



## Geographic disparities in the levels of educational development: A factor analysis of the Kashmir Valley

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### Abstract

Educational attainments of the population in a region determine its standard of living and overall socio-economic development. In this context, regional disparities in the levels of educational development must be addressed. India with considerable inequalities in education sector is committed to reduce these inequalities under various programmes. In Kashmir Valley glaring inequalities exist among *tehsils* (areas) with respect to literacy level, opportunities for primary, secondary and higher education, facilities for professional courses and training in specialized technical skills. The indicators used in this study were assigned statistical weights derived through factor analysis method. Standardized on the basis of factor matrix, an index of overall development was generated. All *tehsils* were ranked according to their index values and classified into highly developed, developed, backward and highly backward *tehsils* according to their quartile values. The changes in the index values were examined to trace the direction of development. Results of the analysis demonstrate the importance of improving the basic school infrastructure proportionately to the population of school going children to enhance the position of those *tehsils* that are backward in primary education. For those *tehsils* with good primary schooling facilities, steps still need to be taken to improve the accessibility of high schools and colleges to those keen on pursuing higher education. In addition, the people have to be motivated to see that their children get basic education. This will enhance the enrolment level and thereby the universalisation of education which is indispensable to the socio-economic well being in the long run.

**Keywords:** educational attainment, factor analysis, regional disparities, school infrastructures, socio-economic development, universalisation of education

### Introduction

The problem of regional disparities in the levels of social and economic development is a universal phenomenon. Both developed and developing nations have witnessed this problem in the path of their social and economic advancement but its adverse impact has been felt more in the latter. This phenomenon is a natural outcome of the development process itself, wherein certain regions develop faster than others due to a number of factors. Interregional inequalities are generally an outcome of numerous factors such as variations in natural and physical endowments, differences in social and attitudinal parameters, institutional structures and, to some extent, discriminatory policies of the State. These factors not only impede the process of development in some regions vis-à-vis other regions, but may also create wide gaps between the future prospects of economic development in some regions over the other regions.

Educational attainments of the population in a region determine its standard of living and overall socio-economic development. Educational progress expands economic opportunities and narrows social barriers. Faster socio-economic development of a region very much depends on the skilled and well trained labour force. Therefore, investment in education for overall development of a region needs no explanation.

Human beings are born with capabilities to make their lives comfortable. The purpose of sustainable development is to create an environment with education as an objective in which all people can expand their capabilities or productive power (Bhagel, 1988). The opportunities for

developing skills for the present generation should also be developed for the posterity, as well. In any types of educational planning, development must enable all individuals to sharpen and expand skills and capabilities to the fullest and to invest this human capital, so developed, in the betterment of quality of life, as people are central to all activities related to development and that human resources development (HRD) is a basic prerequisite to economic and social development (Chirmade, 1988). Since, no development process can be sustainable unless it leads to visible and widespread improvement in human resources, nurturing them has been priority of the developed societies in modern period of their history. These societies by improving skills of humans by educating them through formal and specialised education and training have been successful to develop new technologies and to adapt them, and this is still an ongoing process in these societies with greater rigor to stimulate efficiency of operating economic system therein. As a result, they fared well and have attained a much higher standard of living compared to the societies which either of their own doings or due to curtailment imposed through various instruments by colonial powers could not pay much attention to the development of their human resources.

The role of education in facilitating social and economic progress is well recognized. It opens up opportunities leading to both individual and group entitlements. Education in its broad sense of development of youth is the most crucial input for empowering people with skills and knowledge and giving them access to productive employment in future. Improvements in education are not only expected to enhance efficiency but also augment the overall quality of life. At the international level, India has committed to the “Millennium Development Goals” and “Education For All”. At the National Level there is commitment under National Common Minimum Programme for increasing public expenditure on education to 6% of GDP and for universalizing the elementary education. There is also an obligation under the Constitution’s 86<sup>th</sup> Amendment, for making available free and compulsory education to all children in the age group of 06-14.

The strong focus on the universalisation of basic education and health in the 10<sup>th</sup> Five Year Plan reflects a visible shift in the approach towards development planning and recognized that though the major indicators of socio-economic development: growth rate, birth rate, death rate, infant mortality rate and literacy rate are interlinked, the literacy rate is the major determinant of the rise and fall of other indicators.

The outcome of investment on education are, no doubt, visible through the increase of 42.57% in literacy rate ( Census of India, 2001) over 1961 census in the state, but it still lags behind the all India average. In comparison to other states, the Jammu and Kashmir is amongst one of the bottom four states as per census 2001.

It is imperative to know that the education system of a country does not progress in isolation from the society of which it is an essential component. Hierarchies of caste, economic progress, gender relations and uneven socio-economic development influences deeply issues related to access and equity in education. Though India was highly acclaimed as a land of wisdom and knowledge during ancient times yet access to education was available only to the selected regions and strata of the society.

Unfortunately, the distribution of educational infrastructure with the result the development in this sector is lop-sided and highly uneven in Kashmir Valley. There are considerable inequalities among *tehsils* with respect to literacy level, opportunities for primary, secondary and higher education, facilities for professional courses and training in specialized technical skills. These inequalities are bound to create various socio-economic and political problems. Therefore, it is essential to ensure even development of educational facilities in both economically developed and backward *tehsils*.

Keeping in view the role of education in the economic development of a region, an attempt has been made in the following section to study the inter *tehsils* disparities in educational sector and make an identification of these *tehsils* lagging behind. It is hoped that this would facilitate the task of planners in formulating development plans for the balanced development of the educational sector in Kashmir Valley.

## Objectives

- (1) To identify the differentially developed areas (*tehsils*) within the valley of Kashmir.
- (2) To classify the *tehsils* on the basis of differential levels of education development for different time periods and to mark inter-regional variations.
- (3) To analyse the factors responsible for the inequalities in the levels of education development among the *tehsils*.
- (4) To suggest appropriate strategies to reduce the regional inequalities for the equitable development.

## The environment

The valley of Kashmir of Jammu & Kashmir state longitudinal and latitudinal extent is from 73° 55' E and 75° 35' E, and 35° 25' N and 34° 45' N, respectively and covers an area of 15,948 km on the side of India while a significant part of it lies in the Pakistan occupied Kashmir. This oval shaped valley is essentially a synclinal trough of tectonic origin between the Greater and lesser Himalayas. It evolved due to differential uplift of the chains of mountains. It is enclosed by the Great Himalayas and the north Kashmir range in the north-west and by the Pir Panjal range in the south-east ( Raza et al., 1978: 11). Its axis in length is parallel to the bordering ranges and is about 140 km long while the basin width varies between 32 to km. The lowest elevation of this basin is 1600 m and the highest 1840 m from mean sea level (Figure 1).

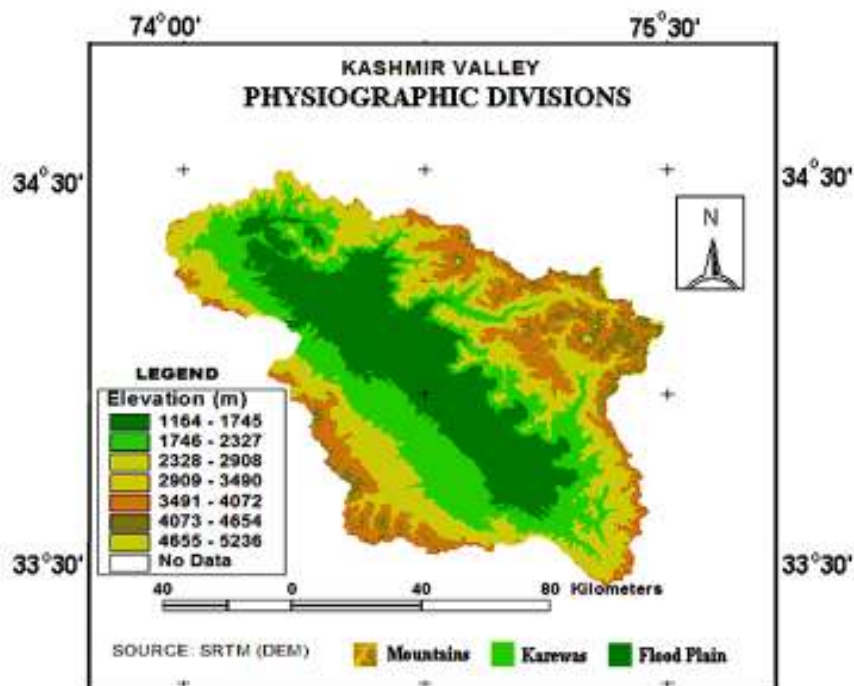


Figure 1. Physiographic divisions of Kashmir Valley

The flat bottom of the valley of deposits of fluio-lacustrine origin overlay a depository of rock material of great thickness from the surrounding mountains. The older deposits of upper Pleistocene, called Karewas are flat surfaces mounds along the flanks of mountains up to the border. The Jehlum flood-plain occupy more than half of the valley bottom. The soils of Kashmir are poorly drained and lack organic matter. These are leached of  $\text{CaCO}_3$ . They are made of silt with a high proportion of coarse sand. Though PH as well as content of  $\text{CaO}$  are appropriate, yet they are of low capability and further handicapped by lack of irrigation due to their high elevation. It is why they have a scant vegetative cover (Hussain, 2000: 29; Raychunduri et al., 1963: 105-110).

## Data base

Examination of the stated problem in this investigation requires a huge data from secondary sources. The secondary data have been obtained from different government offices and agencies. Information about stratigraphy and geology of the region was obtained from Geological Survey of India (G.S.I), Srinagar, Kashmir. Data regarding education was obtained from the Directorate of Education, Kashmir Division, J&K. Data regarding different population attributes was obtained from Directorate of Census Operations, Jammu and Kashmir. Apart from this, the information was collected from Digest of Statistics (2007), published by the Government of Jammu and Kashmir.

## Study area and method of analysis

### *Selection of study unit*

The case for the present study is the valley of Kashmir. Although the entire valley is a region in itself, but one has to select a certain unit of study within the valley for measuring disparity in socio-economic development between different areas of the valley. Many such studies have been done at the state level and at district level in India. It is generally believed that spatial disparities in the levels of socio-economic development of any economy can be better assessed when the analysis is based on the data collected for smaller administrative units; *tehsil* or block level.

In the present study, *tehsil* has been taken as a unit of study. There were 22 *tehsils* of 6 districts in the valley in 1981 which are taken as study units. Although in 2001 number of *tehsils* rose to 26 as *tehsil* Guraze was separated from Bandipora, Pattan from Baramulla, Kagan from Ganderbal and pampor from Pulwama but this addition has been ignored for the purpose of uniformity with that of 1981 (Figure 2).



**Figure 2.** Administrative divisions of Kashmir Valley

### *Indicators of educational development*

Levels of educational development are assessed from three angles: enrolment, availability of educational infrastructure and literacy level. After surveying the indicators for which data were available, following indicators have been selected for the present study:

#### 1. Enrolment

- a. Percentage of students enrolled in Primary + Middle + High schools in the age group of 5-14 years.

2. Educational infrastructure
  - a. Number of schools (Primary+ Middle+ High school ) per 100 sq. kms of total geographical area
  - b. Number of schools (primary+ Middle+ Higher schools) per 1000 population.
  - c. Number of teachers per 10000 population in the age group of 5-14.
3. Literacy
  - a. Percentage of total literates to total population.
  - b. Percentage of total male literates to total population.
  - c. percentage of total female literates to total population.
  - d. Percentage of total rural literates to total rural population
  - e. percentage of rural male literates to total rural male population.
  - f. Percentage of rural female literates to total rural female population.
  - g. Percentage of total urban literates to total urban population.
  - h. percentage of urban male population to total urban male population.
  - i. percentage of urban female population to total urban female population

Other indicators such as dropouts, examination results, no doubt indicate educational progress, but these indicators could not be included here mainly due to inadequate availability of accurate data. These indicators were subjected to factor analysis which is given below in Table 1.

**Table 1. Factor matrix of education**

| Indicator | Factor Matrix 1981 |        |        | Factor Matrix 2001 |        |        |
|-----------|--------------------|--------|--------|--------------------|--------|--------|
|           | 1                  | 2      | 3      | 1                  | 2      | 3      |
| X11       | 0.505              | 0.170  | -0.277 | 0.505              | 0.170  | -0.277 |
| X12       | 0.609              | 0.510  | 0.355  | 0.608              | 0.510  | 0.355  |
| X13       | 0.281              | 0.847  | 0.187  | 0.281              | 0.847  | 0.187  |
| X14       | 0.552              | 0.670  | 0.416  | 0.551              | 0.669  | 0.415  |
| X15       | 0.315              | -0.541 | 0.757  | 0.315              | -0.541 | 0.756  |
| X16       | 0.503              | -0.344 | 0.732  | 0.503              | -0.344 | 0.732  |
| X17       | 0.793              | -0.141 | 0.240  | 0.792              | -0.141 | 0.240  |
| X18       | 1.015              | -0.181 | -0.156 | 0.942              | -0.168 | -0.144 |
| X19       | 0.879              | -0.109 | -0.260 | 0.878              | -0.109 | -0.260 |
| X20       | 0.898              | -0.023 | -0.162 | 0.897              | -0.023 | -0.162 |
| X21       | 0.940              | -0.098 | -0.244 | 0.939              | -0.098 | -0.244 |
| X22       | 0.913              | -0.111 | -0.283 | 0.912              | -0.111 | -0.283 |
| X23       | 0.970              | -0.058 | -0.138 | 0.968              | -0.058 | -0.138 |

The indicators to be used in the present study have been assigned statistical weights derived through factor analysis method. The indicators have been standardized and on the basis of factor matrix, an index of overall development has been prepared. All *tehsils* have been ranked according to their index values and then classified into highly developed, developed, backward and highly backward *tehsils* according to their quartile values. The changes in the index values have been examined to trace the direction of development. Finally, the sectoral indicies have been pooled together to derive a comprehensive composite index of development. This gives an aggregate picture about the changes in the levels of development of all the *tehsils* over two time periods i.e. 1981 and 2001.

## Results and discussion

The factor matrix gives an overall idea about the educational facilities in Kashmir Valley. It has been derived through three factors. The first factor explains 36 percent in 1981 and 35 of total variance in 2001. Thus the first factor is positively correlated with all other indicators and thus can be taken as a

measure of general educational development. A major contributor to this general educational development was the achievement on various aspects of literacy. This is proved by high value of literacy related indicators on factor one. To get the progress in the field of education by *tehsil*, a composite index of educational development has been prepared on the first factor for two time points of 1981 and 2001.

*Index of educational development*

To make an in-depth study of the trends in the inter-*tehsil* disparities in the education sector, all the 22 *tehsils* have been classified into four categories. *Tehsils* scoring exceptionally high values well above the quartile have been classified as highly developed, those which are just above the quartile as developed, *tehsils* that are falling below quartile as backward and *tehsils* at the bottom as highly backward as shown in the Table 2.

**Table 2. Index of educational development**

| <i>Tehsil</i> | 1981  |      | 2001  |      |
|---------------|-------|------|-------|------|
|               | Index | Rank | Index | Rank |
| Anantnag      | 0.48  | 4    | 0.45  | 4    |
| Bijbehara     | 0.20  | 7    | -0.09 | 12   |
| Duru          | 0.31  | 6    | 0.22  | 7    |
| Kulgam        | 0.04  | 9    | -0.08 | 11   |
| Pahalgam      | -1.05 | 21   | -1.13 | 22   |
| Budgam        | -0.29 | 14   | -0.33 | 15   |
| Beerwah       | -0.75 | 18   | -0.76 | 18   |
| Chadura       | -0.50 | 16   | -0.25 | 14   |
| Bandipora     | -0.08 | 11   | 0.12  | 8    |
| Baramulla     | 1.03  | 2    | 1.36  | 2    |
| Gulmarg       | 0-.81 | 20   | -0.59 | 17   |
| Sonawari      | -0.80 | 19   | -0.92 | 19   |
| Sopore        | 0.86  | 3    | 0.69  | 3    |
| Uri           | -0.74 | 17   | -1.00 | 20   |
| Handwara      | -0.16 | 12   | 0-.25 | 13   |
| Karnah        | -1.07 | 22   | -1.11 | 21   |
| Kupwara       | 0-.47 | 15   | -0.56 | 16   |
| Pulwama       | 0.33  | 5    | 0.32  | 5    |
| Shopian       | -0.22 | 13   | 0.01  | 10   |
| Tral          | -0.05 | 10   | 0.27  | 6    |
| Ganderbal     | 0.07  | 8    | 0.12  | 9    |
| Srinagar      | 3.67  | 1    | 3.52  | 1    |

Table 3 reveals that there was a slight progress in the educational sector at the aggregate level. *Tehsil* Srinagar stood first in both the time points i.e. 1981 and 2001. The overall literacy rate, both rural and urban was the highest in the *tehsil*. A good base has been laid down for this high level of literacy with enrolment of the school going age. The percentage of students enrolled in schools in the age group of 5-14 years was the highest in the *tehsil* at both time points. Srinagar *tehsil* progressed well due to high degree of urbanization and awareness among population on the importance of education. Srinagar *tehsil* is fortunate enough to have excellent infrastructure and a good number of teachers. Other *tehsils* like Baramulla, Sopore, Anantnag and Pulwama have also shown a good progress in the education sector, with Baramulla and Sopore figured in second and third places respectively in both time points i.e. 1981 and 2001. All these *tehsils* are figured in the highly developed category in these time points.

**Table 3. Classification of *tehsils* by the levels of educational development**

| Year | Highly Developed                                | Developed  | Backward  | Highly Backward                              |
|------|---|--|---|--|
| 1981 | Stringar, Anantnag, Pulwama, Baramulla, Sopore. | Bandipora, Duru, Bijbehara, Tral, Ganderbal, Kulgam.       | Budgam, Chadura, Handwara, Uri, Kupwara, Shopian,   | Gulmarg, Karnah, Pahalgam, Beerwah, Sonawari |
| 2001 | Srinagar, Anantnag, Baramulla, Sopore.          | Bandipora, Duru, Ganderbal, Tral, Kulgam, Pulwama, Shopian | Budgam, Chadura, Kupwara, Uri, Bijbehara, Handwara. | Pahalgam, Karnah, Sonawari, Gulmarg, Beerwah |

Apart from these *tehsils* six other *tehsils* like Tral, Duru, Bandipora, Kulgam, Pulwama and Ganderbal are figured in the developed category in both the time points i.e. 1981 and 2001. However *tehsil* Bijbehara could not make any progress and got slid down from developed to backward category in 2001. On the other hand Shopian *tehsil* increased both its rank and position and got registered from backward category (1981) to the developed category in 2001. Other *tehsils* like Budgam, Chadura, Handwara, Kupwara and Uri were figured in the backward category. Almost all these *tehsils* maintained their position in the same category. Gulmarg, Pahalgam, Karnah, Sonawari and Beerwah could not show any progress in their educational development.

*Factors influencing the progress of educational development*

Several factors may be identified to have influenced the progress of educational development in Kashmir Valley. All *tehsils* that face the severe challenges in developing their educational programmes are mainly due to poor accessibility and lack of educational planning to come out of their present position. The general factors, which have caused backwardness of these *tehsils* can be extracted by observing the indicator values and they can be grouped on the basis of common factors. Low enrolment and low literacy level, poor infrastructure are some of the major factors for their backwardness in the educational sector. The trends in the development in education sector in 1981 and 2001 have been depicted in the Figures 3.

Poor accessibility to schools has resulted in low rates of the overall school attendance among children, particularly children in the age group of 5-14 years old. In addition there is a low ratio of graduates, post graduates, medical graduates and engineering graduates in these *tehsils*. A detailed analysis of individual sectors and the composite indices of educational development discussed so far gives us both micro and macro insights into the different aspects of development within the Kashmir Valley.

The earlier discussion shows a perceptible increase in inter- and intra-regional inequality in Kashmir Valley during the period 1981 and 2001. This inequality is evident, not only in one sector of education, but also in terms of other sectors of education like literacy and infrastructure. Several factors might be responsible for the increase in inequality in education during the period 1981 and 2001 in Kashmir Valley. Among the most important factor has been the rapid growth of private schools. These Higher education institutions are mostly located in urban areas and are merely accessible to the people residing in far-flung areas. Since these educational institutions mainly cater to the urban population, their rapid growth is indicative of increasing education inequality in Kashmir valley.

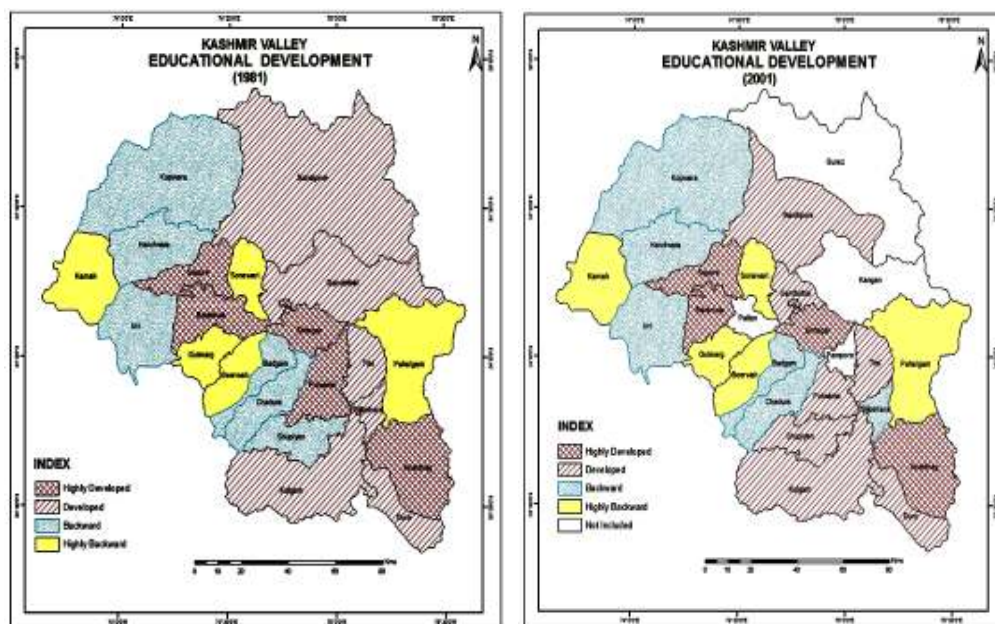


Figure 3. The trends in the development in education sector in 1981 and 2001

A region wise scan of all the *tehsils* in the two time points i.e. 1981 and 2001 reveals the following features. In both these time periods, the Jhelum floor belt got the distinction of the most developed areas of Kashmir Valley in the field of education. In fact, these *tehsils* held on to their distinction in the subsequent period as well. Thus, over a period of two decades the Jhelum floor belt continued to be highly progressive, whereas condition in the hilly and Karewas was rather dismal.

## Conclusion

The analysis presented clearly shows the factors which have hindered the progress of some *tehsils* in the educational sector. It brings out very clearly the importance of improving the basic school infrastructure proportionately to the population of children in school going age to enhance the position of these *tehsils* that are educationally backward. Even in those *tehsils* which have good primary schooling facilities, steps should be taken to improve accessibility to high schools and colleges to those who would like to pursue higher education. In addition, the people have to be motivated to see that their children get basic education which can greatly enhance the enrolment level. This would also ensure universalisation of education and would certainly contribute a lot to socio-economic well being in the long run.

The emphasis placed on school education from a less critical viewpoint may appear simplistic, though it is not. For, this is school education that produces a large number of girls and boys to take up higher studies in arts, commerce, science, technology and other specialised courses creating favourable conditions for research and development (R&D) capacity building which, in turn, boosts development of every kind, has to be made available equally and the geographical distribution of such schools has to be ensured. The school education is a source of continuous manpower supply to R&D. Moreover, institutions of higher learning as colleges, universities and others of specialisation, training and research, *tehsils* forgone, do not obtain in a large number of districts in the country.

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