



## REVIEW OF RESEARCH

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### SCHOOL MAPPING AS A PLANNING TOOL FOR CREATING EQUALITY OF EDUCATIONAL OPPORTUNITIES

**Dr. Pondhe M.S.**

Principal, S.S.B. College of Education,  
Shrirampur, Dist- Ahmednagar



#### ABSTRACT

*School mapping, as planning approach focuses on the local level, provide an analytical framework or the implementation of education plans. They offer methods and techniques to estimate future needs and to identify ways to meet them. They can help to overcome the limitations of centralized planning through the correct understanding of local realities, the necessary consultation of relevant stakeholders to facilitate and, ultimately, a better fit between educational supply and demand. School mapping techniques (diagnostic, projections, use of norms and standards) and other relevant tools such as Geographical Information System (GIS) software are used for the elaboration of a prospective school map.*

**KEYWORDS:** School Mapping, Equality, Educational Opportunities, Enrollment Ratio etc.

#### INTRODUCTION:

Primary education in India is predominantly funded and managed by the government. Therefore, investment decisions by the Government determine the pattern of expansion of educational facilities. Over a period of time it is noticed that certain areas are more endowed with school facilities than other areas. School mapping is an essential planning tool to overcome possibilities of regional inequities arising from the investment policies of the public authorities.

School mapping incorporates spatial and demographic dimensions into the educational planning process. The major question answered by the school mapping exercise is where to locate educational facilities. Location of educational facilities depends on the norms and standards developed by the public authorities. Even within the norms and standards, many geographical areas may be eligible for opening of new schools. School mapping technique helps us to identify the most appropriate location of schools or their alternatives so that more number of children can be benefited from the same level of investment. The major objective of school mapping is to create equality of educational opportunities by leveling off of the existing disparities in the distribution of educational facilities. This technique is useful to plan all levels of education. However, it is more widely used for planning for facilities at the compulsory levels of education. School mapping is not confined to locating formal schools; location of alternatives to formal schools is a part of the school mapping exercise.

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**SCHOOL MAPPING: STEPS TO FOLLOW**

The methodology of school mapping envisages specification of norms, diagnosis of the existing educational facilities, projection of future population, deciding the location of schools, estimates of facilities required in all the (existing and new) educational institutions and estimation of financial resources required.

**A)** One of the first steps in school mapping is to select a unit for the exercise. The school mapping exercises help identifying the most ideal locations to open schools. Given this primary purpose school mapping exercises cannot be undertaken for one village or habitation. A cluster of villages or a block can be an ideal unit for school mapping activities. The next step involved is to diagnose or assess the educational development in the selected area. The effort is to analyze the present status of education in an area/region to identify strength and weakness of the system and to understand the geographical distribution of educational facilities in the selected locality.

For diagnosing the educational situation it is better to collect data on the selected items during the previous 4 - 5 years or a decade. We may require data on population, literacy enrollment, teachers, building, flow rates of students, infrastructure etc. The population data are very important in school mapping exercises. Data on total population by sex, caste and age group for at least two points of time are minimum requirements. We may also need to have data on population of age groups 6-11 and 11-14. For diagnosing educational situation data on important indicators like literacy rate, enrollment ratios, retention rates and dropout rates are required. The present status of teacher's position is important and in this respect data on number of teachers by qualification, experience, training and sex are required. Similarly, teacher-pupil ratio is also important to assess the present situation. Another set of information required is on buildings and infrastructure facilities. Information on the condition of building, number of rooms, type of building and on other facilities in schools like blackboard, water, toilet, electricity, playground, etc. is useful to prepare school specific plans.

**B)** The next step in school mapping exercise is to assess the number of children to be enrolled. This estimate is to be made on the basis of catchment area of school and it requires projection of total and school age specific population. There are various methods of population projection. Method of population projections are classified into three categories namely Mathematical, Economic and Component methods. Keeping in view scant demographic data at the block and district level, it is not possible to undertake detailed population projection exercise. Therefore, growth rates and ratio methods of population projection are more commonly used at this level. Enrolment projections are important to decide on the opening of new schools, up-gradation of existing schools and to estimate the number of teachers required. The techniques of enrolment projections can broadly be classified into two-mathematical and analytical methods. Mathematical methods require aggregate enrolment data at least for five to ten years, and only total enrolment can be projected. On the other hand, analytical methods require promotion, drop-out, repetition and apparent entry rates. There are three simple methods of enrolment projections, namely, rate of growth, enrolment ratio and grade-transition methods. The application of a particular method depends upon the requirements and the availability of data. At the lowest level, cohort method for grade-wise enrolment projections is more desirable. However, at the local level much information required to make reliable projections are not available. Therefore, one may have to depend on the most probable approximations. For example, the projection method used to derive school age-group children in this exercise is based on the assumption of a fixed proportion of the total population.

**C)** The next step in the exercise is to specify norms, standards and catchment area. Opening of new schools or their alternatives are based on the norms regarding threshold population, which indirectly defines the potential number of children to be enrolled in a given locality. In India the norm that is followed is to open a primary school in areas which have a population of 300 and above in plain areas

and 250 or above in the remote or tribal areas. Similarly, after the 1986 policy, the norm adopted for the number of teachers is a minimum of two teachers in all the primary schools irrespective of the size of enrollment. The other important norm is regarding the maximum permissible distance a child has to travel from home to school. This in the school mapping terminology means definition of catchment area of a school. The catchment area of a school is the geographical area served by a school. It is defined as the maximum acceptable distance a child can travel from home to school. Normally catchment area is measured in terms of area of a circle or Hexagon. In India, especially in the remote areas, the settlement is in habitations. One may frequently come across situations in remote areas in India where one may not find any household for long distances. And where habitations are located, it may have a cluster of households. Given this pattern of population settlement in India, we have not adopted the traditional catchment area concept. What we have adopted alternatively is a distance matrix method whereby the distances between habitations are measured. Therefore, number of habitations and their distances from the school are considered to decide the catchment area of the school. It is easy to develop distance matrix. The only information required to develop such a matrix is the distances between habitations or villages. The distances are to be measured from the locations within villages or habitation where households are concentrated. These details can be obtained through a survey.

## CONCLUSION

It is easy to locate schools based on the distance matrix method. As mentioned earlier, location of schools is based on the norms and resources available. If the public authorities have resources to open schools wherever they are required, then prioritization is a less meaningful technique. However, schools are opened only in some selected locations. The norms form the basis to prioritize such decisions. Based on the distance norms and the resources available, decisions regarding opening of new schools, if any required, can be arrived at. As part of the school mapping exercise, one may have to assess the requirements of facilities in schools. While the facilities to be provided in the new school can be easily assessed, the same in the existing schools need to be based on an assessment of the existing facilities in these schools. Based on the population growth and potential growth in enrollment, additional infrastructural facilities may be required in the existing schools. It may be important to incorporate not only the infrastructural facilities but also other requirements of teaching learning materials to be purchased in the school. Based on these requirements cost estimates can be made and proposals can be prepared for funding.

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