

CHAPTER-III

METHODOLOGY AND PROCEDURE

3.1 RATIONALE FOR HAVING HABITATION AS THE UNIT

Universal provision of educational facilities is the first and foremost prerequisite for the achievement of UEE which is a top priority programme of education in India. Every child of school-going age must have a school within a convenient walking distance. Home of every child cannot be taken as the unit of location of school which is neither feasible nor practicable. Let us see which is the most suitable unit for deciding location of school. Let us consider village which is the smallest administrative and revenue unit. In the Census, village (revenue) is defined as a parcel of land the boundaries of which are defined and settled by revenue survey or by cadastral survey. A revenue village may be spread over several square kilometres. People according to their convenience may construct houses on the village land and thus many clusters of houses may come-up in one village. These clusters of houses (population pockets) are termed as hamlets or habitations. If the village has only one compact cluster of houses then the village has one habitation. A village has as many habitations as there are clusters of houses. A village may have one or more than one habitations. In case, the village is 'Bechirag' or deserted, that is, it does not have any population, at all, then the village has nil habitation. It is seen that in some cases the habitations of village are quite distant from each other. The distance between two habitations of a village may be to the tune of several kilometres. Suppose the village is provided a school, it is quite possible that certain habitations of the village may not be at a convenient walking distance from the school. Even though the village has a school, yet some of its habitations are without schooling facilities. Under

the circumstances a village cannot be a suitable unit for consideration of location of school. The in-adequacy treating village as an educational unit was convincingly shown for the first time by the survey of Rajapur Taluk of Ratnagiri district in 1945, conducted by the veteran educationist R.V.Parulekar. There were 965 hamlets (habitations) in 815 revenue villages in that Taluk. Habitation which is a unit of population is the most suitable unit for consideration or for deciding the location of school. In order to have a fair assessment of universal provision of educational facilities, habitation (population pocket, cluster of houses) has been taken as the unit for consideration of availability of schooling facilities.

The ultimate goal is the universal provision of educational facilities for primary and middle stages. In order to achieve this all habitations (and total population) should have school either within the habitation or within a convenient walking distance. In order to assess to what extent a State has achieved universal provision of educational facilities for primary stage, it is necessary to have

- (i) complete enumeration of habitations in the State along with their population
- (ii) Information in respect of each habitation in the State whether the habitation has a school with primary classes.
- (iii) If not, at what nearest distance a school with primary classes is available.
- (iv) Population having the facility within the habitation.
- (v) Population having the facility within various distance limits.

Similar information would be needed for assessing the position of a State regarding Universal Provision of Educational Facilities for middle stage. Studying the growth of educational facilities, information on the lines indicated above is needed at different points of time.

3.2 SOURCE OF DATA

3.2.1 GROWTH OF EDUCATIONAL FACILITIES

There are three sources of data which give information about educational facilities.

- (i) The annual educational statistics collected by the State Education Departments
- (ii) Census Reports
- (iii) All-India Educational Surveys

(i) The annual educational statistics collected and reported by the State Education Departments and by the Education Department of the Ministry of Human Resource Development (MHRD) give the number of schools by type--primary, middle, secondary and higher secondary schools. These statistics do not reflect the position regarding the universal provision of educational facilities for various school stages. It cannot be deduced from these statistics whether adequate educational facilities have already been provided or additional effort needs to be made to achieve the goal of providing elementary education schooling facilities within a convenient walking distance from the home of every child. The number of towns and villages cannot be equated with the existing number of schools because some towns and villages have more than one school while on the other hand one school may serve more than one village. As such the availability of number of schools by type is of no consequence in assessing the position of educational facilities for the elementary education.

(ii) The District Census Hand-books give the availability of schools--primary, middle, secondary, higher secondary, village-wise. As shown earlier, village-wise information is not adequate for assessing the universal provision of educational facilities.

(iii) One of the main objectives of the All India Educational Surveys has been to identify the habitations in the country and to assess the availability of educational facilities for each school stage for each habitation. Habitation-wise information regarding population of the habitation, types of schools along with their number available in the habitation, whether schooling facility for each of the school stage is available within the habitation, if not, at what distance it is available, etc. is available in the block tables of the survey and consolidated information is available in the District Tables, State Tables and National Tables. The All India Educational Surveys give the number of habitations along with their population having the facility within the habitations and number of habitations (along with their population) having the facility at various distance limits. This type of data are needed for the present study. The data available in the All India Educational Surveys conducted in 1957, 1965, 1973, 1978 and 1986 is helpful for studying of the growth of educational facilities in the country and in the States.

3.2.2 GROWTH OF ENROLMENT

There are two main sources of data on enrolment viz. the annual educational statistics collected by the State governments and the All India Educational Surveys. The enrolment data of the educational surveys is varied and covers many aspects like rural/urban, boys/girls, SC/ST enrolment, age-distribution of enrolment, etc. Besides this, the survey data is more reliable as it is collected from the primary source i.e. the schools, by setting up a special machinery right up to the district level for the survey and the data collected is scrutinised at various levels to ensure accuracy. While the annual statistics are collected by the State governments every year in a routine way. As such, for this study enrolment data as available in the All India Educational surveys have been used. However, for working out the retention rates where the time-series data is needed, the enrolment data published by the Ministry of HRD have been used.

3.3 SOURCE MATERIAL USED

The study is a documentation study. In order to study the growth of educational facilities and of enrolment at the elementary stage, the data available at various sources namely Department of Education, Ministry of Human Resource Development (MHRD); National Council of Educational Research and Training (NCERT); National Institute of Educational Planning and Administration (NIEPA); Education Division, Planning Commission; Registrar General of India, etc. were reviewed. It was found that district level data required for microlevel comparisons were not available in the printed form. As such a huge data had to be copied from the manuscripts. The following have been main sources of the data for this study.

1. Census of India, 1981- Primary Census Abstract General Population. (1983)
2. Education in India (Volume 1) Ministry of Education (from 1974-75 onwards).
3. A Handbook of Educational and Allied Statistics, Ministry of Human Resources Development, Govt. of India (1987)
4. Report of the All India Educational Survey, Ministry of Education, Government of India (1966)
5. Second All India Educational Survey, National Council of Educational Research and Training (1967)
6. Third All India Educational Survey - Educational Facilities and Enrolment (School Education), National Council of Educational Research and Training (1979)
7. Fourth All India Educational Survey, National Council of Educational Research and Training (1982)
8. Fifth All India Educational Survey- Selected Statistics, National Council of Educational Research and Training (1989)
9. State Tables - Fourth All India Educational Survey (Manuscripts)
10. State Tables - Fifth All India Educational Survey (Manuscripts)

3.4 ALL INDIA EDUCATIONAL SURVEYS-SOME FACTS

In this study the data of the All India Educational Surveys have been used for the study of the growth of educational facilities as well as for the growth of enrolment at the elementary stage. It is necessary to give some facts about the surveys to facilitate the understanding of this study.

The process of educational surveys started in the year 1957 when the All India Educational Survey (First) was conducted by the Ministry of Education with 31st March, 1957 as the date of reference. All subsequent surveys were conducted by the National Council of Educational Research and Training (NCERT) with the cooperation of the participating States and Union Territories. The Second, Third, Fourth and Fifth Surveys were conducted with 31st December, 1965, 31st December, 1973, 30th September, 1978 and 30th September, 1986, as the dates of reference respectively.

Though all the Surveys differed in scope, yet they had much in common. In all these surveys data were collected on the availability of educational facilities for various school stages in rural areas; schools in rural and urban areas by type viz. primary, middle, secondary and higher secondary, class-wise, sex-wise and age-wise enrolment in rural and urban schools, teachers in schools, teachers by qualifications, etc.

SALIENT POINTS

1. The AIE Surveys take into account only recognised schools. In surveys a habitations is ~~deemed~~ to have facilities for any stage of education if that is available in a recognised school.
2. The habitation will be deemed to have facilities for any school stage if the facility is available in any type of school - boys' school, girls' school or co-educational school.

3. In the surveys educational facilities for rural habitations have been considered and discussed. It is assumed that urban areas have facilities for various schools stages.
4. In the surveys availability of educational facilities has been discussed- not their adequacy.
5. As per Third, Fourth and Fifth Surveys, a habitation is said to be served for primary stage if either it has primary school/school with primary classes in it or within a walking distance of .1 km.
6. As per Third, Fourth and Fifth Surveys a habitation is said to be served for middle stage if either it has a middle school/section in it or within a walking distance of 3km.
7. In all the surveys habitations are grouped into nine population slabs viz. 5000 and above, 2000-4999, 1000-1999, 500-999, 400-499, 300-399, 200-299, 100-199 and below 100.

CONCEPTS AND DEFINITIONS

Certain concepts and definitions have been used consistently in these surveys and have also been used in this study. Some of these are given below:

HABITATION

A habitation is a population centre where people live in compact and contiguous manner. It is a distinct cluster of houses with a local name. The Census reports use the term village in regard to 'revenue village'. According to Census definition a village represents a parcel of land, the boundaries of which are defined and settled by revenue survey or cadastral survey. A revenue village may consist of one compact habitation or a number of habitations. One of the habitations may bear the name of the village. Village having no population at all is termed as 'Bechirag' or 'Deserted' and it has 'nil' habitation. All habitations with population 25 or more in the plain areas and with population 10 or more in the hilly/

desert/sparsely populated areas have been identified as independent habitations. If the village has got only one habitation then there is no population limit for identifying the habitation. Habitations not qualifying this population criterion, have been tagged with the nearest habitation.

RECOGNISED SCHOOLS

The surveys have covered recognised schools. Educational facility for a school stage is said to be available in a habitation when facility is there in a recognised school. A recognised school is one in which the course(s) of study is (are) prescribed or recognised by Government (Central/State) or a University or a Board constituted by law or by any agency authorised on his behalf by Central or State Government and which satisfies one or more of the authorities e.g. Directorate of Education, Municipal Board, Secondary Board, etc. and sends candidates for public examination, if any.

The education pattern differs from State to State. Various combinations of classes of the school system constitute primary, middle, secondary and higher secondary stages. In most of the States and Union Territories the primary stage comprises classes I-V, but in a few States e.g. Gujarat, Karnataka, Kerala, etc. classes I-IV constitute the primary stage. Similarly at the middle stage the set of classes may include V-VII, VI-VIII, VI-VII, etc.

SECTIONS

The group of classes at primary stage in a school constitutes a primary section, classes at the middle constitute the middle section and so on. For example, a school with classees I-X in Delhi has three sections - one primary section, one middle section and one secondary section.

DISTANCE

The distance between two habitations or between a school and a habitation is the convenient walking distance between the central point of two habitations or the school and the central point of habitation.

If there are two habitations on the opposite side of a stream then the distance between the two habitations will be actual convenient walking distance across a bridge and not distance across the stream.

DISTANCE CRITERION

Ideally every habitation must have a school within it so that the children do not have to walk long distance to attend school. It is not feasible to provide a school to each of the habitations because of financial constraints. The maximum distance a child of the age of 6 to 11 years can be expected to walk needed to be fixed. From common experience and depending generally on the accepted distance limits in the Compulsory Education Acts of some of the States, the distance limit of one mile was accepted in the First Survey (1957) meaning thereby that if primary classes were available within a walking distance of one mile from the habitation then that habitation was deemed to have facility for primary stage. In the Second Survey the distance limit of one mile was retained. In the Third, Fourth and Fifth Surveys, the distance limit was reduced to 1 km. It meant that a habitation was deemed to have facility for primary stage if the habitation had primary classes either within the habitation of residence or within a walking distance of 1 km. The distances are measured from the centre of the habitation to the school.

The children attending middle stage classes are usually in the age-group 11 to 13 + years. In the First Survey (1957) the distance limit of 3 miles was fixed. In the Second Survey, the same distance limit was retained. In the Third, Fourth

and Fifth Surveys the distance criterion was reduced from 3 miles to 3 km. As such, as per Third, Fourth and Fifth Surveys any habitation having middle classes either within it or within a walking distance of 3 km was deemed to have facilities for middle stage.

3.5 RATIONALE FOR SELECTION OF STATES

The country has 32 units - 25 States and seven Union Territories. In this study information on various aspects of educational facilities and enrolment has been given in respect of all 32 units. However, on certain aspects inter-state comparisons and discussions have been confined to the following seventeen major States.

1. Andhra Pradesh
2. Assam
3. Bihar
4. Gujarat
5. Haryana
6. Himachal Pradesh
7. Jammu & Kashmir
8. Karnataka
9. Kerala
10. Madhya Pradesh
11. Maharashtra
12. Orissa
13. Punjab
14. Rajasthan
15. Tamil Nadu
16. Uttar Pradesh
17. West Bengal

Of these seventeen States, each has more than one crore population except Himachal Pradesh (49 Lakhs) and Jammu & Kashmir (68 Lakhs) and each State has more than 10 districts. These States have around 97% population of the country. Eight left-out States include Arunachal Pradesh, Goa, Manipur, Meghalaya Mizoram, Nagaland, Sikkim and Tripura. Of these, four States viz. Arunachal Pradesh, Mizoram, Nagaland and Sikkim have population less than 10 lakhs each; three States viz. Goa, Manipur and Meghalaya have population in-between 10 Lakhs and 20 lakhs each and one State (Tripura) having three districts, has population around 25 lakhs. Of the seven Union Territories, two viz. Dadra and Nagar Haveli and Lakshadweep have population less than one lakh each, four Union Territories viz. Chandigarh, A & N Islands, Daman & Diu and Pondicherry have population in between one lakh and seven lakhs each and only Union Territory of Delhi has got population around 79 lakhs. All the Union Territories have one or two districts each except Pondicherry which has got four. All Union Territories except Dadra and Nagar Haveli are more or less developed.

Had the left out States and Union Territories which have small population, been included in the comparisons and discussions, some of them like Delhi and Chandigarh which are appreciably developed and Dadra and Nagar Haveli which is considerably backward might have dominated the discussions on the extreme cases and bigger States might have not figured prominently in the discussions. Keeping these points in view the state-wise comparisons on certain aspects have been confined to the seventeen major States.

3.6 RATIONALE FOR TAKING THE PERIOD 1973-86 FOR DETAILED STUDY

Detailed analysis of growth of educational facilities for primary and middle stages and of enrolment both at the national level and in the seventeen selected States has been done for the period 1973 to 1986. The reasons for taking the period 1973 to 1986 for state-wise detailed analysis are given below:

i) In the Educational Survey (1957) and the Second Survey (1965) the unit of distance was mile and in the subsequent surveys i.e. in the Third (1973), Fourth (1978) and Fifth (1986) Surveys, unit of distance was kilometre. As such the findings of the first two surveys where distances are involved, are not comparable with the findings of the Third, Fourth and Fifth Surveys.

ii) The Process of re-organisation of States started in the year 1957 continued till the end of sixties affecting the areas and boundaries of many States. New States like Haryana came-up. The number of States and Union Territories went up from 26 in 1965 to 30 in 1973. In most of the cases, the re-organised States were not comparable with the original States.

3.7 DETAILS OF ANALYSIS

1. The study relates to the growth of educational facilities as well as of enrolment over a period of time. As such it is a study of changes taking place in the two variables viz. educational facilities and enrolment over a period

of time. In order to elicit growth comparisons of the following types have been made.

- i) Comparison of the State with itself at different points of time
 - ii) Comparison between the States at one or more than one points of time
 - iii) Comparison of the State with the national average
2. To Study the change, each aspect has at least been studied at more than one points of time. In this study data have been studied as in 1973, 1978 and 1986 or any other points of time as per requirements of the data e.g. data for the retention rates. The following are a few examples where data at more than one points of time have been studied.
- i) Number and percentage of habitations having primary schools/sections in them (1957, 1965, 1973, 1978 and 1986)
 - ii) Number and percentage of habitations having primary schools/sections within a distance of 1 km (1973, 1978 and 1986)
 - iii) Number and percentage of habitations having middle schools/sections in them (1957, 1965, 1973, 1978 and 1986)
 - iv) Number and percentage of habitations having middle schools/sections within a walking distance of 3 km (1973, 1978 and 1986)
 - v) Index of Enrolment Growth for classes I-VIII, I-V and VI-VIII in 1978 and in 1986 (Base Year 1973-74)
 - vi) Coefficient of Equality of girls (in reference of boys) for classes I-VIII, I-V and VI-VIII for the years 1973 and 1986.
3. Some changes have been studied for a period of time e.g. Annual Growth Rate of Enrolment for classes I-VIII/I-V/VI-VIII for the periods 1973-86, 1973-78 and 1978-86, increase in percentage of population served for primary

stage within the habitation of residence during the periods 1973-86, 1973-78 and 1978-86; increase in percentage of population served for primary stage within 1 km during the periods 1973-86, 1973-78 and 1978-86, etc.

4. Changes in enrolment have been studied for composite elementary stage (classes I-VIII) and separately for primary stage (classes I-V) and for middle stage (classes VI-VIII).

3.8 EDUCATIONAL INDICATORS USED

In order to study the various aspects of growth of educational facilities and of enrolment besides percentage and range, the following indicators have been used.

1. Index of Primary Education Facilities (I.P.E.F.)

The index of Primary Education Facilities for a State means the percentage of rural population which have primary education facilities in their own habitations or within a walking distance of 1 km.

$$\text{IPEF} = \frac{\text{Rural population having facilities for primary education within 1 km}}{\text{Total rural population in the State}} \times 100$$

Similarly Index of Middle Education Facilities (IMEF) can be defined.

Here, the distance limit is 3 km.

Reference: NCERT, Second All India Educational Survey (1967)

2. Co-efficient of Equality

- i) Let us assume that Scheduled Tribe population is 'B' and the enrolment of Scheduled Tribes is 'A'. Let us further assume that population of other communities is 'D' and their enrolment is 'C', then the co-efficient of Equality is defined as

$$\text{Co-efficient of Equality} = \frac{A/C}{B/D} \times 100$$

Reference: ICSSR, Education of the Scheduled Tribes (1965-66), (1971)

ii) Co-efficient of Equality

$$= \frac{\text{Percentage Enrolment of Scheduled Castes/Scheduled Tribes to Total Enrolment of all communities}}{\text{Percentage Population of Scheduled Castes/Scheduled Tribes to Total Population}} \times 100$$

Reference: Ministry of Education and Culture, Government of India, Trends of Educational Development of Scheduled Castes and Scheduled Tribes in India 1967-68 to 1977-1978 (1983).

3. Index of Variation

This indicator has been used to study the inter-State Variations in the country and inter-district Variations in the States

$$I = \frac{\sqrt{\frac{\sum (R_i - S)^2}{n}}}{S}$$

Where I = Index of Inter-regional Variations

R_i = Value of the indicator for region

S = Value of the indicator for the State

and n = Number of regions

Reference: Regional Variations in the Social Development and Levels of Living

A Study of the Impact of Plan Programmes - Volume I

Programme Evaluation Organisation Planning Commission, Govt. of India, 1967 (PEO Publication No.52)

4. Annual Growth Rate (Compound)

The growth rates for different periods can be compared.

$$E_T = E_0 \left(1 + \frac{R}{100}\right)^T$$

E_T is the enrolment for the Tth year

E_0 is the enrolment for the base year

T is number of years

R is the Rate per cent per Annum

Reference: This indicator is quoted in the publication 'Challenge of Education --a policy perspective, Ministry of Education, Government of India, New Delhi (August, 1985)

5. Age Specific Enrolment Ratio

It is an indicator which gives the extent of success of the programme of UEE.

Age Specific Enrolment Ratio

(6-10+)

$$= \frac{\text{Number of children in the age-group 6 to 10 + in schools}}{\text{child population in the age group 6 to 10 +}} \times 100$$

Similarly Age Specific Enrolment Ratios for Age-group 11 to 13 + can be defined.

Reference: NCERT, Fourth All India Educational Survey (1982)

Number of Schools per lakh of population

This indicates the pace of the present educational effort.

Average Number of Primary Schools per lakh of

$$\text{population} = \frac{\text{Number of primary schools in the State}}{\text{Total population in the State}} \times 100000$$

Similarly average number of Middle Schools per lakh of population can be calculated.

Reference: MHRD, A Handbook of Educational and Allied Statistics (1987)

7. Index of Enrolment Growth (Base year 1973-74=100)

Index of Enrolment Growth at Stage i

$$= \frac{\text{Enrolment at State i for a year}}{\text{Enrolment at State i for (1973-74)}} \times 100$$

State (i) can be classes I-V, VI-VIII, I-VIII, etc.

Reference: MHRD, A Handbook of Educational and Allied Statistics (1987)

8. Enrolment Index

It is enrolment at a stage per unit of population

Enrolment Index of classes I-V per lakh of population

$$= \frac{\text{Enrolment in classes in I-V}}{\text{Total population}} \times 100000$$

Reference: NCERT, Second All-India Educational Survey (1967)

9. Retention Rate (Classes I-V/classes I-Viii)

$$\text{Rate of Retention (classes I-V)} = \frac{\text{Enrolment of class V after four years of the Base Year}}{\text{Enrolment of class I of the Base year}} \times 100$$

Similarly Rate of Retention for classes I-VIII can be worked out.

Reference: Ministry of Education and Culture, Govt. of India, Trends of Educational Development of Scheduled Castes and Scheduled Tribes in India 1967-68 to 1977-78 (Publication No.1415, 1983)