

Spatial Analysis of Socio-Economic Development: A Tehsil-Wise Study of Budgam District, Jammu and Kashmir, India

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Abstract

Socio-economic development is a key indicator of regional progress and equity, yet disparities often persist across administrative units. This study examines the tehsil-wise socio-economic development patterns of Budgam District, Jammu and Kashmir, India, to identify the extent and nature of inter-regional inequalities. Data were collected from secondary sources, including Census records, government reports, and local development statistics, covering indicators such as literacy rate, employment structure, health facilities, road connectivity, and access to basic amenities. A composite socio-economic development index based on the census data of 2011 and 2021 was constructed using standard statistical techniques to evaluate and compare the performance of individual tehsils. The results reveal significant disparities in socio-economic development across the district. Certain tehsils exhibit higher literacy rates, better access to healthcare, and more diversified occupational structures, while others remain dependent on primary-sector activities and experience poor infrastructural facilities. The spatial analysis highlights a clear rural–urban divide, with tehsils closer to urban centers showing relatively higher development indices. These inequalities reflect the uneven distribution of resources, limited infrastructure development in peripheral regions, and varying levels of governmental interventions. The study underscores the need for targeted policy interventions aimed at balanced regional development, particularly focusing on low-performing tehsils to reduce socio-economic disparities. Strengthening educational infrastructure, healthcare facilities, and employment opportunities in underdeveloped areas is essential to achieve inclusive growth. This research not only provides a framework for localized development planning but also contributes to a better understanding of intra-district socio-economic inequalities in Jammu and Kashmir, India.

Keywords: Spatial Analysis, Socio-Economic Development, Tehsil-wise Assessment

Introduction

Socio-economic development is the process of improving people's lives via increased earnings, education, and the acquisition and application of skills. It is the process of social and economic change driven by environmental and cultural variables. A certain amount of the discrepancies are man-made. These disparities or inequalities are linked to measures such as per capita income, the growth of the agricultural and industrial sectors, the extension of transfer and communication networks, literacy rates, and health status. Disparities are these artificial distinctions or imbalances between areas

Jammu and Kashmir is facing the same problem and there exists disparity in different districts of the Union Territory. A study conducted by **Raja, T.A and Yousaf Tawheed (2014)**, based on a set of indicators of different sectors shows that there exists disparity in different districts

of the Union and Territory. Indicators of socio-economic development reflect a poor performance in the Union territory. This has given rise to political problems over the period of time.

So far as Socio-Economic development is concerned, it is not uniform in all the districts of the J&K U&T. There are some districts that are more developed than the others. Further study at the district level shows that all parts of the district are showing the same trend. Some parts are developed while others are lagging behind in development. Different factors are responsible for this uneven socio-economic development. Both natural and anthropogenic factors are responsible for this. The low areas with suitable conditions and scope for economic development in different sectors like agriculture, horticulture, industry, infrastructure etc are leading while the upper parts or the hilly areas are lagging.

The conflict for about three decades in the UT is also responsible for the less socio economic development. This has also resulted in the slow political development in the U&T and has left little scope for the masses at the grassroots level to participate in the development related works. Political factor is also responsible for the uneven Socio-economic development of the U&T. Some regions are neglected whereas some are paid special attention. This has given rise to inequalities and has hampered development.

The present study is aimed at district Budgam of the J&KU&T. The district lies only 16 km. away from the summer capital Srinagar. Over the period of time the district has been neglected and when we look at the socio economic developmental indicators, they reflect a poor performance. According to 2011 census the district has only 57.98% as its literacy level and female literacy level is only 46.60%. This is far below the state and national literacy rate which stands at 67.16% and 74.04% respectively.

Socio-Economic Development in District Budgam

The study region, District Budgam, is surrounded geographically by natural resources. However, there appear to be significant disparities and inequalities in the distribution of gains and the utilisation of natural resources, as evidenced by the regional variations in their endowment and economic consumption.

Human reactions to natural resources and socio-economic institutions vary, as evidenced by the persistence of backwardness in some areas and fast progress in others. In addition to quickening development, it is imperative that strata- and location-based disparities be eliminated. Such an egalitarian objective necessitates a plan that maximizes the utilisation of natural resources while maintaining distributive justice across time, space, and social classes within the framework of the current socio-economic conditions.

Thus identifying, areal as well as locational potentials, problems and critical success factors, is the first step towards developing a strategy of balanced development. Thus, a decentralized decision support system based on in-depth understanding of local level resource base, their utilization processes, and patterns is imperative for reversing the vicious circle of underdevelopment.

Objectives of the study

To figure out level of socio-economic developmental in the study area.

To find the disparities in socio-economic developmental in the study area.

To find out relation between social and economic development in the study area.

Social development in District Budgam

Level of Social Development

To hasten regional growth, social-economic amenities must be carefully planned. With the development of social regeneration, institutional adjustments are necessary. Changes in social amenities and practices, both qualitative and quantitative, can contribute to social development. According to this viewpoint, the main objectives of this research are the availability of social infrastructure, the study and analysis of social changes in District Budgam of J&K U&T, and the development and planning for the augmentation of existing facilities. Decentralizing social services and facilities can provide direction for development and social up gradation. Social-economic services and amenities play a crucial role in the planning and development process. Resources that provide a solid foundation for developers include social development, which includes population growth, density, distribution, caste system, literacy, educational institutions, educational and health facilities, and their standards. Only with these social upgrades is advancement conceivable. A social development is "putting people at the heart of development." It aims to raise everyone's standard of living so they can all realize their full potential. Changes in social structures and the implementation of programmes for social welfare, health care, and education are tied to social development and help achieve equity and social justice. Social development is a broad concept; in addition to the economic sphere, it also covers the process of change in the social, cultural, and political dimensions. Important components of social development include equality, social justice, social welfare, and education.

The social development of the tehsils in the district of Budgam is calculated and examined. In order to find out social facility distribution inequalities at the tehsil level, we selected 10 indicators to quantify social development disparities and computed their composite index, which is helpful to comprehend and monitor the relative status and development of tehsils. The following is the social development index:

The Tehsil Wise Level of Social Development is calculated on the basis of z-score of the selected indicators. The z-score is calculated by using the following formula,

$$\text{Z-score} = (X_i - X) \div O$$

Where,

Z = Standard score for observation.

X_i = Original value of observation.

X = Average of all values of X.

O = Standard deviation of X.

With the help of Z-score composite scores were calculated by using following formula

$$\text{Composite Score} = X_1 + X_2 + \dots + X_n$$

On the basis of composite score of both years the pattern of development determined. The composite scores less than 0 considered a slow, scores in between 0 to 5 as moderate and composite scores more than 5 considered as high pattern of social development in both years 2010-11 and 2020-21 also. The values of Z-Scores of indicators of social development and composites scores in the year 2011 and 2021 is shows in table no. 3.31 and table no. 3.32 respectively.

Tehsil Wise Level of Social Development 2010-11

Tehsil Wise Level of Social Development was not uniform in all over the district. Also it was not found really developed in high composite score tehsil but they were quite developed compared to the other part of the district Budgam.

I) High Level of Social Development

In the district Budgam, on the basis of composite scores the high level of social development was found only in Tehsil Chadoora. Literacy rate, health facilities, drinking water facilities, sex ratio etc was the sufficient compared to the other tehsils of the district.

II) Moderate Level of Social Development

In the year 2010-11, moderate level of social development was found in 3 tehsils of the district and they were Budgam, Beerwah and Khansahib. Literacy rate, health facilities and educational facilities and other indicators of social development were not equally distributed. Also no any tehsil in this category was found of having social development in balance ratio.

III) Low Level of Social Development

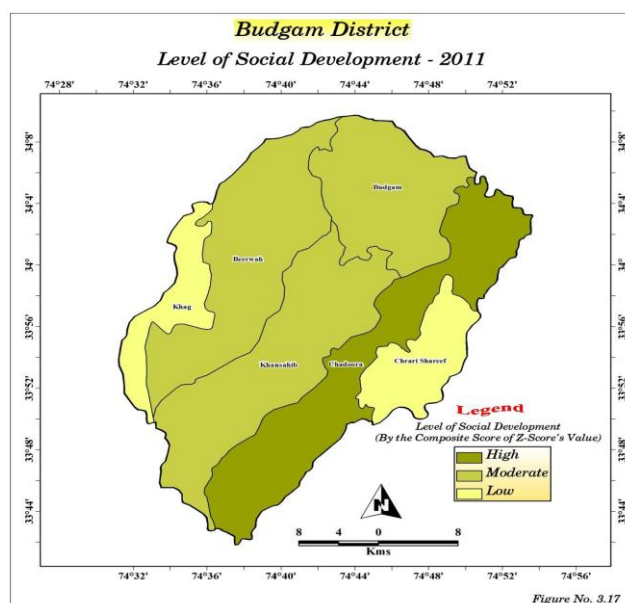
Khag and Chrari Shareef tehsils of the study region were found to be having very low level of social development. The composite values of z-scores of these tehsils were negatives because of the backward pattern of area and poor performance of the indicators of social development. Low level of literacy rate, lack of proper health infrastructure and manpower, lack of proper drinking water facilities etc. are the reason for the low level of the social development.

Level of Social Development in Budgam District – 2011

Teshils	Values of Z-Scores		
	Total Population	Population Density	Sex Ratio
Budgam	0.14	-0.27	0.14
Beerwah	0.64	0.60	-0.87
Chadoora	1.46	-1.86	-0.93
Khansahib	-0.04	0.43	0.50
Khag	-0.98	0.94	1.68
Charisharief	-1.22	0.18	-0.53
	Values of Z-Scores		

Teshils	Literacy Rate	Share of SC Population	Share of ST Population
Budgam	0.52	1.14	-0.96
Beerwah	0.53	0.21	-1.04
Chadoora	1.45	1.14	-0.23
Khansahib	-0.44	-1.04	1.46
Khag	-0.92	-0.42	-0.14
Charisharief	-1.14	-1.04	0.90
Values of Z-Scores			
Teshils	Total Heath Facilities	Drinking Water facilities	Total Educational Facilities
Budgam	-0.19	0.00	0.42
Beerwah	-0.35	0.87	0.52
Chadoora	1.74	1.10	0.82
Khansahib	0.46	0.40	0.79
Khag	-1.15	-0.99	-1.22
Charisharief	-0.51	-1.37	-1.33
Values of Z-Scores			
Teshils	Total Entertainment Facilities	Composite Score	Level
Budgam	0.95	1.89	Moderate
Beerwah	-0.04	1.07	Moderate
Chadoora	1.45	6.15	High
Khansahib	-0.54	1.98	Moderate
Khag	-1.04	-4.24	Low
Charisharief	-0.79	-6.86	Low

Source – Calculated by Author



Tehsil Wise Level of Social Development 2020-21

In the year 2020-21 the picture of social development was near about same as 2011-21. There was no remarkable or major changes found in the pattern of social development in the district. Also in 2020- 21 most of the tehsils composite scores were found to be low and of moderate level because of the poor performance of social indicators.

Level of Social Development in Budgam District – 2021

Teshils	Values of Z-Scores		
	Total Population	Population Density	Sex Ratio
Budgam	0.14	-0.27	0.14
Beerwah	0.64	0.60	-0.87
Chadoora	1.46	-1.86	-0.93
Khansahib	-0.04	0.43	0.50
Khag	-0.98	0.94	1.68
Charisharief	-1.22	0.18	-0.53
Teshils	Values of Z-Scores		
	Literacy Rate	Share of SC Population	Share of ST Population
Budgam	0.52	1.14	-0.96
Beerwah	0.53	0.21	-1.04
Chadoora	1.45	1.14	-0.23
Khansahib	-0.44	-1.04	1.46
Khag	-0.92	-0.42	-0.14
Charisharief	-1.14	-1.04	0.90
Teshils	Values of Z-Scores		
	Total Heath Facilities	Drinking Water facilities	Total Educational Facilities
Budgam	-0.43	0.31	0.33
Beerwah	0.30	0.71	0.30
Chadoora	1.75	1.09	0.94
Khansahib	0.09	0.36	0.92
Khag	-1.16	-1.04	-1.25
Charisharief	-0.54	-1.42	-1.23
Teshils	Values of Z-Scores		
	Total Entertainment Facilities	Composite Score	Level
Budgam	0.88	1.79	Moderate
Beerwah	-0.35	1.02	Moderate
Chadoora	1.59	6.41	High
Khansahib	-0.53	1.70	Moderate
Khag	-0.88	-4.17	Low
Charisharief	-0.71	-6.75	Low

Source – Calculated by Author

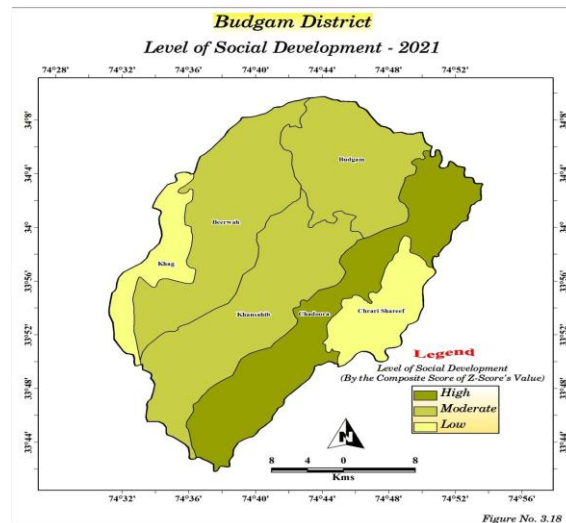


Figure No. 3.18

High Level of Social Development

This year also tehsil Chadoora was again found comparatively developed than other tehsils of the district on the basis of composite score. The same reasons are responsible as mentioned in 2010-11.

Moderate Level of Social Development

With a composite score 0 to 5, again moderate level of social development was found in 3 tehsils of the district and they were Budgam, Beerwah and Khansahib. The same reasons are responsible as mentioned in 2010-11.

Low Level of Social Development

Khag and Chhatri Shareef tehsils of the study region were found to be having very low level of social development as was the case in 2010-11. The composite values of z-scores of these tehsils were negatives because of the backward pattern of area and poor performance of the indicators of social development. Low level of literacy rate, lack of proper health infrastructure and manpower, lack of proper drinking water facilities etc. are the reason for the low level of the social development.

Level of Socio-Economic Development

The nation's economy greatly depends on socio-economic development. Population, education, health, transportation, communication, energy, water supply, commerce, agriculture, and infrastructure facilities are socio-economic factors that influence

development and provide a substantial foundation for it. Twenty socioeconomic indicators are used to determine the level of socioeconomic development in different tehsils of district Budgam. Social indicators include health, education, and demographics; economic indicators include occupation, agriculture, and infrastructure. A composite index is calculated based on these data to indicate the degree of socio-economic progress. With the aid of tables, charts, diagrams, and graphs, the current study attempts to investigate the various aspects of social and economic amenities in order to gauge the degree of socioeconomic development in the various tehsils of the Budgam district. The data of two census years that is 2011 and 2021 has been used

to gauge the level of socio-economic development and the disparities that exist within the district.

Tehsil Wise Level of Socio- Economic Development 2010-11

Tehsil wise level of socio-economic development in 2011 shows that there exists a great disparity between the tehsils. Poor performance of socio-economic indicators in almost all the tehsils of the district is responsible for this

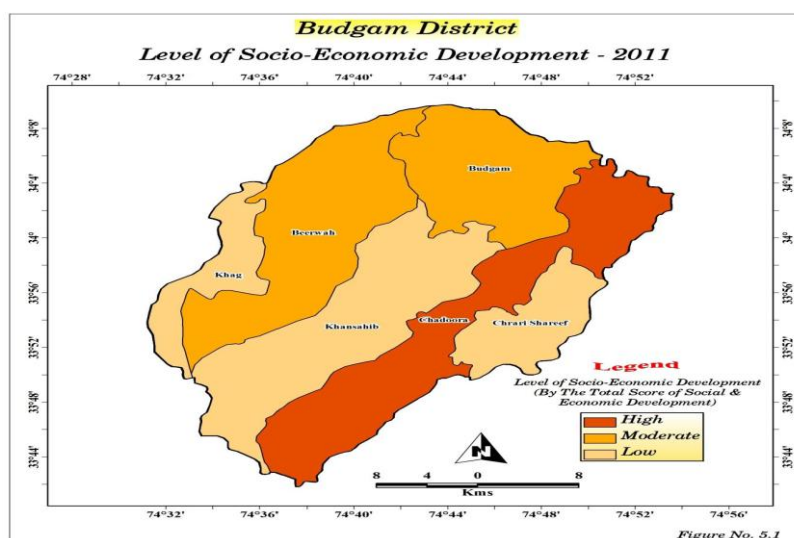
Level of Socio-Economic Development in Budgam District - 2011

Tehsils	Social Development (Composite Score)	Economic Development (Composite Score)	Socio-Economic Development (Total Score)	Level
Budgam	1.89	1.88	3.77	Moderate
Beerwah	1.07	-0.97	0.1	Moderate
Chadoora	6.15	10.86	17.01	High
Khansahib	1.98	-3.68	-1.7	Low
Khag	-4.24	-4.42	-8.66	Low
Charisharief	-6.86	-3.66	-10.51	Low

Source - Calculated by Author

I) High Level of Socio- Economic Development

Only Tehsil Chadoora in the Budgam district achieved a high degree of economic development based on composite rankings. The social and economic development composite score is positive for tehsil Chadoora.



II) Moderate Level of Socio- Economic Development

In the year 2010-11, moderate level of socio-economic-development was found in Budgam and Beerwah tehsils of the district. With total score between 0 and 5, these tehsils are moderately developed.

III) Low Level of Socio- Economic Development

Khag, Chrari Shareef and Khansahib tehsils of the study region were found to be having very low level of socio-economic development. The composite scores of both social and economic indicators are very poor because of the backwardness of these areas.

Tehsil Wise Level of Socio- Economic Development 2020-21

The degree of socioeconomic development at the tehsil level in 2021 demonstrates the same discrepancy between the tehsils as it did in 2011. The scores obtained by the various tehsils show that the district has not developed significantly during the next ten years, from 2011 to 2021. For several reasons, the development has not accelerated.

Level of Socio-Economic Development in Budgam District - 2021

Tehsils	Social Development (Composite Score)	Economic Development (Composite Score)	Socio-Economic Development (Total Score)	Level
Budgam	1.79	1.52	3.31	Moderate
Beerwah	1.02	-1.74	-0.72	Low
Chadoora	6.41	11.03	17.44	High
Khansahib	1.70	-3.40	-1.70	Low
Khag	-4.17	-4.34	-8.51	Low
Charisharief	-6.75	-3.08	-9.83	Low

Source - Calculated by Author

I) High Level of Socio- Economic Development

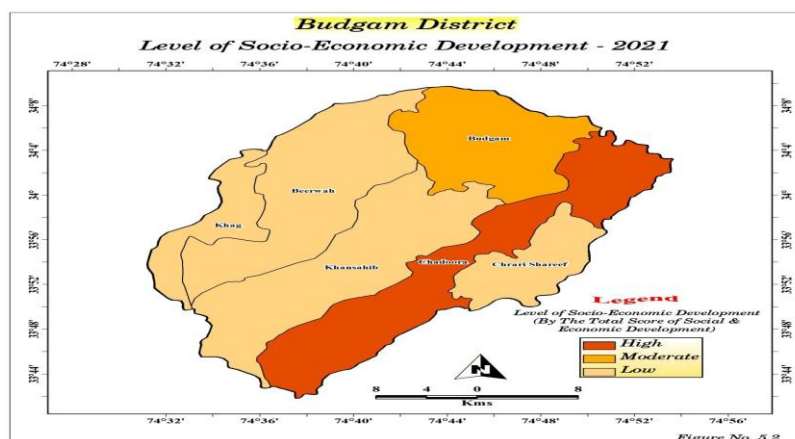
Again tehsil Chadoora has shown a level of high socio-economic development and is the only tehsil in the district to have attained this status. Social and economic indicators of the tehsil have shown a satisfactory position.

II) Moderate Level of Socio- Economic Development

Only Budgam tehsil in the district has a moderate level of socioeconomic development in 2020–21. Once more, the tehsil has not increased its pace in a constructive way and has stayed at a reasonable level.

III) Low Level of Socio- Economic Development

Khag, Beerwah, Chrari Shareef and Khansahib tehsils of the study region were found to be having very poor degree of social economic development. Due to these places' backwardness, the combined scores of the social and economic indices are extremely low. In terms of socio-economic development, Tehsil Beerwah, which was considered moderately developed in 2011, is now considered low developed in 2021.



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