggests that certain group of population, given proper incentives and presented with a carefully presented form, will respond to a very long schedule.⁴

A point or two may be mentioned about the length of this questionnaire. The total number of questions is 134. At first sight, it may appear to be lengthy, but the investigator preferred this length of the questionnaire, to reducing the sample. The investigator had two points in his favour for getting correct responses. These were as under:

(i) The investigator wanted to study a proportionate and representative number of schools, in all respects, rather than study many schools in lesser details.

(ii) Prof. S. N. Mukerjee - the guide of the investigator - had a very wide coverage of students all over Gujarat, who were headmasters in many schools almost in every

⁴ Mildred Parten, Op. Cit., p. 384.

part in Gujarat. Hence, the letter of request for giving interviews to the investigator with actual data, was received with honour and drew forth prompt response.

When this was pre-thought out, it was decided to get as far as possible complete data regarding each and every school included in the sample.

But preparation of the questionnaire is not possible without a very careful scrutiny and criticism by those engaged in research work.

The questionnaire was discussed very critically at length in a research seminar (which is held every week to discuss the researches going on in the Faculty of Education & Psychology, Baroda University), wherein each question was scrutinized and nine questions out of 89 were reworded; six questions were regrouped and an open question at the end of every subsection (Sections I to VII) was added. Thus, preparation of the questionnaire was completed.

Regarding the try-out, as Good, Barr and Scates state:—

One should then send out a few copies of the questionnaire to some members of the group and examine the returns from these before the questionnaire is used on a large scale.⁵

The questionnaire was tried out by the investigator himself on ten schools. This formed a tryout. The ten schools, represented several factors of sampling. The data was tabulated... except for very minor changes in terms of grouping of questions, the tools remained the same. This is because the questions and criteria were framed, out of the initial school visits and discussion with the headmasters and also because of a prior critical discussion by experts regarding these tools.

The revised questionnaire was administered (in a typed form) to seven schools for pre-try-out in order to judge the effectiveness of the instrument and of questions. The questions were analyzed and the investigator interviewed the headmasters, in order to find out their criticisms and suggestions for making the questionnaire more revealing. On the basis of the try-out analysis and suggestions in the interview, certain questions were remodelled, reworded and regrouped.

After the preparation of the questionnaire, the next step was selection of the sample.

(d) The Selection of the Sample

A brief discussion of the criteria and theories upon which the present sample is based is necessary. Firstly, the sample should yield an unbiased picture of the population of which it purports to be a sample. Whether its purpose is to be an estimate of the frequency of given cases in the population or an universe or to reveal the existence of certain interrelationships in the total, the sample should constitute a true cross-sectional picture of the whole.

TABLE IV-2

Showing the Representativeness of the Sample

Districts	Code No. of districts shown in the map	Total schools as in 1959-60	The number of schools in the present sample
<u>South Gujarat</u>			
Dangs	2	1	1
Surat	3	89	16
Total		90	17

Districts	Code No. of Dist- ricts shown in the map	Total schools as in 1959-60	The number of schools in the present sample
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Central Gujarat

Broach	1	26	11
Baroda	5	74	18
Panchmahals	7	38	7
Kaira	6	97	16
Total		235	52

North Gujarat

Ahmedabad	4	101	5
Sabarkantha	10	30	4
Banaskantha	8	14	1
Mehsana	9	85	13
Total		230	23

Saurashtra

Amreli	16	13	2
Jamnagar	12	21	5
Rajkot	14	52	6
Surendranagar	15	25	3
Bhavnagar	11	35	4
Junagadh	13	39	5
Total		185	25

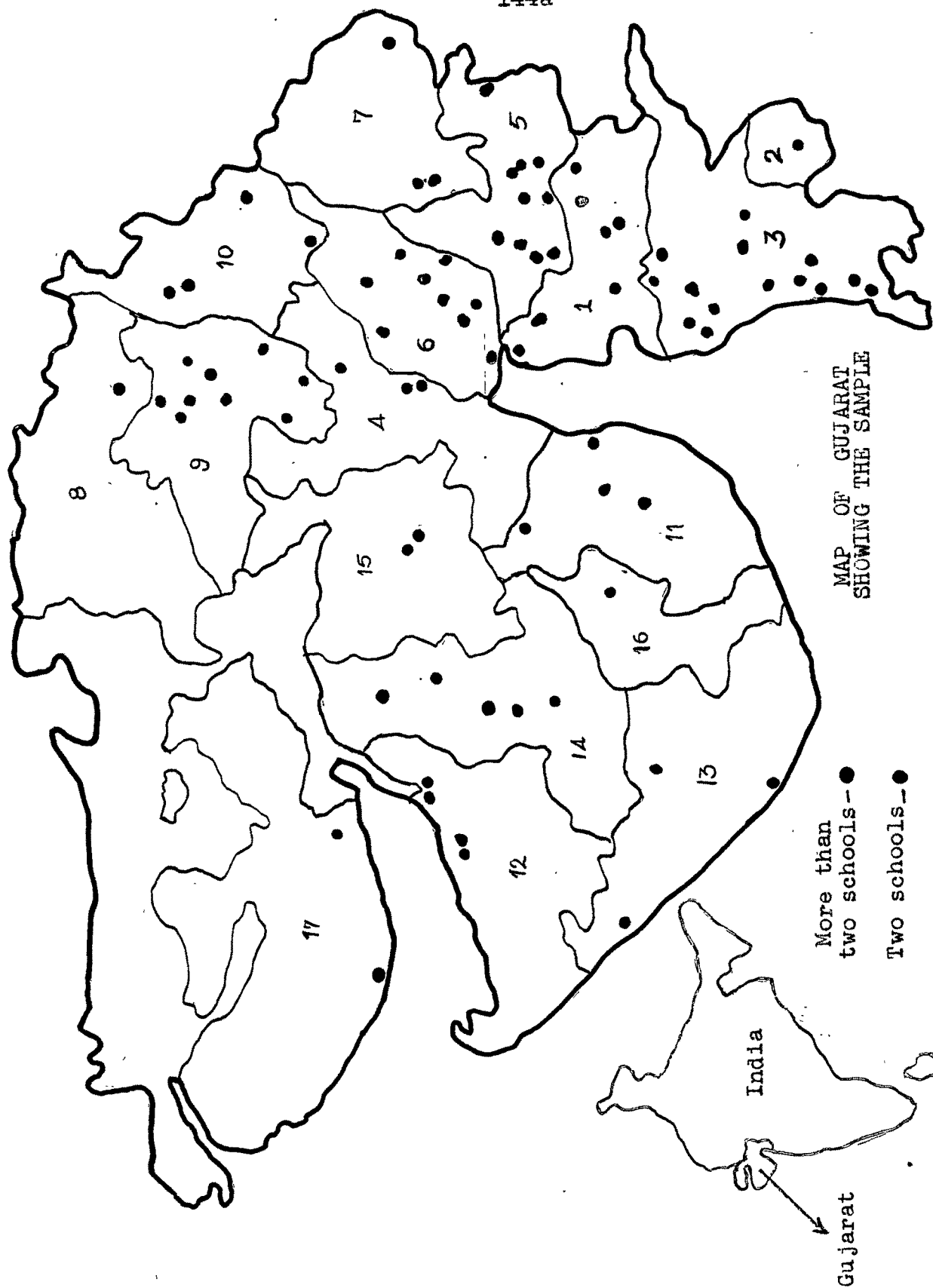
Districts	Code No. of Dist- ricts shown in the map	Total schools as in 1959-60	The number of schools in the present sample
Kutch	17	28	3
Grand Total		768	120

TABLE IV-2(A)
Showing the Representativeness of the Sample

	South Gujarat	Central Gujarat	North Gujarat	Saura- shtra	Kutch
	17	52	23	25	3
<u>Area</u>					
Rural	15	31	20	20	2
Urban	2	21	3	5	1
<u>Management</u>					
Government	3	3	14	9	-
Non-Government	14	49	9	16	3
<u>Type</u>					
Boys'	1	5	1	6	-
Girls'	2	4	1	9	2
Mixed	14	43	21	10	1

Table No. IV-3 reveals that for preparing a sample plan for unbiased sample, two factors were taken

144a



into consideration, namely: (i) the geographical divisions of the Gujarat State, (ii) the rural and urban area, (iii) the management, and (iv) type: (Boys', Girls', Mixed). It is clear from the table that schools were selected from each district, and a ten to fifteen per cent of the number of schools were selected.

Secondly, the sample should be large enough to give statistically reliable results for the characteristics which are to be measured by the survey. It should not be so large, however, to involve collecting and handling data which are not needed for reliability or for interpretation of findings.

At the time (1959) when the topic was selected for investigation, there were 768 schools in Gujarat, Saurashtra and Kutch. The districtwise classification is given in table No. IV-3. The sample can be considered to be adequate enough to represent the secondary schools from each district. The adequacy of the sample is misunderstood, misemphasized many a time, as quoted by Parten very aptly:

Another mistaken idea is implicit in such comments as the following, 'a mere 3000 cases, certainly is not a large enough sample to portray the opinions of

50,000,000 voters' or 'a sample should be at least 10 per cent of the total population to be surveyed'. The misconception here is that the size of the universe from which the sample is drawn determines the number of cases needed to yield an adequate sample of that universe. That the emphasis should be placed not upon the number of cases in the universe but rather on the number in the sample.⁵

It is obvious, therefore, that the size of the sample must be representative enough of the entire population of 768 schools. The investigator selected 120 schools (15 per cent of the total schools) keeping in view each district i.e. geographical division. It is obvious that only thirty schools cannot represent the 768 schools, adequately, but at the same time, it is also true that 600 schools also are not necessary to represent 768 schools. On the advice of experts, Research Seminars and in consultation with those who have put in considerable research work, one hundred and twenty schools were selected keeping in view the several criteria such as:

- (1) All the seventeen districts of Gujarat State,

5 Mildred Parten, Op.Cit., p. 291.

- (2) Type of school: Boys/Girls/Mixed
- (3) Area: Rural/Urban
- (4) The nature of ownership: Private/Trust/
Committee/Government/Local Bodies.

The list of recognized schools in Gujarat, Saurashtra and Kutch was available from the Department of Education, Bombay State.⁶

To sum up, the sample must be optimum. An optimum sample in a survey is one which fulfills the requirements of efficiency, reliability and flexibility. The most efficient sample is commonly considered to be the one which provides the most useful information for rupee rather than per case. The sample should be small enough to avoid unnecessary expense and large enough to avoid intolerable error.

In the previous inquiry, the investigator had selected 200 schools and the questionnaires were mailed to them. But in the revision of the work, the investigator selected 120 schools and himself went to these

⁶ List of recognized secondary schools in the State of Bombay as it stood on 31st March 1959. 'Director, Government Printing Publications and Stationery, (Maharashtra State, 1960).

schools. Therefore, there was no possibility of a chance factor coming in the way of sampling.

(e) Interviews

In the process of revision of the thesis, the investigator decided upon the following procedure:

- (1) That the questionnaires must be reframed and all the ambiguity must be avoided.
- (2) That the data must be collected by the investigator himself through school visits and interviews of the headmasters of all the schools included in the sample.

The revision of the questionnaires is discussed earlier. It must be stated that out of both the previous questionnaires, one questionnaire was prepared. With this questionnaire, in the form of an interview schedule, the investigator visited the schools. The investigator collected the information in the following way:

- (1) Firstly, the details of specific data were filled in by the investigator in person.

The information was gathered from the head

clerk, the headmaster and the Departmental Heads of the schools. When the information was thus filled in, there was no chance left for the ambiguity or vagueness.

- (2) Secondly, after careful observation of the school and the study of the data thus collected, the headmaster was interviewed by the investigator. The interview of the headmasters lasted some times for more than an hour and required at times, two or three seatings. While conducting the interview, the investigator took into consideration some of the important points about the methods of conducting the interview. The interviewee was given his choice for time, and was allowed to answer the questions in his own way. Whatever information the investigator got from the interviewees, was recorded there and then in the file. After proper analysis and scrutiny, the data was tabulated, analysed and interpreted.

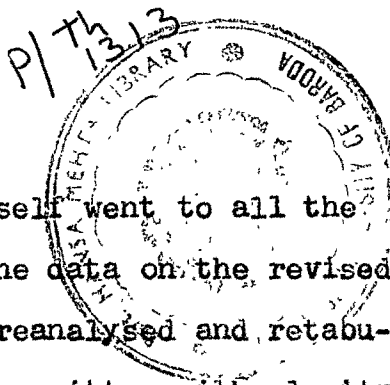
- (3) On the basis of data collection, interview

and observation, the investigator himself gave ratings to the conditions and 'criteria' contained in the questionnaire. Therefore, there was no question of ambiguity or vagueness of interpretation of questions.

IV. THE REVISION OF THE WORK

On the basis of the advice of the University and the comments of the referees, the investigator revised the present work. Reference is already made to the attempt at the revision of work. The investigator revised the data collecting device i.e. the questionnaire. He removed the ambiguity in the wordings of the questions. Moreover, he clarified the meaning of certain concepts which were used in the questionnaires. The questions were made as far as possible clear and understandable. In all, the questions in both the tools fall in the following categories:

- (a) Questions of incontestible fact,
which
- (b) Questions of opinion (were discussed during
the interviews),
- (c) Questions of value.



The investigator himself went to all the schools again, and collected the data on the revised tool. The data collected was reanalysed and retabulated. The entire report was rewritten with clarity, briefness and in logical sequence. Every attempt was made to remove the defects in the composition of the report.

In writing the final report, the following points were observed:

- (1) The chapters were reorganized.
- (2) Two chapters were added: one on "The Present Position of Secondary Schools of Gujarat" and the other on "A Brief Review of the Previous Works".
- (3) The organization of chapters was entirely changed. The organization of each chapter was laid down on the basis of sequence of points and the data collected was regrouped according to the sequence.
- (4) The entire draft was rewritten from the

first to the last and was properly edited with a view to maintaining continuity, consistency and coherence.

- (5) The size of the report was reduced considerably.

The following chapters deal with the detailed analysis and interpretation of the data. The chapters follow the sequence adopted in the questionnaire. The next chapter deals with the data on "Philosophy and Purposes of the Schools".

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