

Pattern of Regional Variation in the Level of Development in Mizoram: District Level Analysis

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ABSTRACT: *The present paper aims to analyse the variation in the level of development in Mizoram, taking district as a unit of study. The measurement of level of development is key to delineation of regional variation or inequalities in stages of economic development. Although Mizoram is a small State, with only 8 administrative districts (2011) there still exist regional imbalances in socio-economic development. Examining this imbalance will help in understanding the pattern of variation and offer assistance in formulating a solution.*

KEYWORDS: *Regional variation, development indicators, composite index, district*

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I. INTRODUCTION

The term development can be defined in different ways depending on the context in which the term is used. As a multi dimensional concept, it encompasses a wide variety of element relating to the progress and growth of society in various ways. It is a process rather than an outcome (Reddy, 2016). Socio-economic development involves the process design to improve the socio economic condition and quality of life.

Mizoram, due to its size, location and nature of topography is identified as one of the most underdeveloped State in India. Lying between 21°56' N - 24°31'N latitudes and 92°16'E - 93°26'E longitudes in the North Eastern corner of India and covering a geographical area of 21,087 sq km, Mizoram is the fifth smallest State in India. Before it became a full fledged State of India in 1987, it was under the administration of Assam. It is bounded on the west by Bangladesh and Myanmar on the east and south, thus sharing a total of 722 km international boundaries with these two countries. It also share domestic border with Tripura, Assam and Manipur. It is divided into 8 administrative districts' (2011). As per 2011 Census, the total population of Mizoram was 10, 91,014, characterised by highly literate, highly urbanised but predominantly agrarian society. More than 90% of the total population comprise of different tribal groups of mongoloid descendents.

The hilly and rugged terrains along with climatic condition hinder the development of transport and communication; and road transport continues to be the main mode of transportation. In addition, the State's lacks in almost all kinds of mineral resources, thus resulting into the absence of manufacturing industries and large scale industrial activity is yet to take off. This slow economic growth, especially in Industrial sector fails to provide employment opportunity for the highly literate population.

II. METHODOLOGY

Development is multidimensional and a multifaceted process, hence the level of development of a region cannot be measured and fully analyze with the help of a single indicator. Moreover, a number of indicators when analyse individually is hard to comprehend and does not depict the true nature of development. So, it is essential to build a composite index of development with the help of various indicators of development that are common to all regions under observation. For this particular study, 16 developmental indicators are selected for obtaining composite index of development. These data are collected from various secondary sources such as Statistical Abstract of Mizoram, 2019; Statistical Handbook Mizoram, 2020; Village Profile and Development Indicators, 2017-2018, Mizoram State and Primary Census Abstract Mizoram 2011.

1. Percentage of operated area to total area
2. Number of Water tank for agriculture/ Horticulture purpose per 10,000 population
3. Percentage of net irrigated area to culturable command area
4. Percentage of wet rice cultivation to total potential area.
5. Functioning agricultural marketing enterprises per 10,000 population
6. Number of registered Industrial Units under KVIB and KVIK per 10,000 population
7. Number of Handloom and Handicrafts establishment per 10,000 population
8. Cumulative number of registered MMSE & SSI per 10,000 population

9. Cumulative number of persons employed in SSI per 10,000 population
10. Number of enterprises per 10,000 population
11. Number of Hospital & Health Care facilities per 10,000 population
12. Number of Post Office per 10,000 population
13. Percentage of Villages with Internet connectivity to total villages
14. Percentage of Villages with Cable Network to total villages
15. Number of Banks per 10,000 population
16. Road Density

Out of the 16 indicators, 5 indicators are directly related with agricultural sector, 5 indicators with industrial sector and 6 indicators with infrastructural facilities available in different districts of Mizoram. From these indicators, composite index of development was prepared to analyse the pattern of development, using the technique adopted by Narain et al (1991, 1995) as follows:

Let (X_{ij}) be the data matrix giving the values of the variables of i_{th} district, where $i = 1, 2, \dots, n$ (number of districts) and $j_{th} = 1, 2, \dots, n$ (number of indicators). As the different indicators selected use different unit of measurement, it is necessary to standardize those indicators as follows:

$$Z_{ij} = \frac{X_{ij} - \bar{X}}{S_j}$$

Where, \bar{X} = mean of the j^{th} indicator
 S_j = standard deviation of j^{th} indicator

From standard score (Z_{ij}), the best value of each indicator was identified, which will be denoted as Z_{0j} . The best value for each indicator will either be the maximum value or minimum value of the indicator depending upon the direction of the impact of an indicator on the level of development. The pattern of development C_i of i^{th} district will be obtained by calculating the value of P_{ij} as follows:

$$P_{ij} = (Z_{ij} - Z_{0j})^2$$

Pattern of development is given by

$$C_{ij} = \left[\sum_{j=1}^k \frac{P_{ij}}{CV_j} \right]^{1/2}$$

Where, CV_j = Co-efficient of variation in X_{ij} for j^{th} indicator
 Then, composite index of development is calculated as:

$$D_{ij} = \frac{C_j}{C}$$

Where, $C = \bar{C} + 3 S_{D_i}$
 \bar{C} = Mean of C_j
 S_{D_i} = Standard Deviation of C_j

The value of D_{ij} will range between 0 and 1. And the smaller the value of D_{ij} will indicate more development and higher value of D_{ij} will indicate low level of development.

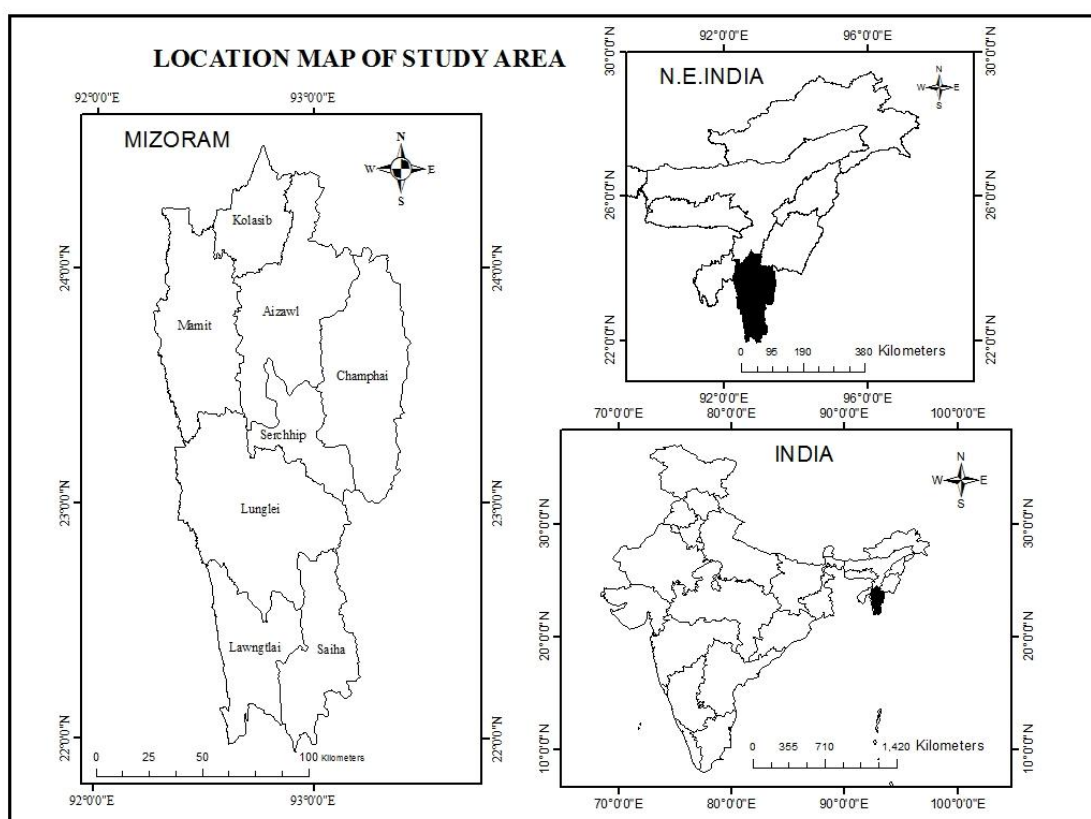


Fig.1 Location Map of Mizoram

Table 1: Composite Indices of Development (CI) and Rank of Districts

District	Sectors Combined		Agricultural Sector		Industrial Sector		Infrastructural Facilities	
	C.I	Rank	C.I	Rank	C.I	Rank	C.I	Rank
Aizawl	0.255	1	0.377	4	0.213	1	0.176	1
Serchhip	0.272	2	0.311	3	0.24	2	0.264	3
Champhai	0.282	3	0.25	1	0.415	5	0.181	2
Kolasib	0.301	4	0.27	2	0.357	3	0.275	4
Lunglei	0.402	5	0.459	6	0.358	4	0.389	5
Mamit	0.43	6	0.454	5	0.428	7	0.409	6
Saiha	0.436	7	0.478	7	0.419	6	0.411	7
Lawngtlai	0.532	8	0.53	8	0.503	8	0.563	8

III. RESULTS AND DISCUSSION

Table 1 presented the composite indices of development of different districts of Mizoram. These indices have been worked out separately for agriculture sector, industrial sector and infrastructure for each districts and an overall level of development have been calculated by combining all the sectors. The districts are given ordinal rank based on these development indices.

From Table 1, it can be seen that in case of agricultural sector, Champhai district ranked first among the eight districts and Lawngtlai district is placed in the bottom rank. The composite indices in agriculture sector range from 0.25 to 0.53. The highest level of development in industrial sector is found in Aizawl district. On the other end of the scale is Lawngtlai district. The composite indices in this category varies from 0.21- 0.50. As regards to infrastructural facilities, Aizawl district again occupy the first position and Lawngtlai district ranked last among the districts. In case of all sector combined, Aizawl rank first, followed by Serchhip, Champhai, Kolasib, Lunglei, Mamit, Saiha in that order and Lawngtlai district in the bottom rank.

The simple classification of districts into high, medium and low level of development based on the composite indices with respect to agriculture, industry and infrastructure and their relative share in the States total area and population is presented in Table 2.

Table 2: Area and population under various stages of development

Stages of development		Districts	Area (in %)	Population (in %)
Agriculture	High	Champhai, Kolasib	21.67	19.11
	Medium	Serchhip, Aizawl	23.70	42.40
	Low	Mamit, Lunglei, Lawngtlai, Saiha	54.63	38.49
Industries	High	Aizawl, Serchhip	23.70	42.40
	Medium	Kolasib, Lunglei	28.08	22.37
	Low	Champhai, Saiha, Mamit, Lawngtlai	48.22	35.23
Infrastructural Facilities	High	Aizawl, Champhai, Serchhip, Kolasib	45.37	61.51
	Medium	Lunglei	21.52	14.71
	Low	Mamit, Saiha Lawngtlai,	33.11	23.78

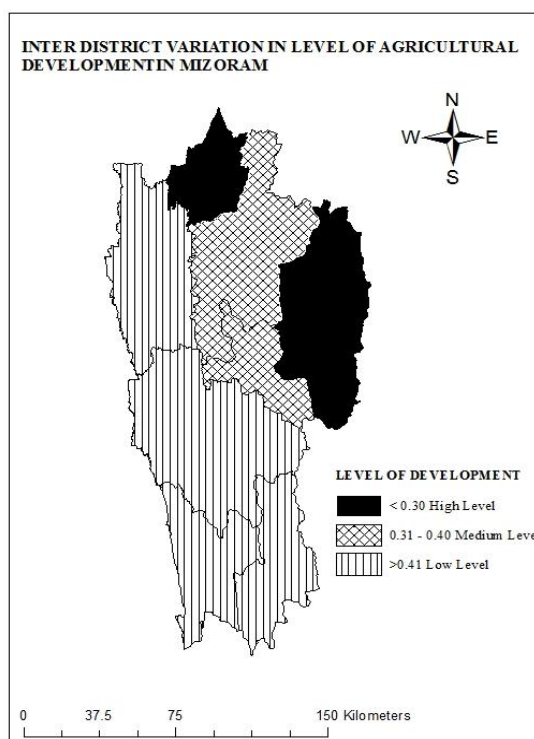


Fig.2 Inter District Variation in Level of Agriculture Development in Mizoram

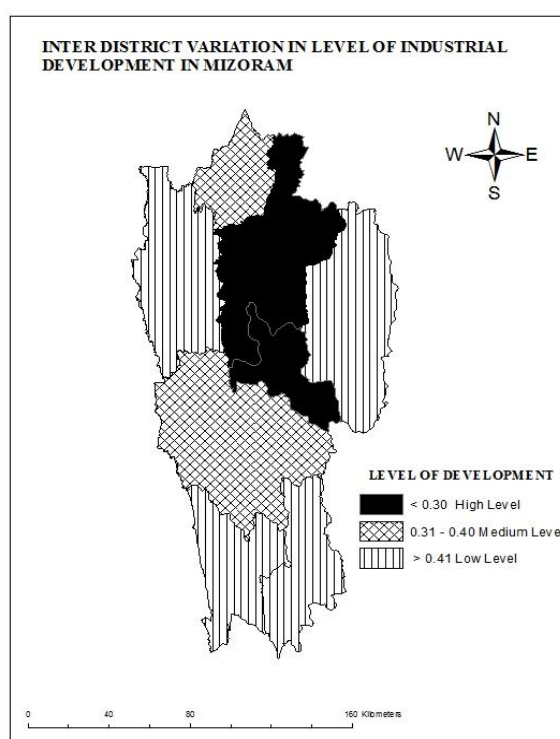


Fig.3 Inter District Variation in Level of Industrial Development in Mizoram

In agriculture sector, two districts namely Kolasib and Champhai are found in high level of development category. These two districts cover 21.67% of the State's total area and 19.11% of the total population resides within these districts. In medium level of agriculture development, Aizawl and Serchhip districts with a combined percentage share of 23% of total area and 42.40% population are found. The remaining four districts of Mamit, Lunglei, Lawngtlai and Saiha which together account for 54.63% area 38.49% of population occupy the category of low level of development in agriculture.

In Industrial sector, Aizawl and Serchhip district are found to be in a better position than other districts and are placed in high level of industrial development. While these two districts cover 23.70% of the total area, their percentage share of population is found to be almost half of the total population, i.e 42.40%. Medium level of development in industrial sector is occupied by Kolasib and Lunglei districts with 22.37% of population and 28.08% of total area. The low level of industrial development consists of the largest number in terms of number of district and area cover in Mizoram. Four districts namely Champhai, Mamit, Saiha and Lawngtlai falls under this category with a combined population of 35.23%. The districts of Mizoram fared slightly better in terms of infrastructural development. Four districts, i.e Aizawl, Serchhip, Kolasib and Champhai, together accounts for

61.51% of population falls under the category high level of industrial development. Lunglei district is placed in medium level of development. In the bottom level, Mamit, Saiha and Lawngtlai districts are found.

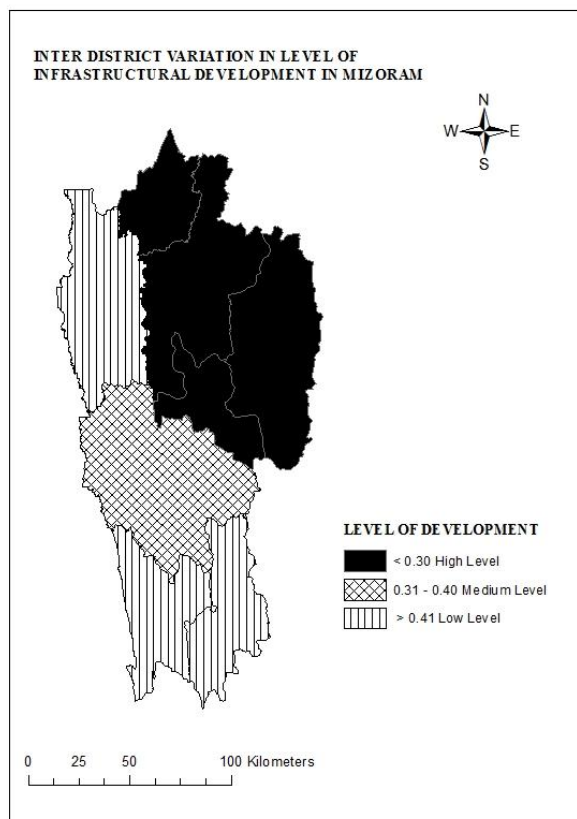


Fig.4 Inter District Variation in Level of Infrastructural Development in Mizoram.

A trend that can be evidently found from the composite indices of development is that in Mizoram, the districts in the northern part of the State fared better than their southern counterparts. A declining trend in level of development can also be observed from east to west. Several factors can be attributed to this variation in level of development. Firstly, Aizawl, the capital district is located in the north central part of Mizoram and developmental activities are concentrated in and around Aizawl. Secondly, majority of daily essentials are imported from neighbouring State of Assam which is located in the north. Proximity to international border also played a major role in developmental variation and districts bordering Bangladesh and Myanmar show low level of development than those located in the central part. It may also be worth noting here that the three Autonomous districts in Mizoram i.e, Lai Autonomous District (Lawngtlai), Chakma Autonomous District (Lawngtlai) and Mara Autonomous District (Saiha) are all located in the southern part of Mizoram and they all displays the lowest level of development.

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