SPATIO-TEMPORAL ANALYSIS OF POPULATION GROWTH AND SOCIO-ECONOMIC DEVELOPMENT IN MIZORAM

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Submitted

In partial fulfillment of the requirement of the Degree of Doctor of Philosophy in Department of Geography & Resource Management of Mizoram University, Aizawl.

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CERTIFICATE

This is to certify that C.Nunsiamliani, registered under MZU/Ph.D/613 of 02.05.2014 is a research scholar working under my supervision on a thesis entitled 'Spatio Temporal Analysis of Population Growth and Socio-Economic Development in Mizoram'. She has fulfilled all the requirements laid down in the Ph.D regulations of the Mizoram University. I further certified that the thesis in this form is the result of the research scholar's original work. Neither the thesis as a whole nor any part of it was ever submitted to any other University for any research degree.

I recommend the thesis for due evaluation and recommendation.

Dated: Aizawl
The 20th January, 2021

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MIZORAM UNIVERSITY

JANUARY, 2021

DECLARATION

I, C.Nunsiamliani, hereby declare that the subject matter of this thesis is the record of work done by me, that the contents of this thesis did not form basis of the award of any previous degree to me or to the best of my knowledge to anybody else, and that the thesis has not been submitted by me for any research degree in any other University/Institute.

This is being submitted to the Mizoram University for the degree of Doctor of Philosophy in Geography and Resource Management.

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CHAPTER-I
INTRODUCTION

1.1 Introduction:

An increase in the quantity of individuals in a population is called as population growth. Population is a very important factor in the whole process of socio-economic development (Dutta, 2002). In general, development can be viewed as a multidimensional phenomenon (Das, 1999: Ohlan, 2013). Chazireni (2003) declared that development problems are mainly problems of inequality. And this inequality in development occurs throughout the world which became a cause of concern and on the national scale the object is to reduce poverty and underdevelopment, Wei (2002) approved this observation by declaring that regional inequality is an important issue of government policies. That is why there are various composed work related to socio-economic development at the national and international levels (Ghosh, 1986). According to Haggett (1983), inequality exists everywhere though the degree of inequality varies. Implicit in almost every use of the term 'development' is the notion that some countries and regions of the world are extremely poor, whereas other countries, representing a relatively small fraction of the world population, are very prosperous (Szirmai, 2014). As stated by Darrat and AlYousif, (1999) high rates of population growth, when combined with economic coercion, can depress living standards. As population always tend to outgrow the limit of subsistence (Mayer, 1962). According to Sundaram, (2014) forty years ago, more than 75% of the people of this region lived in extreme poverty. Now, a much smaller share of children are malnourished and at risk of early death. And access to modern infrastructure is much more widespread. Critical to the progress: economic growth driven by technological innovation and institutional reform, where per capita incomes have doubled. Yet the needs remain enormous. With so much still in poverty and hunger, growth and poverty alleviation remain the overarching priority for developing countries. Over the years, there has been increasing transformation of socio-economic condition of the lifestyle of the people's in Mizoram. The increased transformation of modern socio-economic conditions of people's in Mizoram drastically changed the lifestyle and initiated new possibilities into the society of

both urban and rural tribes in Mizoram. However, due to the increasing population with every census, there exists a negative correlation between the growth of population and the socio-economic development in the state.

1.2 Significance of the study:

The growing population in developing and under developing countries, in particular, is straining social, economic and even political system of the nation. The study of population growth is very important as increases in food production had not kept pace with population in most of the developing countries, and the relation between a society's resources and its population determines its standard of living (Habakkuk, 1973). Moreover, overpopulation manifests itself in various characteristics like unemployment and underemployment, undernourishment, poor health services and disease, high death and birth rates etc. in the society involved (Zwane, 1975). So population control is essential to assure peace (Thompson, 1946). Since, population is the most vital resources of a country (Sharma, 2007)

There is no doubt in the fact that human population are drastically out of balance. The world's population is increasing at approximately 2% per year a net increase of about 1,300,000 per week. All this is primarily a product of man's increased life span and reduced mortality through modern medicine and agriculture (Prabhakar, 2001). When global picture is considered, it looks as though we cannot provide a quality life for the majority of the world's people at the present time, let alone provide for more than 1,300,000 new people every week. So, study of population growth is essential in the process of socio-economic development of a region.

Mizoram is a region with low population concentration, and is one of the most thinly populated states of India. Nevertheless, it has witnessed an ever increasing growth of population, as the population of Mizoram stands at 10, 97, 206 persons as per 2011 census, which was more than two times larger than that of the 1981 census (493,757 persons), a growth rate of 122.22% within the three decadal census of the study period. This high growth in an economically backward state like

Mizoram is a matter of great concern which makes the study on the growth of population and socio-economic development essential.

The physiography of Mizoram is rugged, steep and this difficult terrain makes a large part of it to be unfavorable for settlement. This problem makes the population to be concentrated largely in all the towns (5, 61, 977-2011 census) especially on the district headquarters as they are better served by various facilities and Mizoram witnessed a negative growth in its rural population (5, 29 ,037- 2011 census). In fact this urban growth has been witnessed in Mizoram since 1951, and the state claimed to have the highest urban population in the country (Lasker, 2010). Aizawl the state capital has the distinction of being the most crowded area (400, 309 –DCHB Aizawl district) in Mizoram, making living condition very difficult. Besides, increase in the growth of population means increase in the number of new entry to the workforce, but the economy of Mizoram finds it very difficult to provide jobs for all these new entrants. Consequently, unemployment increases which are the starting point of all evil. Though the state has great potentials in economic development through natural resources such as rivers, vegetation, soil etc., development is still at an infantile stage. Despite high literacy rate of the state it seems that growing population has a faster rate of growth than any developmental process which are being implemented. To look into the matter with a view to suggest measures, the present topic "Spatio-Temporal Analysis of Population Growth and Socio-Economic Development in Mizoram" has been selected.

1.3 Scope of the study:

In Mizoram as a whole, growth has been far from uniform. By looking in all the census data from 1901 to 2011, the population in the state has shown an increase, *i.e*. 82, 434 in 1901 to 10, 91, 014 in 2011 census showing that within a span of hundred years, a population of more than ten lakhs (10, 08,580) has been added to its population. Even though this increase may not be much when we compare to other region within the country, but for economically backward state like Mizoram, it has become a matter of grave concern.

Though the total population record for the study area is available since first census of 1901, the study aims at spatio-temporal analysis which entails analysis of data at lowest available data covering at least three decades. Besides, the study can cover from the census of 1981 only as spatial analysis of population growth and socio-economic development records were possible only after 1981 census, on the grounds that no detail census counts were available prior to that.The study area has undergone certain development of political status from District, Union Territory and Statehood; with increasing number of Developmental Blocks, Districts etc within it. The scope of study is therefore, limited to the period between 1981 to 2011 census. This is the period where vital statistics of demography and economic are available, at Developmental Blocks and Districts on uniform criteria; the extent of which is expected worth to study to find reasonable results.

Apart from natural growth, it is seen that Mamit district bounded by Assam on the north, on the west by Bangladesh and Tripura is experiencing highest growth rate i,e 36.59 % during 2001 to 2011 among all the districts of the state (2011 census) due to immigration of Riang population from the neighbouring regions. Likewise, Lawngtlai district having international boundaries with Bangladesh to the west and Myanmar to the south is experiencing second highest growth rate i,e 34.08 % (2011 census). This may be attributed to immigration of Chakma population from Bangladesh.

In assessing the socio-economic development of the study area, 21 indicators are selected on the basis of the availability constraints and there are two blocks of Aibawk and Phullen within Aizawl district along with the two districts of Champhai and Aizawl which constantly occupied high level of development. On the other hand, there are three blocks namely W.Bunghmun, Lawngtlai and Chawngte and the two districts of Lawngtlai and Chhimtuipui which are in the low level of development during the study period.

So, this is an attempt to study the patterns of population growth and socio-economic development in Mizoram and whether this high growth of population in

the state has caused the economic backwardness of the state. So that the implication of this increasing population on Mizoram economy will be understood.

This study is expected to give insight to the new knowledge and understanding of the demographic characteristics and socio-economic development in Mizoram which will be helpful to the future development of the state.

1.4 Objectives:

1. To analyze temporal and spatial patterns of population growth in Mizoram during the three censal periods of 1981 to 2011 at block, district and state levels.
2. To analyze the socio-economic development in Mizoram during the three censal periods of 1981 to 2011at block, district and state levels.
3. To study the relationship between population growth and socio-economic development in Mizoram during the period 1981 to 2011 at block, district and state levels**.**

Research question: Is population growth detrimental to socio-economic development in Mizoram?

1.5 Study area:

Mizoram, the land of the Mizos is one of the state in India, and the state lies between $21^0$56'N-$24^0$31'N latitudes and $92^0$16'E-$93^0$26'E longitudes (Pachuau, 2009). It is located in the northeastern part of India, bounded by Myanmar (Burma) to the east and south, and Bangladesh to the west and by the states of Tripura to the northwest, Assam to the north and Manipur in the northeast. The tropic of Cancer, i.e $23^0$30'N latitude cuts across the region in Aizawl district and this line divides the region into two almost equal parts. There are 8 districts in the state and Aizawl is the capital city in which most of the important administrative functions are located. The total area of Mizoram is 21,087 square kilometers (Pachuau, 2009), and this constitutes only 0.64% of the total area of India. It became a centrally administered Union Territory on 21st January 1972, and it became the 23rd state of the Indian

Union on 20th February 1987. There are 20 blocks and 3 districts before 2001 census. Later, 6 districts were created in the year 1998, the districts of Serchhip, Mamit, Kolasib, and Champhai were carved out from Aizawl district, and the district of Chhimtuipui is dissolved to form Saiha and Lawngtlai district. Aizawl district is the most populated, and Lunglei has the largest area among the district of Mizoram. At the same time, the block also increased to 22 in numbers in 2001 census due to the creation of Phullen (from Ngopa block) and Khawbung (from E.Lungdar block). Which further increased to 26 in the latest census of 2011 due to the creation of four new blocks, namely S.Bungtlang (from Lawngtlai block), Saiha (from Tuipang block), Bilkhawthlir (from N.Thingdawl block) and Champhai (from Khawzawl block).The highest mountain in the state, Phawngpui is located in Saiha district, and the district of Mamit houses Dampa Tiger Reserve. The total number of population in the latest census of 2011 was 10, 97,206 with a density of 52 persons per square kilometer. The sex ratio is 976 and the literacy rate is 91.33%.

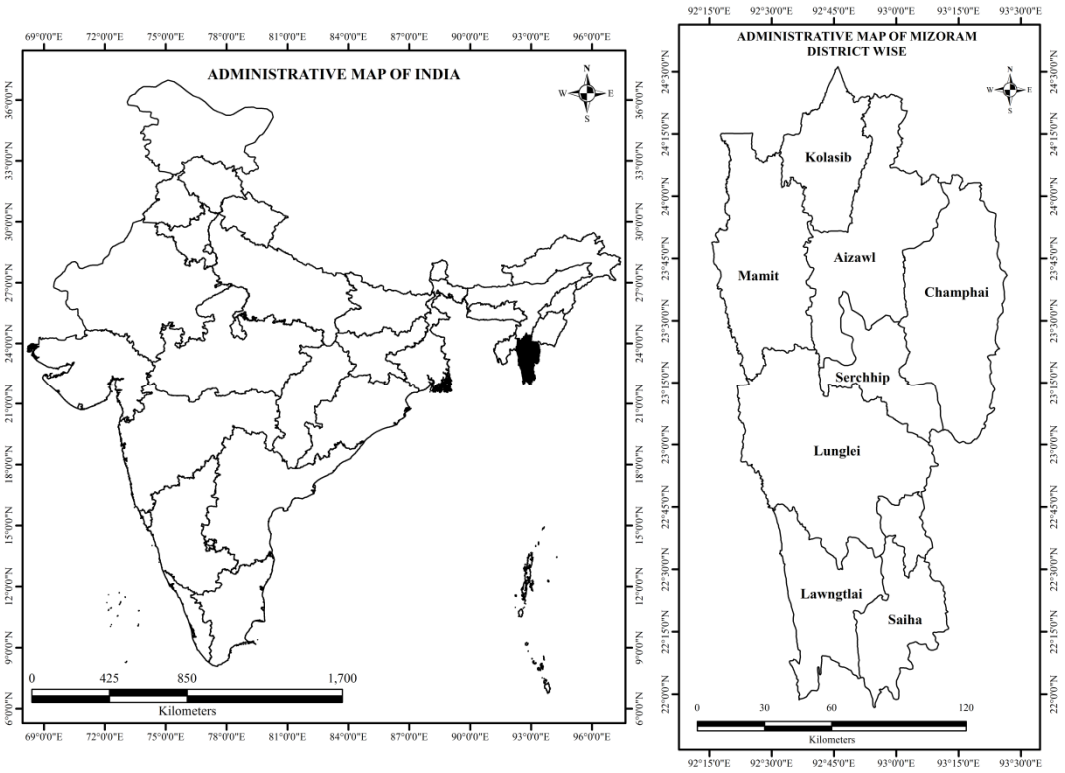

Figure 1: Location map of the study area

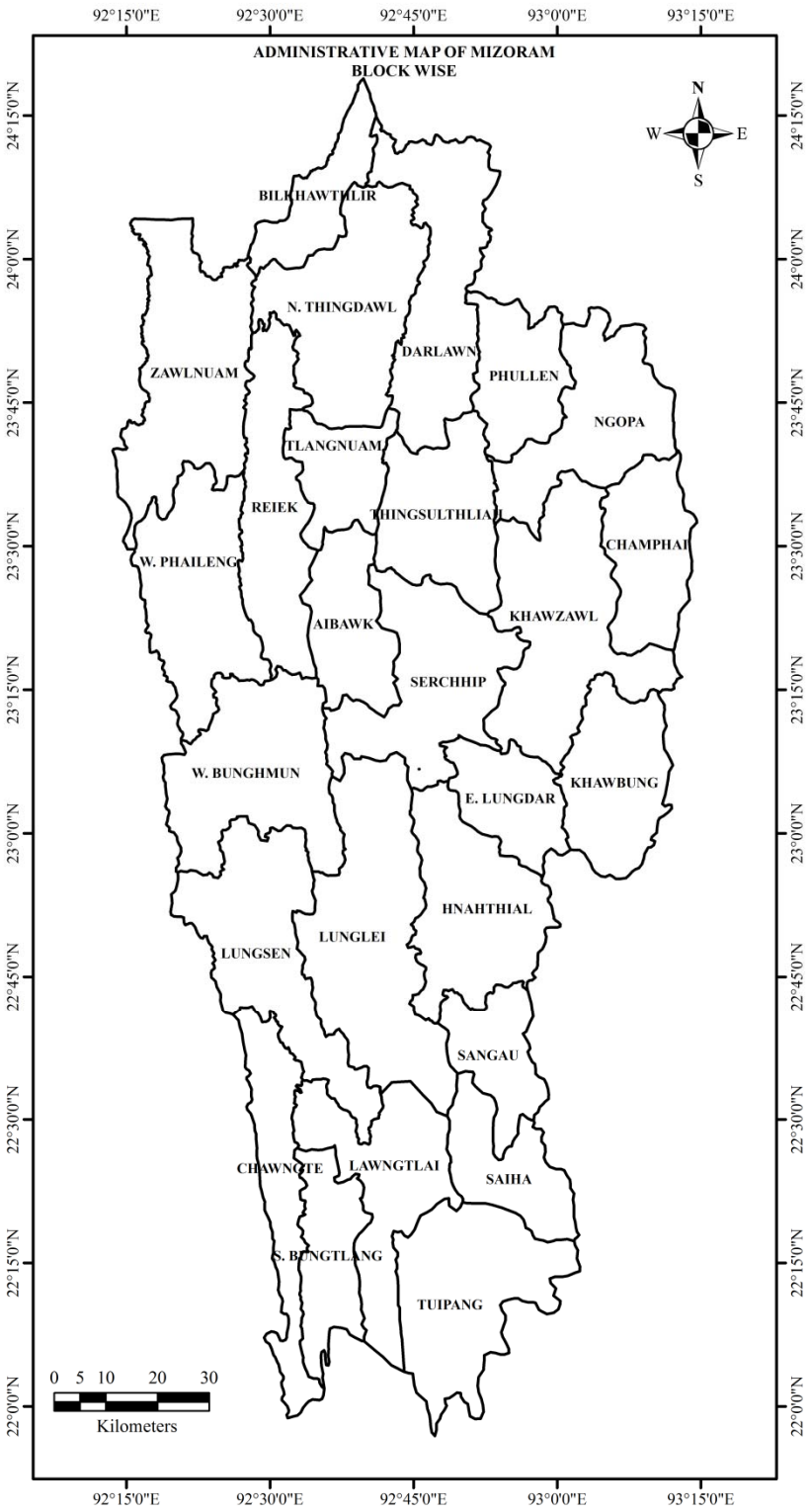

Figure 2: Block wise map of the study area

1.6 Organization of the study:

The first chapter is a presentation on the introduction of the study, which incorporates the significance and scope of the study, objectives and a brief description of the study area.

The second chapter exhibits with the methodology of the study and review of literatures. It gives the arrangements of the data collected and the methods utilized in analyzing of the data. It includes decadal growth rate of population, detail description of the Z-score and Jenks optimization techniques and Pearson's correlation.

The third chapter is a detail analysis of the spatio-temporal population growth in which the blocks and districts in Mizoram are divided on their level of population growth rate. It also includes a clarification on the rural and urban population in the state.

The fourth chapter deals with analysis of the socio-economic development which is again concentrated in terms of blocks and districts in the state, measured by the 21 indicators separated into 6 indicator compositions like the working population comprises of 5 indicators, Medical facilities which consists of 5 indicators, Educational institutions which includes 4 indicators, Community amenities made up of 3 indicators, Community accessibilities comprises of 3 indicators and Literacy rate.

The fifth chapter is all about the relationship between the population growth and socio-economic development among the blocks and district in the state.

The last chapter is conclusion where in findings and suggestions are included.

CHAPTER-II
METHODOLOGY AND LITERATURE REVIEW

2.1 Introduction:

The methodology of the study includes collection of data, preparation of location map, resolving data, analysis of tabulated data with the help of suitable statistical techniques like Percentile for growth rate, Z-Score and Jenks method for socio-economic development, and Karl Pearson's Coefficient of Correlation for the relationship between population growth and socio-economic development. Thematic mapping, choropleth mapping techniques, line graph and bar diagrams were also employed.

2.2 Sources of data collection: The following methods are applied for collection of data which is mainly obtained from:

1) District Census Handbooks 1981; Series-31, Lunglei District. Aizawl District and Chhimtuipui District. Parts XIII-A&B (Village & Townwise Primary Census Abstract. Published by the Directorate of Census Operations Mizoram.
2) Primary Census Abstract 1981; Series-31 Mizoram. Part II-B. Published by Director of Census Operations Mizoram.
3) Provisional Population Totals 1981; Series-31. Paper -1 of 1981 Supplement. Published by Director of Census Operations Mizoram.
4) District Census Handbooks 1991; Series-17, Lunglei District. Aizawl District and Chhimtuipui District. Parts XII- A &B (Village & Townwise Primary Census Abstract. Published by the Directorate of Census Operations Mizoram. Published by Directorate of Census Operations Mizoram.
5) Final Population Totals-Mizoram 1991; Series -17. Published by Director of Census Operations, Mizoram.
6) General Population Tables Mizoram 2001(Tables A-1 to A-4). Published by Directorate of Census Operations Mizoram.
7) Primary Census Abstract 2001; Series-16. Table A5, A6, A7, A8 &A9.Published by Directorate of Census Operations, Mizoram.

8) Provisional Population Totals of Mizoram; Paper -1 of 2001.Published by Director of Census Operations Mizoram.
9) Primary Census Abstract (PCA) 2001. Published by the Directorate of Census Operations Mizoram.
10) Primary Census Abstract. Total Table for Kolasib, Mamit, Champhai, Aizawl, Serchhip, Lunglei, Lawngtlai and Saiha District. Published by the Directorate of Census Operations Mizoram.
11) Final Population Totals-2001, Table for Mamit, Kolasib, Champhai, Aizawl, Serchhip, Lunglei, Lawngtlai and Saiha District. Published by the Directorate of Census Operations Mizoram.
12) Village Directory of Aizawl, Mamit, Kolasib, Champhai, Serchhip, Lunglei, Lawngtlai and Saiha District Mizoram. Table for Aizawl, Mamit, Kolasib, Champhai, Serchhip, Lunglei, Lawngtlai and Saiha District. Published by the Directorate of Census Operations Mizoram.
13) District Census Handbook (DCHB) 2001; Aizawl, Mamit, Kolasib, Champhai, Serchhip, Lunglei, Lawngtlai and Saiha District Mizoram. Published by the Directorate of Census Operations Mizoram.
14) Reports on Block Statistics 2001. Published by Directorate of Economics & Statistics Mizoram: Aizawl-796001.
15) District Census Handbook 2011; Series-16.Part XII-B. Village and Town wise Primary Census Abstract (PCA) - Kolasib, Mamit, Serchhip, Aizawl, Lunglei, Lawngtlai, Saiha and Champhai districts. Published by the Directorate of Census Operations Mizoram.
16) DCHB; Village Directory of Kolasib, Mamit, Serchhip, Aizawl, Lunglei, Lawngtlai, Saiha and Champhai districts. Published by the Directorate of Census Operations Mizoram.
17) Final Population Totals 2011 of Kolasib, Mamit, Serchhip, Aizawl, Lunglei, Lawngtlai, Saiha and Champhai districts. Published by the Directorate of Census Operations Mizoram.
18) A-5; State Primary Census Abstract 2011. Published by the Directorate of Census Operations Mizoram.

19) Final PCA Mizoram 2011 of Kolasib, Mamit, Serchhip, Aizawl, Lunglei, Lawngtlai, Saiha and Champhai districts. Published by the Directorate of Census Operations Mizoram.
20) Statistical Abstract of Mizoram 2007. Published by Directorate of Economic & Statistics. Government of Mizoram: Aizawl.
21) Statistical Abstract of Mizoram: 2009. Published by Directorate of Economics & Statistics, Government of Mizoram.
22) Economic Survey Mizoram 2007-2012. Published by Planning & Programme Implementation Department, Government of Mizoram.
23) Statistical Handbook of Mizoram for various years published by the Directorate of Economics and Statistics, Government of Mizoram.

2.3 Methods of Analysis: The following certain quantitative techniques were employed to test the relevance of the parameters and to get the desirable results. Some of the techniques are as follows:

2.3.1 Decadal Growth Rate of Population: The decadal growth rates of population are calculated at different levels like block, district and state levels in order to know the rate of increase in population. Decadal growth of population implies population growth rate over the period of 10 years. It is called "decadal" as a decade consists of a period of ten years. Hence, the decadal growth rate gives an overview of the total population growth in a particular decade. The formula for the Decadal Growth Rate (DGR) is:

$$\mathrm{DGR} = \frac{P_n - P_o}{P_o}$$

Where,

DGR = Decadal Growth Rate in %.

P_n = Population now.

P_o = Population originally.

P_n and P_o are ten years apart (Seymour, 2004).

2.3.2 Z-Score Standardized Techniques: The available 21 indicators are separated into 6 indicator composition i,e 1. Working population divided into marginal and main workers. The marginal workers' data are obtained by multiplying it with 100 and divided by the total population of each particular block and district. Since, the main workers are break up into cultivators, HHI, agricultural laborers and other worker, the figure are acquired by multiplying it with 100 and divided by the main workers total present in each block and district.2.Medical facilities consists of PHS, PHC,maternity and child welfare centre, dispensary and community workers and they are acquired by dividing it with the number of inhabited village of each block and district.3.Educational institutions comprises of adult literacy centre, matriculation, primary and middle school by dividing them with the number of household of each block and district.4.Community amenities consist of drinking water, market and power supply and they are acquired by dividing them with the number of inhabited village.5.Community accessibilities consists of post office, pucca road, transport and communication again dividing them with the number of inhabited village and.6. Literacy rate- multiply number of literates with 100 and divided by population age 7+. All the percentage figures obtained are analyzed and presented in the form of cartographic characteristics based on statistical techniques like Z-score through SPSS, and Jens (Natural breaks) for classifying the level of development (Prasad, 2015).

Z-score is a numerical measurement that describes a value's relationship to the mean of a group of values. Z-score is measured in terms of standard deviations from the mean. The Z-score is also sometimes known as the Altman Z-score, as it was Edward Altman, a professor at New York University, who developed and introduced the Z-score formula in the late 1960s (Hayes, 2020). A Z-score describes the position of a raw score in terms of its distance from the mean, when measured in standard deviation units. It is also known as a standard score, because it allows comparison of scores on different kinds of variables by standardizing the distribution. A standard normal distribution (SND) is a normally shaped distribution with a mean of 0 and a standard deviation (SD) of 1 (McLeod, 2019).

(1) *Importance of Z-score:* It is useful to standardized the values (raw scores) of a normal distribution by converting them into Z-scores because:

i) It allows researchers to calculate the probability of a score occurring within a standard normal distribution.

ii) Enables researcher to compare two scores that are from different samples (McLeod, 2019).

iii) Z-scores also make it possible for analysts to adapt scores from various data sets to make scores that can be compared to one another more accurately. (Hayes, 2020).

(2) *Calculating the Standard Score (Z-Score):* A Z-score standardized technique was used for normalization of the raw data and to find out the composite index. Data collected from secondary sources were transformed into variables to be used as indicators. To transform data matrix into scale free matrix, indicators were standardized by subtracting the mean from each individual variables and divided by their standard deviation, as the following formula:

$$Zi = (Xij - Xj)/SDj.$$

Where,

Zi is the Z-score for the i^{th} unit

Xij is the X variable in the i^{th} unit and j^{th} variable

Xj is the mean of j^{th} variable and,

SDj is the standard deviation of the j^{th} variable

After obtaining Z-score for every indicator, composite score was obtained by adding up of all individual Z-score or standard data as-

$$Ci = \sum Z$$

Where, Ci is the composite scores and $\sum Z$ is the summation of Z-scores.

(3) Interpretation of Z-score:

- A positive z-score indicates the raw score is higher than the mean average. For example, if a z-score is equal to +1, it is 1 standard deviation above the mean.

- A negative z-score reveals the raw score is below the mean average. For example, if a z-score is equal to -2, it is 2 standard deviations below the mean(McLeod, 2019).

2.3.3 Jenks Optimization Method: The Jenks optimization method is also referred to as the "Jenks Natural Breaks" classification method and the goodness of variance fit (GVF). It is a data classification method designed to determine the best arrangement of values into different classes so that they can be displayed on a chloropleth map. It seeks to minimize each class's average deviation from the class mean, while maximizing each class's deviation from the means of the other groups. In other words, the method seeks to reduce the variance within classes and maximize the variance between classes. Raw scores above the mean have positive standard scores, while those below the mean have negative standard scores. This method was developed with the intention of dividing data into a relatively few data classes, less than seven (Jenks, 1967).

2.3.4 Pearson's Correlation: In order to analyse the relationship between population growth and socio-economic development among the blocks and districts in the state, Pearson's correlation is used. He has been called "the founder of the science of statistics" (Walker, 1958).

(a) *Properties of Pearson's r:* There are several types of correlation coefficient, but the best and most popular correlation method to use for numerical variables in statistics is Pearson's correlation, commonly used between sets of data in order to measure how well they are related, as well as the direction of the relationship. The full name is the Pearson Product Moment Correlation (PPMC)**.** It corresponds to the covariance of the two variables normalized (i.e., divided) by the product of their standard deviations. (Chee, 2015). It was developed by Karl Pearson (1948) from a related idea introduced by Sir Francis Galton in the late 1800's. In addition to being the first of the correlational measures to be developed, it is also the most commonly used measure of association. All subsequent correlation measures have been developed from Pearson's equation and are adaptations engineered to control for violations of the assumptions that must be met in order to use Pearson's equation (Burns & Grove, 2005: Polit & Beck, 2006). Pearson's r measures the strength,

direction and probability of the linear association between two interval or ratio variables. So, it is considered as the best method to measure relationship between population growth and socio-economic development among the blocks and districts in Mizoram. By the autumn of 1895, Pearson had worked out the mathematical properties of the product moment correlation coefficient and simple regression. Pearson revised his paper so that it included a section on positive and negative correlations (Magnello, 1998:2009). Understanding the various properties of *r* and the information it provides as a measure of the strength of association between two quantitative variables is useful, which can be provided by a calculator or statistical software. Property of Pearson's *r* or coefficient value can be stated as follows:

Pearson's *r* will always be between -1 and +1(ranges in value from -1.0 to +1.0).

If '*r*' is equal to +1, then there is perfect positive correlation between two values (Two variables tend to move in the same direction or as one variable gets larger the other gets larger).

If '*r*' is equal to -1, then there is perfect negative correlation between two values (Two variables tend to move in the opposite direction or as one gets larger, the other gets smaller (often called an "inverse" correlation).

When the association between the two variables is weak, Pearson's *r* will be close to 0.

If '*r*' is equal to zero, then there is no correlation between the two values (Kader and Franklin, 2008).

(b) *Strength of correlation*: The magnitude of the correlation coefficient determines the strength of the correlation. The absolute value of the correlation coefficient gives us the relationship strength. The larger the number, the stronger the relationship. Correlation is an effect size and so, when describes the strength of the correlation results from the two variables of population growth and socio-economic data among the blocks and districts in Mizoram, the guide that Evans (1996) suggests for the absolute value of *r* is used:

i) 0.00-0.19: "very weak".

ii) 0.20-0.39: "weak".

iii) 0.40-0.59: “moderate”.

iv) 0.60-0.79: “strong”.

v) 0.80-1.0: “very strong”.

(c) The following step gives the result of the correlation coefficient *r*:

1) In the beginning of the calculation, variables are determined by organizing them in a chart and labeling them by X (population growth) and Y (socio-economic development) variables. Add three more columns labeled (XY), (X^2), and (Y^2).

2) The mean also known as the average (N) is calculated by adding the values of each variable together.

3) Complete the chart by using basic multiplication of the variable values.

4) After having multiplied all the values to complete the chart, add up all the variables in each of the columns from top to bottom.

5) Use the formula to find the Pearson correlation coefficient value.

6) After completing the formula by plugging in all the correct values, the result is the coefficient value *r*.

(d) ***Formula*:** Pearson developed the mathematical formula that is still most commonly used to measure correlation, the Pearson Product Moment Correlation Coefficient. Today, the correlation coefficient and its associated regression equation constitute the principal statistical methodology for observational experiments in many disciplines. Pearson's *r* was the first formal correlation measure, and it is still the most widely used measure of relationship. Pearson first developed the mathematical formula for this important measure in 1895(Rodgers and Nicewander, 1988). In order to determine how strong the relationship is between the two variables, a formula must be followed to produce what is referred to as the coefficient value. The following formula is used to calculate the Pearson *r* correlation:

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n(\sum y^2) - (\sum y)^2]}}$$

Where:

- *r* is the coefficient of correlation
- n is the number or the size of the sample
- x is value of the first variable
- y is value of the second variable
- xy is the product of the two paired scores
- Σxy is the sum of the products of paired scores
- Σx is the sum of x scores
- Σy is the sum of y scores
- Σx^2 is the sum of squared x scores
- Σy^2 is the sum of squared y scores (Chee, 2015)

The available data are tested with the above quantitative techniques. The study, thus, is based on an empirical analysis, using various statistical and cartographic tools and techniques, to arrive at suitable conclusions.

2.4 Limitation of the study:

The empirical results reported here must be considered in the light of some limitations regarding the socio-economic indicators. The indicators are selected based on their availability constraints in each block and district in all the four censuses. Even then, it is witnessed in some blocks where the chosen indicators have no records. However, in order to measure the degree to which a country or state achieve the level of socio-economic development, one's found difficulties in choosing the best indicators, as McGranaham (1972) has pointed out that the nature of the indicators and quantitative analysis of the relation between them will depend on the conception and the definition of development. For a development indicator, it should represent some factors that are part of the process of development. A good indicator should have the same direction of change as the process of socio-economic development is being measured. Drenowski (1972) also opined that the direction of change of these values should conform to the direction of change of the magnitude of the welfare which is supposed to be measured. Baster (1972) also agreed with their

views by declaring that the choice of components and indicators of development should reflect changes in the capacity to attain development objectives as well as the extent to which the objectives are attained. Though, Ewusi (1976) argues that other variables that are negatively related to development can be chosen as indicators, so long as the indicator deteriorates progressively with economic development. Ohlan (2013) on the other hand confirmed that, socio-economic development should be measured on the basis of a large number of attributes as is relevant and feasible as also agreed with Slottje (1991):Hirschberg *et al* (1991):Sen (1985,1987): Maasoumi (1986): Atkinson and Bourguignon (1982):Kolm (1977). Based on the above literature, in Mizoram where data are very limited, one should accept any available socio-economic indicator that might give some bearing for testing socio-economic development.

2.5 REVIEW OF LITERATURE:

Certain number of literatures related to population studies is available at different levels such as international, national, regional and local stages. This shows that studies on population growth and socio-economic development have been given great importance throughout the world's history.

Singh (2003) has given that the world population gained momentum during the Neolithic Age and population was not more than 10 million. According to him, at the time of the birth of Christ the estimated world population was about 300 million and the modern period of rapid growth began after 1750. He has stated that the total population of India at the beginning of the Christian Era was about 60 million. The transmission of knowledge about hunting, gathering and preparation of food and identification of enemies helped in the expansion of agriculture and growth of population. At the dawn of the agricultural revolution (8000 years before present), total population was about 250, 000 (Cook, 1962). It took all of human history (until 1800) for the global population to reach one billion-roughly today's population of Europe and North America combined. It took 130 years (until 1930) to reach two billion. It took only 60 more years (1960) to reach three billion. The fourth billion was reached between 1960 and 1975, the five billion mark passed in 1987 and the six

billion mark was reached in 1999 (Lutz & Qiang, 2002). However, growth rates accelerated to historically unprecedented levels during the second half of the twentieth century, and world population more than doubled to 6.5 billion in 2005 (United Nations 1962, 1973, 2007). According to Bongaarts (2009), when the American Philosophical Society was founded around 1743, there were about 800 million people. But, the population in 2010 at 6.8 billion is roughly 8.5 times that size. Today one billion persons are being added every 15 years, and the world population is growing at a rate that is 30 times as high as the average rate of growth between the first century A.D. and 1650. In less developed countries that rate is 40 times as high. (Zaidan, 1969: Ray, 1995). The global population will increase during the next 35 years to around 8.5 billion, with almost 90% of the increase occurring in developing countries. And the largest increase in sheer population numbers over the last 300 years took place in Asia with more than 3 billion people, where India and China regions alone added more than 1 billion people each to our planet (Godewijk, 2005). The differential between India and China will result in India surpassing China with respect to population size in less than 20 years (Ward, 1969).

It is guessed that the increased food supply led to better nutrition, greater resistance to disease, increased longevity of life and hence a growth in population (Baganlia, 2005). And the total population of the world increased at an average annual rate of 1.75% doubling every 40 years (Copra, 2006). Most critical observers also agreed that human race is currently facing the most crucial period in its entire history as the world population is exploding and according to McKelvey (1959) if this rate of growth were to continue it would be only a few hundred years until there would be standing room only.

Bhattacharjee and Shastri (1976) declared that within the past two decades vast changes have occurred in many aspects of life in every country of the world, and the most significant has been the recognition, that rapid rate of population growth influences every sector of economic and social development, and Cohen (1995) has brought out the need to study growth of population. According to him population studies were concerned with spatial variations in distribution, composition, migration

and the most important is population growth. Sinha (1980) also considered that population growth is the basic variables affecting the course of economic development; whereas Enstwisle and Stern (2005) opined that the rate and pattern of consumption and rapid population growth could outstrip the ability of the earth to provide food. Malthus (1798) in his "Essay on the Principle of Population" projected terrible disasters resulting from population and a consequent imbalance in the proportion between the natural increase of population and food. Briefly, his theory was based on the idea that population, if unchecked, increases at a geometric rate, whereas the foodsupply grows at an arithmetic rate. Malthus favored moral restraint (including late marriage and sexual moderation) as a check on the growth of population. The difficulties of maintaining an increase in agricultural productivity to exceed the growth in population are being increasingly felt. It is estimated by the Food and Agriculture Organization that 15-20% of the people in developing countries are undernourished and that the large majority are malnourished. (Gille, 1965). The current consensus seems to be that the econometric studies indicate that "slower population growth would be beneficial to economic development for most developing countries. Where population pressures are greater, infant mortality is higher, health services scarcer, and education less widespread (Ahlburg, 1988). Coale and Hoover (1958) elaborated that rapid population growth forces families to consume what otherwise would be saved, adversely affecting national savings rates and thus capital formation and investment rates as well. Theoretically, rapid population growth forces scarce capital to be spent on nonproductive segments of the population (e.g., children) and encourage undercapitalization of the economy, underemployment, low wages, and anemic market demand (Wray, 1971). Birdsall (1977) is also of the opinion that, population growth increases health costs as more people requires more health services. With rapid population growth, parents bear the burden of caring for their children under most unfavorable circumstances. Where children survive in a deprived nurturing environment, they are most likely to carry over their developmental deficiencies into adult life, setting up the cycle of deprivation from one generation to the other (Okobiah, 1981). Added to that, the burden on national government to provide them with basic facilities like water, sanitation, education and health is beyond its capacity (Lean and Hinrichsen 1992:

Cook 1994). There is substantial evidence that children from large families have lower educational attainment and poorer health, in industrial as well as developing countries (Birdsall, 1989).

In the opinion of Hamburg (1984) the rapid population growth exacerbates unemployment and underemployment and is a factor in deforestation, overgrazing and over cultivation which will result in malnutrition and vulnerability of children to diseases. Clearly one of the challenges of a growing population is the world's population live in poor countries already strained by food insecurity; inadequate sanitation, water supply and housing; and an inability to meet the basic needs of the current population. These same countries are also among the fastest growing places in the world. A large proportion of these populations are supported through subsistence agriculture, and a higher rate of population growth for the last three decades has converted the population problem into a major unemployment problem (Bose 1996: Ominde, 1981). All phases of development are retarded as long as expanding population eats into economic growth. Investment is held back or channeled into unproductive areas. Job opportunities are not created, and unemployment or underemployment spreads. Social misery continues unchecked, and populations, rural and urban become increasingly susceptible to appeals to violence (Peter, 1971).

Population growth is a key issue in development, we cannot and we must not bequeath to future generations a world in which the most spectacular growth has been in the number of people living in absolute poverty. How many more billions will be added? Unless this dilemma is confronted today, there will be poverty stricken people in tomorrow's developing world in increasing numbers and in indescribable misery (Clausen and Paden, 1985). The relationship between population growth and economic development relates particularly to the developing countries as Hadživuković (1989) pointed out that they are characterized today by the problems in their social and economic development. Pathy (1976) is also of the opinion that the rapidly rising population eats up the little available fruits of' development, and consequently minimizes the saving and investment potential of the

already 'overpopulated' third world; the rapid rise in population is the chief obstacle to the socio-economic development of the third world. Socio-economic development, in fact affects the rate of growth of population, via births, deaths and movements of people into and out of their place of residence (Rayappa and Prabhakara, 1983).

High population growth has been considered as a hindrance to the economic development of poor Third World countries (McNamara, 1974: Giddens, 1994). High population growth exaggerates the problem by eating up potential investment funds merely to keep people alive (Hartley, 1972). Currently, over half of the world population is living below 2 a dollar a day poverty line (Mallick *et al*, 2005). Most of the poorer countries in the world are growing rapidly and sufficient levels of investment cannot possibly be achieved. Inevitably, these countries fall further and further behind the industrialised sector of the globe which exacerbates existing inequalities between countries (Giddens, 1994) and leads to underdevelopment. "On balance, we reach the qualitative conclusion that slower population growth would be beneficial to economic development for most developing countries (McNicoll, 1995: Birdsall, 1977) stated that extremely rapid population growth rates exacerbate development problems in the world's poor countries. Because, in a low-income economy the rapid growth of population does hamper development (Cassen, 1976).

According to Lee (1975) the world's population is growing at a rate which cannot be sustained. Rapid growth, however, is seldom found outside developing countries, while developed countries are close to zero population growth. There is no escaping the conclusion that at present rates of growth the world population will soon exceed our capacity to provide food and other necessary natural resources. Either the birth rate must come down or the death rate must go up. Taeuber (1967) agreed by saying that, hunger continues to be an ever present companion of a large part of the world's population. Millions of people do not have enough food, and every year some 65 million more persons claim a share of the world's food. In many countries, the size of the population is so great, and the rate of growth so high, that very large numbers of people are added every year, and the problem of increasing food supplies is correspondingly great. Two-thirds of the world's 3.3 billion people live in

countries with national average diets which are nutritionally inadequate. Kravdal (2001) is of the same opinion stressing that global food production has, on average, more than keeping pace with population growth in recent decades, and a diminishing proportion of the world's population are undernourished (Modigliani and Brumberg, 1954: Tobin, 1967: Mason, 1987: Kelley and Schmidt, 1995: Higgins and Williamson, 1997: Lee, 1975: Kinugasa and Mason, 2007).

Stockwell (1980) is of the opinion that rapid population growth increases the need for foreign aid, thus building up a greater national debt and prolonging a state of financial dependence on the aid granting nations; and to the extent that continued population growth hampers development efforts in the low income countries, it leads to a widening of the gap between rich and poor nations, thereby increasing jealousy and resentment in the poor nations, and heightening international tensions. Thus, assuming that countries with high population growth are more likely to experience domestic armed conflict than countries with low population growth (Urdal, 2005). Foreman (1995) agreed this by saying that rapid population growth causes political and social instability, that engender reduced foreign investment and/or capital flight, thus reducing the investment of foreign as well as domestic saving. Rapid population growth clearly played a major role in driving political instability (Turner, 2009).

The current worry for the developed countries is on the regional distribution of the increase in world population, about 90 % of which is taking place in the developing countries (Afzal, 2009). When population continues rapidly within the limited resources, it has several adverse implications on earth, agriculture, biodiversity, environment and population itself (Sarkar and Mondal, 2012). Kendall and Pimentel (1994) add that fertility and population growth in developing countries will be forced downward by severe shortages of food and disease, and irreversible environmental damage. Developed countries with less than one-quarter of the world population consume 80 % of the world resources, and creating pressures on limited natural resources (Easterlin, 1967: Afzal, 2009). With stagnant or deteriorating employment opportunities, a persistent increase in population would result in increasing relative and absolute poverty. To experience a demographic transition

similar to the developed countries, it is important to have aggressive population control methods implemented together with economic growth policies (Goodstein, 1995). That is why in China the one child policy and aggressive promotion of long acting contraceptives initiated in 1978 brought many millions of people out of poverty (Mayhew and Colbourn, 2015)

Since 1950, population growth has been faster where income is low, and it has been concentrated in developing countries. Where populations are still highly dependent on agriculture, continuing large increases in population can contribute to overuse of limited natural resources, such as land, mortgaging the welfare of future generations. When undue stress is placed on traditional agricultural systems and the environment is damaged, the economic wellbeing of the poor is particularly threatened. Unless this dilemma is confronted today, there will be poverty stricken people in tomorrow's developing world in increasing numbers and in indescribable misery (Clausen and Paden, 1985), as poverty is the major factor that distorts the population transition in response to food supply in developing country (Aziz, 2001). And as population pressures mount, the degradation of arable lands in wide areas of Africa, Asia and Latin America increases. In Africa food production has already declined 15% to 20% on a per capita basis since 1970, and at least a fifth of Africans do not have enough to eat to lead healthy productive lives (Mortimore, 1993). Countries such as India, Egypt and Korea major characteristic is that all available land is intensively cultivated, while employment opportunities outside of agriculture are limited (Mead, 1967). So, Coale and Hoover, (1958) declared that "slower population growth would be beneficial to economic development for most developing countries. Not only that, Bedford (1972) added that "population growth is imposing serious constraints on the achievement of planner's objectives and people's aspirations for a better standard of living".

Sen (1994) terms the concern ‘a more self regarding worry that causes panic in the richer countries of the world and has much to do with the current anxiety in the West about the “World population problem”. This is found in the belief that impoverishment caused by fast population growth in the third world is responsible

for the severe pressure to immigrate to the developed countries of Europe and North America. Differences in real income may provide the economic reason to emigrate to the North from the poorer Southern economies. This is also true for India where migrants from low employment/income pockets are attracted to the promise of higher incomes/lifestyles in cities like Mumbai, Chennai etc. Goswami (2000) pointed out that our urban areas has been changing and deteriorating rapidly during the last decades because of rapid growth of population and migration of rural people in urban areas for employment, education and business. Kumar (2000) after studying the changing population in India gives certain characteristics of population distribution and find out that the population in India has witnessed a very rapid growth especially in the urban areas, Rajan *et al.* (2004) stressed that there is pressure on schools and colleges to concentrate more on the quantity of education rather than quality which have serious socio-economic implications. Brockerhoff (1999) also opined that most population growth has been urban and that the component of urban growth within total growth is still expected to increase in the future. The existing towns and urban centers experienced higher urban growth rate, this increase was largely due to migration from the predominantly rural areas and hinterlands of the respective urban nodes (Gopalakrishnan, 1991). Hazra (2002) documented that the growth rate of urban population, in India, has recorded an increase by 160% during the last decade. At the same time the rural areas have shown a negative growth rate (Neog, 2000). As Singh (1997) pointed out, the growth in population on the one hand and failure of population control measures especially in rural areas have led to believe that the rapid population growth is the single most important factor impeding variety of developmental efforts and causing fast depletion of resources and deterioration in environmental quality. This rapid growth of population and migration of rural people in urban areas for employment, education and business, poverty, inequalities of income and wealth has been changing and worsening our environment rapidly during the last few decades. Being a predominantly agrarian society, there exists a lot of socio-economic as well as cultural disparities between rural and urban population in India (Bhattacharya, 2005). Resultantly, these disparities have generated heterogeneity in the trends of different demographic components of the country's population between these two areas and encouraged rural urban differentials in their

trends. The census of India data and greater availability of reliable statistics on vital events during the recent decades provide information on this characteristic.

As stated by Mehta (1970) population explosion poses one of the most important problems of economic development in India. India accounts for one sixth of the world's six billion people as reported by Sharma *et al,* (1995) and only about 2% of the world's area, where its population growing nearly two and a half times since 1947. The population explosion has thus not only overtaken us long before we have been able to solve our problems of poverty; which made the solutions of these very problems progressively more difficult (Gopalan, 1990). Rajendra (2011) was also of the opinion that after India's Independence various problems were created due to the growth of population which has necessitated the Government of India to start population studies. Even after completion of 60 years of Independence India still is not much developed, and there are many reasons of underdevelopment of many regions and population growth is the most important. So, the study of population growth is of vital important both from the point of view of economic development and social welfare. It is necessary to know the number of people living in a country at a particular times and especially the rate at which the number is growing (Kurani 2012). Dhuri *et al.* (2005) also seem to share their opinion when they suggest that population growth is the most fundamental demographic process with which all other demographic attributes like the density, distribution pattern and composition of population are determined. And study of population growth is of vital importance for planning at the local and regional levels (Nanaware and Magar, 2012).

In India, a child is born every second and a half or more than 55,000 babies a day. The relatively fast declining death rate and the persistently high birth rate play the main role in the horrifying problem of population increase. There is a sense of reality in the expectation of a further decline in death rate, and hence for still higher growth rates because life expectancy and birth has risen. Mortality decline is usually associated with increased longevity and greater number of survivors especially in the childhood and consequently longer reproductive span (Gupta, 1990). Even during

India's post independence period, there is a net addition of people equivalent to the population of Australia every year (Bongaarts, 1978). And the rapid population growth from region to region and the impact of these on socio-economic differences are considered, it is important to study the growth of population (Agarwala, 1972).Chandra (1996) were also of the opinion that the outcome of the size and growth of India's population, by rapidly outnumbering the means of subsistence, made poverty inevitable.

Kar and Sharma (1997) after studying the population growth in North East India found that the population of the region's at the beginning of the century was 4.27 million. And that the annual exponential population growth rate in the region has always been found to be much higher than the national average. Marked variation in population growth however exists from one state to another in the region and it becomes clearer at the district level. In the decade of (1981to1991) the population growth has been high in Chhimtuipui of Mizoram and low in Lunglei due to both natural increase and migration, and as a result of migration the Mizos are inhabited in various parts of the world (Sen,1992). And in 2011 census the growth rate has been highest in Mamit (Census, 2011). Pachuau (1991) after analyzing different characteristics of population in Mizoram using different components stated that the population is ever-increasing because of a decline in death rate, and during 1901to1981 it was even higher than all India average ,and the density also increased steadily with increasing pressure on physical and economic resources, and so he considered very important to study population growth in a developing state like Mizoram where increase in population may act as a barrier in economic and social progress. According to Jeermison (2011) high growth rate in urban areas of Mizoram during 1981to 1991 was due to large scale migration from rural areas. This is attributed to bamboo flowering in this decade which forced many to move to urban areas under the perceived threat of agricultural loss and an impending famine. With a scanty population of 11% at two urban centers of Aizawl and Lunglei in 1971, the state after a couple of decades claimed to have the highest urban population in the country (over 49%). The growth of urban population in Mizoram has increased considerably since 1951. Aizawl town alone accommodates 56.26% of the total state

urban population due to availability of comparative better infrastructure facilities. But only 50% of the inhabitants in Aizawl city are having their own houses, remaining 50% stay on rented houses. This adversely affects the economy (Lasker, 2010).

From the above literature done by many scholars, we can conclude that studying the growth of population and socio-economic development is essential for an overall development.

CHAPTER-III

SPATIO-TEMPORAL ANALYSIS OF POPULATION GROWTH

3.1 Introduction:

Population growth refers to increase in the size of a population over an area, and is one of the primary concerns of the modern world, as it is growing at an incredibly exasperating rate, while the world resources nearly remain constant. Whatever advance made in the fields of agriculture and industry could barely adjust to the requirements of a rapidly growing population. The growth in human population around the world affects all people through its effects on the economy and the environment. High growth will slow down opportunities for economic development, and erode the quality of life by reducing access to education, nutrition, employment, and scarce resources such as potable water. The current rate of population growth is now a huge burden to human well being, and understanding its conditions of growth patterns can help us plan for the future. Thus, the ability to keep up sustainable development is becoming a major challenge for humanity today. A high rate of birth and a decline in death rates have resulted in overpopulation explosions, especially in underdeveloped countries, which leads to poverty and unemployment. The number of inhabitants of a country should be assessed with regards to the condition in which it happens, regardless of whether the growth of population contributes to the economic growth depends on the country's size of population, the availability of natural resources, capital resources and prevailing technology. When a country crosses the optimum point and become over populated as a result of population growth, its level of productivity or output per capita decline, which lower the standard of the people. This is the worst consequences of the population explosion. As the population went on increasing, the pressure of population on land increased and as a result, the land was subdivided and divided into small possessions.

There has been an enormous increase in the population for a developing state like Mizoram which heavily dependent on outside assistance for practically all her requirements. The net accretion during the period of 1981 to 2011 was

603,449(122.22%). The highest decadal growth rate was observed to be 39.7% during 1981 to 1991 censuses, and the net increase in population was 195,999. The growth rate continues to be 28.82% during 1991 to 2001 censuses and the net addition were 198,817 persons. Then, it reaches 23.48% in the final decades of 2001 to 2011 with a net addition of 208,633 populations. The analysis of population growth, therefore, holds significance for a developing state like Mizoram where a rapid increase in population may act as the main drawback in achieving the desired degree of economic progress. But, there is a significance difference in the growth of population in different regions of the state, and these differences are closely related with the way of the attraction of the area as far as resources and living condition is concerned. In fact, the differences in the growth of population within Mizoram happen in an indistinguishable way as economic development occurs unequally across a country; in addition, this growth has made changes in the general scene of the state. Thus, it is necessary to study the growth of population in different blocks and districts of Mizoram which will in turn offers an index of development of each block and districts. It is hoped that the results of the findings would be useful for regional planning for future development.

This chapter deals with the growth of population among the R.D blocks and districts and furthermore considers the growth situation of the population in rural and urban areas of Mizoram. Rural Development (R.D) implies better living conditions and development for the rural people and its area. The starting point of the Rural Development Department in Mizoram started in the year 1953, and these blocks were engaged in a variety of developmental works headed by a Project Executive Officer.

Table 1: RD Blocks in Mizoram with their date of creation

S.l.No	*Name of RD Blocks*	*Date of Creation*
1	Tlangnuam	16.08.1953
2	Lunglei	02.10.1956
3	N.Thingdawl	01.11.1956
4	Lawngtlai	01.02.1959
5	Serchhip	04.08.1961

6	Hnahthial	30.03.1963
7	Lungsen	11.01.1969
8	Thingsulthliah	07.01.1974
9	West Phaileng	31.01.1974
10	Ngopa	01.04.1974
11	Aibawk	13.08.1974
12	Darlawn	13.08.1974
13	E.Lungdar	13.08.1974
14	Khawzawl	13.08.1974
15	Reiek	19.08.1974
16	Sangau	27.08.1974
17	Chawngte	27.08.1974
18	Zawlnuam	28.08.1974
19	Bunghmun	09.09.1974
20	Tuipang	19.07.1974
21	Khawbung	20.06.1995
22	Phullen	05.04.2001
23	Bilkhawthlir	08.08.2004
24	Saiha	11.11.2005
25	Champhai	17.11.2005
26	Bungtlang S	01.03.2006

Source: Rural Development Department Government of Mizoram 2014

At first Mizoram has just 7 CD blocks (Sl: 1to7), after UT, more CD blocks were created to become a 20(Sl: 8 to 20), then, between 1983 to 84, the name Community Development Block was changed to Rural Development Block, and 6 more RD blocks (Sl: 21 to 26) were created totaling 26 in the state, placed under Directorate of Community Development headed by Block Development Officer at the block level.

Mizoram is one of the most underdeveloped and agricultural state, where about 60 % of the population depends upon agriculture and allied sector (Economic survey, Mizoram 2012-2013) that linked particularly to rural areas. Owing to the

practice of shifting cultivation, difficulties in marketing facilities of whatever little surplus, and many more, the agriculture which is the livelihood of the rural people remaining depressed, and is deteriorating due to population pressure. The fast rising demand for food grain on account of the increase in population could not be met from within the state, despite an increase in productivity. In fact, this increase of production happens at a very slow rate and it could not meet the needs of the growing population, causing import of food grain from outside the state. Not just that, Mizoram has no major industry, whatever industry available in the states is the cottage and small scale industry that comprises of handloom and handicrafts. In short, Mizoram is economically very backward. Needs and wants increase every year due to the population growth, but productivity is not increased. Such a situation is harmful for a developing state like Mizoram which is affecting adversely the economy, resulting in the slowing down of its pace of development. The impact of rising population as a drag on economic resources in Mizoram is felt in a variety of ways.

The growth of population has always been determined chiefly by the economic necessities of individual families, and there exists a sharp difference in living conditions between the urban and the rural areas in Mizoram. Because of this worsening condition, many rural inhabitants have been migrating to urban centers in search of wage-employment. That is why more than half of the population in the state lives in town in the latest census, as more people from village migrate to towns in search of opportunities for employment and better amenities of life. This finally results in constantly changing population of all the regions in the state in all the census decade. Keeping in mind the objectives of the study, the population data are analysed at three levels of state, districts, blocks and at rural and urban level. The major findings in brief, and mostly in cartographic forms, are presented as follows:

3.2 Population growth between 1981 to 1991 censuses:

Between 1981 to1991 censuses, there are 20 blocks in the state of Mizoram. Among this, the block of Tlangnuam has the highest population growth in which her share of growth amounted to 82.01%, followed by Lawngtlai with a high growth rate

of 58.39%. The lowest growth is found in the block of Reiek with only 10.53%. This extraordinary gap, among Tlangnuam and Reiek is because of the presence of a close relationship between population growth and individual's occupation, mode of life, economic activities and financial conditions etc, as the economy is directly related to the size of its population. The block of Tlangnuam is within Aizawl district where the state capital is located, where living conditions are much easier compared to other blocks can be the reasons why Tlangnuam population growth is distinctly high compare to Reiek as well as other blocks in this census.

3.2.1 Block wise population growth (1981 to 1991 census):

***High rate of population growth (> 40)*:** The 4 blocks of Tlangnuam, Lawngtlai, Tuipang and Chawngte are in this group. Tlangnuam has the distinction of witnessing highest growth rate because of the increased of population in the two towns of Sairang and Aizawl included in this block, where living conditions are much more favourable compare to all other blocks within the state. The other high three blocks are all located in the southern most part of the state were due to migration from neighboring states like Bangladesh, Tripura and Myanmar and also natural increase. The population added in each of the block between the two censuses is like this, Tlangnuam block with a population of 76,898, Lawngtlai with 10,813, Tuipang with 12,787 and Chawngte with 7,887. The total net addition of population amounted to 108,385 for these four blocks, and this rapid population growth is detrimental to economic growth as well as the overall socio-economic development of the people (Mohita, 2005) as Ehrlich (1968) has pointed out that population growth restricts economic growth.

***Medium rate of population growth (16 to 40)*:** There are 11 blocks in this group. The total addition of population for each of the blocks amounted to 75,430 between this two censuses by each of the block contributing as follows; Lunglei (13,963), Khawzawl (14,385), Thingsulthliah (6,457), West Phaileng (4,753), Serchhip (6,565), West Bunghmun (3,310), North Thingdawl (9,482), Zawlnuam (6,409), Lungsen (5,369), Aibawk (2,768) and Sangau (1,969). The addition of population in Lunglei and Khawzawl is very high due to the inclusion of the two towns of Lunglei and Khawzawl in which a high increase of population takes place.

The variation between population increase among the highest (Lunglei) and the lowest (Sangau) block is 11,994. This is because Lunglei block has a town in which living conditions are easier to support a large population, compared to the block of Sangau in which there is no urban centre at all.

Table 2: Block wise population growth (1981 to 1991 census)

Blocks	*Growth (%)*	*Blocks*	*Growth (%)*
Darlawn	16.15	W.Bunghmun	27.04
Aibawk	23.72	Lungsen	25.41
Tlangnuam	82.01	Lunglei	40.44
Thingsulthliah	31.29	Hnahthial	12.15
Ngopa	11.41	Zawlnuam	26.22
Khawzawl	40.17	W.Phaileng	28.23
N.Thingdawl	26.82	Reiek	10.53
Chawngte	46.44	Tuipang	57.75
Lawngtlai	58.39	Serchhip	28.02
Sangau	22.43	E.Lungdar	11.98

Source: Census of India, 1981 and 1991(DCHB, series 31 and 17)

***Low rate of population growth (< 16)*:** There are five blocks in the low rate of population growth and the total addition of population amounted to 12,184. Darlawn with 2,917, Hnahthial with 2,262, E.Lungdar with 3,459, Ngopa with 2,391 and Reiek with 1,155. Except Reiek, all the other four blocks are in the fringe of the state. The block of Darlawn, Reiek, E.Lungdar and Hnahthial has one town each within their respective block in 1991 census. Reiek is the only block which consists of the wholly rural population.

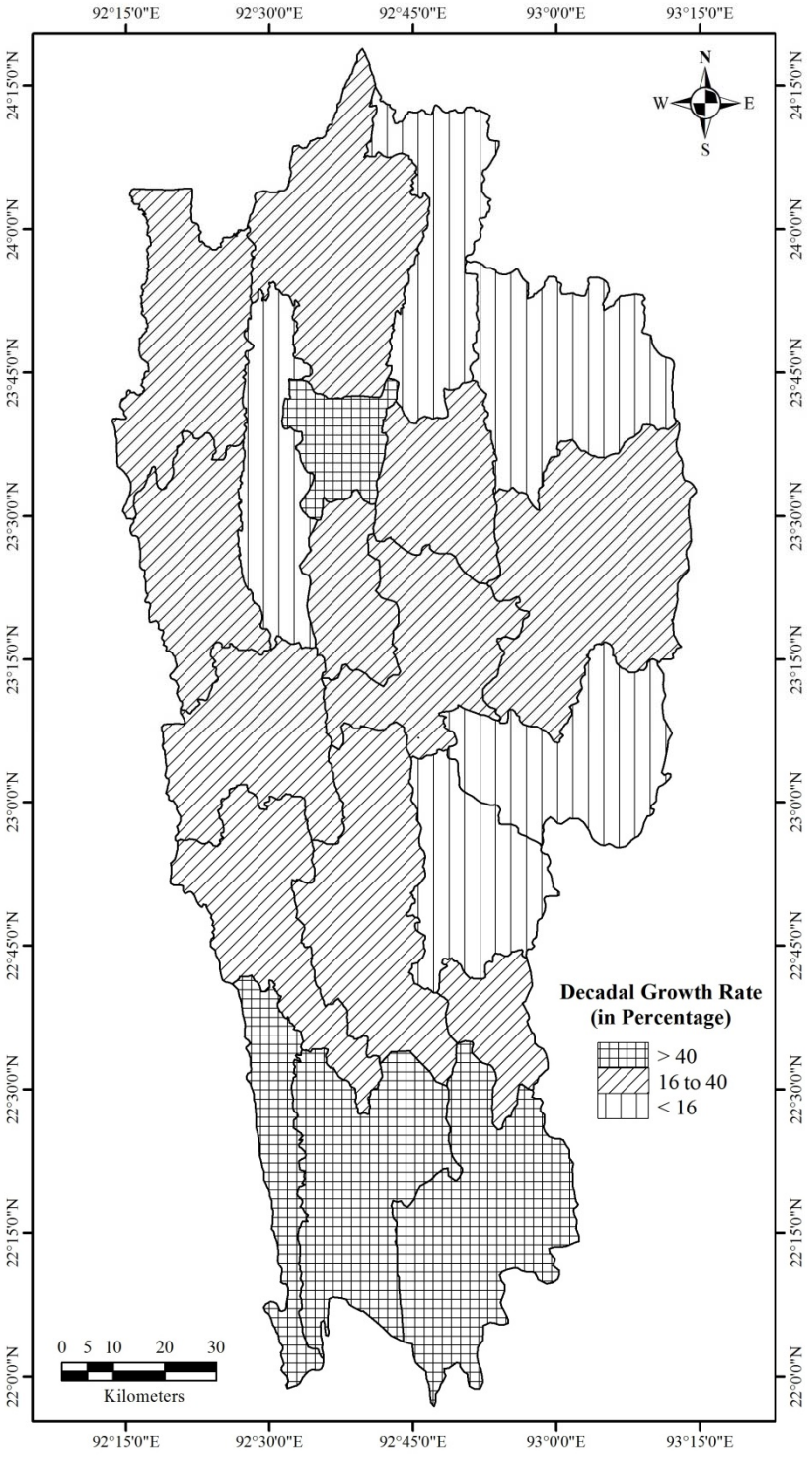

Figure 3: Block wise population growth (1981 to 1991census)

3.2.2 District wise population growth (1981 to 1991 census):

Among the three districts Chhimtuipui witnessed the highest decadal growth followed by the district of Aizawl and then Lunglei. The district of Chhimtuipui which has four blocks, namely Chawngte, Lawngtlai, Sangau and Tuipang has a total population of 66,420 in 1981 census to 99,876 in 1991 census. A population of 33,456 was added within a span of ten years, a growth rate of 50.37%. The added population in each of the blocks which makes the district of Chhimtuipui highest is like this; Chawngte block (7,887), Lawngtlai block (10,813), Sangau (1,969), Tuipang (12,787). The reason for high growth rate in Chhimtuipui district is immigration of Chakmas from Bangladesh who contributed the largest numbers of total migrants in Mizoram. In fact, these Chakmas migrants comprise 4,373 persons from Chittagong Hills Tracks who had to leave their hearths and homes in Bangladesh after their Shanti Bahini guerilla outfit failed in its struggle for regional autonomy about a decade ago (Lalhlimawma, 1995). The population in Aizawl district also increased from 340,826 in 1981 to 478,465 in 1991 census, an addition of 137,639 populations was noticed, a growth rate of 40.38%. At the same time, the district of Lunglei also observed an addition of 24,904 populations from 1981 census to reach 111,415 in 1991with a growth rate of 28.79%. The population growth in the two districts of Lunglei and Aizawl well reflects the economic potentials of the area.

Table 3: District wise population growth (1981 to 1991 census)

Districts	*Growth (%)*
Aizawl	40.38
Lunglei	28.79
Chhimtuipui	50.37

Source: Census of India, 1981 and 1991(DCHB, series 31 and 17)

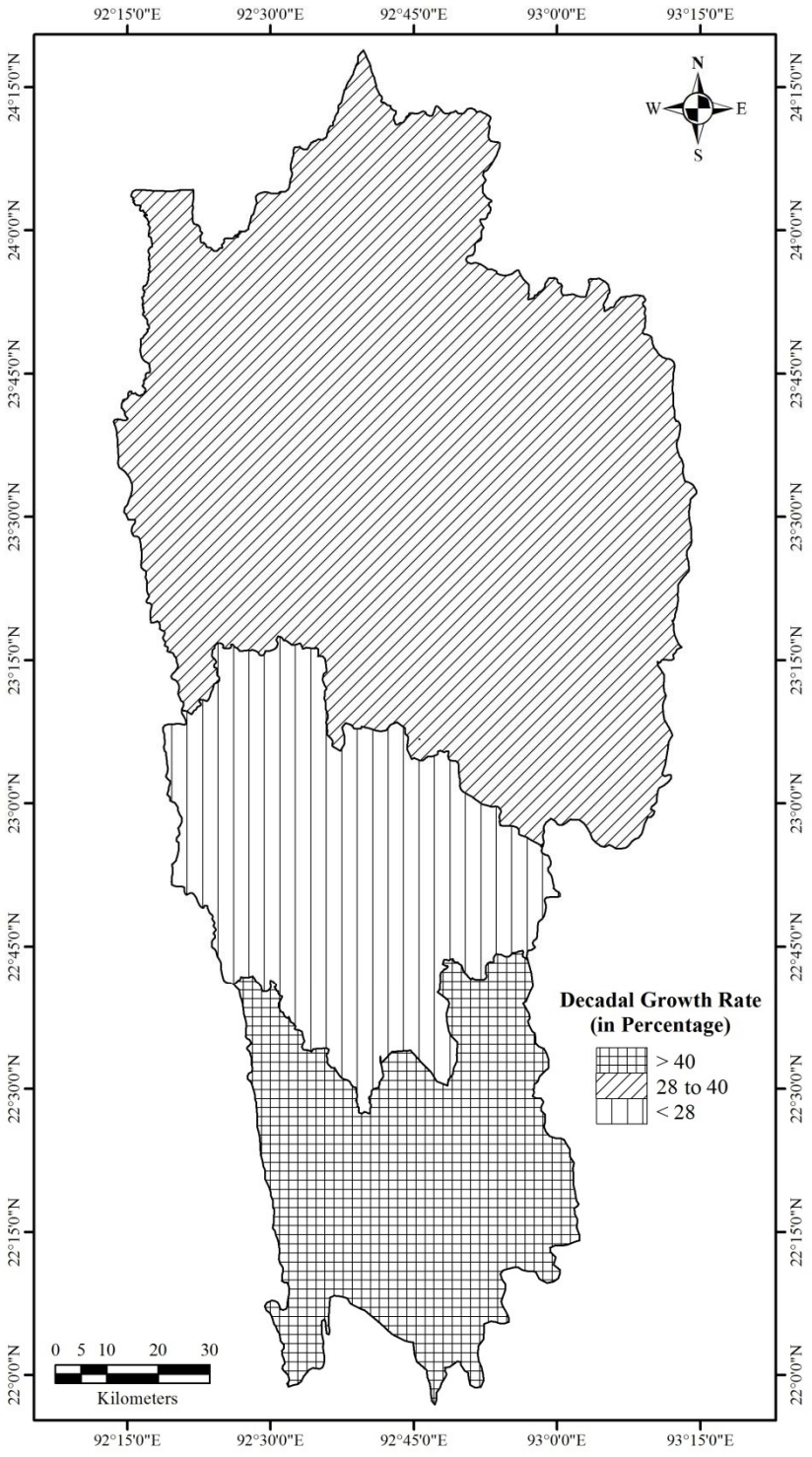

Figure 4: District wise population growth (1981 to 1991census)

3.2.3 Rural and urban level of population growth:

Mizoram has 121,814(24.67%) urban population in 1981 census distributed in the 6 towns which increased to 317,946(46.10%) persons distributed in the 22 towns in 1991census. On the other hand, Mizoram has 371,943(75.33%) rural population scattered in 721 inhabited villages in 1981 census to 371,810(53.90%) populations spread over in 698 inhabited villages in 1991 census. The rural population as well as number of villages decline by 133 persons and 23villages after ten years due to the increased in the number of towns. There are thirteen blocks in which the number of villages has shown a decline after ten years; Lunglei with 12, Tlangnuam and N.Thingdawl with 11 each, Zawlnuam with 9, Khawzawl and W.Bunghmun with 5 each, Reiek with 4, Darlawn, Hnahthial, Serchhip and E.Lungdar with 3 each, W.Phaileng with 2 andThingsulthliah with 1. The reason can be attributed to the addition of new towns in the census of 1991, in which these villages were included, and some of the villages were merged into another village. Whereas, there are 6 blocks in which the number of villages increased, Chawngte by 23, Lungsen by 7, Lawngtlai by 4, Aibawk by 3, Sangau and Ngopa with 1 each. At the same time the block of Tuipang remains the same. Among the six towns present in the states, the block of Tlangnuam, Khawzawl, N.Thingdawl, Lunglei, Tuipang and Serchhip has 1 each in their block.

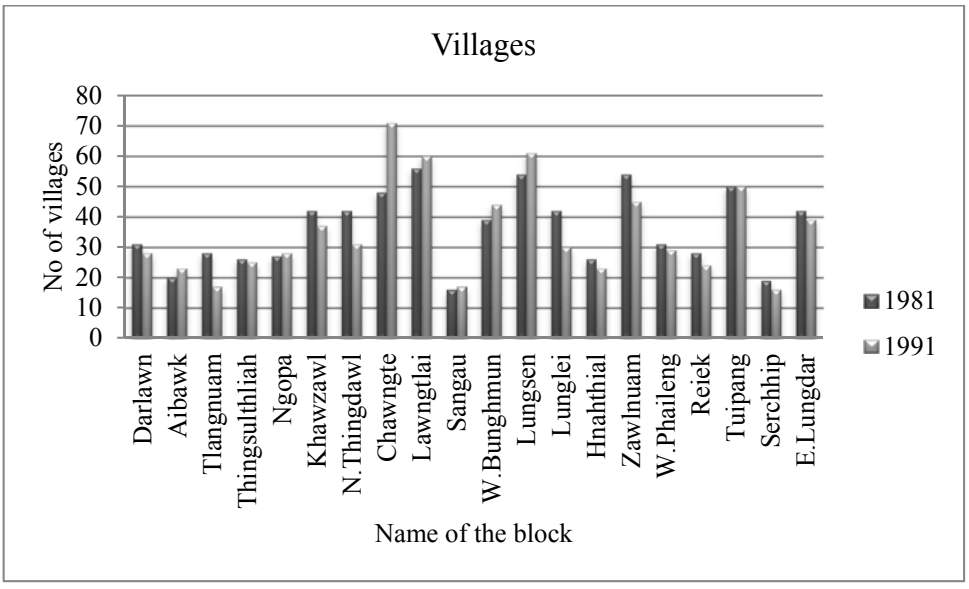

Figure 5: Block wise number of inhabited villages (1981 to 1991 census)

There are 9 blocks in which the rural population shows a decline, the largest decline is found in the block of Tlangnuam (7,376) followed by Serchhip (4,296) and Hnahthial (3,286), while there are 11 blocks which shows an increase in their rural population. The largest increase is found in the block of Lawngtlai (10,813), followed by N.Thingdawl (9,036) and Khawzawl (8,143) and the total addition of this 11 blocks amounted to 58,176 persons. The huge rural population exerts human pressure on the natural resources and adversely affects the quality of life, as the majority of the rural population in Mizoram depends on agriculture and related activities. This is the reason why it has become a common trend among villagers to migrate to urban areas in search of employment and education opportunities (Sekher, 2012). In case of urban population, the 6 blocks of Tlangnuam, Khawzawl, N.Thingdawl, Lunglei, Tuipang and Serchhip witnessed an increased in their population. Tlangnuam block adds 84,274 followed by Khawzawl with 22,528 and the total addition of this 6 blocks amounted to 160,236. Whereas, there are 7 blocks which are devoid of urban population, namely Lawngtlai, W.Bunghmun, Chawngte, Sangau, W.Phaileng, Aibawk and Ngopa. At the same time, there are 7 blocks which have urban population only in the 1991 census, namely Darlawn, Thingsulthliah, Lungsen, Hnahthial, Zawlnuam, Reiek and E.Lungdar.

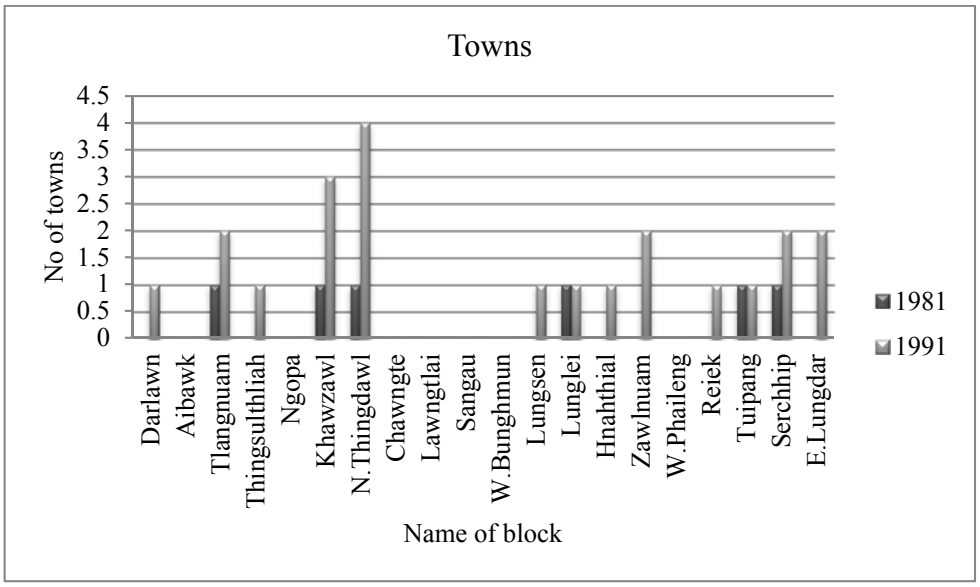

Figure 6: Block wise number of towns (1981 to 1991 census)

Amid the 3 districts, Aizawl district has the largest population, followed by Lunglei and then Chhimtuipui. An interesting thing observes in all the districts are that during the period of 1981census, the population living in rural areas is more compared to the population living in urban areas. The population in the entire 3 districts shown an increased after ten years, Aizawl by the addition of 137,639 Lunglei by 24,904, and Chhimtuipui by 33,456. In the 1981 census, Aizawl district has about 71.37% (243,235) lives in the rural areas, and only 28.63% (97,591) of the population in the urban areas. There are as many as 400 villages in which 390 are inhabited with 4 towns namely Kolasib (8,282), Aizawl (74,493), Champhai (7,487) and Serchhip (7,329) among the 6 towns presence in the state. After ten years, the total population has increased by 137,639 and the number of the total villages decline to 392 in numbers in which inhabited village also numbered 342. Nevertheless, the number of towns has increased to 18, and the population living in the urban areas also increased by 162,130 (total 259, 721). As a matter of fact, Aizawl witnessed highest increased among the three districts in terms of urban population. Further, about 60% of the district lived in the town. In fact, more than half of the population of the district lives in Aizawl town in 1991 census. Even though the growth rate for Aizawl district stood second (table no 2) the urban population of the district increased by 166.13%, and the rural population has shown a decline of 10.07%. This is due to (1)large scale migration of population from rural to urban areas(2) addition of 18 new towns, namely, Zawlnuam, Mamit, Lengpui, Sairang, Vairengte, Bairabi, North Kawnpui, Darlawn, Thenzawl, Saitual, Khawzawl, Khawhai, Biate and North Vanlalphai (3) Expansion of Aizawl, Champhai, Serchhip and Kolasib town(census,1991).

In the district of Lunglei, 80.11% (69,306) lived in the 161 inhabited villages (total village163) and only 19.89% (17,205) lives in the one town Lunglei in 1981 census. But after ten years, there is more population in the urban areas than the rural areas with a decline in the inhabited village and increase in the number of towns (Lunglei, Tlabung and Hnahthial) as well. Lunglei town has about 80% of the urban population in the district; in fact, one third of the population of the district lived in Lunglei town in 1991 census. The district of Lunglei records the lowest growth rate

(table 2) but the urban population of the district increased by 158.97% while the rural population has shown a decline of 3.53% during the same period of 1981to1991census. The loss in the rural population can be attributed to (1) migration of rural to urban areas (2) addition of two new towns, namely Hnahthial and Tlabung (3) expansion of Lunglei town.

In Chhimtuipui district 89.43% (59,402) lived in the rural areas in 170 inhabited villages (total village 173) and only 10.57% (7,018) lived in the one town Saiha in 1981 census. The district, which records highest growth rate between 1981 to 1991 census has an increased of urban population by 94.77% (13,669) and this happens in only one town Saiha, which is treated as a town for the first time in the 1981 census, has emerged as an important growth centre in the district. An interesting thing observes here in this district is that while the other two districts has shown a decline in their number of villages, but this district has an addition even in its number of inhabited villages by 28 (total198) and the increased in the rural population amounted to 45.12% (86,207) in 1991 census. The reason for this high increase is due to large immigration from neighboring states. When population continues rapidly within the limited resources, it has several adverse implications of agriculture, bio-diversity, environment and population itself. Rapid growth of population in a geographical area affects adversely on the land, especially on the cultivable land, by reducing its area. Production can decline marginally when the land crosses its carrying capacity due to overpopulation (Sarkar and Mondal, 2012).

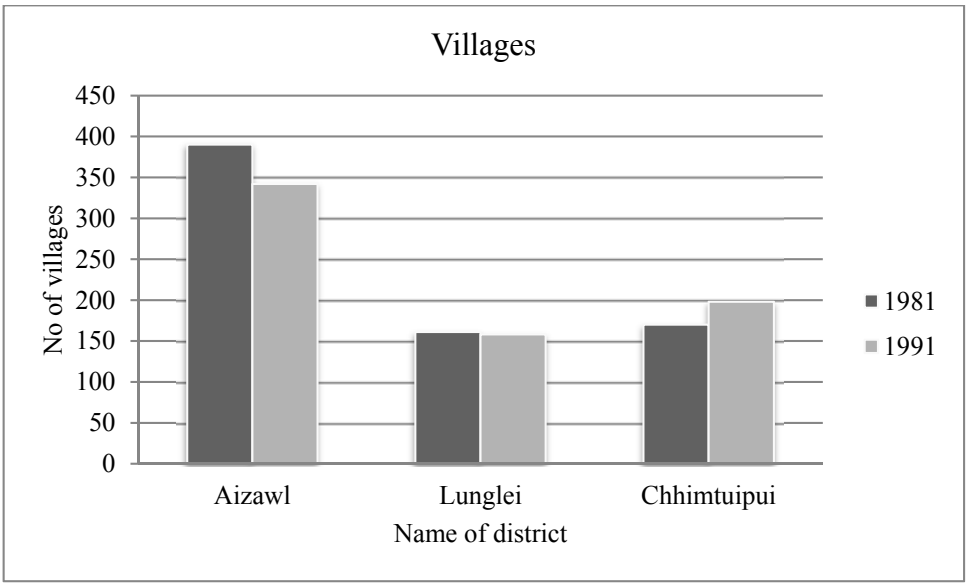

Figure 7: District wise number of inhabited villages (1981 to 1991 census)

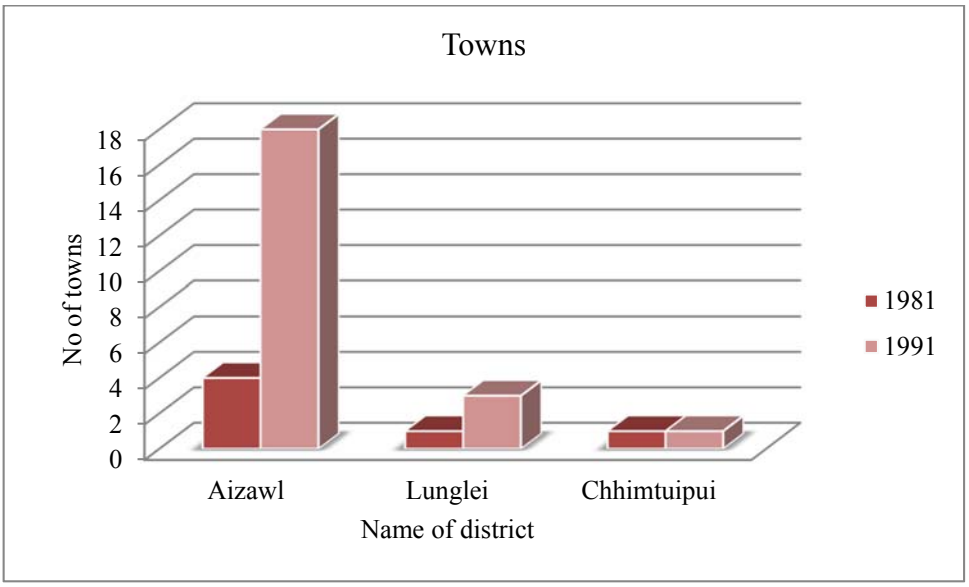

Figure 8: District wise number of towns (1981 to 1991 census)

3.2.4 Density: Between 1981 to 1991 censuses, the 20 blocks in the state all shows an increase in the number of people living in a square kilometer area. The highest density amounting 176 was found in the block of Tlangnuam, which further increased to 320 in 1991 census. It was followed by Lunglei with 31in 1981 to 43 in 1991 census. Next is the block of Serchhip with 29 persons per square kilometre which increased to 38 after ten years. On the other hand, the lowest density is found

in the block of W.Bunghmun with only 9 persons per square km in 1981 to 11 in 1991 census. The second lowest density is observed in the block of Reiek with 12 persons in 1981 to 13 in 1991 census.

Table 4: Block wise density of population (1981 to 1991 census)

Blocks	*Area in Sq.Km*	*Total population 1981*	*Density 1981*	*Total population 1991*	*Density 1991*
Tuipang	1399.9	22143	16	34930	25
Sangau	565.91	8777	16	10746	19
Chawngte	686.35	16983	25	24870	36
Lawngtlai	1304.84	18517	14	29330	22
W.Bunghmun	1389.26	12239	9	15549	11
Lungsen	1046.29	21127	20	26496	25
Hnahthial	985.39	18615	19	20877	21
Lunglei	1117.06	34530	31	48493	43
E.Lungdar	1328.98	28885	22	32344	24
Serchhip	798.6	23428	29	29993	38
Khawzawl	1746.59	35807	21	50192	29
Ngopa	1248.41	20956	17	23347	19
Zawlnuam	1088.76	24444	22	30853	28
West Phaileng	999.57	16838	17	21591	22
Reiek	937.42	10973	12	12128	13
N.Thingdawl	1382.51	35351	26	44833	32
Darlawn	1037.48	18066	17	20983	20
Thingsulthliah	874.13	20638	24	27095	31
Aibawk	616.88	11671	19	14439	23
Tlangnuam	532.67	93769	176	170667	320

Source: Rural Development Department, Govt of Mizoram

The state of Mizoram has indicated an expansion in the density of population between 1981 to 1991 census from 23 to 33. The density is highest in the

district of Aizawl during this period amounting 27 in 1981 to 38 in 1991 census. It was followed by the district of Lunglei from 19 in 1981 to 25 in 1991 census. The lowest density is found in the district of Chhimtuipui with 17 persons per square kilometer in 1981 to 25 after ten years in 1991.

Table 5: State and districtwise density of population (1981 to 1991 census)

Name	*Area in Sq.Km*	*Total population 1981*	*Density 1981*	*Total population 1991*	*Density 1991*
Aizawl	12592	340826	27	478465	38
Lunglei	4538	86511	19	111415	25
Chhimtuipui	3957	66420	17	99876	25
Mizoram	21087	493757	23	689756	33

Source: Rural Development Department, Govt of Mizoram

3.3 Population growth between 1991 to 2001 censuses:

Between 1991 to 2001 censuses the block of Tlangnuam still records highest growth of population among the 20 blocks of Mizoram, while E.Lungdar records the lowest population growth. The reason for Tlangnuam is same as the previous census that is migrating into the block mainly Aizawl town can be singled out as one of the important reasons for such high growth, apart from natural increase. On the other hand, the reason why E.Lungdar has lowest growth can be attributed is due to the creation of 6 new districts and 2 new blocks in the state of Mizoram which makes it necessary to transfer some of the villages to the newly created blocks and districts. Besides, E.Lungdar used to be one of the block in Aizawl district with a population of 32,344 with a total villages of 39 and two towns namely Biate and N.Vanlaiphai in 1991 census, but due to reorganization of the state, 24 of its villages were transferred to the newly created Khawbung block in Champhai district and 12 of its villages and one town namely N.Vanlaiphai to E.Lungdar (P) in Serchhip district and 3 of its villages and one town namely Biate were in E.Lungdar(P) of Champhai district resulting in the lost of its population.

3.3.1 Block wise population growth (1991 to 2001 census):

***High growth of population (>18)*:** There are 9 blocks in this group. Among this, the 4 blocks of Tlangnuam, Lawngtlai, Tuipang and Chawngte continued to be in the high group. Even though the growth rate for Tlangnuam block is reduced compared with the previous census, it still records highest even after ten years. Blocks like N.Thingdawl, Khawzawl, Lunglei, Sangau and Thingsulthliah which occupied medium rate of growth in the previous census are now in this group of high rate of growth. The reason for this 5 blocks step up in the high group can be explained like this; N.Thingdawl which used to be one of the blocks in Aizawl district is transferred to newly created Kolasib district, even though the number of villages has been reduced to 32 in number, yet the total population of this block increased amounted to 61,046 due to the birth of 4 new towns in this block namely Vairengte, Bairabi, Kolasib and Kawnpui. Same thing happens to Khawzawl block which used to be one of the blocks in Aizawl district in 1981and 1991 is transferred to become one of the blocks under Champhai district with an increased total population of 65,779, what's more it consists of 3 newly created towns namely Khawzawl (10,954) Champhai (26,465) and Khawhai (2,403) in 2001 census. For the block of Lunglei, the population living in urban areas has increased considerably as people from other areas migrate to Lunglei town resulting increased in the growth rate in this block. In case of Thingsulthliah, the rural population as well as the urban population increased during the ten years by 5,527 and 2,564 respectively, even the inhabited village increased by 3 in numbers due to natural increase and migration from other parts of the state. The block of Sangau, which is completely devoid of urban population witnessed a continuing increased in its rural population due to migration from other areas as it is sandwiched between Bangladesh and Myanmar.

***Medium growth of population (-10 to 18)*:** There are 8 blocks in this group. Among this, the 3 blocks of Darlawn, Reiek and Hnahthial, has changed their position from low in the previous census for this group, while the other 5 blocks continue to remain in their position. Nevertheless, even though the growth rate for the block of Darlawn is lesser in this census (from 16.15% to 15.18%) however, manage to be in this group due to the high growth rate in general of other blocks in the previous census. Moreover, Reiek block by adding a population of 1,787 come

into being in this group. Same thing happens to the block of Hnahthial by adding 3,766 populations. These increases have taken place in both the urban and the rural population, even though the number of inhabited village decline by 4 for Reiek and 3 for Hnahthial block.

Table 6: Block wise population growth (1991 to 2001 census)

Blocks	*Growth (%)*	*Blocks*	*Growth (%)*
Darlawn	15.18	W.Bunghmun	1.75
Aibawk	10.72	Lungsen	15.67
Tlangnuam	45.14	Lunglei	36.33
Thingsulthliah	29.86	Hnahthial	18.04
Ngopa	-25.63	Zawlnuam	-10.24
Khawzawl	31.05	W.Phaileng	-1.92
N.Thingdawl	36.16	Reiek	14.73
Chawngte	38.84	Tuipang	34.79
Lawngtlai	33.28	Serchhip	18.43
Sangau	30.02	E.Lungdar	-40.63

Source: Census of India, 1991 and 2001 ((DCHB series 17, General population tables Mizoram (Tables A-1 to A-4) &PCA series 16)

***Low growth of population (<-10)*:** The 3 blocks of Zawlnuam, Ngopa, and E.Lungdar are in this group of low growth rate of population. These 3 blocks all registered a reduction in their growth rate from the previous census. Yet, the block of Ngopa and E.Lungdar remain in their position from the former census. However, Zawlnuam block which is in the medium status come down to low in this census by losing 3,160 populations, due to the subtraction of 11 villages, a number of which were transferred to West Phaileng block in 2001 census and also some of its village were merge with another village.

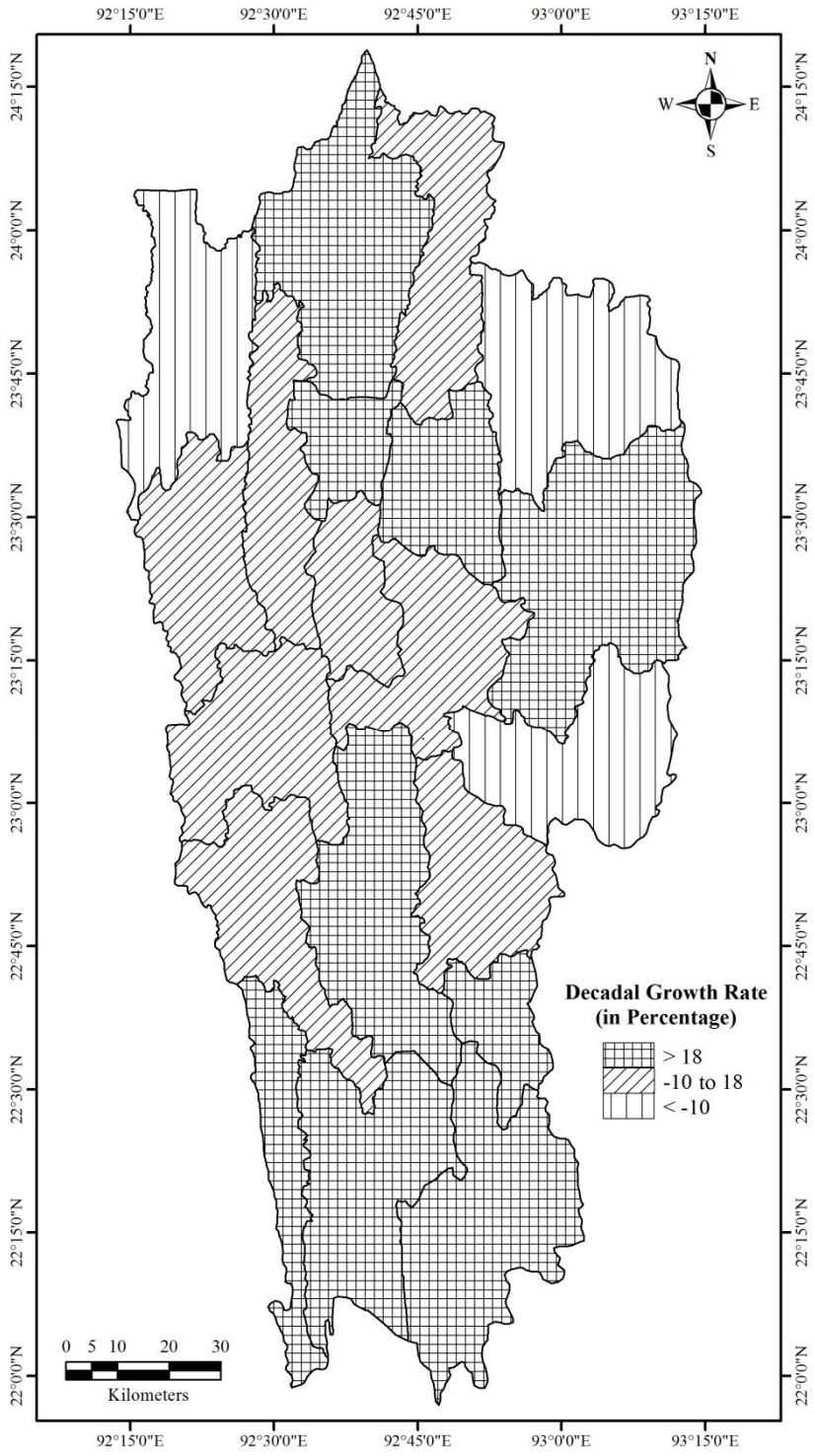

Figure 9: Block wise population growth (1991 to 2001 census)

3.3.2 Districts population growth (1991 to 2001 census)

The census of 2001 makes significant landmarks in the history of population in the state of Mizoram especially in Aizawl district, where the number of population as well as the number of blocks seems to be decreased in the district. This is because, in the year 1998, 6 new districts have been created in the whole of Mizoram, along with 2 new blocks, and the total number of blocks amounted to 22, and the districts also become 8 in numbers in the whole state. As a result of this, reorganization happens in the state and great changes have taken place in the distribution of population especially in Aizawl district. The number of blocks used to be found in Aizawl district is reduced by the transferred of villages and towns in the newly created 4 districts. Mamit district was formed on11th March, 1998 from the district of Aizawl by transferring entire three development blocks of Zawlnuam, West Phaileng and Reiek. And the district of Kolasib is formed by the transferred of entire development blocks of North Thingdawl and 8 villages of Tlangnuam block on 29th July 1998. Again, an entire development block of Khawzawl, 16 villages of Ngopa block, 27 villages of East Lungdar block and one town Biate transferred from Aizawl district to form a Champhai district on11th March, 1998. Further, entire blocks of Serchhip, 14 villages of E.Lungdar block and 1 town North Vanlaiphai, and 6 villages of Thingsulthliah block transferred from Aizawl district to formed Serchhip district on 15th September, 1998. This reorganization makes the population in Aizawl district appeared to be decreased in numbers, when compared to the former census, as now the number of blocks presence in Aizawl district has become only 5 in numbers with the newly created Phullen block on 5th April 2001.

Table 7: Districts population growth (1991 to 2001 census)

Districts	*Growth (%)*
Aizawl	-31.93
Lunglei	23.16

Source: Census of India, 1991 and 2001((DCHB series 17, General population tables Mizoram (Tables A-1 to A-4) &PCA series 16)

Because of this reformation in the state, the district of Chhimtuipui has been bifurcated into Lawngtlai and Saiha; and Chhimtuipui district has been completely

removed from the state of Mizoram. The district of Lawngtlai produced from Chhimtuipui is created by the transferred of entire two development blocks, namely Lawngtlai and Chawngte on 11th November, 1998. Furthermore, Saiha district is created on 29th July, 1998 from Chhimtuipui by the transferred of entire two development blocks namely Sangau and Tuipang. This is the reason why there are growth rate data for Aizawl and Lunglei district for 1991to2001 censuses. Between these two districts, the growth rate for Lunglei is higher recording 23.16% compared to the district of Aizawl which has a negative growth rate of -31.93%. The reason for the negative growth in Aizawl is due to the reason mentioned above.

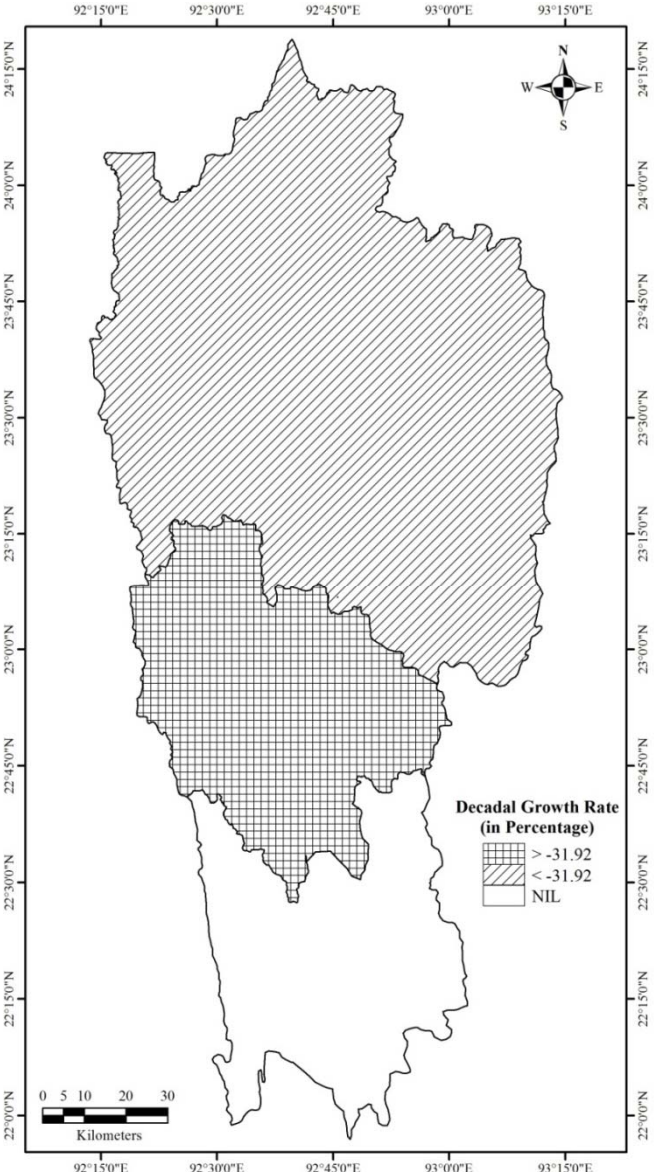

Figure 10: Districts population growth (1991 to 2001 census)

3.3.3 Rural and urban level of population growth:

Mizoram has 447,567(50.37%) rural population distributed in 707 inhabited villages, and urban population of 441,006(49.63%) in 22 towns in 2001 census. The added population of the state in both rural and urban is 75,757 and 123,060 respectively from 1991 census. There are 9 blocks which show an increase in their number of villages; the 4 blocks of Darlawn, Tlangnuam, N.Thingdawl and Hnahthial with 1 each, Sangau and Lungsen with 2 each, Thingsulthliah with 3, Khawzawl with 5, Lunglei with 8, yet, Serchhip block remains the same. This increase is due to migration from other parts of the state and natural increase, especially for the block of Lunglei. While there are 10 blocks which shows a decline in their number of villages; Aibawk and Tuipang by 1 each, Lawngtlai and W.Phaileng by 2 each, Reiek and W.Bunghmun by 3 and 9 respectively, Chawngte and Zawlnuam by 10 and 11 respectively, Ngopa by 12 and, E.Lungdar block by 23 in numbers. The reason for such a large reduction happens in E.Lungdar block is due to the creation of Khawbung block on 20th June 1995 by means of this loss block from E.Lungdar. Same thing happens to the block of Ngopa, the loss 12 villages have been used to create the block of Phullen on 5th April 2001. Further, the block of Zawlnuam loss some of its villages to W.Phaileng block, not only that some of its loss village were merged into a larger village. At the same time, the block of W.Bunghmun lost some of its villages to Lungsen block in 2001 census. The other minor lost village in another block is due to the merge into another village. On the other hand, the numbers of towns' presence in each of the 13 blocks remain the same.

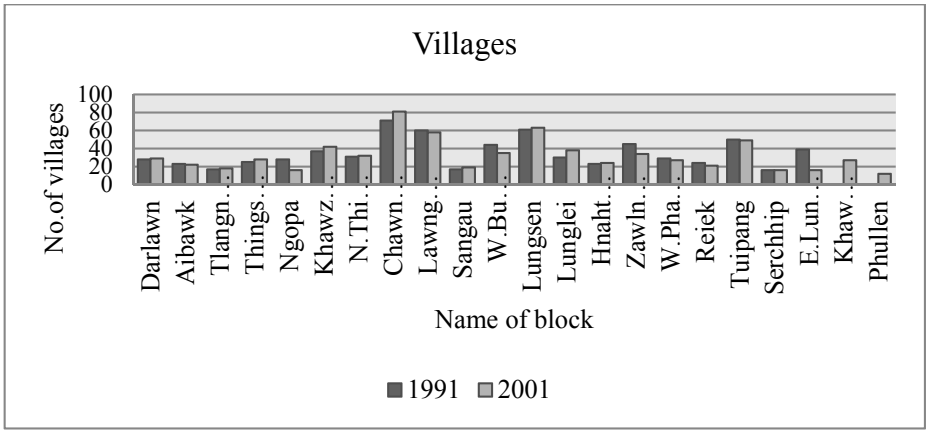

Figure 11: Block wise number of inhabited villages (1991 to 2001 census)

Almost all the blocks except Lungsen block witnessed an increased in their urban population, the block of Tlangnuam and Lunglei witnessed the largest increased in their urban population due to Aizawl and Lunglei town, Tlangnuam with 74,547 and Lunglei with 12,528. On the other hand, the block of Lungsen lost 718 urban populations due to migration to other towns as the number of households increased from 737 in 1991 to 874 in 2001, while surprisingly its rural population increased by 4,870.

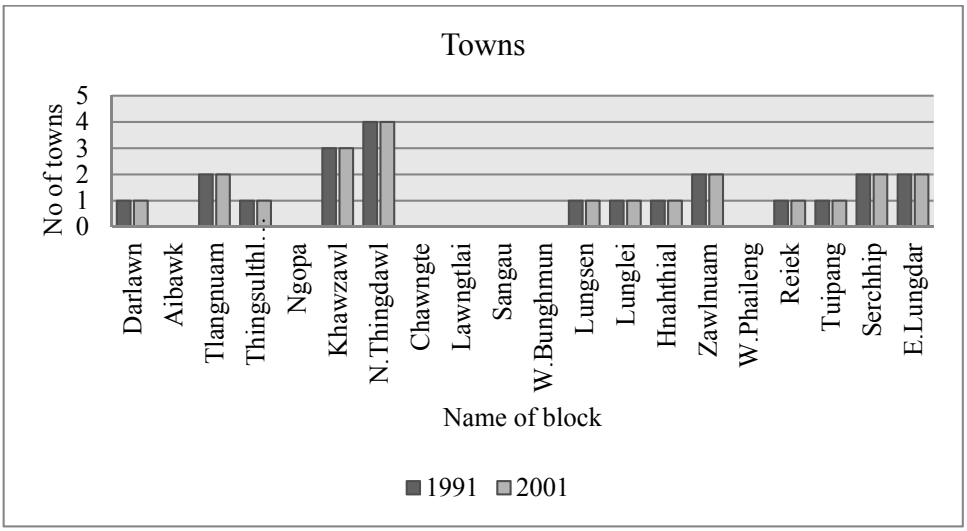

Figure 12: Block wise number of towns (1991 to 2001census)

Among the 8 districts in the state, Lunglei district has the largest number of inhabited villages followed by Lawngtlai and Aizawl district. Not only that, Lunglei has the largest rural population, followed by Aizawl and Lawngtlai. Whereas, Serchhip has the smallest rural population, followed closely by the district of Kolasib. In case of urban population Aizawl district witnessed the highest urban population of 56.26% (248,145), in fact, more than half of the urban population in the state(441,006) lives in Aizawl district due to the capital city Aizawl where again more than half of its urban population in the districts is found. The district of Lunglei stood second with 57,956(13.14%) urban populations, followed by Champhai district. Furthermore, the district of Mamit has the smallest urban population of 10,653(2.41%) followed by Saiha where 19,826(4.49%) population lives in the urban areas. At the same time, the district of Lawngtlai is devoid of urban population.

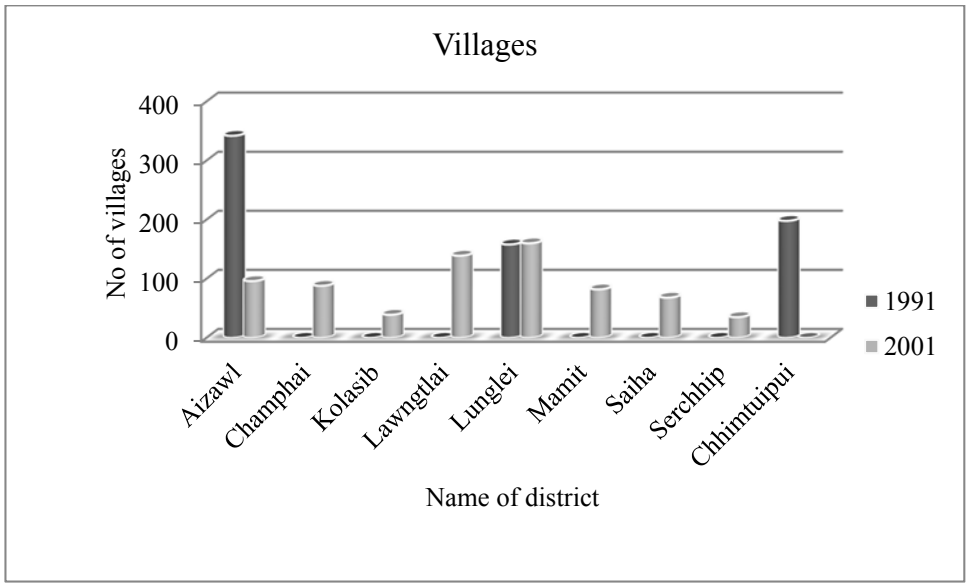

Figure 13: District wise number of inhabited villages (1991 to 2001 census)

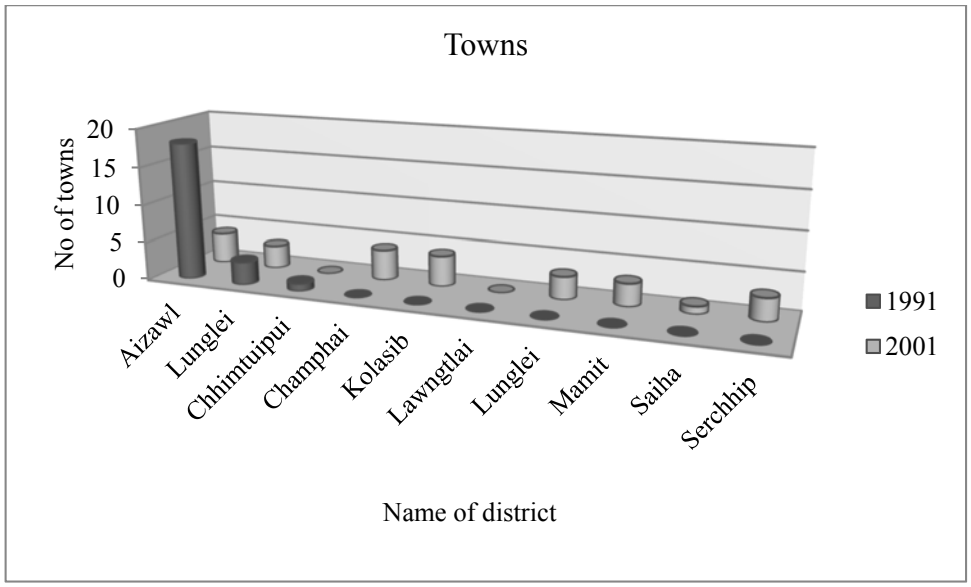

Figure 14: District wise number of towns (1991 to 2001census)

3.3.4: Density: Between 1991 to 2001 censuses Tlangnuam still records the highest density of population amounting 465 persons per square kilometer. While, the block of W. Bunghmun continue to have the lowest density of 11 persons per square kilometer. There are two blocks where the density is reduced during these ten years, the block of Zawlnuam from 28 in 1991 to 25 in 2001, and the block of W.Phaileng from 22 in 1991 to 21density after ten years due to reorganization in the states. All the other blocks experienced an increased in their density.

Table 8: Blockwise density of population (1991 to 2001)

Blocks	*Area (Sq.Km) 1991*	*Total population 1991*	*Density 1991*	*Area (Sq.Km) 2001*	*Total population 2001*	*Density 2001*
Tuipang	1399.9	34930	25	1399.9	47084	34
Sangau	565.91	10746	19	565.91	13972	25
Chawngte	686.35	24870	36	686.35	34529	50
Lawngtlai	1304.84	29330	22	1304.84	39091	30
W.Bunghmun	1389.26	15549	11	1389.26	15821	11
Lungsen	1046.29	26496	25	1046.29	30648	29
Hnahthial	985.39	20877	21	985.39	24643	25
Lunglei	1117.06	48493	43	1117.06	66111	59
E.Lungdar	1328.98	32344	24	623	19202	31
Serchhip	798.6	29993	38	798.6	35520	44
Khawbung	NIL	NIL	NIL	705.98	19598	28
Khawzawl	1746.59	50192	29	1746.59	65779	38
Ngopa	1248.41	23347	19	733.26	17362	24
Zawlnuam	1088.76	30853	28	1088.76	27693	25
West Phaileng	999.57	21591	22	999.57	21177	21
Reiek	937.42	12128	13	937.42	13915	15
N.Thingdawl	1382.51	44833	32	1382.51	61046	44
Phullen	NIL	NIL	NIL	515.15	12337	24
Darlawn	1037.48	20983	20	1037.48	24169	23
Thingsulthliah	874.13	27095	31	874.13	35186	40
Aibawk	616.88	14439	23	616.88	15987	26
Tlangnuam	532.67	170667	320	532.67	247703	465

Source: Rural Development Department, Govt of Mizoram (NIL indicates blocks which are not yet created)

Between 1991 to 2001 censuses, the two districts of Aizawl and Lunglei have shown an increased. Nevertheless, there is a large reduction in the area of Aizawl from 12,592 square kilometers in 1991 census to only 3576.31 square kilometers in

2001 census because of the creation of 4 new districts in which Aizawl area is disseminated. For instance the district of Mamit has 3025.75 Sq.Km, Kolasib district with 1382.51Sq.Km, Champhai district with 3185.83Sq.Km and Serchhip district with 1421.6Sq.Km. In the same way, Chhimtuipui district area was also scattered into Lawngtlai with 2557.1Sq.Km and Saiha district with 1399.9 Sq.Km, and the district of Chhimtuipui was no longer in existence in the state of Mizoram.

Table 9: State and district wise density of population (1991 to 2001)

Districts&state	*Area in Sq.Km*	*Total population 1991*	*Density 1991*	*Area in Sq.Km*	*Total population 2001*	*Density 2001*
Aizawl	12592	478465	38	3576.31	325676	91
Lunglei	4538	111415	25	4538	137223	30
Mamit	NIL	NIL	NIL	3025.75	62785	21
Kolasib	NIL	NIL	NIL	1382.51	65960	48
Champhai	NIL	NIL	NIL	3185.83	108392	34
Serchhip	NIL	NIL	NIL	1421.6	53861	38
Lawngtlai	NIL	NIL	NIL	2557.1	73620	29
Saiha	NIL	NIL	NIL	1399.9	61056	44
Chhimtuipui	3957	99876	25	NIL	NIL	NIL
Mizoram	21087	689756	33	21087	888573	42

Source: Rural Development Department, Govt of Mizoram (NIL indicates districts which are not yet created)

3.4 Population growth between 2001 to 2011 censuses:

A very remarkable thing observes in this census is the altering position of two blocks which occupied highest and lowest growth rate. Zawlnuam block which occupied low in the previous census to high position with a distinctly very high growth rate, for a place in which the existing population is already strained by many difficulties. Also, a large proportion of these populations are supported through a primitive type of cultivation, as populations grow, competition for land and the used

of limited resources increases. Undoubtedly, one of the challenges of a growing population is the presence of so many people sharing a limited number of resources. On the other hand, the block of N.Thingdawl which occupied high in the previous census registered a negative growth rate. Not only that, this census identifies the birth of four new blocks in the state of Mizoram, namely, Champhai, Bilkhawthlir, S.Bungtlang and Saiha.

3.4.1 Block wise population growth (2001 to 2011census):

***High growth of population (>19)*:** There are 6 blocks in this group; namely, Zawlnuam, Chawngte, Reiek, Tlangnuam, Lungsen and Serchhip. The growth rate acquired by the block of Zawlnuam is distinctively high even among the high blocks. The added population amounted to 19,495 in which 3,387 is contributed by the urban population from the two towns and 16,108 by the rural population in which inhabited villages also witnessed an increased by 9 in numbers. This high growth is due to migration and natural increase, furthermore, few of the villages earlier transferred to W.Phaileng block in 2001 census were returned to this block. The block of Chawngte manages to be in the high position even though its growth rate decrease compared with the previous census. The added population amounted to 10,778 which are contributed completely by the rural population in which inhabited village also remain the same. This high increase is due to immigration from outside state apart from natural increase, as the block is at the southern tip of the state bordering Bangladesh and completely devoid of urban centre. Although, the growth rate of Tlangnuam block decline compared with the previous census, yet still manage to be in the high group with the addition of 69,656 persons in which 3,604 persons is contributed by the rural and 66,052 by the urban population mostly from Aizawl town. Then, the three blocks of Reiek, Lungsen and Serchhip step up from a medium position in the previous census in this high group. Reiek block by adding 3,952 population in which 3,093 is contributed by the rural and 859 by the urban population. In case of Lungsen block 8,372 persons were added in which 7,499 persons are contributed from rural population and 873 persons from the urban population. Serchhip block adds 8,722 persons where the rural population consists of 2,908 and urban population consists of 5,814 persons.

Table 10: Block wise population growth (2001 to 2011census)

Blocks	*Growth%*	*Blocks*	*Growth%*
Darlawn	7.77	Sangau	19.8
Aibawk	7.14	W.Bunghmun	18.91
Phullen	7.83	Lungsen	27.32
Tlangnuam	28.12	Lunglei	17.2
Thingsulthliah	7.7	Hnahthial	5.97
Ngopa	7.88	Zawlnuam	70.4
Khawzawl	-45.38	W.Phaileng	0.62
Khawbung	12.96	Reiek	28.4
N.Thingdawl	-67.5	Tuipang	-55.31
Chawngte	31.21	Serchhip	24.56
Lawngtlai	-0.94	E.Lungdar	8.34

Source: Census of India, 2001 and 2011(General population tables Mizoram (Tables A-1 to A-4) &PCA series 16) DCHB series 16 part XII-B.

***Medium growth of population (-45 to 19)*:** There are 13 blocks in this group, among this group, the 5 blocks of Hnahthial, Darlawn, Aibawk, W.Bunghmun, and W. Phaileng still maintained their position. While, the 4 blocks of Sangau, Lunglei, Thingsulthliah and Lawngtlai decline in their position from high to this group. The reason for their decline in position is simply the lesser increase in their population compare to other blocks in this census, even though the 3 blocks showed an increase in their population, compared to the previous census both in terms of rural and urban population, except for Sangau which do not have urban population also showed an increased in its rural population. The declining position for Lawngtlai block is due to the birth of S.Bungtlang block on 1st March, 2006 in Lawngtlai district by means of the 24 villages from Lawngtlai block resulting in the lesser amount of population. Though the 2 blocks of E.Lungdar and Ngopa step up from low to this group as their population increased both from the rural and urban for E.Lungdar, while Ngopa is wholly rural. Furthermore, the 2 blocks of Phullen and Khawbung who have growth rate only in this census manage to be in this group.

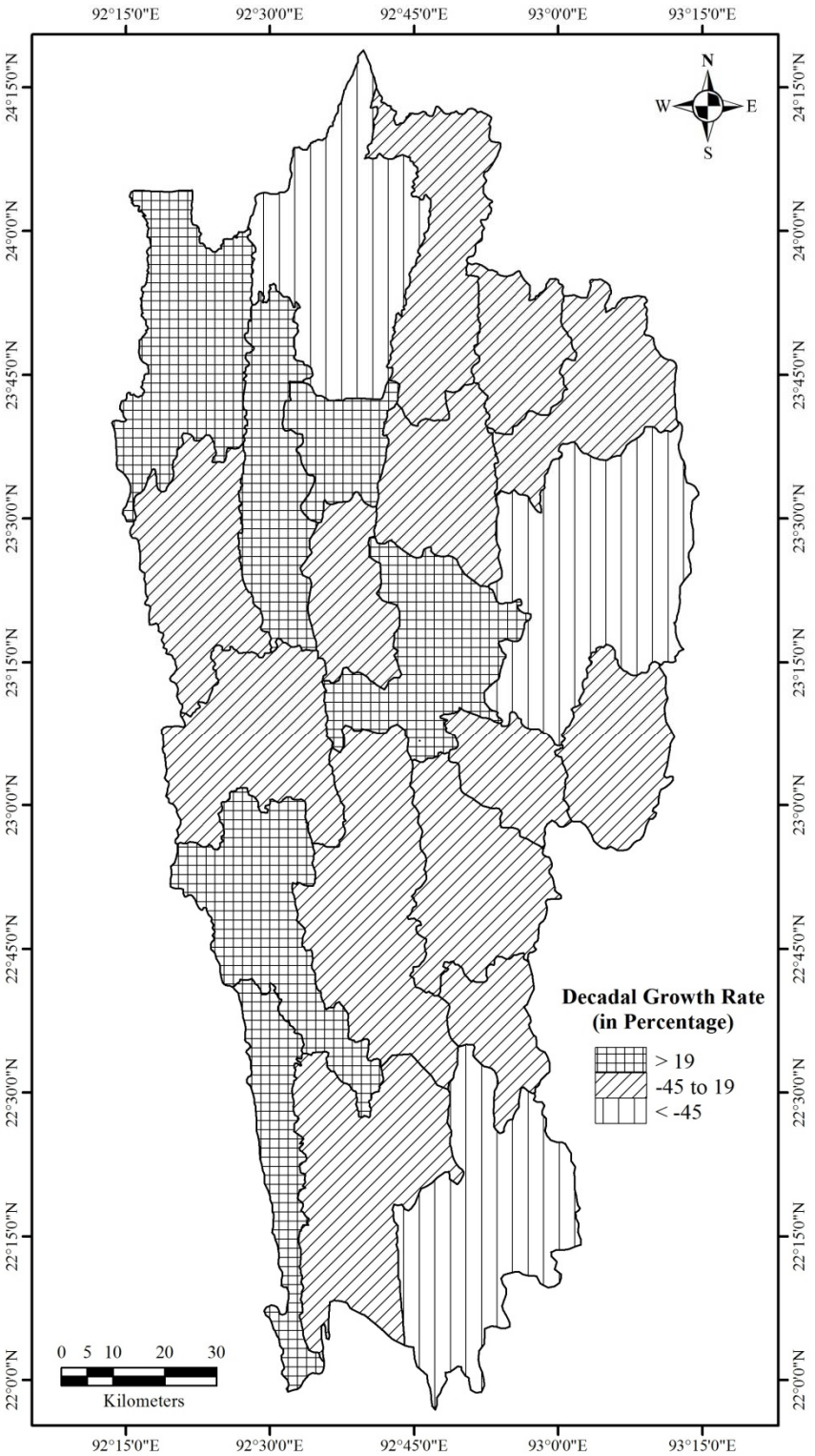

Figure 15: Block wise population growth (2001 and 2011 census)

***Low growth of population (<-45)*:** There are 3 blocks in this group, namely, Khawzawl, Tuipang and N.Thingdawl. These three blocks are all in the high group in the previous census. The reason for their descend in position is due to the creation of new blocks from this 3 existing blocks in this census in which a number of villages were transferred to the newly created block causing a reduction in their numbers of population. For instance, 9 villages and Champhai town were transferred from Khawzawl to create Champhai block on 17th November, 2005. Again, Saiha block was created on 11th November, 2005 by transferring 16 villages and Saiha town from Tuipang block. Added to that, Bilkhawthlir block was born on 8th August, 2004 by transferring 19 villages and 3 towns namely Vairengte, Bairabi and Kolasib from N.Thingdawl block. These transfers of villages and towns in order to create new blocks cause a reduction in their growth rate.

3.4.2 District wise population growth (2001 to 2011census):

These censuses categorize the 8 district growth rate for the first time in the state. The population difference between the highest (Lawngtlai) and the lowest (Saiha) district amounted to 61,320. Furthermore, the district of Lawngtlai which has the highest growth rate has urban population only in the latest census of 2011. A large population would affect decisively the strategy, policy and the pace of development of society and economy. And a crucial link between population growth and poverty is employment (Krishnan, 1992).

***High growth of population (> 37)*:** The district of Lawngtlai alone occupied the high group with remarkably very high growth rate. The added population count up to 44,274 in which the rural population contributes 23,444 persons and 20,830 persons by the urban. The inhabited villages increased by 20 in numbers and the district witnessed the beginning of Lawngtlai town. Where, one-third of the total inhabitants rely entirely on agriculture based on shifting cultivation. This traditional agricultural farming in developing countries with increasing population growth rates, often involves the cultivation of fragile soils that are difficult to farm, such as dry lands, highlands, and forests. When farm lands expand towards fragile lands in order to keep pace with the needs of a growing population in a region, it can lead to deforestation, erosion and desertification (Demena, 2005). High growth rate with

impaired development can push the economy towards the state of financial difficulties.

Table 11: District wise population growth (2001 to 2011census)

Districts	*Growth(%)*
Aizawl	22.92
Champhai	16
Kolasib	27.28
Lawngtlai	60.14
Lunglei	17.64
Mamit	37.56
Saiha	-7.34
Serchhip	20.56

Source: Census of India, 2001 and 2011(General population tables Mizoram (Tables A-1 to A-4) &PCA series 16) DCHB series 16 part XII-B

***Medium growth of population (-7 to 37)*:** There are 6 districts in this group, namely, Mamit, Kolasib, Aizawl, Serchhip, Lunglei and Champhai. The district of Aizawl adds 74,633 population in which 8,024 is contributed by the rural population and 66,609 by the urban population. In case of Lunglei, the added population amounted to 24,205 in which the rural share is 13,409 and the urban share of the population is 10,796. The 4 districts of Serchhip, Kolasib, Mamit and Champhai created out of Aizawl district, all witnessed an increased in their rural and urban population. Serchhip district adds 11,076 population in which 4,935 is contributed by the rural population and 6,141 by the urban population. Then, the district of Kolasib adds 17,995 populations within ten years in which 7,616 is contributed by the rural and 10,379 by the urban population. Again, Mamit district adds 23,579 persons in which 19,333 persons are from the rural and 4,246 from the urban. Furthermore, Champhai district adds 17,353 persons in which 10,873 is from the rural and 6,480 is from the urban. The total addition of population of this 4 districts amounted to 70,003 in which 42,757 persons are contributed by their rural population and 27,246 persons of their urban population. It is a simple fact that a growing population puts

pressure on both the economic and environmental systems, by bringing a need for more food, water and goods. But above all, it creates a requirement for more investment to meet all these needs. The consequent rise in economic activity, as well as the direct impact of greater numbers of people, causes an increasing burden on the ecosystem. As the purpose of an economy is to provide for the people, not the people for the economy (King and Slesser, 1995). Even some of the advance country finds it difficult to keep up with a rapid increase in their population, it is clear that a state with limited resources and funding will be under considerable stress.

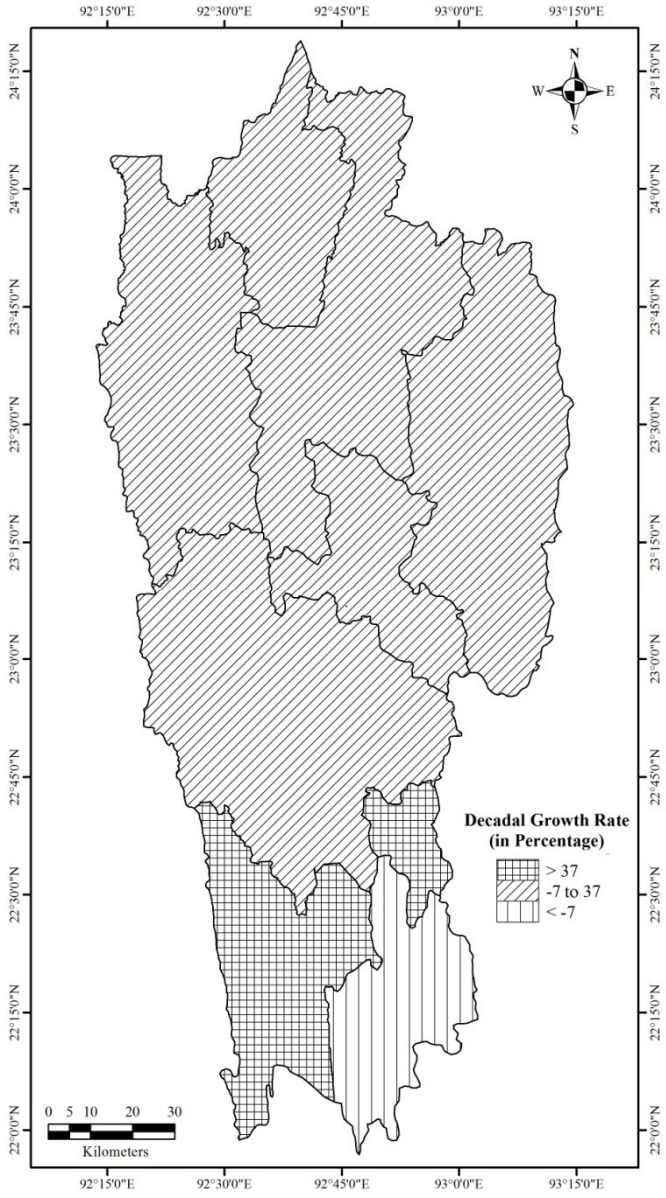

Figure 16: District wise population growth (2001 and 2011 census)

***Low growth of population (<-7)*:** The district of Saiha with a negative growth rate occupied this group. The district of Saiha witnessed a reduction in its population by 4,482 in which the decline in its rural population amount to 9,766(from 41,230 in 2001 to 31,464 in 2011) persons, though its urban population increased by 5,284(from19, 826 in 2001 to 25,110 in 2011).The reason for such declining population in this district is because of the reformation in which the district lost one of its block Sangau to Lawngtlai district in 2011 census. The district now consists of the newly created Saiha block in place of Sangau along with its original Tuipang block.

3.4.3 Rural and urban level of population growth:

Mizoram has 525,435(47.88%) rural population distributed in 704 inhabited villages, and urban population of 571,771(52.11%) distributed in the 23 towns in 2011 census. The addition of population of the state within ten years in both rural and urban amounted to 208,633 where 77,868 is from the rural and 130,765 are from the urban. The 5 blocks of Thingsulthliah, Lungsen, Lunglei, Reiek and Serchhip have shown increased by 1 village each. At the same time, there are 5 blocks, namely Aibawk, Chawngte, W.Bunghmun, Sangau and Phullen which remain the same. While, there are 12 blocks which registered a decline in their numbers of villages; the 5 blocks of Tlangnuam, Ngopa, Hnahthial, Khawbung and E.Lungdar with 1 village each. Then, Darlawn and W.Phaileng by 2 and 6 villages respectively. Added to that, the block of Zawlnuam and Khawzawl by 9 and 13 villages respectively. Moreover, the block of Tuipang lost 16 villages. Furthermore, N.Thingdawl and Lawngtlai blocks lost 21 and 26 villages respectively. The lost villages happen due to the creation of four new blocks in the state. Not only that, some villages were transferred to Zawlnuam block from W. Phaileng in the 2011 census and the other meager lost villages were merged into another village. On the other hand, among the 13 blocks in which the 23 towns of the state exists, the 3 blocks of Khawzawl, N.Thingdawl and Tuipang lost their town due to the reason mentioned above.

There are 4 blocks in which the urban population reduces namely, Darlawn by 96, Khawzawl by 26,304 and N.Thingdawl by 28,767 persons. At the same time,

the block of Tuipang no longer had an urban population as its town Saiha had been transferred to the newly created Saiha block in 2011 census; also, the block of Lawngtlai had an urban population for the first time in its town Lawngtlai numbering 20,830. The other 9 blocks all showed an increase in their urban population in which largest increased have been found in the block of Tlangnuam numbering 66,052(28.31%) followed by Lunglei with 9,874(20.95%) and Serchhip with 5,814(25.72%), while the smallest increased is found in the block of Hnahthial with only 49 persons (0.69%). Furthermore, the 3 newly created blocks had an urban population due to the inclusion of towns within their periphery. The urban areas have more population than the rural areas in the state in this census, due to large scale migration of people from village to town in search of opportunities for employment and better amenities of life. Thus, the existing different blocks inequalities of population can be attributed to differences in economic activities, as it can be clearly seen that the block with high growth of population have better economic potentials in their enclosed town, than the block with low growth rate.

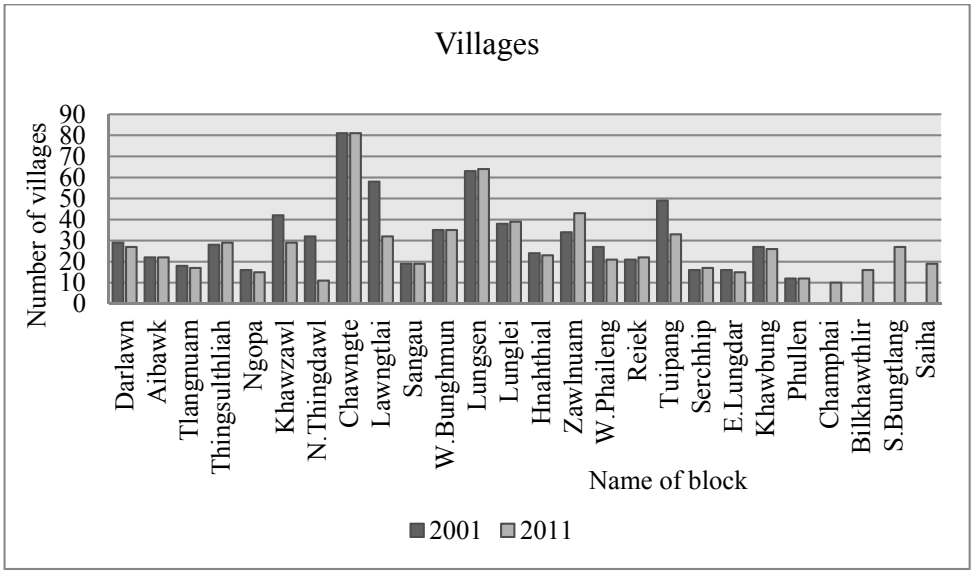

Figure 17: Block wise number of inhabited villages (2001 to 2011census)

There are 18 blocks in which the rural population shows an increased, the largest increased is found in the block of Zawlnuam registering 16,108(82.76%) persons followed by the block of Chawngte with 10,778(31.21%) persons. On the other hand, the smallest increased is found in the block of W.Phaileng registering a

mere 132 persons (0.62%). Among the 4 blocks which shows a decrease in their rural population, the block of Lawngtlai registered a large decrease of 21,199 persons followed by N.Thingdawl with 12,439 persons. And the smallest decrease is found in the block of Khawzawl with 3,544persons.

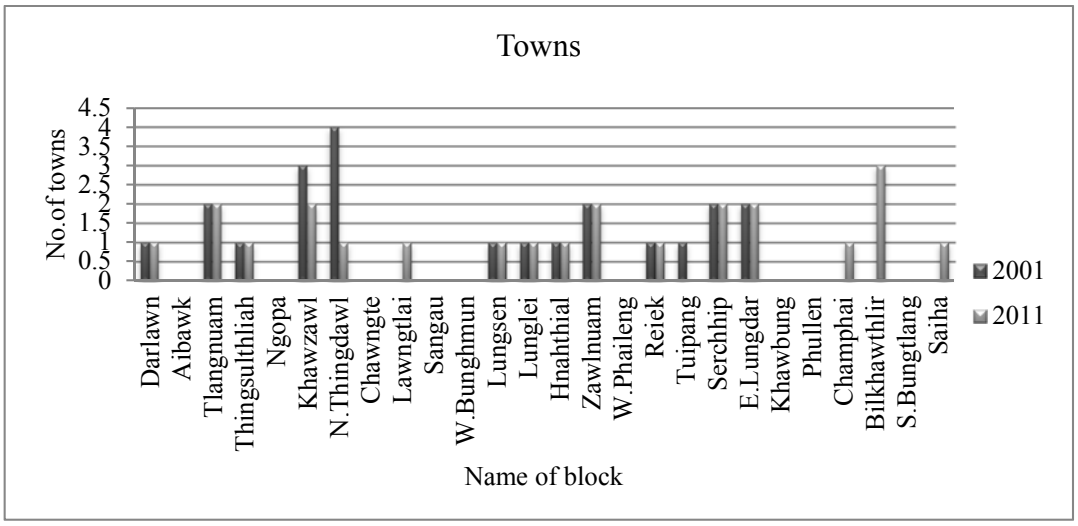

Figure 18: Block wise number of town (2001 to 2011census)

In terms of the rural population, the 7 districts show an increased in which the largest increased is noticed in the district of Lawngtlai with the addition of 23,444(31.84%) followed by Mamit with 19,333(37.08%) persons. At the same time, the smallest increased is registered by Serchhip district with the addition of 4,935(17.64%) persons. On the other hand, the district of Saiha shows a decrease in its rural population of 9,766 persons and also registered the largest reduction in the number of inhabited villages by 16 due to the lost of Sangau block in Lawngtlai district. In addition, there are 3 more districts in which the number of inhabited villages decreased, but the reduction in their number is not abundant. Further, there are 3 districts in which the number of villages increased and the district of Lawngtlai registered a rising number of 20. Moreover, the urban population shows an increased in all the 8 districts of the state in which Aizawl district registered the largest addition numbering 66, 6099 (26.84%) persons, along with the minimum increased happens in the district of Mamit with only 4,246 persons (39.86%).

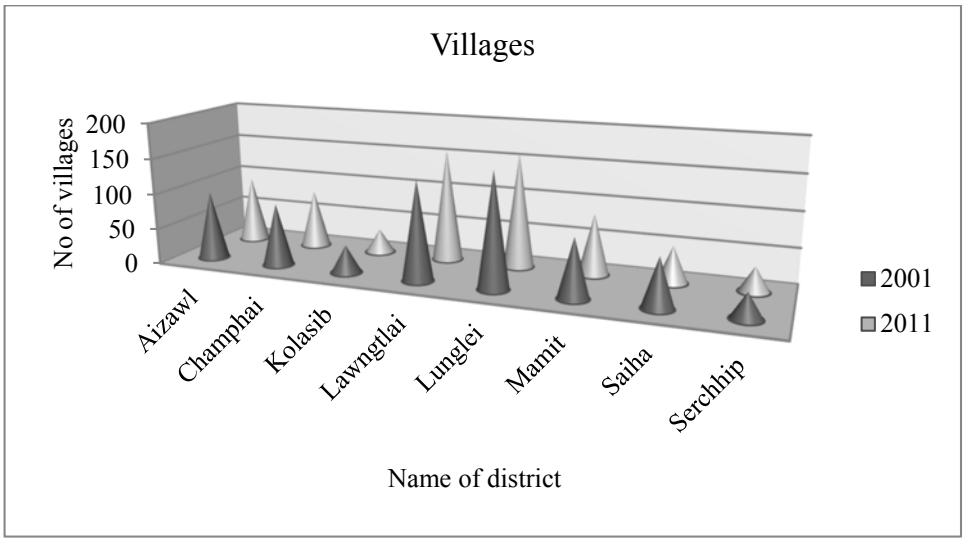

Figure 19: District wise number of inhabited villages (2001 and 2011 census)

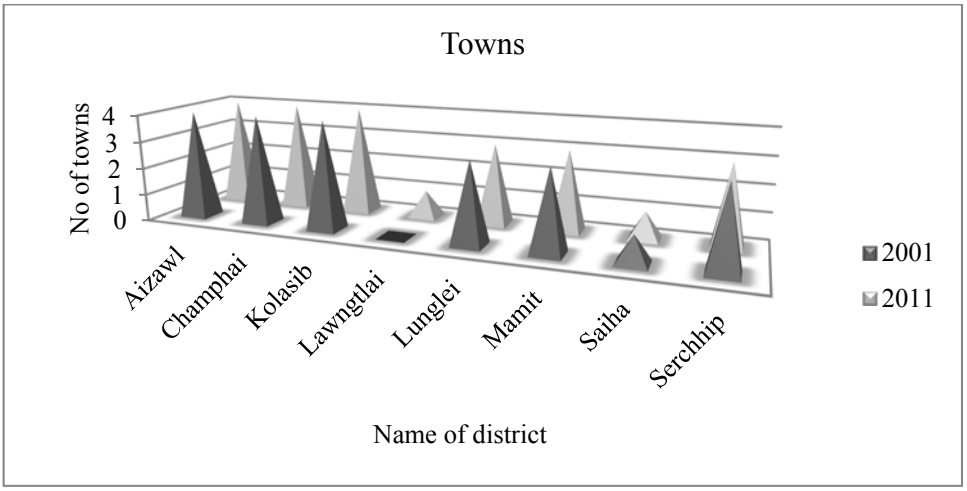

Figure 20: District wise number of towns (2001 and 2011 census)

3.4.4 Density: The block of Tlangnuam still manage to occupy the highest density with increasing large number of 596 persons per square kilometer followed by the newly created block of Bilkhawthlir amounting 106 persons in an area of 552.8 square kilometer. It was followed by another recently made Saiha block with 78 persons per square kilometer in an area of 457.17square kilometer. There are 3 blocks where the density is decreased, Khawzawl, N. Thingdawl and Tuipang due to the birth of new blocks from this; wherein each of their areas is likewise enormously reduced. All the other blocks shows increased in their density except the block of W.Phaileng which continues as before.

Table 12: Blockwise density of population (2001 to 2011)

Blocks	*Area in Sq.Km*	*Total population 2001*	*Density 2001*	*Area in Sq.Km*	*Total population 2011*	*Density 2011*
Tuipang	1399.9	47084	34	942.73	21043	22
Saiha	NIL	NIL	NIL	457.17	35531	78
Sangau	565.91	13972	25	565.91	16739	30
Chawngte	686.35	34529	50	686.35	45307	66
S.Bungtlang	NIL	NIL	NIL	534	17126	32
Lawngtlai	1304.84	39091	30	770.84	38722	50
W.Bunghmun	1389.26	15821	11	1389.26	18813	14
Lungsen	1046.29	30648	29	1046.29	39020	37
Hnahthial	985.39	24643	25	985.39	26113	27
Lunglei	1117.06	66111	59	1117.06	77482	69
E.Lungdar	623	19202	31	623	20804	33
Serchhip	798.6	35520	44	798.6	44242	55
Khawbung	705.98	19598	28	705.98	22137	31
Khawzawl	1746.59	65779	38	987.92	35931	36
Ngopa	733.26	17362	24	733.26	18730	26
Champhai	NIL	NIL	NIL	758.67	43040	57
Zawlnuam	1088.76	27693	25	1088.76	47188	43
West Phaileng	999.57	21177	21	999.57	21309	21
Reiek	937.42	13915	15	937.42	17867	19
Bilkhawthlir	NIL	NIL	NIL	552.8	58487	106
N.Thingdawl	1382.51	61046	44	829.71	19840	24
Phullen	515.15	12337	24	515.15	13303	26
Darlawn	1037.48	24169	23	1037.48	26048	25
Thingsulthliah	874.13	35186	40	874.13	37897	43
Aibawk	616.88	15987	26	616.88	17128	28
Tlangnuam	532.67	247703	465	532.67	317359	596

Source: Rural Development department, Govt of Mizoram (NIL indicates blocks which are not yet created)

The density in the state increased from 42 to 52 during the ten years. Among the eight districts in the state, Aizawl actually has the highest density followed by the district of Kolasib while Mamit still occupies the least density of 29 in 2011 census. The district of Saiha observed a reduction in its density from 44 in 2001 to 40 in 2011 census due to the lost of one of its block Sangau to Lawngtlai district. All other seven districts show an increased in their density of population.

Table13: State and districtwise density of population (2001 to 2011)

Districts	*Area in Sq.Km*	*Total population 2001*	*Density 2001*	*Area in Sq.Km*	*Total population 2011*	*Density 2011*
Aizawl	3576.31	325676	91	3576.31	400309	112
Lunglei	4538	137223	30	4538	161428	36
Mamit	3025.75	62785	21	3025.75	86364	29
Kolasib	1382.51	65960	48	1382.51	83955	61
Champhai	3185.83	108392	34	3185.83	125745	39
Serchhip	1421.6	53861	38	1421.6	64937	46
Lawngtlai	2557.1	73620	29	2557.1	117894	46
Saiha	1399.9	61056	44	1399.9	56574	40
Mizoram	21087	888573	42	21087	1097206	52

Source: Rural Development Department, Govt of Mizoram

3.5 Overall population growth (1981 to 2011 census):

3.5.1 Block wise population growth (1981 to 2011 census):

There exists an extraordinary distinction between the growth rate of the highest block of Tlangnuam with 51.76% and lowest block of E.Lungdar with -6.77%. For the most part, blocks which can offer better living conditions have more population, additionally blocks which are nearer to the state's boundary have large population due to migration. Then again, blocks which are away from the main arteries of roads and do not possess the ability to hold large population have a low growth rate of population.

Table 14: Block wise population growth (1981 to 2011 census)

Blocks	*Growth%*	*Blocks*	*Growth%*
Darlawn	13.03	Sangau	24.08
Aibawk	13.86	W.Bunghmun	15.9
Phullen	2.61	Lungsen	22.8
Tlangnuam	51.76	Lunglei	31.32
Thingsulthliah	22.95	Hnahthial	12.05
Ngopa	-2.11	Zawlnuam	28.79
Khawzawl	8.61	W.Phaileng	8.98
Khawbung	4.32	Reiek	17.89
N.Thingdawl	-1.51	Tuipang	12.41
Chawngte	38.83	Serchhip	23.67
Lawngtlai	30.24	E.Lungdar	-6.77

Source: Results from table 1 to 7

***High growth of population (>24)*:** The 5 blocks, namely Tlangnuam, Chawngte, Lunglei, Lawngtlai, and Zawlnuam are in this group. Tlangnuam and Chawngte continuously occupied this high group throughout the three decades. The reason for Tlangnuam may be attributed to Aizawl city, the state capital, where living condition is easier due to the availability of better amenities compared to other blocks, and migration from other areas greatly increased its growth rate, apart from the natural increase. In addition, the block of Chawngte located in the southwestern part of the state does not seem to possess economic potentials to attract a large population, however, the large influx of Chakma migrants from Bangladesh can be singled out as the main factors for the high growth of the population in this block. Although, Lunglei block occupies this position once in all the 3 census decade, yet, it is no surprising to be among this group in the overall result. This block has Lunglei town, the most important town in the southern part of the state since 1971 where all the administrative headquarters and offices were located, also living conditions is much easier due to better amenities than the surrounding areas, thus attracting migrants from rural areas adding to its growth of population. In case of Lawngtlai, this block occupies high positions twice in all the three census decade, and can

manage to be in this position in the overall result due to migrants from other areas, apart from natural increase as the population goes on increasing in the entire census. Lastly, the block of Zawlnuam located in the southeastern portion of the state manage to occupy high position due mainly to migrants from Tripura, also natural increase.

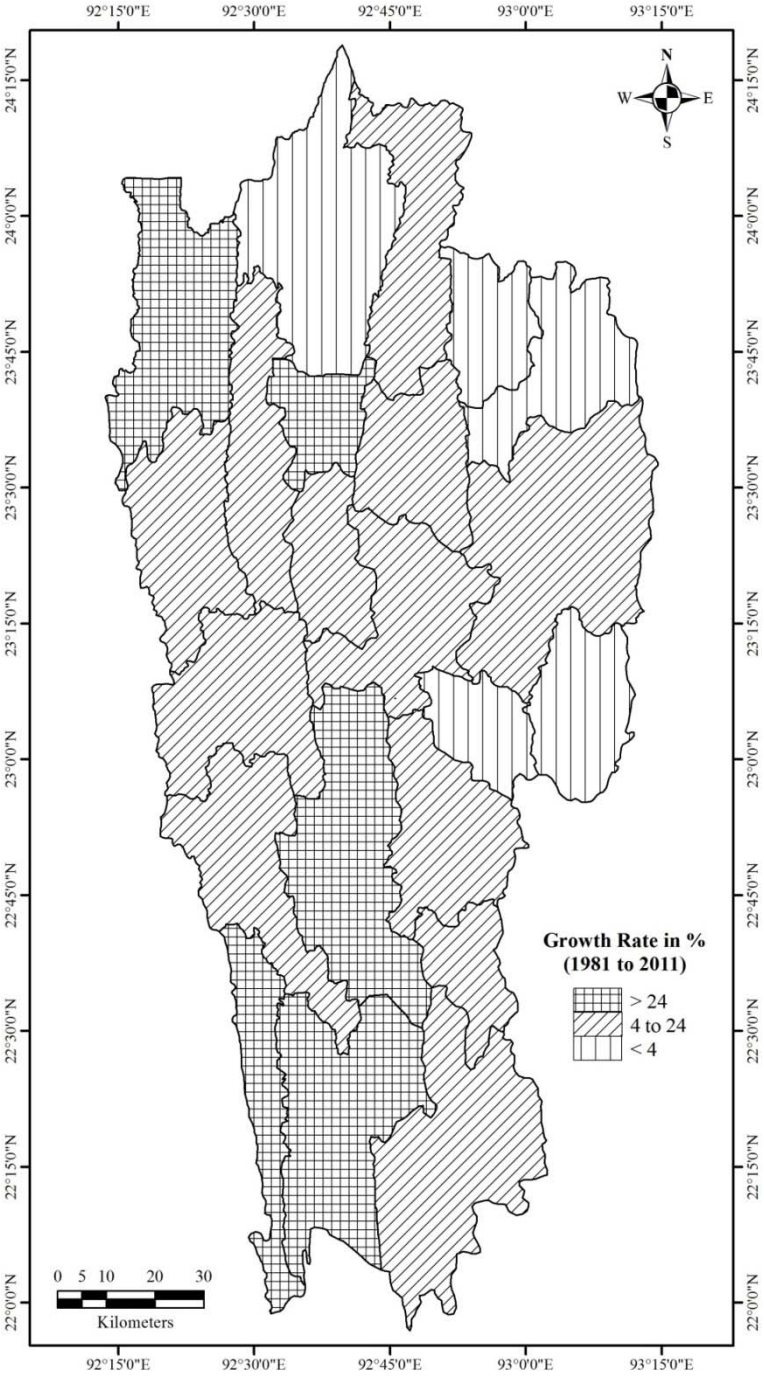

Figure 21: Block wise population growth (1981 to 2011 census)

***Medium growth of population (4 to 24)*:** The 12 blocks of Sangau, Serchhip, Thingsulthliah, Lungsen, Reiek, W.Bunghmun, Aibawk, Darlawn, Tuipang, Hnahthial, W.Phaileng, and Khawzawl are in this group. Among these, the 3 blocks of W.Bunghmun, Aibawk and W.Phaileng managed to occupy this position throughout the decade. The block of Serchhip and Lungsen showed an increased from both medium positions in the two previous censuses to high in the latest census. Then, the block of Thingsulthliah and Sangau occupied the position of medium to high to medium group. Again, the block of Darlawn and Hnahthial showed an increase from low to medium to medium. Besides, the block of Reiek showed an attractive growth rate from low to medium and finally to high position. Further, the 2 blocks of Khawzawl and Tuipang showed a great variation from high to low due to transfer of villages to the newly created blocks and districts in that period.

***Low growth of population (< 4)*:** There are 5 blocks in this group, namely Khawbung, Phullen, N.Thingdawl, Ngopa and E.Lungdar. The 2 blocks of Khawbung and Phullen can be in this group because of the onetime growth rate they possess. On the other hand, the 2 blocks of Ngopa and E.Lungdar indicated an expansion in their growth rate from multiple times low to medium. Then again, the block of N.Thingdawl demonstrated an extraordinary variety from medium to high, then finally to low due to the creation of Bilkhawthlir block causing a decrease in its population.

3.5.2 District wise population growth (1981 to 2011 census):

There are growth rate data for 9 districts due to the existence of Chhimtuipui in 1981 and 1991 census, and no longer exists after 1991 enumeration. All things considered, it will be wrong to simply dismiss its growth rate in the overall results. Similarly, the four districts of Mamit, Kolasib, Champhai and Serchhip were sliced off from Aizawl district after 1991 census. Accordingly, from the entire growth rate had by each district during their specific time, the final results were obtained as shown in the following table.

Table 15: District wise population growth (1981 to 2011 census)

Districts	*Growth%*
Aizawl	10.46
Champhai	5.33
Kolasib	9.09
Lawngtlai	20.05
Lunglei	23.2
Mamit	12.52
Saiha	-2.45
Serchhip	6.85
Chhimtuipui	16.79

Source: Results from table 1 to 7

***High growth of population (>9)*:** This group comprises of 5 districts, namely Aizawl, Lunglei, Lawngtlai, Chhimtuipui and Mamit. It is inevitable to get the district of Aizawl where the state capital is located in this group. In addition, Mamit district sliced off from Aizawl had records from 2001 census only, even so manage to be in this position as the growth of population is high due to migration from Tripura and surrounding areas. Furthermore, the 3 districts of Lunglei, Lawngtlai and Chhimtuipui which are all located in the southern part of the state, in which the district of Chhimtuipui even with only one census growth rate are so high to the point that it can occupy the high group. Moreover, Lawngtlai formed from Chhimtuipui had data from 2001 census also manage to occupy this position, showing that the districts having their area near the state boundary have dense population due to migrants from the neighboring areas. Besides, the reason for high growth rate of population in Lunglei district is due to the existence of Lunglei town, being the oldest and largest town in the southern parts of the state attracts migrants from neighboring areas. Rapid population growth is a key issue in development, continuing growth will mean lower living standards for lots of people (Clausen and Paden, 1985), where populations are still highly dependent on agriculture, continuing large increases in population can contribute to overuse of limited natural resources, such as land, mortgaging the welfare of future generations. And when undue stress is

placed on traditional agricultural systems and the environment is damaged, the economic well-being of the poor is particularly threatened. Malthus, (1798) hypothesized that as human numbers grew, food supplies would be insufficient to feed humankind and human numbers would be pushed back below the carrying capacity of agricultural systems by "positive and preventative checks." Fertility and population growth in developing countries will then be forced downward by severe shortages of food and disease, and irreversible environmental damage (Kendall and Pimental, 1994). Population growth in our country is outstripping the growth of material resources and has been increasingly straining our fragile economy, public services and institutions; it has been progressively magnified the total quantum of ill-health, under nutrition and underdevelopment in the country; and these latter in turn create a situation which favours unregulated population growth Gopalan (1990).

***Medium growth of population (9 to -2)*:** There are 3 districts namely Kolasib, Serchhip and Champhai in this group. These 3 districts are all born after 1991 census, not only that, they all are created out of Aizawl district. Even though they had growth rate data for one census decade, they still cope to be in this group.

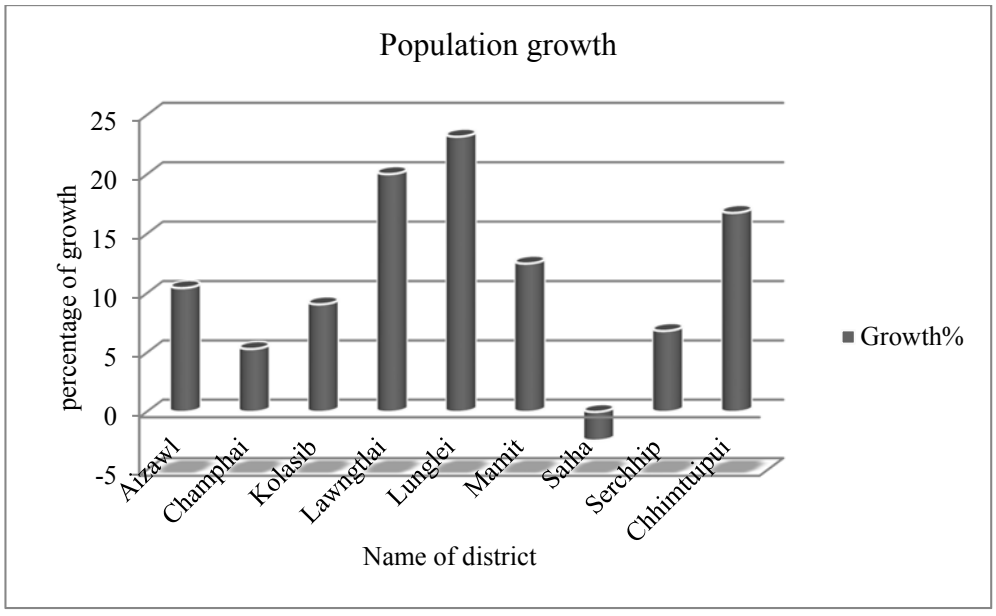

Figure 22: District wise population growth (1981 to 2011 census)

***Low growth of population (<-2)*:** There is only one district in this group, with a negative growth rate, the district of Saiha created out of Chhimtuipui after 1991 census. The district has two blocks, namely Sangau and Tuipang when created. But later in the 2011 census, the block of Sangau is transferred to Lawngtlai district and in place of that, the newly created Saiha block formed from Tuipang block is present. This makes the growth rate lesser amount compared to other district of the state.

3.5.3 State decadal growth rate of population from 1981 to 2011:

Mizoram had a total population of 493,757 persons in 1981, which increased to 1,097,206 persons in the 2011 census, in which the added population amounted to 603,449 persons, and a growth rate of 122.22% during 1981 to 2011census. The population in the state goes on increasing every census, and the addition is like this; between 1981to1991 census195, 999 persons were added. Further, 198,817 persons were added during 1991to2001 census. Between 2001to2011 census, 208,633 persons were again added. Moreover, the growth rate in all the decades has experienced a positive growth and the highest growth was observed during 1981to1991 census.

Table 16: State decadal growth of population from 1981 to 2011 census

Census year	*Total population*	*% total population*	*Inter-censal year*	*Decadal growth*	*Stage of growth*
1981	493757	15.58			
1991	689756	21.76	1981to1991	39.70	High growth
2001	888573	28.04	1991to 2001	28.82	Medium growth
2011	1097206	34.62	2001 to 2011	23.48	Slow growth

Source: Census of India, 1981 to 2011(DCHB &PCA

3.5.4 Rural and urban level of population growth:

There are 5 blocks which experienced increase in their rural population every census decade, namely, Lungsen, W.Bunghmun, Chawngte, Sangau and Aibawk. Further, they are the blocks in which inhabited villages also go on increasing, if not remain the same every census. Moreover, as most of the rural inhabitants are dependent on primary activities, an increase in the population in the rural sector has obviously put a pressure on local production and consumption. Consequently, the quality of life is going down by pulling the socio-economy of the area downward (Roy and Das, 2011). The curve of socio-economic well being peaked in the urban areas, declines sharply at the level of sub-regional centres and dips sharply again at smaller urban centres and rural periphery (Seed and Loyd, 1997).

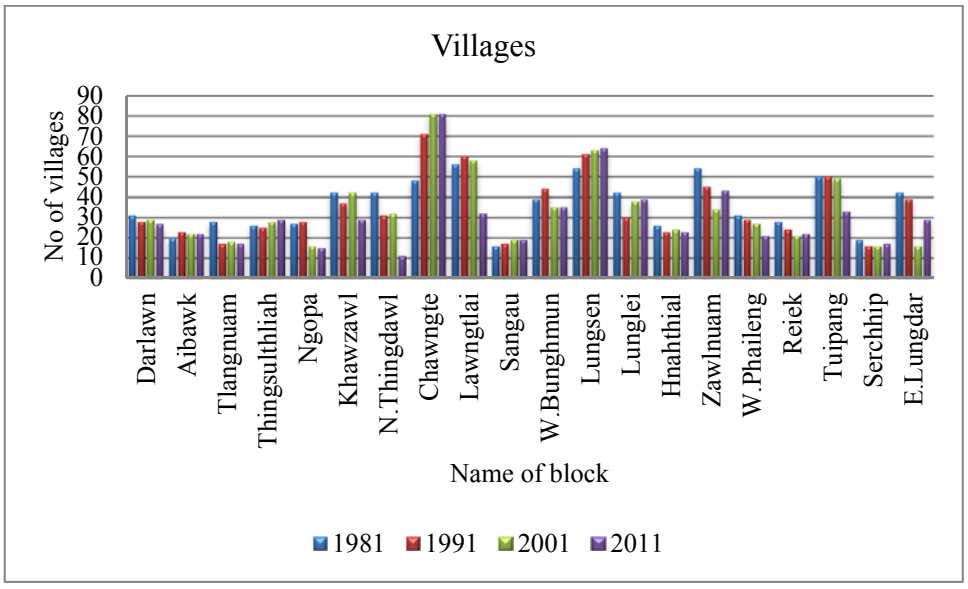

Figure 23: Blockwise number of inhabited villages (1981 to 2011)

On the other hand, there are 9 blocks which are completely devoid of urban centre throughout the census period; namely, Khawbung, Phullen, S.Bungtlang, W.Bunghmun, Chawngte, Sangau, W.Phaileng, Aibawk and Ngopa. Furthermore, the block of Lawngtlai had started having an urban centre only in the latest census of 2011, while, Tuipang had lost its urban centre at the same period. In addition, there are 8 blocks in which the urban population shows an increase every census, namely, Tlangnuam, Thingsulthliah, Lunglei, Hnahthial, Zawlnuam, Reiek, Serchhip and E.Lungdar.

Table 17: Block wise number of towns

Name	1981	1991	2001	2011
Darlawn	NIL	1	1	1
Tlangnuam	1	2	2	2
Thingsulthliah	NIL	1	1	1
Khawzawl	1	3	3	2
N.Thingdawl	1	4	4	1
Lawngtlai	NIL	NIL	NIL	1
Lungsen	NIL	1	1	1
Lunglei	1	1	1	1
Hnahthial	NIL	1	1	1
Zawlnuam	NIL	2	2	2
Reiek	NIL	1	1	1
Tuipang	1	1	1	NIL
Serchhip	1	2	2	2
E.Lungdar	NIL	2	2	2

Source: Census of India, 1981 to 2011 (DCHB&PCA)

The 5 districts of Mamit, Kolasib, Champhai, Serchhip, Lawngtlai and Chhimtuipui show an increase in their rural as well as in urban population in the figures they possess. Simultaneously, Saiha district has shown a decrease in its rural population, while its urban population increased for the two census of 2001to2011. On the other hand, the 2 districts of Aizawl and Lunglei have census figures for all the periods both face alternation of ups and downs in their population. Further, the 2 districts observe a decrease in their rural population and increase in their urban population during 1981to1991census. After that Lunglei district population continues to increase both in rural and urban till the latest census, while Aizawl population continues to registered sequence of ups and downs figure. Nevertheless, the state population goes on increasing every census both in terms of rural and urban population.

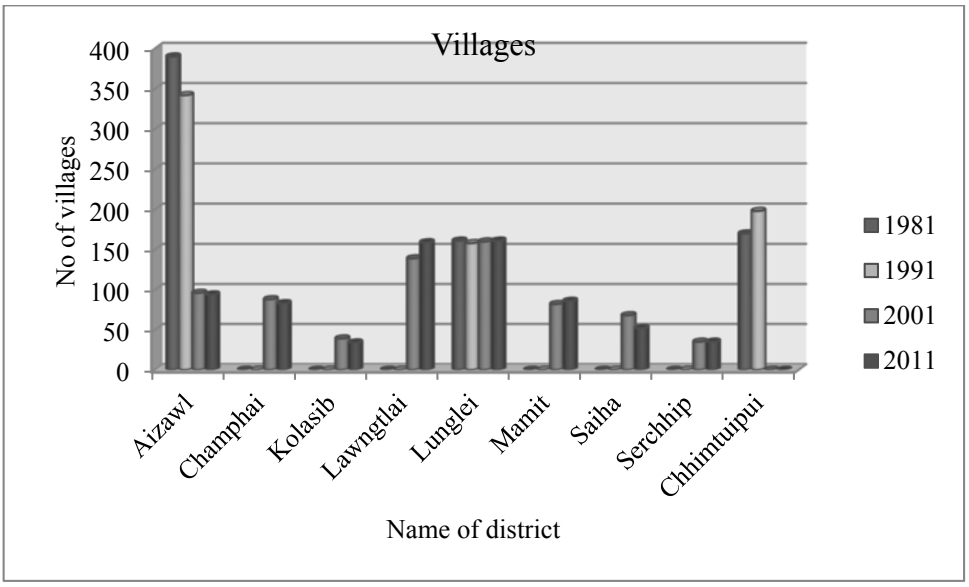

Figure 24: District wise number of inhabited villages (1981 to 2011)

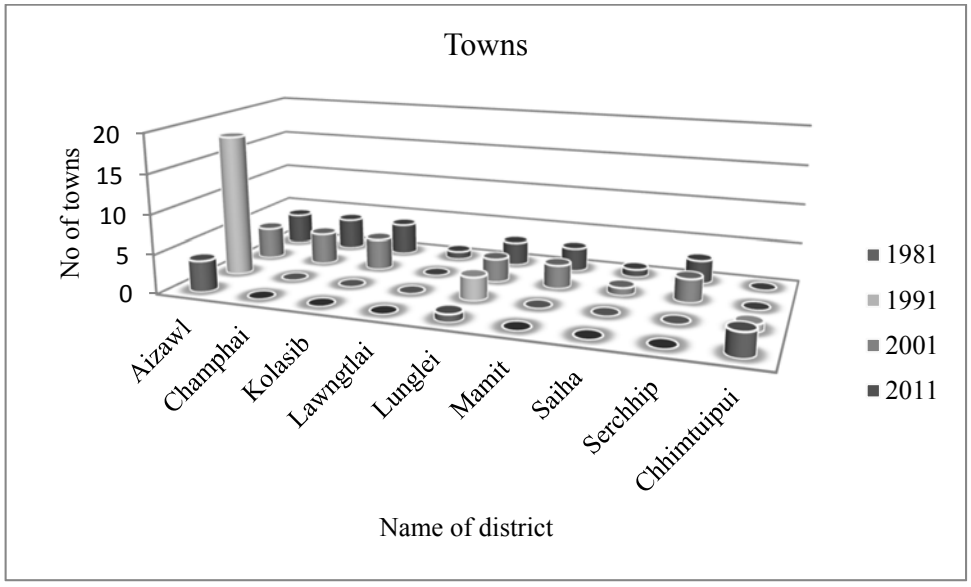

Figure 25: District wise number of towns (1981 to 2011)

3.5.5 Overall density: The block of Tlangnuam consistently has highest density all through the study period followed by Lunglei from 1981 to 2001 until it was surpassed by the two new recently created blocks of Saiha and Bilkhawthlir in the latest census in 2011. While, the least density is continually found in the block of W.Bunghmun. There are 5 blocks which experience a reduction in their density

during the study period. Namely, Zawlnuam, W. Phaileng, Khawzawl, N. Thingdawl and Tuipang because of the formation of new blocks from each of these blocks where a reduction in the population occurs. The remainder of the 21 block all shows an increasing in their density.

Table 18: Blocks overall density of population

Blocks	1981	1991	2001	2011
Tuipang	16	25	34	22
Saiha	NIL	NIL	NIL	78
Sangau	16	19	25	30
Chawngte	25	36	50	66
S.Bungtlang	NIL	NIL	NIL	32
Lawngtlai	14	22	30	50
W.Bunghmun	9	11	11	14
Lungsen	20	25	29	37
Hnahthial	19	21	25	27
Lunglei	31	43	59	69
E.Lungdar	22	24	31	33
Serchhip	29	38	44	55
Khawbung	NIL	NIL	28	31
Khawzawl	21	29	38	36
Ngopa	17	19	24	26
Champhai	NIL	NIL	NIL	57
Zawlnuam	22	28	25	43
West Phaileng	17	22	21	21
Reiek	12	13	15	19
Bilkhawthlir	NIL	NIL	NIL	106
N.Thingdawl	26	32	44	24
Phullen	NIL	NIL	24	26
Darlawn	17	20	23	25
Thingsulthliah	24	31	40	43
Aibawk	19	23	26	28
Tlangnuam	176	320	465	596

Source: Rural Development Department, Govt of Mizoram

The state density continues expanding with each census. Among the district, Aizawl has the highest density every census, which goes on increasing until the last census of 2011. Except the district of Saiha, all other districts show an increase in their density of population.

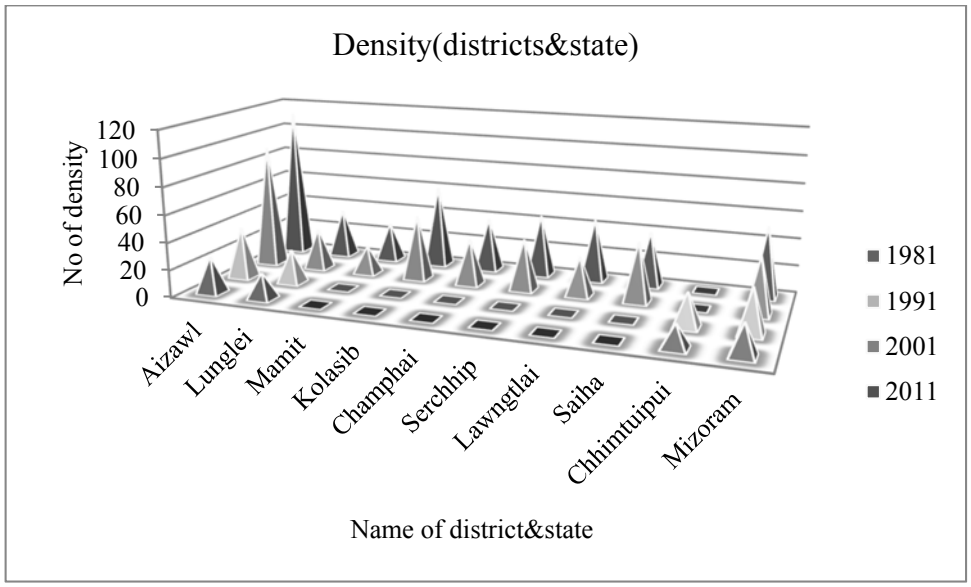

Figure 26: Overall density (districts&state)

The analysis of the present chapter reveals that among the 22 blocks, Tlangnuam has the highest growth rate of population during the study period with 51.76%. The least growth of population is E.Lungdar with -6.77%. At district level, Lunglei district with 23.2% registered the fastest growth rate, and the least growth rate is found in Saiha with-2.45%. There are 5 blocks which experienced increase in their rural population every census decade. On the other hand, there are 9 blocks which are completely devoid of urban centre throughout the study period.

CHAPTER-IV
SPATIO-TEMPORAL ANALYSIS OF SOCIO-ECONOMIC DEVELOPMENT

4.1 Introduction:

Socio-economic development affects a number of services such as income, expenditure, saving, consumption, education, employment status, occupational structure etc. In order to understand the concept of socio-economic development, one needs to understand the meaning of development. Generally, development is defined as a state in which things are improving. In the socio-economic context, development means the improvement of people's lifestyles through improved education, incomes, skills development and employment. It is the process of social and economic development in a society (MCGranahan *et al,* 1972: Ohlan, (2013).

Development is 'of the people, by the people, and for the people'. Unequality of development occurs at various levels and is considered to be a problem. By 'unequal development' we mean differences in community lifestyles and values which may promote or hinder mobility chance (Cote, ` 1997). The socio-economic upliftment of the people is the main objective of any country at any point of time (Majumder *et al,* 1995). The essence and major objective of socio-economic development is raising the standard of living of all individuals and particularly that of the poor (Thorbecke, 2007).

In general, development can be viewed as a multi-dimensional phenomenon. Some of its major dimensions include the level of economic growth, level of education, level of health services, degree of modernization, status of women, level of nutrition, quality of housing, distribution of goods and services, and access to communication (Das, 1999). Ohlan (2013) too is of the opinion that socio-economic development is a multidimensional process which improves the quality of life of the people. It requires the satisfaction of economic, social, political and cultural rights, equitable distribution of development benefits and opportunities, dignified living environment, gender equality and empowerment of the poor and marginalized, i.e., "Upward movement of the entire social system" as defined by Myrdal (1968). Black

(1966) appropriately conceptualized the development as the attainment of a number of ideals such as "a rise in productivity, social-economic equalization, modern knowledge, improved institutions and attitudes and a rationally coordinated system of policy measures that can remove the host of undesirable conditions in the social system that have perpetuated a state of underdevelopment".

Fair (1982) acknowledged that development problems are mainly problems of inequality. And this inequality in development occurs throughout the world which became a cause of concern and on the national scale the object is to reduce poverty and underdevelopment. Wei (2002) approved this observation by declaring that regional inequality is an important issue of government policies. That is why there are various composed works related to socio-economic development at the national and international levels (Ghosh, 1986). Inequality exists everywhere though the degree of inequality varies (Haggett, 1983).

To measure and compare the socio-economic development of different blocks and districts within Mizoram, six broad indicators have been selected, such as:

1. Working population/Occupational structure
2. Medical Facilities
3. Educational Institutions
4. Community Amenities
5. Community Accessibilities
6. Literacy Rate

These broad indicators are further classified into different 17 sub- headings with a hope to produce better result on the analysis.

The above indicators selected are most commonly accepted indicator yardsticks so far as socio-economic development is concerned. Working population and occupational structure reflects the quality of population engaged in the economy of the area. Medical Facilities like Primary Health Centre, Dispensary, Hospital and availability of health worker, nurses and doctors etc are vital to socio-economic well being of the population. Most importantly, availability of Educational Institutions

and resource persons is a must for socio-economic development, along with Community Amenities consisting of drinking water, power supply, market etc. Community Accessibility or Transport system also plays a vital role in developing a nation. Ease of transport help marketing of the products and flow of essential commodities and goods, which is a reflection of development index of the population. Literacy rate is most common parameter to measure development in general through special skill, technology etc may bring about a more systematic process of development.

Accordingly, the selected indicators with the sub-headings are discussed with ground reality as follows:

1. *Working Population/Occupational structure*:

Work is defined as participation in any economically productive activity with or without compensation, wages or profit (Census, 2001). Such participation may be physical and/or mental in nature. Work involves not only actual work, but also includes effective supervision and direction of work. It even includes part time help or unpaid work on farm, family enterprise or in any other economic activity. And shows how the level of socio-economic development in an area. According to Sharma (1979) and Gulati (1975) worker was a person whose main activity produced some commodities or services economically viable by his physical or mental power.

Karoly and Panis (2004) clarified that, the workforce includes both people who are employed and who are unemployed. It is also known as the labor force. The size of the future population, in turn, depends on the current population, fertility, mortality, and immigration.

Therefore, the working population refers to the number of people, who are willing and eligible to work. Retirement age differs from one country to another, so respective working populations are affected accordingly. In contrast, census includes even job seekers, trainees and housewives who are willing to work, as part of the working population (Majaski, 2019).

Total workers: It is the percentage of total workers (main+marginal) to the total population. These two groups together constitute the category of “all workers”.

Be that as it may, rather than just utilizing total workers data for examining the working population in the state. Data for main and marginal workers has been taken which is the aggregate total of total workers.

(a) *Main workers*: A person who has worked for the major part of the year, i.e. 6 months or more are called as main workers. The classification of main workers is separated into the following category and they are obtained by multiplying the number with 100 and divided by the total number of main workers:

i) *Household Industry workers (HHI):* This category covers industrial activities of manufacturing, repairing, processing which is undertaken by one or more family members at home or within the village in rural areas and within the precincts of the house, if the household lives in urban areas (Census, 2001).

ii) *ii) Cultivators:* For the purpose of census of India a person is classified as a cultivator if he or she is engaged in cultivation of land owned or held from Government or from private persons or institutions for payment in money, kind or share. A significant proportion of these cultivators work as bread winner in agriculture and related activities. This is all the more so on account of marginal and sub-marginal cultivators. Their small land assets are not really equipped for furnishing them with adequate gainful employment and income to help their families. They, therefore, have no other option but take up wage-employment, especially during the off-peak seasons. In that sense, they excessively are equivalent and closer to landless agricultural laborers than to the individuals who have bigger land holdings to cultivate.

iii) Agricultural laborers: A person who works on another person's land for wages in money or kind or share is regarded as an agricultural laborer (Census, 2001). A vast majority of the population and workforce of the most underdeveloped countries of the world lives and works in rural areas and derives its livelihood from cultivation and related agricultural activities (Pandey, 1977). Agriculture's role in economic growth is a vital one, and its

main contribution, of course, is to supply the basic food and fiber needs of a country's growing population and economy. (Mackie, 1964). Agricultural employment has an important place in the Nation's economy, and the workers include all persons whose principal works are in the agricultural industry. (Mohanti and Padhi, 1995). The ability of such labor force to provide for most of the country's food needs, as well as for exports, testifies to the skill and productivity of the agricultural sector (Daly, 1981). As Gollin *et al*, (2014) has stated that, because developing countries have most of their workers in agriculture, understanding why productivity differences in agriculture are so large is the key to understanding world income inequality.

iv) Other workers: According to census of India "All the remaining workers, not falling in the category of agricultural laborers, cultivators or household industry are treated as "other workers'. All government employees, teachers, factory workers, plantation workers, persons engaged in trade, commerce, business, transport, banking, mining, political or social workers, priests, entertainment, artists fall in this category.

(b) *Marginal workers*: A person who worked for less than 6 months in a year is called marginal workers. Due to the unavailability of various classifications of marginal workers for the study period, the marginal workers' data are shown as a single whole.

2. Medical Facilities:

The last several decades have brought about improvements in the health systems in India. However, deficiencies persist with respect to access, affordability, efficiency, quality and effectiveness of health services. The utilization data (NSSO, 1998) indicate that the private sector pre-dominates in terms of provision of care, with 80% of ambulatory care and 60% of inpatient care being sought in the private sector (Nandraj and Khot, 2003). According to Chatora and Tumusime (2004) health for all was identified by the World Health Assembly in 1977 as the desirable main social target for governments, international agencies and the global community. They resolved that countries, international agencies and the global community should work

towards the attainment of all the peoples of the world of a level of health that would permit them to lead a socially and economically productive life, later known as 'health for all'.

There is overwhelming evidence that people of lower socio-economic position have poorer health and higher death rates (Marmot, 2004). Such socio-economic inequalities in mortality rates are observed in almost every country and for most major causes of death. Furthermore, these socio-economic inequalities in health are observed at different stages of the life course, for all age groups, although the magnitude of these health inequalities varies between populations and across time (Chandola and Marmot, 2010). Health is a very important aspect of development. It belongs to the very essential needs every development strategy tries to meet (Deolalikar, 1988). Improving the state of health contributes to economic development. From the perspective of economic development investment in health care can be regarded as an investment in human capital. In turn, economic growth and development feeds back into improvements and health, education and other indicators of human development (Ranis *et al,* 2000: Szirmai, 2014). There is a considerable literature on the relationships between investments in health care and economic development (Baldwin and Weisbrod, 1974: Barlow, 1979: Fogel, 1994 and 1997: Keyzer, 1993: Mayer, 2001: Mushkin, 1962: Popkin, 1978: Strauss and Thomas, 1998: Walsh, 1990: WHO, 1999).

(a) *Primary Health Centre (PHC):* Throughout the world, there was an affirmation of the fact that primary health care is essential to achieving an acceptable level of health as an integral part of social development in the spirit of social justice. There is a greater prevalence of acute and infectious diseases like diarrhea, tuberculosis, etc in the lower socio-economic strata. As the socio-economic status improves the sanitary conditions too improve (Gopal, 1992). Primary health care is the organizing principle that can lead to improved child health, strengthen healthcare systems, and nurture children in body and mind. WHO provides recommendations about critical elements of primary health care (WHO, 2011). Primary health care has a proven record of contributions to strengthening health in a cost effective manner, eliminating income and ethnic/ racial disparities, and integrating care into extant systems. The principle of Primary Health Care (PHC) was introduced in the

Declaration of Alma-Ata in 1978 (World Health Organization, 1978) and was then seen as the vehicle for achieving health for all, and the principles of PHC included universal access, equity, community participation and inter sectoral action. The core elements of PHC, which in today's terminology can be seen as the essential package of services, included education concerning prevailing health problems and methods for preventing them; Promotion of food supply and proper nutrition; supply of safe water and basic sanitation; maternal and child health, including family planning; immunization against major infectious diseases; prevention and control of locally endemic diseases; appropriate treatment of common diseases and injuries and provision of essential drugs.

Good primary health care can enhance national health status at relatively low cost. Primary health care, as a basic health guard for the human being, is always taken as the basis of a good health strategy (Mincheng *et al,* 2017). It can enhance the lives and hence the national health statistics and outcomes, low incidence of low birth weight, low rates of poor self-reported health and lifestyle risk factors, and diagnosis and treatment in the early stage of different diseases (Starfield *et al*,2005).

b) Primary Health Sub-Centre (PHS): The Sub-Centre is the most fringe and first contact point between the primary health care system and the community. The sub-centre has a responsibility relating to provide services in relation to maternal and child wellbeing, nutrition, vaccination, diarrhea control and control of transmittable illnesses programs. According to Rodger (2001) the concept of primary care is the first contact with a health professional –access is only one of the principles of primary health care. Primary care is a 'leveler' of access and health within populations, mitigating the effects of low income and ethnicity on health status (Starfield *et al*, 2005). The Institute of Medicine defines primary care as 'the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community' (Donaldson *et al*, 1994 and 1996). By definition primary care providers are responsible for many health care system goals such as providing health education, disease prevention, continuity of care, integrated care, health promotion, in addition to diagnosis and treatment. Primary care is a national and global concern,

the World Health Organization advocates for a comprehensive primary health care system as primary health care results in better health outcomes, reduced health disparities and lower costs, including reduced spending on avoidable emergency room visits and hospital care (WHO, 2008). Primary health care "forms an integral part both of the country's health system, of which it is the central function and main focus, and of the overall social and economic development of the community'. Primary health care, then, means a system of medical care and promotion of health focused on the health needs of a given community, a whole care system, dealing with the immediate presenting problem, but seeking to contribute to strategies to prevent the problem more 'upstream'(Macdonald, 2004).

c) Dispensary: According to Spencer (1982) medical dispensaries for the poor date from 1697 when the Royal College of Physicians opened one in their premises in Warwick Lane, and others followed until in 1802 they served more than 50,000 poor patients and fifty square miles round the City.

d) Maternity and Child Welfare Centre: Maternal and child health consists of an interdependent reproductive system that collectively determines the survival of the mother during childbirth, and determines the health and survival of the child (Murimi and Carabaza, 2017).

Maternity and child services are an intriguing field as they link various aspects of modern social and colonial policy. Since the late nineteenth century, healthy children were increasingly seen as the source of a strong nation and a mighty empire in most western societies (Lindner, 2014). But, the poor–rich gap in the utilization of maternal and child health care services has widened and programs are barely reaching the poor sections of society (Mohanty and Pathak, 200: Pathak and Mohanty, 2010). Evidence has shown that access and cost are serious barriers to maternal health care service utilization among poor adolescent women (Adhikari, 2003: Onah *et al,* 2006: Fotso *et al,* 2008). As Singh and Fehrs (2001) has pointed out that, despite substantial improvement in the public health sector in India, the proportion of adolescent deaths (due to pregnancy or during childbirth) to total maternal mortality remains incongruously high at 10% (Government of India, 2009). About 16 million adolescent girls aged 15–19 give birth each year, and almost 95% of these births occur in developing countries (WHO, 2008). The health of adolescent

mothers and their children, particularly in India, which represents South Asian countries, where more than a third of all maternal and child deaths occur (Bhutta *et al*, 2004).

e) Community Health Workers: Community Health Workers (CHWs) play a key role in the functioning of PHC, especially in a resource-limited setting. Some studies have documented that CHWs can help reduce childhood mortality (Pandey *et al,* 1991: Sazawal and Black, 1992: Kidane and Morrow, 2000: Jones *et al,* 2003), particularly in terms of the early detection and treatment of pneumonia (Shann *et al,* 1984: Deming *et al*, 1989: Zeitz *et al*, 1993: Fagbule *et al*, 1994: malaria (Ruebush *et al*, (1995), and dehydration resulting from diarrhea (Kumar *et al*, 1989) and increased immunization coverage (Patel and Nowalk, (2010). It was also reported that, as the performance of CHWs improves, the use of health services such as immunization and treatment of dehydration (Kumar *et al*, 1989) can potentially be increased.

3. Educational Institutions:

According to Spreafico (2012), education institutions are defined as "the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction". The most important role of institutions in a society is to reduce uncertainty by establishing a structure of human interaction. Institutional quality positively influences economic performance of a country (Nigar, 2014). However, the impact of institutions on economic growth varies across regions and countries. Institutions are known to influence growth positively, and its mechanism is a strong determinant of the negative relationship between inequality and growth (Easterly, 2007: Acemoglu, (2002 and 2005) and Sokoloff Engerman, 2000: Dobler, 2011) demonstrated empirically that informal and formal institutions influence the level of per capita income. The phrase "Getting the Institutions Right" emerged in development economics from a body of literature demonstrating that institutions matter significantly to economic progress (Scully, 1988: North, 1990: Boettke, 1994: Leblang, 1996: Hall and Jones, 1999: de Soto, 2000: Acemoglu *et al*, 2001and 2002: Rodrik *et al*, 2004: Kerekes and Williamson, 2008). Naturally, by "education" one does not mean the acquisition of a certain amount of book knowledge, but the

complete and ideal development of a child in all ways: moral, mental, physical, emotional and social (Gilbert, 1942). Education works as the main vehicle to distribute social gains to individuals brought by socioeconomic development (Bourdieu *et al,* 1977). Both technological change and increases in educational attainment generate economic growth and has a positive effect on personal income (Baldwin *et al,* 2011). Moreover, high levels of income inequality are associated with high levels of educational inequality (Speciale, 2012). It is the process through which people gain skills and knowledge (Lutz *et al,* 2008) and the educational system will continue to play an important role in the allocation of one key resource educated manpower (Schoenfeldt, 1968).

(a) *Primary School:* Primary schools are an important setting for the promotion of healthy behaviors (Bennett *et al,* 2013).

(b) *Middle School*: According to Bunting (2004) middle school is all about the multifaceted changes of early adolescence. It is their first turn at influencing adolescent awareness and learning, and their first glimpse at determining whether adolescents end up social contributors or takers. The nurturing inventions of middle school provide the support needed to navigate the tidal wave of developmental change between childhood and adolescence. Many middle school proponents emphasize that the middle School is effective and resolve that the emerging adolescent learner can benefit much better in this type program than in the more traditional junior high program (McGee and Krajewski, 1979).

(c) *Matriculation*

(d) *Adult Literacy class/centre*: After the National Literacy Mission began in 1988, there are numerous grown-up training programs running everywhere throughout the nation.

4. Community Amenities:

Nilsson (2015) defines amenities as location-specific goods and services that make locations more attractive for housing and firms. They are often broadly categorized into those that relate to qualities and natural assets. Urban amenities can be associated with positive externalities from agglomeration and intra industry spillovers (Rivera-Batiz, 1988). In a very broad sense, a definition of urban amenities

includes the positive externalities generated from agglomerations of people, firms, private and public goods and services, transportation facilities and physical infrastructure (Quigley, 1988: Andersson and Andersson, 2006) stated that, natural amenities such as climate, topography and water resources are, on the other hand, often treated as exogenous amenities in the literature as they tend to be untied to current economic conditions. For example, Brueckner *et al*, (1999) categorizes natural amenities as those generated from areas, topographical features, such as rivers, hills and coastline, which are largely exogenous. Studies that are more recent show that amenity-rich areas are able to attract individuals with higher incomes and creative occupations (Brueckner *et al*, 1999). Studies have also shown that amenities facilitate rural population growth (McGranahan, 2008), job growth (Deller *et al*, 2001) and generate compensating differentials in labour and housing markets (Landis *et al*, (2002); Schmidt and Courant, (2006) from these perspectives clarified that regions are seen as competing for residents and firms by their provision of amenities, which in turn influences their growth potential. It is also well established that proximity to natural amenities such as water resources, open space, green space and forest areas adds premiums to housing prices (Geoghegan *et al,* 1997: Anderson and West 2006: Besser *et al.* 2012)

According to Goe and Green (2005), residents consider economic opportunities, social relationships, public services, community spirit, opportunities for outdoor and indoor recreation, downtown vitality, landscape, weather, and the presence of cultural and sports venues in their assessments of their communities. These place-based characteristics are frequently referred to as amenities. Dellar *et al* (2001) point out that the amenities in non-metropolitan areas in the US that receive the most research attention are climate and natural resources. Ultimately the value of amenities is the contribution they make to individual's happiness called subjective well-being in the literature. Sirgey and his colleagues (Sirgey and Cornwell, 2001 : Sirgy *et al*, 2000) recognize the full spectrum of kinds of amenities, but focus on how the quality and quantity of business, governmental, and non-profit services provided in a community impact resident's assessment of their subjective wellbeing. They conclude that people who live in places with more amenities (i,e better services) are likely to be happier with their lives than residents of low amenity locations. Clark *et*

al, (2002) explicates the link between the government, business and non-profit services and the development of other amenities such as parks, good schools, cultural and recreational venues, safe neighborhoods and vital downtowns.

Schad (2015) declared that, over the past four decades, some of the fastest growing rural places have been those rich in desirable natural amenities and outdoor recreational opportunities (Johnson, 2012: McGranahan, 1999).

In the backward states, however, the level of amenities in larger towns is high (although less than satisfactory) while the smaller towns exhibit a very high level of deficiency and deprivation. About a fifth of the population in these smaller towns live in totally dehumanized conditions as they have to do without safe drinking water, electricity and toilet facility. Hence, Lofstrom (2004) opined that high-amenities, desirable cities will have a larger supply of labor and a greater demand for land than low-amenity cities. Amenities such as mild climate and low crime rates may make one area more desirable than another with disamenity, such as extreme weather and high rates of crime and poverty.

(a) *Drinking water:* The development of modern water supply systems has varied widely in terms of speed, paths and results, and each supply system has been strongly conditioned by its spatial, socio-economic and cultural context (Guardia *et al,* 2013). In India, the majority of the people do not have a safe drinking water facility; moreover, there exists large variation among the various regions. While, the state of Mizoram is fortunate in term of availability of drinking water even though the availability may not be same in different regions. According to the district census handbook of 1991, all the villages have drinking water facilities available within the village in some form or other. Most of the villagers draw their drinking water from the fountain or springs which do not dry up during the dry season.

(b) *Power supply:* Power supply means domestic electric supply; a village is taken to be electrified if there is at least a single domestic connection within the village (Census, 1991). The main goal of all energy transformations is to provide energy services that improve quality of life and productivity (Hall *et al,* 2004). Demands for all forms of energy continue to rise to meet expanding economies and increases in world population. As energy supply is intimately tied in with development, in the broad sense. At present, the one billion people living in

developed (OECD) countries consume around half of the 470 EJ current annual global primary energy use (IEA, 2006), whereas the one billion poorest people in developing countries consume only around 4%, mainly in the form of traditional biomass used inefficiently for cooking and heating. Electricity is expected to grow even more rapidly than primary energy by between 110 and 260% up to 2050, presenting even more challenges in needing to build power production and transmission facilities, mostly in developing countries (Adegbululgbe, 2009).

(c) Market

5. Community Accessibilities:

According to Cherry (1966), communication are the substances of all social life and is at the root of all human activities. Human beings share knowledge, information and experience, and thus understand, persuade, convert or control their fellows through communication. It is a process for transmission of ideas, thoughts, feelings, behavior from one person to another. Cutright (1963) stated that communication development is related to political development, economic growth, education and urbanization. Nora Quebral (1972) defines "It is the art and science of human communication applied to the speedy transformation of a country and the mass of its people from poverty to a dynamic state of economic growth that makes possible greater social equality and the larger fulfillment of the human potential".

(a) *Transport and Communication:* Transport improvements form one component of the larger regional development process. Tucci (1974) has pointed out that "transport is a generator of development". Transportation safety is a serious concern all over the world, irrespective of a country's economic status, but the intensity of the problems is higher in developing countries than in the developed countries. A large number of people are injured, disabled, or killed each year due to road (Banerjee, 2005). Keeling (1993) stated that since the 1950s, extraordinarily rapid and revolutionary advances in the infrastructure necessary to facilitate socioeconomic interaction have focused attention on the significance of transport in regional development. Improvements in accessibility and mobility have altered fundamentally the relative location of people and places and restructured the pattern of human-environment interaction, which itself is an important basis for social change. Transport also has been critical in the diffusion and acceptance of ideas and

innovations (Leinbach and Chia, 1989). The transport acts as a catalyst for interactions over space and through time among individuals and communities, and between them and the physical and cultural environment. The reciprocal relationship between transport, space, and time forms the basis for the widely accepted proposition that transport is a fundamental component of regional development (Voight 1984: Dugonjic 1989).

(b) Pucca road: This component measures the extent of the infrastructure facilities for the distribution of goods and services in the society. The role of this component was to evaluate the degree of percolation throughout the community of those goods and services, which particularly relate to communication networks.

(c) Post office: Post office plays a vital role in communication especially in the rural past. Despite development of other media, the post office holds importance till today in highlighting the development level.

6. Literacy rate:

Literacy has come to mean competency, knowledge, and skills, but not only in reading, writing, and math (McMillan and O'Neil, 2012). Data from around the world provide clear evidence that literacy and education are closely related to a nation's economic development (Berryman, 1994: OECD/Statistics Canada, 1995and 1997: Wagner, 1992). Literacy usually refers to a set of skills and practices comprising reading, writing and using numbers as mediated by written materials (Ulrike Hanemann, 2015). It is a core component of the right to education as recognized in the Universal Declaration of Human Rights (UN, 1948). Literacy is an important factor to judge the social and economic status of the people. The higher the literacy rate the better the community is. It should be viewed as an interactive process involving an exchange of information and meaning through multiple sources. And is a continual process that extends beyond a set of skills (Hemming and Langille, 2006). Literacy has taken on intricate characteristics with major consequences for the success of today's students (Carroll, 2011) and is both a cultural and a social expression (Spears-Bunton & Powell, 2009). Literacy widens our world, opens opportunities for one's future and played a vital role in the welfare of a society. A nation's progress is intricately linked to the vitality and impact of its education system, from the pre-school to the postdoctoral levels (Sundaram, 2014).

According to census of India, literate is one who can both read and write with understanding in any language, and is one of the most important indicators of socio-economic development of a region (Kumar *et al,* 2014). Education has played a central role in the life and well-being of societies. It is like an investment which is an incentive for an individual as well as for the nations and society, opens opportunity for one own's future and thus rising standard of living.

Mizoram has a satisfactory record of literacy as indicated by the latest census of 2011. This has created favourable and positive effects towards the development of the society as it is well known that literacy has various functionalities for human developments. Literacy is one of the important indicators of social development and closely associated with the indispensable characteristics of modern civilization. This also helps in the improvement of economic conditions and developing human resource without which progress of any society or nation will be paralyzed. In census terminology, a person aged 7 years and above who can both read and write with understanding in any language is treated as literate and the percentage of literates in the age group seven years and above is called literacy rate.

Based on the above indicators the socio-economic development of Mizoram is explained on the basis of blocks and districts in the order of their high score of development:

4.2 Levels of socio-economic development 1981

4.2.1 Blockwise socio-economic development (1981):

***High level of development (>0.69)*:** There are 8 blocks in this group in which Hnahthial has highest score amounting 6.80%, while the lowest is found in the block of Darlawn with 1.29%. The reason *Hnahthial* has highest score can be ascribed to her uppermost score in medical facilities and educational institutions in which it has the largest single indicator in the number of community workers and adult literacy centres. On the other hand, *Darlawn* has ranked 7th position in the working population, which is her maximum score. The blocks in this group have an uppermost score in at least one of the indicators except the two blocks of Khawzawl and Darlawn. Nonetheless, the block of *Khawzawl* has scored 2nd highest in the number of educational institutions and 4th position in the number of working population. Further, the block of Darlawn has attained 2nd and 3rd rank in the number

of the dispensary and the availability of pucca road as a single indicator. The rest of the 5 blocks which have maximum score are; *Thingsulthliah* with a number of markets, *Serchhip* with PHC and maternity and child welfare centre, *Aibawk* with number of PHS, middle school and post office. *Tlangnuam* with literacy rate, other workers, power supply, transport and communication centre, HHI, agricultural laborers and pucca road. *N.Thingdawl* with the number of working population. A very interesting things observed in the block of Tlangnuam is her lowest score in the number of cultivators among all the blocks in the state due to the presence of the state capital where the inhabitants have other profession to sustain their livelihood.

Table 19: Block wise socio-economic development (1981)

Blocks	*Score%*	*Blocks*	*Score%*
Darlawn	1.29	W.Bunghmun	-3.32
Aibawk	1.42	Lungsen	-1.11
Tlangnuam	3.89	Lunglei	0.52
Thingsulthliah	3.46	Hnahthial	6.80
Ngopa	-0.07	Zawlnuam	-1.88
Khawzawl	3.42	W.Phaileng	-4.91
N.Thingdawl	3.38	Reiek	-1.85
Chawngte	-5.76	Tuipang	-1.22
Lawngtlai	-4.72	Serchhip	3.42
Sangau	-3.44	E.Lungdar	0.68

Source: Census of India, 1981(DCHB, Series 31. Parts XII A&B)

***Medium level of development (-3.33 to 0.69)*:** 7 blocks are included in this category wherein E.Lungdar has the highest score while Zawlnuam has the least. *E.Lungdar* has the high score in the availability of medical facilities where her rank is 2nd position which helped her in getting this position. The number of cultivators and the availability of drinking water is likewise high in *Zawlnuam* in any case, the number of other workers, dispensary, adult literacy centre and power supply are low bringing about in the reduction of her class. The other 4 blocks all have second highest score in one indicator each that included them in this category. Specifically: *Ngopa* in the number of cultivators, *Lungsen* in the number of drinking water,

Tuipang in the number of marginal workers, *Reiek* in the number of matriculation. While the block of *Lunglei* has the same position in three indicators in the case of a number of agricultural laborers, other workers and maternity and child welfare centre.

***Low level of development (<-3.33)*:** There are 5 blocks in this category in which the block of *W.Bunghmun* has maximum score. This block has ranked 7th position in the number of educational institutions where this block has 26 numbers of primary school. Next is the block of *Sangau,* which have a maximum score in the number of dispensary and matriculation as well as the second highest in the number of primary and middle school. *Lawngtlai* also score maximum in the number of primary schools and the availability of drinking water. Yet, her score in the number of the working population, medical facilities and community accessibilities is so low which pull down in this group. In the same way, *W.Phaileng* highest score is found in the number of other workers and community workers in which her rank is 6th and 7th respectively when arrange in ascending order. Nevertheless, her rank in other indicator is low, particularly in the number of literacy rate and community amenities. The number of cultivators figure is found to be highest in the least developed block of *Chawngte* situated in the southwestern part bordering Bangladesh where Chakma influx is most operative. However, this block could not do well in case of other socio-economic indicators like literacy rate, community accessibilities and medical facilities.

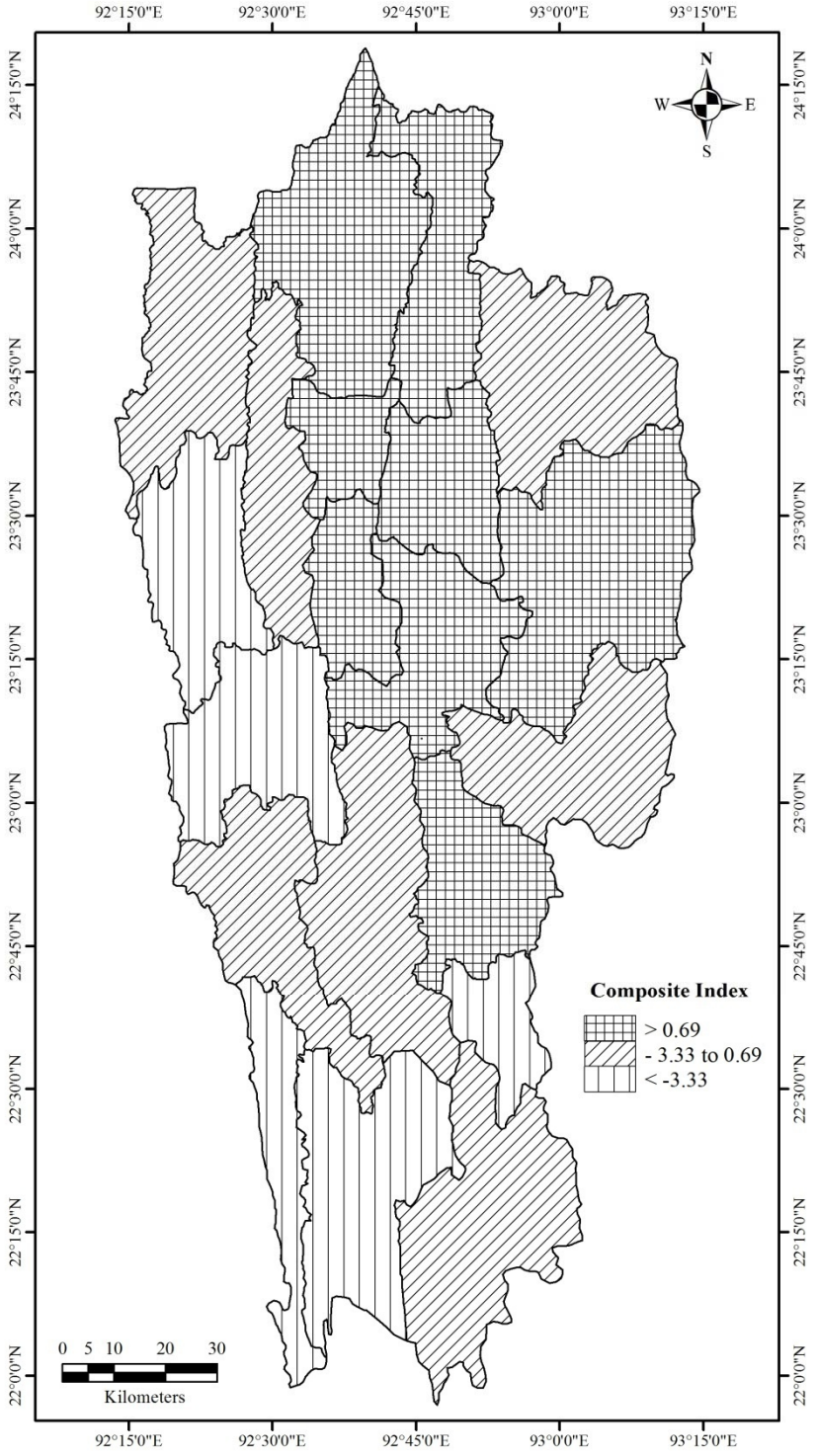

Figure 27: Block wise socio-economic development (1981)

4.2.2 District wise socio-economic development (1981):

***High level of development (>0.62)*:** The district of Aizawl with a highest score in the state occupied this level. Among the six indicator composition, this district achieved 1st situation in the number of literacy rate, which is one of the most important indicators of socio-economic development of a region (Kumar *et al,* 2014) summing 65.09%, significantly higher than the state level of 59.88%. Literacy enlarged our horizon and widens our world and played a vital role in the welfare of a society. It opens an opportunity for one's future and raise standard of living. A nation's progress is intricately linked to the vitality and impact of its education system, from the pre-school to the postdoctoral levels (Sundaram, 2014). Not just that, this district accomplished 1st position in the number of working population, availability of community amenities and accessibilities in which this district ranks 1st point in the number of marginal workers, HHI, agricultural laborers, post office, as well as the availability of drinking water, power supply, transport and communication and pucca road taken as single indicator. Additionally, this district rank 2nd position in the number of educational institutions and on the accessibility of medical facilities where her rank is the maximum in the number of Primary Health Sub-centre (PHS) and Primary Health Centre (PHC) as a sole indicator.

Table 20: District wise socio-economic development (1981)

Districts	*Score%*
Aizawl	4.47
Lunglei	0.62
Chhimtuipui	-5.09

Source: Census of India, 1981(DCHB, Series 31. Parts XII A&B)

***Medium level of development (-5.08 to 0.62)*:** Lunglei district occupied this level by accomplishing first situation in the number of educational institutions and the availability of medical facilities. In addition, manage to rate 1st place in a single indicator in the number of dispensary, maternity and child welfare centre, community worker, adult literacy centre, and market. However, lessen in the number of the

working population and the availability of community amenities which put her on this level.

***Low level of development (<-5.08)*:** Regardless of the way that, the district of Chhimtuipui had rank 2nd situation in the number of the working population and community amenities, added to that in the number of cultivators, primary school, middle school and matriculation as a sole indicator. However, her rank in educational institutions is least due to the lacking number of adult literacy centre in the district. Moreover, her other indicator registered most minimal, further, the number of maternity and child welfare centre is totally absent in this district. It is decisive to find this district lowest in educational institutions and literacy rate that can lead to changed attitudes (Anderson and Bowman, 1976) which indirectly result in higher productivity. For example, increased literacy and education changes peoples' perceptions of the alternatives open to them. They will start looking for professions or geographic regions, where the earnings are higher. As education is a crucial factor that plays a pivotal role in the initiation of the process of socio, economic and cultural development (Ali, 2009).

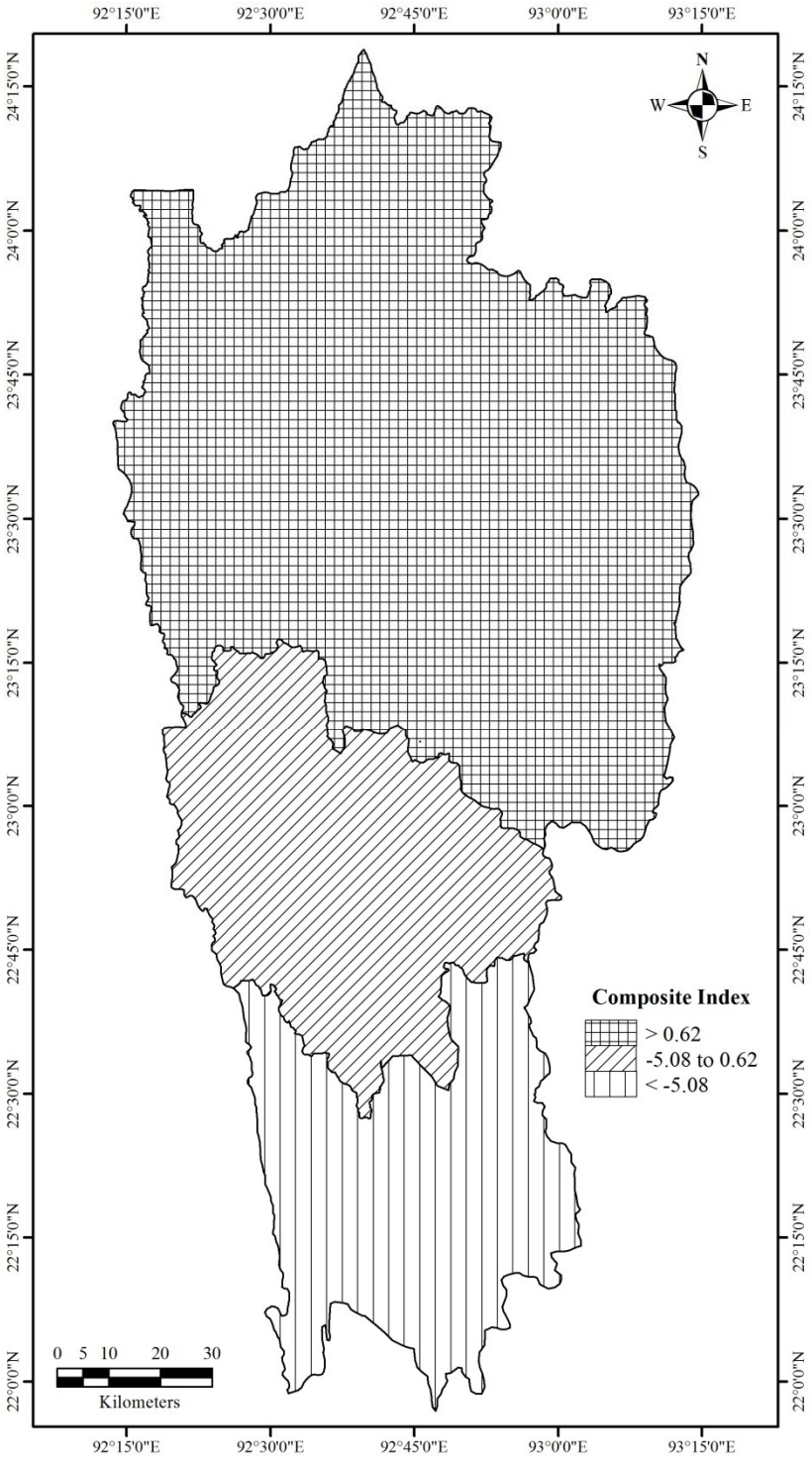

Figure 28: District wise socio-economic development (1981)

4.3 Levels of socio-economic development 1991

4.3.1 Block wise socio-economic development (1991):

***High level of development (>1.38)*:** There are 5 blocks in this group in which the block of *Hnahthial* still managed to achieve the highest position among all the blocks in the state. Nonetheless, this block does not have the highest score in any of the indicators, yet the score in each of the indicators is high enough to put this block in this position. The next block of *Lunglei* has accomplish maximum in the number of educational institutions and in the number of agricultural laborers, however, this single highest score is not enough as her score in other indicators making up of the working population is low and ranked 12th position among all the blocks. After that, the block of *Aibawk* attains 1st position in the number of community amenities and accessibilities, furthermore 2nd position in the number of literacy rate. Then, *Thingsulthliah block* which accomplishes 2nd position in the number of community amenities and accessibility as well as in the number of marginal workers taken as a sole indicator. Last in this group is the block of *Darlawn* in which her most noteworthy score is 4th situation on the availability of medical facilities and community accessibilities.

Table 21: Block wise socio-economic development (1991)

Blocks	*Score%*	*Blocks*	*Score%*
Darlawn	2.24	W.Bunghmun	-2.93
Aibawk	3.92	Lungsen	-2.48
Tlangnuam	-1.71	Lunglei	5.08
Thingsulthliah	3.81	Hnahthial	5.14
Ngopa	-0.67	Zawlnuam	-0.83
Khawzawl	1.38	W.Phaileng	-2.17
N.Thingdawl	0.62	Reiek	-0.17
Chawngte	-7.40	Tuipang	-1.77
Lawngtlai	-2.54	Serchhip	-0.54
Sangau	0.51	E.Lungdar	0.52

Source: Census of India, 1991(DCHB, Series 17 Parts XII A&B)

***Medium level of development (-1.72 to 1.38)*:** There are 8 blocks in this group in which *Khawzawl* has the highest percentage. This block maximum achievement is 4th position on the availability of community amenities. Nonetheless, her score in the single indicators is adequate, particularly in the number of agricultural laborers and the number of markets in which she ranks 2nd and 1st position among all the blocks. Next is the block of *N.Thingdawl* which reaches the 3rd position in the number of the working population in which this block attain a maximum score in the number of HHI as a single indicator. Then, *E.Lungdar* block maximum score is 5th position on the availability of medical facilities and 2nd and 3rd position in the number of PHC and middle school as a sole indicator. The next block of *Sangau* accomplishes 1st rank in the number of the working population in which this block achieved the highest number of marginal workers. Moreover, 3rd position on the availability of medical facilities, also 1st and 2nd position in the number of primary and middle school as a lone indicator. *Reiek* block attained 5th and 6th place in the number of the working population and literacy rate respectively, further, rank 1st point in the number of community workers as a particular indicator. The 2 blocks of *Serchhip* and *Ngopa* has a maximum score in the availability of medical facilities in which Serchhip rating is 1st while Ngopa score is 2nd position. Furthermore, the block of Ngopa attains 1st and 2nd position as a single indicator on the number of post office and matriculation respectively. The last block of the *Zawlnuam* maximum score is found in the availability of community amenities in which she ranks 5th position. Further, 2nd position in the number of markets as a sole indicator.

***Low level of development (<-1.72)*:** 7 blocks are found in this category. The block of *Tlangnuam* shows a contrasting position as this block is among the high group in the previous census, due to a reduction in the number of working population, educational institutions, medical facilities, community amenities and accessibilities. However, her score is highest in the number of literacy rate among all the blocks in the state, not only that she has the highest number of other workers and second highest in the number of household industry workers as a single indicator due to the two towns of Sairang and Aizawl which largely influence the inhabitants occupation. Such towns offer a wider range of job opportunities like trade and

commerce, employment in the offices and institutions, business and other allied activities. Unlike the rural setting which offers merely nothing more than cultivation, where a larger number of a family member can depend on a single worker who is engaged in one of such economic activities. On the other hand, the activity in rural areas is mainly agriculture, which is practiced with traditional method resulting in very low yield. As such majority of the people have to engage in such activities to earn their living; thereby keeping in the workforce figure very high. The next block of *Tuipang* maximum score is found on the availability of medical facilities and manage 11th position. At the same time, *W.Phaileng* block rank 4th in the number of the working population and 5th on the availability of community accessibilities. The last 4 blocks of *Lungsen*, *Lawngtlai, W.Bunghmun* and *Chawngte* have their maximum score in the number of educational institutions ranking 4th, 7th, 3rd and 10th place respectively. Further, these 4 blocks have an adequate supply of drinking water. The 2 blocks of Lungsen and W.Bunghmun had scored high in the number of adult literacy centre ranking 4th and 3rd position respectively. Also the other 2 blocks of Lawngtlai and Chawngte has a high number of primary school ranking 3rd and 1st place respectively. Moreover, the block of Chawngte rank maximum, and 2nd highest by the block of W.Bunghmun in the number of cultivator among all the blocks. In fact Chawngte and W.Bunghmun block has an adequate score in the number of indicators which make up of the working population except in the case of other workers which pulls down their rank. Where Chakma and Riang population is enormous who practiced semi-nomadic life pattern.

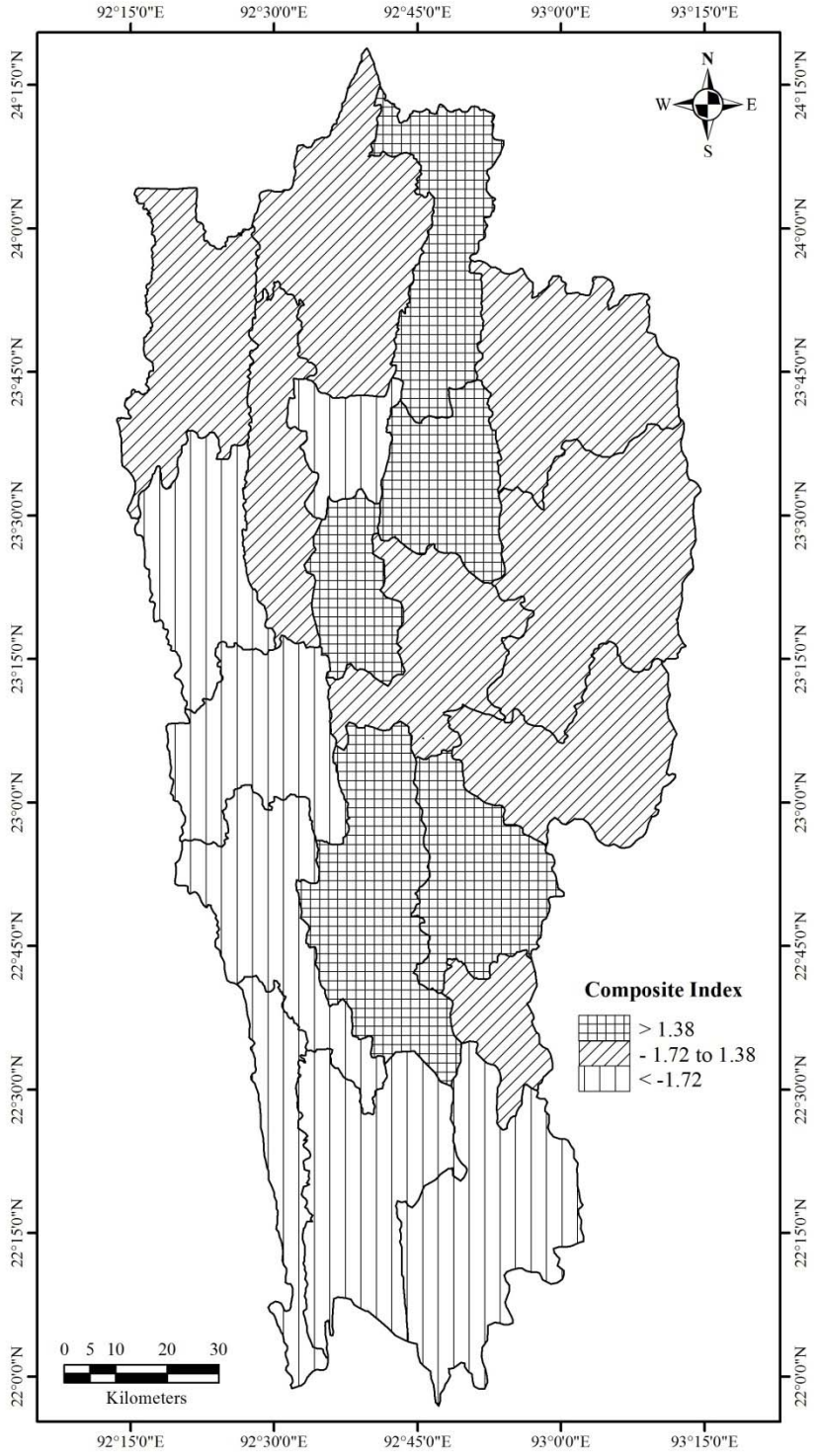

Figure 29: Block wise socio-economic development (1991)

4.3.2 District wise socio-economic development (1991):

***High level of development (>0.96)*:** Aizawl district occupied this high level of development once more, even after ten years, in spite of the way that there is a reduction in her score of development level when compared with the previous census. However, this district managed to score highest rank in the four socio-economic indicator compositions. Nevertheless, her score in the number of educational institutions and working population is shockingly least among the three districts in the state. All things considered, this district has ranked highest in the number of other workers as well as household industry workers in the state.

Table 22: District wise socio-economic development (1991)

Districts	*Score%*
Aizawl	2.44
Lunglei	0.96
Chhimtuipui	-3.39

Source: Census of India, 1991(DCHB, Series 17 Parts XII A&B)

***Medium level of development (-3.38 to 0.96)*:** Lunglei district occupied this level in which her score in the development level is slightly higher than the previous census. This district managed to get the highest score in the two important indicator compositions i.e. in the number of working population and educational institutions. As Gatt and Armeni (2013) has pointed out that educational success is the key to overcoming social exclusion and unemployment. Education has been shown to be one tool for reducing inequalities by fostering cognitive, social and emotional skills and promoting, among other things, healthy lifestyles (OECD, 2010). Schools with community involvement have been shown to achieve this as the different community and educational agents work together for the benefit of all. This district also achieved maximum in the number of adult literacy centre. A high average level of education in a municipality is associated with longer life expectancy (Kravdal, 2009). Through the schools, improving opportunities for employment, have worked successfully to overcome income inequality, promoting greater social cohesiveness and better population health within the communities that they serve.

***Low level of development (<-3.38)*:** Despite the fact that the region of Chhimtuipui had demonstrated advancement in the development level compared with the previous census, still occupied this level. This district attains a maximum score only in the single indicator otherwise her score in the indicator composition is low. It ranks 2nd position in the number of the working population, educational institutions and community amenities. Further, managed to score maximum in the number of cultivators as a sole indicator.

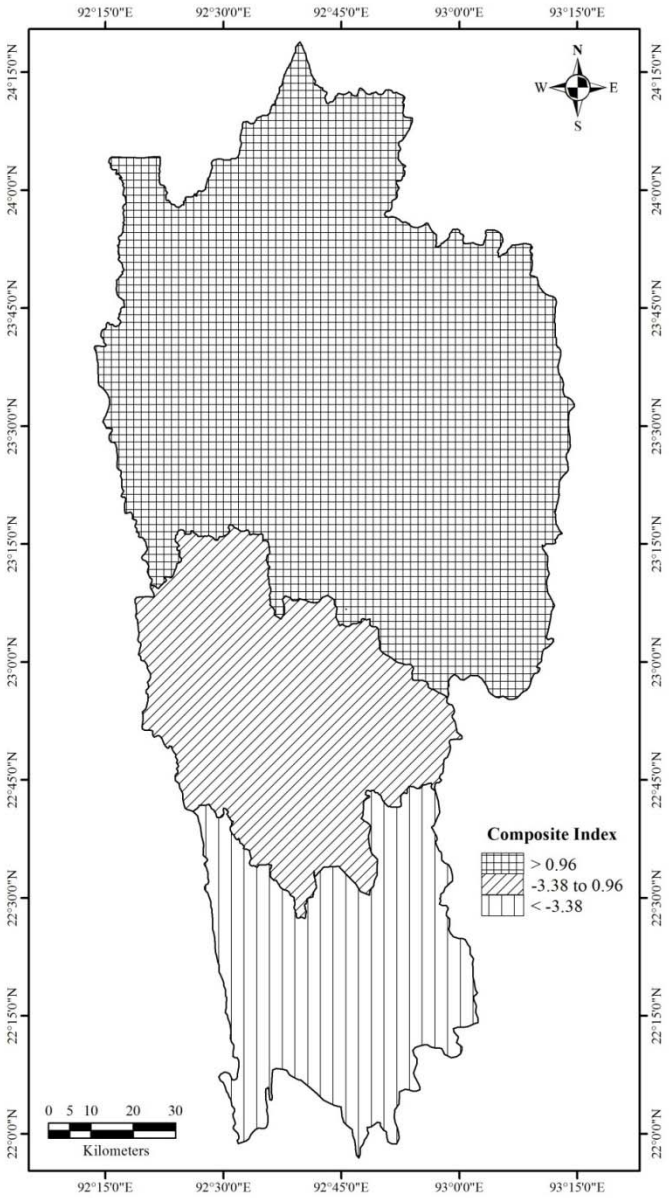

Figure 30: District wise socio-economic development (1991)

4.4 Levels of socio-economic development 2001

4.4.1 Block wise socio-economic development (2001):

***High level of development (>1.96)*:** There are 8 blocks in this group in which the block of *Aibawk* got the maximum score and *Khawzawl* got the lowest in the developmental level. Even though Aibawk block does not have highest score among the socio-economic indicator composition, nevertheless managed to score maximum in the three single indicators. That is in the number of primary schools and middle school as well as on the availability of power supply. In addition, this blocks score 2nd highest in the number of the working population and literacy rate. The next block of *E.Lungdar* scores maximum in the number of the working population in which this block has the highest percentage in the number of marginal workers among the entire block in the state. Further, rank 3rd place on the availability of medical facilities in which this block again has the largest number of PHC, dispensary and community worker. *Phullen* block attains highest in the number of educational institutions and also managed to get highest in the number of cultivator and adult literacy centre. In the same way, the block of *Darlawn* had her maximum score in the number of educational institutions in which her rank is 2nd place. The 2 blocks of *Ngopa* and *Thingsulthliah* on the other hand had their maximum score on the availability of community amenities where their rank is 1st and 2nd position respectively. Not only that, the block of Ngopa achieved 2nd place on the availability of medical facilities. *Serchhip* block also has her maximum score on the availability of medical facilities in which her score is highest among the entire block in the state. The last block of *Khawzawl* scored 3rd position in the number of the working population in which this block has the highest number of agricultural laborers.

***Medium level of development (-3.43 to 1.96)*:** 8 blocks are again found in this class in which the 5 blocks of *Hnahthial, Lunglei, Zawlnuam, Reiek* and *N.Thingdawl* each had their maximum score on the availability of medical facilities where their rank among the block is a 6th,1st,4th and 7th place respectively. Moreover, the block of Hnahthial had again rank same place of 6th on the availability of medical facilities in which this block has 2nd largest centre in the number of the dispensary. In

the same way, the 2 blocks of Lunglei and Reiek did well at the number of literacy rate where their score amounted to 3rd and 8th place respectively. Not just that Lunglei had the highest number on the availability of community amenities as well as the second highest in the number of other workers. *Tlangnuam* block had the highest literacy rate and 3rd place on the availability of community accessibilities. In addition, Tlangnuam has the largest number of other workers among the entire block in the state, while the number of cultivators is lowest. This phenomenon corresponds to the assumption that job opportunities other than agriculture resulted in lower rates of the workforce. Double-digit unemployment persists in many of the nation's major agricultural producing countries (Goldstein, 2000). The last 2 blocks of *Khawbung* and *W.Phaileng* had rank 5th and 6th place in the number of the working population where in Khawbung had a large number of marginal workers and cultivators ranking 4th place and the large number of matriculation ranking 3rd point. Furthermore, the block of W.Phaileng had scored 2nd highest on the availability of community accessibilities as well as 4th position in the number of primary schools.

Table 23: Block wise socio-economic development (2001)

Blocks	*Score%*	*Blocks*	*Score%*
Darlawn	2.49	Sangau	-4.07
Aibawk	5.49	W.Bunghmun	-3.76
Phullen	3.64	Lungsen	-7.06
Tlangnuam	0.49	Lunglei	0.49
Thingsulthliah	3.18	Hnahthial	1.95
Ngopa	3.58	Zawlnuam	-0.10
Khawzawl	2.05	W.Phaileng	-1.66
Khawbung	0.79	Reiek	-0.49
N.Thingdawl	-1.00	Tuipang	-3.79
Chawngte	-6.19	Serchhip	2.27
Lawngtlai	-3.44	E.Lungdar	5.14

Source: Census of India, 2001(DCHB, reports on block statistics & PCA, series 16 A5 to A9)

***Low level of development (<-3.43)*:** 6 blocks are in this level where the block of *Lawngtlai* had her highest score in the number of the working population by ranking 4th place among all the blocks in which there is the highest number of HHI workers. Added to that, this block has adequate drinking water as her rank is 3rd place. The other 5 blocks had their maximum score in the number of educational institutions. *W.Bunghmun* by 6th and *Tuipang* by 13th place. Besides, these two blocks managed 3rd place in the number of cultivators and other workers as a sole indicator respectively. *Sangau* attained an 11th place in both working population and educational institutions. Further, this block has the third largest number of PHC. The block of *Chawngte* rank 5th place in the number of educational institutions in which this block has the largest number of primary schools. In addition, this block has sufficient drinking water availability by scoring maximum among all the blocks in the state. The last block of *Lungsen* scored 14th position in the number of educational institutions and 2nd place on the availability of drinking water as well as 6th place in the number of cultivators as sole indicator.

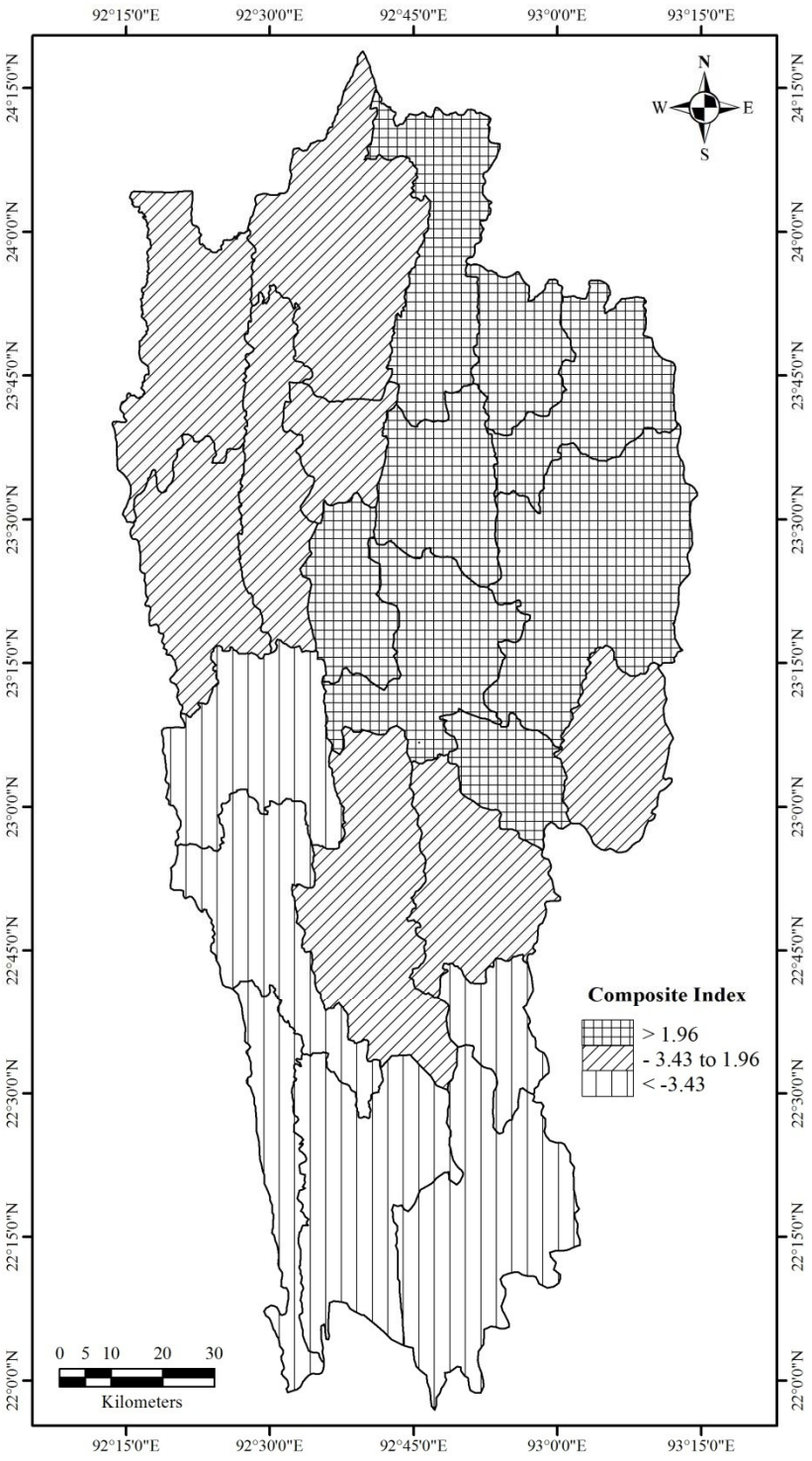

Figure 31: Block wise socio-economic development (2001)

4.4.2 District wise socio-economic development (2001):

***High level of development (>0.09)*:** There are three districts in this level where the district of *Aizawl* still managed to be in this group with an exceptional higher score than the other district in the developmental level. This district achieved highest score in the number of educational institutions, literacy rate and the availability of community accessibility. Not just that, maximum score in the number of other workers as a sole indicator. Her other score is also the high ranking 2nd position on the availability of community amenities as well as in the number of household industry workers. The other two districts of *Champhai* and *Serchhip* did well for a beginner to be at this level where Champhai maximum place is found in the number of the working population by scoring highest in the number of marginal workers and agricultural laborers. Further, 2nd situation on the availability of medical facilities and community accessibilities as well as the highest number of matriculation is found in this district. On the other hand, Serchhip maximum place is found on the availability of medical facilities, in addition, 1st rank in the number of household industry workers and the availability of power supply as a single indicator. Furthermore, 2nd place in the number of literacy rate and working population.

Table 24: District wise socio-economic development (2001)

Districts	*Score*
Aizawl	5.21
Champhai	3.77
Kolasib	-1.54
Lawngtlai	-5.40
Lunglei	-1.40
Mamit	0.09
Saiha	-3.57
Serchhip	2.85

Source: Census of India, 2001(DCHB, reports on block statistics & PCA, series 16 A5 to A9)

***Medium level of development (-1.53 to 0.09)*:** There are 2 districts in this level. One is the district of Lunglei which constantly occupied this level and the

recently created *Mamit* district. The district of *Lunglei* had a maximum score on the availability of community amenities in which her rank is 1st position, the other indicator worth referencing is on the availability of the number of dispensaries and other workers in which her rank is 3rd position each, as a sole marker. On the other hand, the district of *Mamit* does not have the highest place among the indicator, yet her score on the available indicator in general is adequate to accomplish this level. Her maximum score is found in the number of the working population, educational institutions and on the availability of community accessibility where her rank is 3rd situation. Not just that her rank is the 1st place on the number of cultivators, 2nd position in the number of community workers, primary school, pucca road and T&C as a single indicator.

***Low level of development (<-1.53)*:** The 3 districts of Kolasib, Saiha and Lawngtlai were found in this level. *Kolasib* most extreme score is found in the number of literacy rate where her score amounted to 3rd place among the eight districts in the state. This district also ranks 4th place in the number of the working population and on the availability of medical facilities. Besides, her maximum score worth mentioning includes 1st position in the number of dispensaries as well as 2nd position in the number of agricultural laborers and other workers as a singular indicator. The district of *Saiha* uppermost count is a 4th condition in the number of educational institutions, as well as 3rd place in the availability of primary health centre. The last district of *Lawngtlai* did well by scoring 2nd position in the number of educational institutions and 4th position on the availability of community amenities. Added to that, 3rd place in the number of cultivators. However, maintained minimal score on the rest of the indicator which pulls down this district to the district of the lowest level of development.

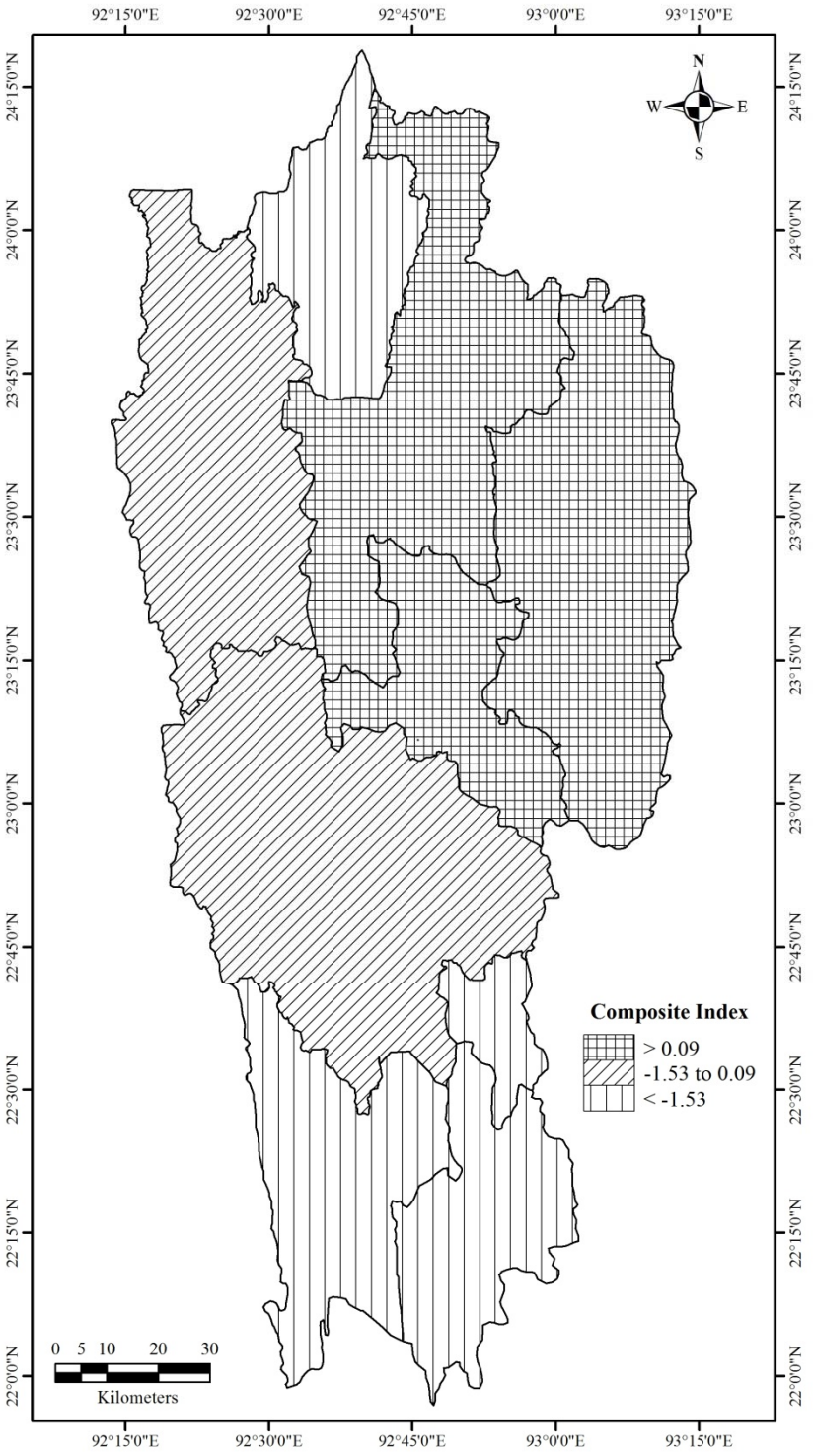

Figure 32: District wise socio-economic development (2001)

4.5 Levels of socio-economic development 2011

4.5.1 Block wise socio-economic development (2011):

***High level of development (>1.42)*:** There are 6 blocks in this level in which *Hnahthial* had a maximum score in the number of the working population and community amenities among all the blocks in the state. Not only that, this block also ranked 1st in the number of maternity and child welfare centre as a single indicator. The next block of *Aibawk* highest achievement is found on the availability of community accessibilities by ranking 2nd situation. In addition, 3rd place in the number of literacy rate and educational institutions respectively. Further, this block has an adequate power supply by ranking maximum among all the blocks in the state. Then, the block of *Ngopa* achieved highest on the availability of community accessibilities and medical facilities in which largest number of community workers are present in this block. The block of *Khawbung* scored maximum in the number of educational institutions. Besides, 2nd place in the number of T&C and PHS respectively. *Phullen* block attains 2nd point on the availability of medical facilities where this block has the highest number of PHC and also 2nd largest number of cultivators among all the blocks. The last block of *E.Lungdar* maximum score is 3rd position on the availability of medical facilities and the number of the post office as a single indicator. Moreover, 4th place in the number of literacy rate.

***Medium level of development (-1.04 to 1.42)*:** 11 blocks are found in this category in which none of the block rank first in any of the indicator composition, however, 3 blocks managed to rank first in a single indicator, the block of *Champhai* on the number of post office, *Lunglei* in the number of agricultural laborers, and *Tlangnuam* in the number of literacy rate and other worker. Further, Champhai had rank 3rd place in the number of the working population and community accessibilities and in the number of PHS as a sole indicator. The block of Lunglei also ranks 4th place in the number of community amenities and has 3rd largest number on dispensary among all the blocks. Tlangnuam block also achieved 2nd situation in the number of market and pucca road. The 2 blocks of *N.Thingdawl* and *Reiek* scored 4th place each in the number of the working population and educational institutions

respectively. Furthermore, 5th and 3rd situation on the availability of pucca road. The block of *Thingsulthliah* achieved 3rd place on the availability of community amenities. Further, in the number of agricultural laborers, power supply and market taken as a sole indicator. *Serchhip* block attains 2nd situation in the number of HHI and literacy rate, as a sole indicator even though her score is low in the number of educational institutions. While, the other 2 blocks of *Darlawn* and *Bilkhawthlir* had not done well in the indicator composition, yet managed 2nd position in the number of dispensary and community worker for Darlawn block, and agricultural laborers for the block of Bilkhawthlir as a single indicator. Further, the block of *Sangau* managed to score 5th position in the number of educational institutions wherein the number of middle school presence rank 4th largest. In addition, rank 5th place in the number of PHC. The last block of *Khawzawl* did not do well in the indicator composition, nevertheless, rank 5th and 6th position in the number of HHI and maternity and child welfare centre respectively as a single indicator.

Table 25: Block wise socio-economic development (2011)

Blocks	*Score%*	*Blocks*	*Score%*
Darlawn	1.41	S.Bungtlang	-6.60
Aibawk	5.10	Sangau	0.34
Phullen	2.31	W.Bunghmun	-3.16
Tlangnuam	0.20	Lungsen	-1.46
Thingsulthliah	1.28	Lunglei	0.21
Ngopa	4.40	Hnahthial	9.53
Khawzawl	0.89	Zawlnuam	-3.36
Champhai	0.23	W.Phaileng	-3.74
Khawbung	3.16	Reiek	-0.59
N.Thingdawl	-0.49	Tuipang	-1.06
Bilkhawthlir	-0.72	Saiha	-1.07
Chawngte	-5.02	Serchhip	-0.91
Lawngtlai	-3.17	E.Lungdar	2.29

Source: Census of India, 2011(PCA &DCHB series 16 part XII B)

***Low level of development (<-1.04)*:** 9 blocks are included in this category in which there are only 4 blocks ranking first in the particular indicator among all the blocks in the state. *Tuipang* block by ranking 2nd and 8th place in the number of the working population and educational institution occupied the highest percentage. The next block of *Saiha* managed 9th place in the number of the working population in which this block has the second highest number of other workers, and 3rd situation in the number of community worker taken as single indicator. *Lungsen* block has achieved 2nd and 5th position on the availability of community amenities and the working population. Then, the block of *W.Bunghmun* managed 2nd position in the number of educational institutions where in this block found the largest number of primary schools. Also, this block has maximum number of cultivators as a single indicator. *Lawngtlai* block maximum score is found on the availability of medical facilities by ranking 7th place. Not only that, this block has largest number of dispensaries among all the blocks. The 2 blocks of *Zawlnuam* and *Chawngte* had their maximum score in the number of the working population where Zawlnuam scored 16th position and Chawngte 6th position. Besides, these 2 blocks had adequate supply of drinking water by ranking 3rd and 1st place respectively. Further, Chawngte had the second largest number of primary schools among all the blocks. The block of *W.Phaileng,* on the other hand, maximum rank is a 4th and 6th place in the number of cultivators and PHC as a sole indicator. Despite the fact that *S.Bungtlang* has scored the lowest in the level of development, yet, this block has largest number of HHI and 3rd largest in the number of cultivators as a single indicator and also managed to rank 6th place in the number of educational institutions.

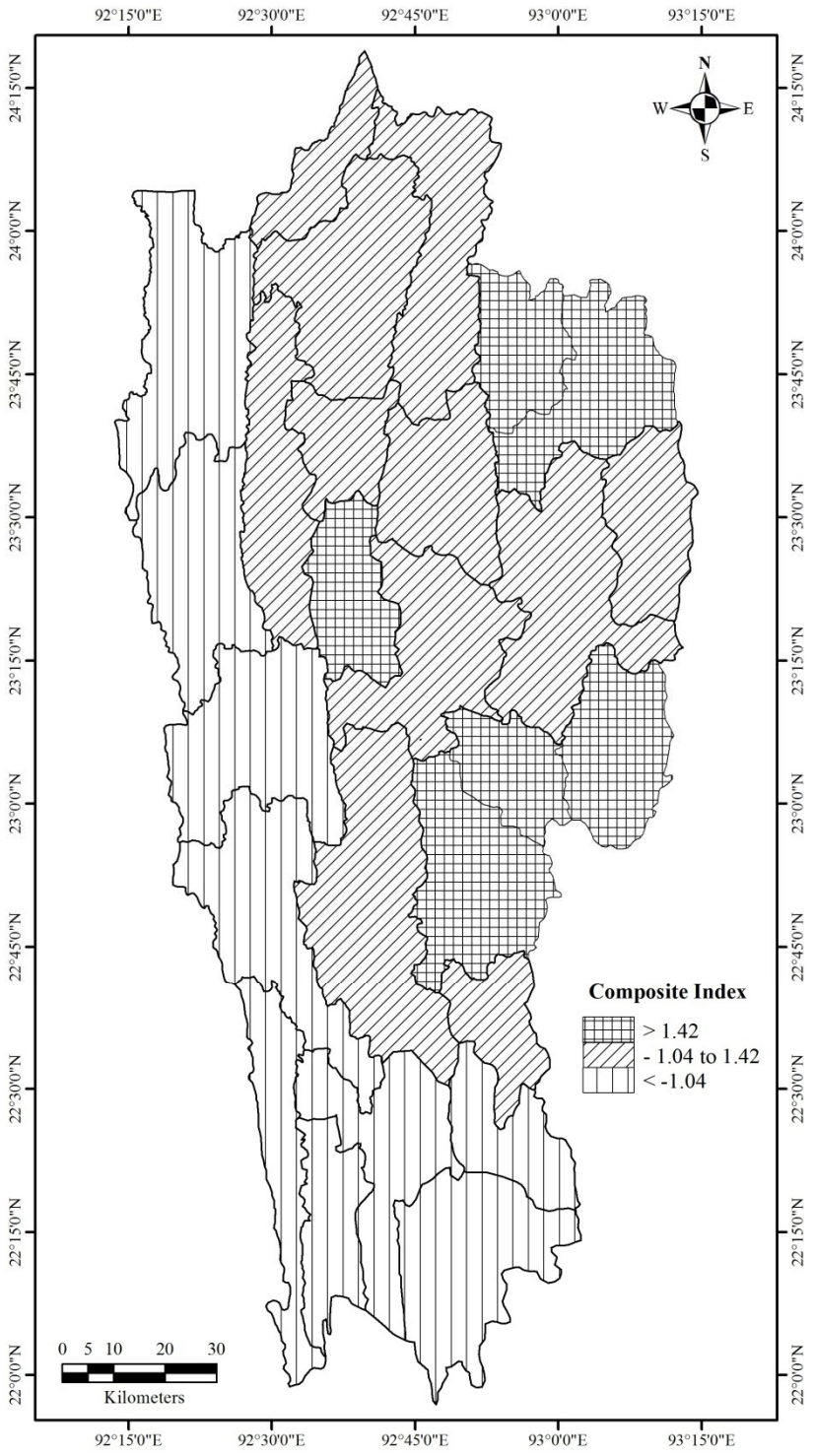

Figure 33: Block wise socio-economic development (2011)

4.5.2 District wise socio-economic development (2011):

***High level of development (>0.30)*:** There are 4 districts in this level. Despite the fact that, *Champhai* district managed to achieve 1st position in the number of community accessibilities and on the availability of medical facilities as indicator composition, and had noticeably high score compared with the other district. This is due to her score in other single indicator is adequate, as this district accomplished 1st situation in the number of PHS, matriculation, and on the availability of T&C and post office. It additionally ranks 3rd position in the number of literacy rate. The next district of *Lunglei* had accomplished 1st position in the number of the working population and on the availability of community amenities in which this district has the largest number of marginal workers, second largest number of agricultural laborers and sufficient supply of drinking water. Not only that this district has rank 3rd place in the number of educational institutions where the second largest number of primary schools is found. In addition, the district has the largest number of maternity and child welfare centre in the state. Be that as it may, her low score in other indicator makes her level of development lower than the district of Champhai. *Aizawl* highest score is found in the number of literacy rate, medical facilities and on the availability of community accessibility where her rank is the 2nd position among the districts in the state. This district has a large number of dispensary, community worker as well as satisfactory pucca road as it rank highest among the eight districts. Moreover, reach 1st position in the number of other workers, the second largest number of HHI and market. Last in this level is the district of *Kolasib* where her maximum score ranks 3rd position in the number of the working population and community accessibilities. Also, 2nd and 3rd situation in the number of PHC, dispensary and market respectively, when taken as a sole indicator.

***Medium level of development (-0.95 to 0.30)*:** The 2 districts of *Serchhip* and *Saiha* are found in this level of development. *Serchhip* most noteworthy score is found in the number of literacy rate where her rank is 1st position in the state. The other higher position is found in the number of HHI, PHC, market and on the availability of power supply where her score is 1st place as a sole indicator. Moreover, the district has the second largest number of cultivators, maternity and

child welfare centre and post office as a single indicator. On the other hand, the district of *Saiha* maximum score is found in the number of the working population in which her rank is 2nd position, also with 4th situation in the number of educational institutions. Besides, this district has the third largest number of community workers and middle school in the state.

Table 26: District wise socio-economic development (2011)

Districts	*Score%*
Aizawl	1.45
Champhai	3.30
Kolasib	0.30
Lawngtlai	-3.03
Lunglei	2.35
Mamit	-2.96
Saiha	-0.98
Serchhip	-0.43

Source: Census of India, 2011(PCA &DCHB series 16 part XII B)

***Low level of development (<-0.95)*:** The two districts of *Mamit* and *Lawngtlai* are found in this group. The district of the Mamit highest score is the 2nd position in the number of educational institutions where this district has the second largest number of middle school and matriculation. Further, this district has the largest number of cultivators and rank 2nd place on the availability of pucca road among the districts, when taken as a single indicator. Nevertheless, lowest in the number of working population and second lowest in the number of literacy rate and medical facilities. Lawngtlai on the other hand, surprisingly ranks 1st place in the number of educational institutions as well as 2nd situation on the availability of community amenities where in this district is the largest number of primary and middle school. Besides, 2nd position in the number of dispensaries as a sole indicator. However, her rank is most minimal in the number of literacy rate, medical facilities and community accessibilities which pulls down to this lowest level of development.

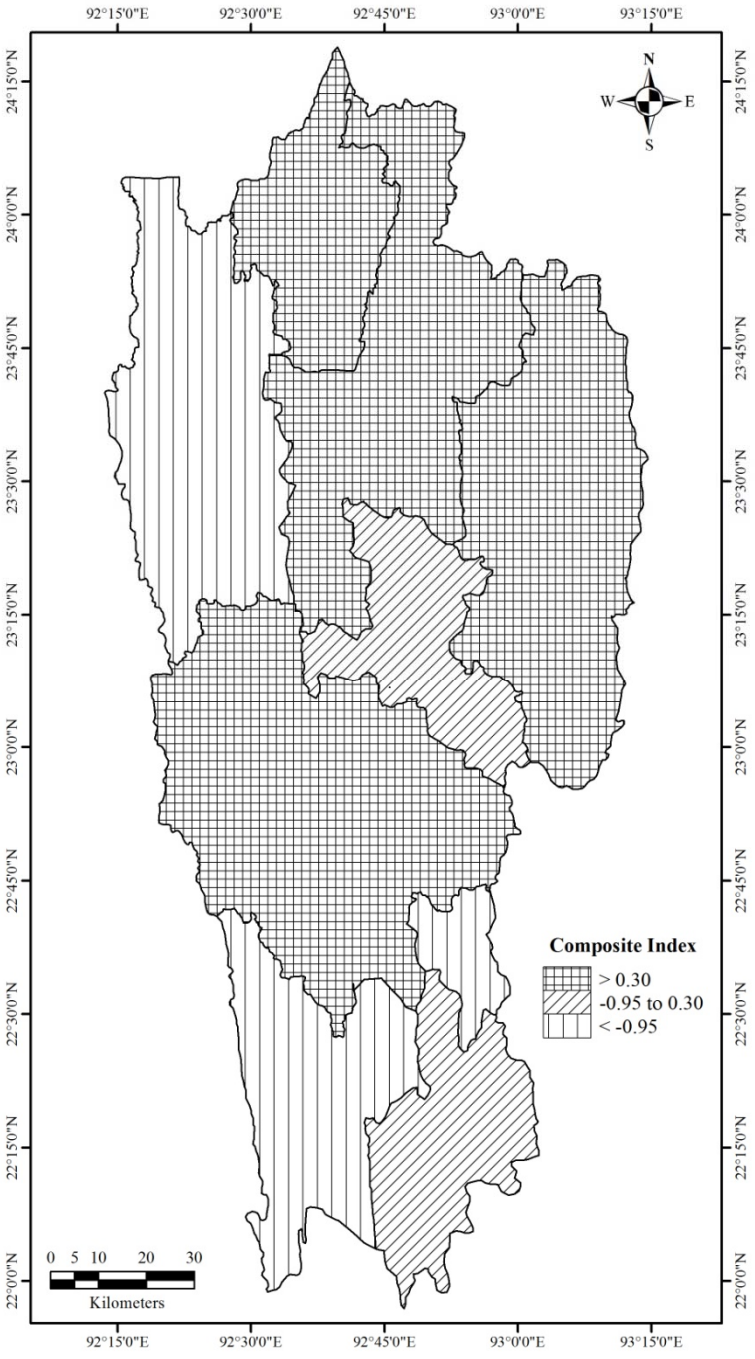

Figure 34: District wise socio-economic development (2011)

4.6 Overall socio-economic development

4.6.1 Block wise socio-economic development (1981 to 2011):

***High level of development (>1.38)*:** There are 9 blocks in this group in which there are two blocks of *Phullen* and *Aibawk*, which continuously occupied this position all through the study period, as in the block of Phullen from its creation in 2001 census. In fact, they are the blocks which have the ability to witness this circumstance as the number of villages in this block more or less remains the same which makes this block solid in the presence of the available data, even when other blocks in the state experienced continuous up and down in their figure due to reorganization in the state. Among the six socio-economic indicators, the block of *Hnahthial* by achieving highest score in the 1981, 1991 and in 2011 census occupied this level. Only in 2001 census this block is found in the medium level due to the large decrease in the number of the working population in which the largest decline is found in the number of HHI and marginal workers. Not only that, the number of educational institutions also shows a great fluctuation, especially the number of primary, middle school and adult literacy centre has greatly reduced in this census. Nevertheless, this block always did well in three indicators, yet not so well in another three indicators in which her score is still high compared to other blocks in the state. The block starts by having a high score in the number of educational institutions by reaching maximum in 1981 to second highest in 1991, to a great fall in 2001 by achieving 16^{th} to 12^{th} place in the last census of 2011. This great reduction is due to the continuous decline in the number of adult literacy centre in this block. However, high enough compared to other blocks. In case of the working population, the block starts by being 5^{th} place in 1981 to 2^{nd} highest in 1991to 2001 to highest in the latest census. And in case of medical facilities, it starts with highest in 1981 to a fall rank of 6^{th} place in the next census of 1991 to 2001 to 4^{th} place in 2011 census due to the reduction in the number of PHC, PHS and community worker. The increase in the number of dispensary centre in 2001and maximum rank in the number of maternity and child welfare centre in 2011is not enough to put this block in the high indicator level as far as the availability of medical facilities is concerned. With the availability of community amenities present in this block, power supply and the availability of

drinking water is adequate. While the number of markets shows a great fluctuation during the study period. In the same way, the number of literacy rate in this block is neither high nor low as this block highest achievement is 4th position in 1991 census. The number of post office, pucca road as well as transport & communication is also neither high nor low all through the study period.

Table 27: Block wise socio-economic development (1981 to 2011)

Blocks	*Score%*	*Blocks*	*Score%*
Darlawn	2.46	S.Bungtlang	-1.97
Aibawk	5.16	Sangau	-2.11
Phullen	1.81	W.Bunghmun	-4.31
Tlangnuam	0.87	Lungsen	-3.91
Thingsulthliah	3.94	Lunglei	2.29
Ngopa	2.14	Hnahthial	7.63
Khawzawl	2.56	Zawlnuam	-1.97
Champhai	0.07	W.Phaileng	-4.08
Khawbung	1.18	Reiek	-1.01
N.Thingdawl	0.90	Tuipang	-2.56
Bilkhawthlir	-0.21	Saiha	-0.32
Chawngte	-8.10	Serchhip	1.37
Lawngtlai	-4.53	E.Lungdar	2.69

Source: Results from table 11 to 18

The second block is *Aibawk* which has the capacity to be at this level all through the study period, where this block even has the highest score in the developmental level in 2001census. It starts by having a 2nd highest literacy rate in the developmental level and continue to be in the same position even after twenty years to the 3rd highest in the latest census. The block also has a good number of schools by having the largest number of middle school in 1981 and in 2001. All things considered, this block has the high score in the educational institutions all through the study period. Further, Aibawk block has sound medical facilities and a large number of PHS and PHC and even reach a maximum in the number of PHC in

1981 census. On the other hand, the block did not do well in the case of the working population compared to her score in other indicator and only manage to rank second highest in 2001 census. Nevertheless, there are large number of cultivators and agricultural laborers in this block, few workers in HHI and marginal workers and even fewer in the number of other workers. Even though, this block has not done so well in the community amenities in the first census, nevertheless shown an increase by reaching highest after ten years and then unfortunately reduce till the latest census. But, the number of the power supply goes on increasing from 3rd place in 1981 to1st position till 2011. The reason this block low score is due to the low availability of drinking water and the number of markets. In the same way, Aibawk block greatest achievement is 1st place in the 1991 census in case of community accessibilities. It has a large number of post offices by scoring highest in 1981 to 2nd place in 1991 to 4th place in 2001 and 2011. Not only that, this block is also well connected with pucca road after the 1981 census, and even scores highest in 2011.

The third block in this level is the block of *Thingsulthliah* which consistently occupied high level except in the latest census of 2011 where it is found in the medium level of development. Among the six indicator composition, this block always did well in community amenities, accessibilities and literacy rate where the number of markets, pucca road, T&C and the availability of power supply is found to be adequate all through the study period. It even ranks highest in the number of markets in 1981, pucca road and T&C in 1991 census. On the other hand, the block did not do so well in the number of the working population, medical facilities and educational institutions. Yet, when taken as a single indicator among them, it ranks 2nd highest in the number of PHC in 1981 and marginal workers in 1991 as well as 3rd highest in the number of HHI in 1991 and agricultural laborers in 2011. This block has a great lacking in the case of dispensary, maternity and child welfare centre, community workers and adult literacy centre.

The fourth is the block of *E.Lungdar* where it has a medium level in the two censuses of 1981 and 1991 to high class in 2001 and 2011. This block greatest achievement is found on the availability of medical facilities, and starts by ranking 2nd place in 1981 to 5th place in 1991 to 3rd position in 2001 and 2011 respectively. It

has the largest number of PHC, dispensary and community worker in 2001 census. On the other hand, the block score in the number of the working population is not so high except in 2001 where her rank is highest among the entire block. In the same way, the score in the number of educational institutions is not so high, except in the 1991 census where this block has the second largest number of middle schools. Not just that, the block always has a very low number of adult literacy centre. The same goes to the community accessibilities and amenities where the supply of drinking water goes on decreasing. While, the number of markets in the block goes on increasing. Added to that, the number of post office on this block attained 5thplace in 1981 to 12th place in 1991, but managed to achieve 2nd in 2001to 3rd place in 2011. Besides, the number of literacy rate in this block also goes on increasing and reach 4th place in the 2011 census.

Khawzawl is the fifth block in this level, which shows an up and down trend by being in the high class in 1981 to medium in 1991 to high in 2001 and then again to medium level in 2011. The block best score is found on the availability of community amenities and accessibilities in which the supply of drinking water, the number of pucca road and the post office is adequate. Not just that, the number of markets is also sufficient all through the study period. The next indicator in which this block did well is on the number of literacy rate where all her ranking in the four censuses is below the 15th place among the blocks. Likewise, this block rank on the availability of medical facilities is also sufficient, yet when taken as single indicator, the number is very low in the maternity and child welfare centre as well as a dispensary. Further, the block ranking in the number of the working population is neither high nor low, in which it has a large number of agricultural laborers and even reach highest in 2001 census. In any case, it has lesser number of other workers.

Darlawn block is among high level for the three censuses of 1981 to 2001 and fall to medium level in 2011 census. The block is well served in term of medical facilities, even though maternity and child welfare centre of the block is very less. Nevertheless the number of community workers, PHS and PHC are many in this block. The block is also fortunate in having a large number of educational institutions by having sufficient number of primary, middle and matriculation. It is

also well served by pucca road, post office and T&C. The number of literacy rate in this block is also adequate in the first census, but unfortunately goes on decreasing till the latest census of 2011.

The seventh block is *Lunglei* where the blocks starts by being in the medium level to high in 1991 and then to medium both in 2001 and 2011 censuses. The block high score in the indicator is found on the availability of medical facilities, literacy rate and community amenities. It has the 3rd largest number of literacy rate till 2001 which decline in 2011 by ranking 5th position. Further, the number of PHC and PHS is found in large number, and it is one of the blocks in the state which is well served with dispensary, maternity and child welfare centre and community worker. Not only that, there is sufficient supply of power and drinking water in this block. In the case of educational institutions, the block also has a large number of primary school, middle school and matriculation, but unfortunately goes on decreasing; it is only the number of adult literacy centre that increased from 12th place in 1981 to 1st place in the 1991 census. This block is also well served with pucca road, T&C and post office. However, goes on decreasing with every census. In case of the working population in this block, there is the large number of HHI, other workers and agricultural laborers where this block even ranks 1st place in 1991 and 2011 census. But, the number of marginal workers and cultivators goes on decreasing.

Ngopa block, just like the block of E.Lungdar has medium level in the two censuses of 1981 and 1991 to high in another two censuses of 2001 and 2011. This block has her maximum score in medical facilities which goes on increasing to reach highest in the latest census, in which the number of PHC, PHS and community worker goes on increasing with every census and reach highest in 2011. And it is one of the rare blocks which has dispensary and maternity and child welfare centre in the latest census. The two indicators of educational institutions and community accessibilities shows an increased where the number of matriculation from 13th position in 1981 reaches 4th position in 2011 census. Not only that, the number of post office accomplished 4th place in 1981 to 2nd place, as well as T&C to reach highest in the latest census of 2011. On the other hand, the improvement in the two indicators of community amenities and the working population is not much, except

the workers in HHI, power supply and agricultural laborers that an increased number is found. Besides, the number of literacy rate also decreased in this block.

The last block in this level is *Phullen* which occupied this group from its creation in 2001 census. There are two indicators in which this block shows an increased i,e in the number of the working population and medical facilities. Despite the fact that, the number of cultivators in this block is high by accomplishing second most elevated in 2001 and most elevated in 2011, and the marginal workers additionally indicated an expanded. However, the number of HHI, agricultural laborers and other workers decline. Consequently, when taken together as working population, this block improvement is from 20th place in 2001 to 8th place in 2011. Medical facilities on the other hand, increased by ranking 5th position in 2001 to 2nd position in 2011 where the number of PHC, PHS, maternity and child welfare centre, dispensary and community workers all shows an increased as well. On the other hand, there are four indicators where this block has shown a decreased. It is in the number of educational institutions which shows a great decline by being in the 1st position to 9th position after ten years where the number of primary school and adult literacy centre decline greatly. Similarly, community amenities decreased where the supply of drinking water declined. Not only that, the number of literacy rate and community accessibilities declined sharply.

***Medium level of development (-1.98 to 1.38)*:** 10 blocks are found in this level in which *Serchhip* has the highest percentage and has gone through great transition from being among the high level in 1981 to medium in 1991 to high in 2001 and finally to medium in the last census as well as at the final results. This block has shown an increase in the two indicators of community amenities and literacy rate. Yet, the availability in the drinking water decline after 1981 census and remain low all through the study period. Simultaneously, power supply and market show an up and down situation every census. Similarly, the number of literacy rate increased in such a way that it even attain second highest among the block in 2011 census. There are four indicator compositions where this block diminished, and the decreased percentage is greatly seen in the number of educational institutions and community accessibilities in which there is an ample decreased in the number of

middle schools, matriculation, T&C and pucca road. While the lessen rank in the other two indicators of the working population and medical facilities is not a lot. It even shows an increased in HHI, other workers and PHS when taken as single indicator. But, the number of PHC, community workers, cultivators and marginal workers decline sharply.

The block of *Khawbung* starts by being in the medium level in 2001 to high level after ten years, settle in this group. This block shows increased in almost all the developmental indicators during the study period of ten years, except in the number of the working population. Khawbung block greatest achievement is found in the number of educational institutions from ranking 7th place in 2001 to 1st place in 2011 where the number of middle school and matriculation largely increased and attain highest after ten years. The second large increased is found in community amenities and accessibilities where T&C and power supply greatly increased. Further, the number of literacy rate and medical facilities also increased in which the number of PHS and PHC centre largely increased as well in this block. On the other hand, the number of the working population greatly reduced and the single indicators all shows a decline as well, especially in the number of marginal workers, HHI and other workers.

Third is the block of *N.Thingdawl* where it is among the high level in 1981 census and descend to medium till the conclusive outcomes. Despite the fact that, the increased is not in abundance, this block has indicator increased in two compositions of medical facilities and community accessibilities in which the number of PHC, T&C, pucca road and post office shows an up and down situation all through the study period. Moreover, there are two indicators where the reduction is not a great deal i,e in the number of the working population and literacy rate where the largest reduction is seen in the number of agricultural laborers and HHI. Besides, there is another two indicator where this block drops to a great extent. The first one is the number of educational institutions where primary school, middle school and matriculation greatly diminished in this block. The second indicator is community amenities in which the supply of power and drinking water is again greatly decline in this block.

The block of *Tlangnuam* starts by being in the high level in 1981 to low in 1991 census to medium for the rest of the study period. It has the distinction of being highest literacy rate and other worker among all the blocks during the study period. There are large numbers of HHI, agricultural labourers, post office, PHC, PHS, adequate supply of power, T&C and is well connected with pucca road. Nevertheless, the block has few number of cultivators, dispensary, maternity and child welfare centre, community worker, educational institutions and scarcity on the availability of drinking water which pulls down her rank.

There are four blocks in the state which has data only in the latest census and yet managed to be in this medium level of development. They are explained according to their ascending share of percentage in the developmental level. First, is the block of *Champhai,* this block greatest achievement is found in the number of the working population and community accessibility by ranking 3rd place among the 26 blocks in the state, in which this block has an uppermost number of post office. On the other hand, this block lowest rank is found in the number of educational institutions wherein the number of primary and middle school is second lowest among all the blocks in the state. Second is *Bilkhawthlir* block where her highest score is found in the number of the working population by ranking 7th place, to which it has a large number of agricultural laborers by achieving 2nd largest among the blocks. The block also did well on the availability of community amenities and accessibilities by 6th position in T&C as well as 7th position in the number of market and post office. However, this block lowest grade is found in the number of educational institutions where the numbers of primary and middle school as well as matriculation are very less. Third is the block of *Saiha* where her greatest achievement is found in the number of the working population wherein there are a large number of other workers in this block. In fact Saiha block has the 2nd largest number of other workers among the state in 2011 census. Further, this block did well in medical facilities wherein a large number of community workers are present. In addition, the two indicators of community amenities and accessibilities are also good enough in this block, to which it has adequate power supply, T&C and pucca road. Nevertheless, the number of literacy rate and educational institutions is low. In fact,

this block has lowest number of matriculation among the 26 blocks in the state. The fourth block is *S.Bungtlang* where her greatest score is found in the number of educational institutions to which it has the third largest number of primary schools among the blocks in the state. In addition, the block also did well in the number of the working population by scoring highest in HHI. Whereas, the number of other workers is very low. Further, the block did not do well in medical facilities, community amenities and accessibilities, the only high score when taken as sole indicator is found in the number of dispensary and drinking water. Further, this block has the second lowest number of literacy rate.

Reiek consistently occupied this level throughout the study period. The greatest improvement is found in the number of educational institutions where this block stood in 17th place in 1981 and goes on increasing to 4th place in the 2011 census. In addition, it is on the number of literacy rate that this block remains more or less the same. The other four indicator composition shows a decline and the greatest decline is found in the number of the working population, to which it decreased from 6th place in 1981 to 26th place in 2011census where the number of marginal workers and HHI decline to a great deal. Further, medical facilities, community amenities and accessibilities reduced greatly, especially in case of power supply, T&C and post office.

Last in this group is the block of *Zawlnuam* where it has a medium level in three censuses from 1981 to 2001 and reduced to low in the final census of 2011. This is due to the decreased in all indicators. And the greatest reduction is found in the number of PHS, community workers, matriculation, T&C, pucca road and power supply. Nevertheless, the block is found in the medium class when all her score was put together. Further, it has shown a decrease in the number of primary school, middle school and matriculation. Nevertheless, the decline rank in educational institutions during the study period is more or less remain the same. Same thing happens to community accessibilities and the working population where the reduction is not a lot, as the number of other workers shows an increased. It was in the case of T&C that the decline is greatest. Added to that, the number of literacy in this block also shows a decreased every census, and even reach 21st place in the latest

census of 2011. The remaining other two indicators of medical facilities and community amenities also decreased where the greatest reduction is found in the number of community workers as well as on T&C.

***Low level of development (<-1.98)*:** There are 7 blocks in this level in which *Sangau* had multiple times medium (1991&2011) and multiple times low (1981&2001) level and accomplished most noteworthy among this block. On the other hand, the two blocks of *Tuipang* and *Lungsen* had medium in 1981 to low for the remainder of the three censuses. *W.Phaileng* block had medium level in 2001 census and low for the rest of the censuses. The three remaining block of W. *Bunghmun*, *Lawngtlai* and *Chawngte* has continuously remain in the low level throughout the study period.

Sangau greatest achievement is found in the number of educational institutions where the block after going through up and down grade finally achieved 5th position in the final census. Even though the number of primary schools decreased during 1991 to 2001, it increased again in the latest census; same is the case with the number of matriculation. It is worthy to find the other two indicators of community amenities and accessibilities shows ups and downs in the previous census, but finally increased their rank in the final census of 2011. On the other hand, the other three indicators of literacy rate, working population and medical facilities in this block go on decreasing. However, the number of agricultural laborers and HHI shows a slight increased. The greatest reduction is found in the number of cultivators and community workers.

Tuipang block greatest achievement is found in the number of educational institutions and working population, wherein the number of primary, middle school, matriculation, marginal workers and cultivators increased. The other four indicators show a decline, especially community amenities and accessibilities as it goes on decreasing every census. The decline is found in drinking water, power supply, T&C, pucca road and a post office. In addition, the number of literacy rate increased only in the 1991 census and goes on declining till the latest census. Moreover, this block

does not have good medical facilities and whatever the number of PHC and PHS present in this block shows a declined.

Lungsen block has elevated score in the number of the working population and community amenities. The number of marginal workers, HHI, cultivators and power supply shows a great improvement and the availability of drinking water is sufficient ranking 2nd place all through the study period. However, the number of educational institutions in this block decline. Nevertheless, the decline is not a great deal due to the increased in the number of primary school. Besides, the decrease in other indicator like middle school and matriculation is also not that to a great extent. Furthermore, this block has a lesser number of literacy rates which further decreased to have third lowest number in the latest census. Community accessibilities is also found to be low in this block, added to that T&C, pucca road and the number of post office continue to decline. What's more, it is on medical facilities that the block has faced problems and occupied the lowest stage in the final census among the 26 blocks in the state. Improving the state of health contributes to economic development. On the other hand, deprivations in well-being in terms of health status are key dimensions of poverty. People living in poverty are less likely to have access to adequate health care and are more likely to suffer from illnesses and to die at younger ages than those living above the poverty line (Sundaram, 2014). The number of PHC, PHS and community workers goes on decreasing every census.

W.Phaileng block highest rank is found in community accessibilities where it has sufficient number of T&C, pucca road and post offices. The number of educational institutions and community amenities is also quite good, even though the block score is declining. The largest decline is found in the number of middle school and power supply. Moreover, the block has low score in the number of literacy rate which goes on decreasing. Furthermore, the number of the working population and medical facilities is low in this block. It is only in the number of cultivators and PHC that the block has shown an increased.

W.Bunghmun block high score is found in the number of the working population and educational institutions. The number of marginal workers and

cultivators increased and the cultivators even reach highest in the census of 2011, while the number of other workers and HHI decreased. In addition, the number of primary and middle school also increased in this block. The other four indicators all show a decline, particularly in medical facilities and community amenities, to which only in the number of dispensary and drinking water that an increased is found. Besides, the number of literacy rate and community accessibilities unfortunately goes on decreasing with every census.

Lawngtlai block highest achievement is found in medical facilities which increased to 7th place in the latest census of 2011, wherein the numbers of dispensaries even reach highest among all the blocks. The next achievement is found in the number of the working population in which the number of other workers and marginal workers increased sharply. Lawngtlai block is also well served by educational institutions and the number of primary schools is highest in 1981 census. Nevertheless, in case of other three indicators, especially community amenities and accessibilities go on declining every census. It is only in the supply of drinking water that the block is sufficient. Further, the number of literacy rate is also low in this block every census.

Chawngte is found to have the lowest level of development among all the blocks in the state. Yet, this block has done well in three of the indicators. The first is in the number of the working population, where it continues to increase till the latest census of 2011 wherein the number of marginal workers increased largely. Further, the number of educational institutions also increased in which there is a large number of primary and middle school and even attained highest in the two censuses of 1991 and 2001 in case of primary school, and second largest in 2011 census. The availability of community amenities is also adequate in this block where it has a large number of market and drinking water. In fact, the supply of drinking water in this block is found to be maximum in the three censuses from 1991 to 2011. Nonetheless, it is found to be second lowest in medical facilities, lowest block in case of community accessibilities and literacy rate among the 26 blocks in the state. It is in the number of PHC and PHS where there is a large decreased that they are found to be lowest among the block in the census of 2011. Added to that, in case of

community accessibility, the number of pucca road, T&C and post office on this block goes on declining. Not only that, the number of literacy rate is always low in this block, ranking 20th place in the three censuses from 1981 to 2001 to the lowest in the latest census of 2011.

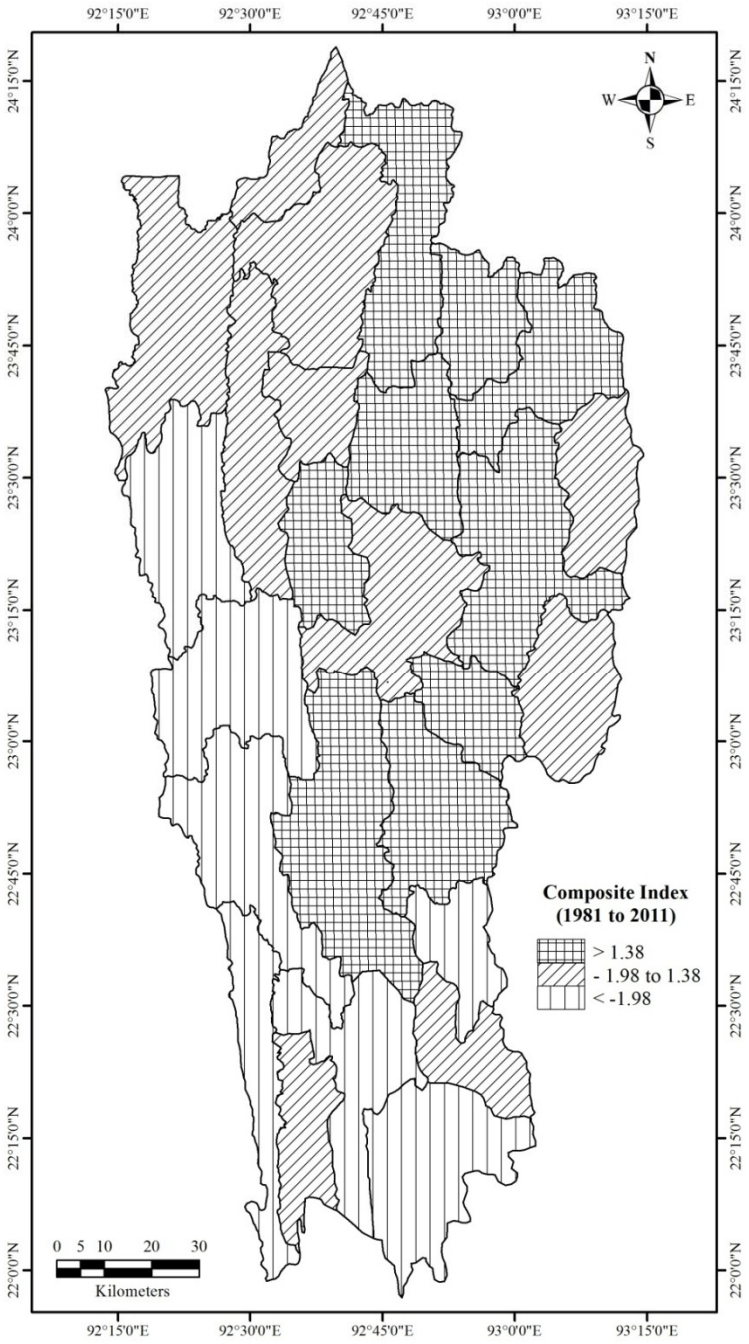

Figure 35: Block wise socio-economic development (1981 to 2011)

4.6.2 District wise socio-economic development (1981 to 2011):

***High level of development (>-0.31)*:** There are 4 districts in this level in which the district of *Aizawl* constantly occupied this category since 1981 till the latest census of 2011. It is no astounding to find the district of Aizawl where the state capital is located to have a high level of development as almost all the socio-economic indicator is found to be adequate. There are four indicators that the district has done exceptionally well than other indicators. Firstly, on the availability of community accessibilities where the district continues to be highest all through the three censuses and was surpassed by the district of Champhai in 2011census. The number of post office, T&C and pucca road is sufficient. Added to that, the availability of pucca road continued to be highest in this district all through the study period. Secondly, the number of literacy rate also continued to be highest except in the latest census when it was surpassed by the district of Serchhip. Literacy is one of the most important indicators of socio-economic development of a region (Kumar *et al,* 2014). It enlarged our horizon and widens our world and played a vital role in the welfare of a society. It opens an opportunity for one's future and raise standard of living. It has been noticed that Mizoram has 91.33% literacy rate in 2011 census, highly above the national literacy rate of 74.04%. Thirdly, medical facilities in the district are sufficient in which the number of community workers goes on increasing, while, the number of PHC and PHS decline, even then, the number is still high compared to other district. Fourth are the community amenities, where the availability of drinking water, power supply and market are in large number. On the other hand, the remaining two indicator composition of the working population and educational institutions show an up and down situation almost every census. To which the number of marginal workers, cultivators and agricultural laborers go on decreasing. Even though the number of HHI decline, by being highest in the two censuses of 1981to1991, it's decline to second highest in 2001 and 2011 census. On the other hand, the number of other workers stood second highest in 1981 and increased to the highest in 1991 till the latest census of 2011.

Next is the district of *Champhai* created in 2001, occupied this level even after ten years. The district maximum score is found in two indicator i,e medical facilities and community accessibilities in which the district rank second highest in

2001 and highest in 2011 in both the indicators. In fact, Champhai is fortunate to be the district which is best served with medical facilities as health is a very important aspect of development (Gopal, 1992). Vulnerable families can be pushed into poverty when a family member becomes ill and requires costly medication and treatment (Sundaram, 2014). The number of PHC, post office and pucca road remain the same, while T&C, PHS, community workers and maternity and child welfare centre increased after ten years. In addition, the number of educational institutions and literacy rate also increased wherein primary school, adult literacy centre and matriculation remain the same. It is only in the number of middle school that an increased is witnessed. On the other hand, there are two indicators that the district has registered a decline. First is the number of the working population, which decline from 1st place in 2001 to 6th place in 2011 where the decline is found in the number of marginal workers, agricultural laborers and other workers. Whereas, there is an increased in the number of HHI and cultivators. The second is on the availability of community amenities which decline from 3rd place in 2001 to 4th place in 2011, while, the number of market and power supply increased. Also, the supply of drinking water remains the same.

The next is *Lunglei* district, which occupied medium level in the three censuses of 1981 to 2001, and only high level in 2011 census. The district maximum score is found in the availability of community amenities where the supply of drinking water goes on increasing to reach the highest place in the 2011 census. The number of market and power supply is also experiencing an ups and downs status to attain a high place in the last census of 2011. Lunglei district also did well in the number of educational institutions where the second largest number of primary schools is found here. Although, the number of middle schools, matriculation and adult literacy centre decreased, it still has a large number of them. Not only that, the district has shown an increased in the two indicators of the working population and medical facilities in the three censuses, except in 2001 census. Same is the case with its single indicator, where there is an increase in the number of marginal workers, HHI, cultivators and agricultural laborers. Yet, it is only in the number of other workers that the numbers are reduced from 2001to 2011 censuses. On the other hand, this district has ranked highest in medical facilities in 1981 which decline in 1991 to

2001 and finally increased slightly in 2011. Where the number of PHC, PHS and community workers decline from 1981 census. On the other hand, the number of maternity and child welfare centre and dispensary face an up and down situation in every census. Further, the number of literacy rate in this district decline from 2nd place in 1981 to 1991 to 5th place in 2001 and finally to 6th place in 2011. Added to that, the community accessibilities also decline from 2nd position in 1981 and 1991 to 6th place in 2001 and 2011 census. Where T&C and pucca road from 2nd place in 1981 to 1991 to 6th place in 2001 and slightly increased to 5th place in the 2011 census. The situation is slightly different in the number of the post office where this district stood at 2nd position in 1981 to 1991 and 6th position in 2001 and 2011 census.

Last in this level is the district of *Serchhip* which occupied high from its creation in 2001 to medium in 2011 census. It has the high score in the number of literacy rate by attaining second highest in 2001 to the highest in 2011 census. It is also well served with medical facilities where the number of PHC is highest in the two censuses of 2001 and 2011. Throughout the world, there was an affirmation of the fact that primary health care is essential to achieving an acceptable level of health as an integral part of social development in the spirit of social justice (Gopal, 1992). However, the number of PHS and community workers decline. Further, community amenities show an increased in which the supply of drinking water and market increased largely, while power supply remain the same being highest among all the districts in the state. Further, the community accessibilities remain the same in its rank compared with the two censuses and yet there is a decline in T&C and pucca road, though the number of post office remains the same. On the other hand, this district has faced a decline in the number of the working population and educational institutions in which the largest decline is found in the number of marginal workers, agricultural laborers, middle school and matriculation.

***Medium level of development (-2.97 to -0.31)*:** There are 3 districts in this level. *Kolasib*, *Mamit* and *Saiha* which have data for two censuses as they all are created in 2001 census. Kolasib occupied low in 2001 to high in 2011. Among the six indicator composition, two indicators remain the same and the number of literacy

rate is the only indicator which has shown a decline after ten years in this district. Further, there are three indicator compositions in which this district has shown an increased. The first is in the number of the working population wherein the increased is found in the number of marginal workers, cultivators and agricultural laborers. Whereas, the number of HHI and other workers decreased. Second is in the number of educational institutions where the district has a higher score than the previous census when the sole indicator remain the same due to the presence of an adult literacy centre in one of her block in the previous census which alter their change of place in this composition indicator. The third is on the availability of community accessibilities where the number of post office, T&C and pucca road all increased considerably. On the other hand, the two indicators of medical facilities and community amenities score remained the same. However, when taken as single indicator, there is an increase in the number of PHC, maternity and child welfare centre, PHS and market. While, there is a decrease in the number of dispensary, power supply and drinking water.

Mamit district occupied medium in 2001 to low level of development in 2011 census. The number of educational institutions is the only indicator which has shown increased, wherein the number of middle school and matriculation increased. Further, this district has four indicators which decline from the previous census. The first is the number of the working population in which the number of marginal workers, HHI and agricultural laborers decreased. While the number of cultivators and other workers remain the same. The second is a medical facilities, where the number of PHC, maternity and child welfare centre and dispensary increased, though the number of PHS and community workers decreased. The third is community amenities where power supply decline, drinking water remain the same and the number of markets increased. The fourth is the community accessibilities where the number of post office and T&C decline, whereas the pucca road remain the same. Moreover, the indicator in the number of literacy rate in this district remains the same.

Saiha starts with low level in 2001 census and then to medium after ten years, where the district has witnessed an increased in three indicator compositions. First is

in the number of the working population in which the number of marginal workers, HHI and other workers increased. It is only in the number of cultivators, where a decline is found as the number of agricultural laborers remains the same. Second is the medical facilities in which the number of PHS, maternity and child welfare centre and community workers increased, while the number of PHC decline. Thirdly, the number of literacy rate increased. Furthermore, there are three indicator compositions which remain the same in their rank, though reduction is found in a few of their sole indicator. The first is the number of educational institutions where all the sole indicator decreased. The second and third indicator is found in the community amenities and accessibilities where the number of market, T&C, pucca road and power supply increased. The decrease is found only in the number of the post office as the availability of drinking water remains the same. This makes the district rank in the same level with the previous census in this three indicator composition when arrange in ascending order of development.

Table 28: District wise socio-economic development (1981 to 2011)

Name of District	*Score%*	*Level*	*Score%*	*District*
Aizawl	5.64			
Champhai	2.61			
Kolasib	-0.31	High	>-0.31	Aizawl, Champhai, Lunglei, Serchhip
Lawngtlai	-2.96	Medium	-2.97 to -0.31	Kolasib, Mamit, Saiha
Lunglei	1.57	Low	<-0.31	Lawngtlai,Chhimtuipui
Mamit	-1.34			
Saiha	-1.48			
Serchhip	0.62			
Chhimtuipui	-4.35			

Source: Results from table 11 to 18

***Low level of development (<-0.31)*:** The district of *Chhimtuipui* which had recorded for the two censuses of 1981 and 1991 reside in this category. The district

starts by having the largest number of cultivators, primary school and middle school and continued till the next ten years. Then, the number of marginal workers declines, on the other hand, the number of markets increased. The other entire indicator remains the same during the study period.

The district of *Lawngtlai* begins with low level in 2001 census and keeps on involving in this level. Despite the fact that the district of Lawngtlai didn't do so well in three developmental indicator and rank lowest in the number of literacy rate, medical facilities and community accessibilities, yet an increased is found in another three indicator composition. The first one is in the number of the working population where the number of marginal workers increased, yet the number of other workers and HHI remain the same. Added to that, the number of cultivators and agricultural laborers show a decline after ten years. Second are the community amenities where the number of markets increased, and the availability of power supply and drinking water remain the same. In fact, this district has sufficient supply of drinking water as it ranks second highest in both the censuses. Third is the number of educational institutions where this district has the largest number of primary school and middle school and the number of primary schools is found to be largest in both the censuses. Also, the number of matriculation increases and become third largest in the latest census of 2011. On the other hand, this district has poor medical facilities as there is no records of community workers, dispensaries and maternity and child welfare centre in the 2001 census, which luckily present after ten years. Nonetheless, T&C, post office and pucca road are likewise exceptionally less in this district. Added to that, the number of literacy rate is also very low.

It is to be seen from the analysis that Saiha district during the period 1981 to 1991 remain least developed possessing highest number of cultivators, with decline in marginal workers though with a little increase in market facilities. Within a comparable period, Aizawl district has the highest level of development followed by Champhai and Kolasib district. Lawngtlai remain the medium level district. It is to be noticed that Lunglei district falls under low category. The reason may be attributed to its population composition-whereas a large numbers of Lunglei district population is

of the Chakmas, who are having unstable economy with lower level of population characteristics.

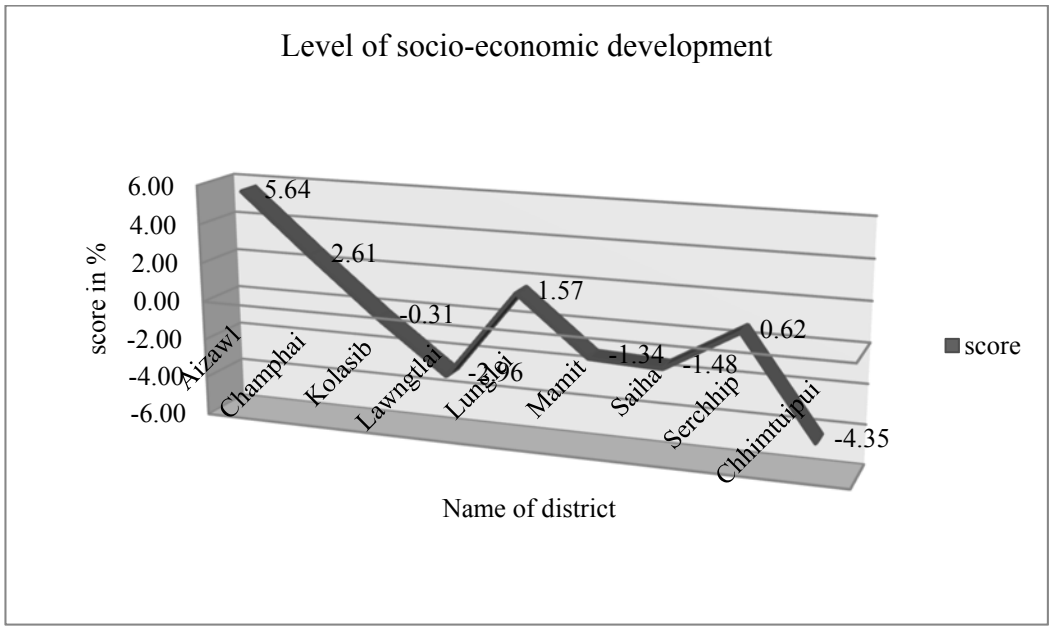

Figure 36: District wise level of socio-economic development 1981 to 2011

This chapter also highlights that among the 26 blocks in the state, the block of Hnahthial has the highest score (7.63%).The block of Champhai has an average level of development with 0.07%. At the same time, Chawngte with -8.10% has the lowest level of development.

CHAPTER-V
RELATIONSHIP BETWEEN POPULATION GROWTH AND SOCIO-ECONOMIC DEVELOPMENT

5.1 Introduction:

The issue of population and economic development is as old as economics itself. Malthus (1798) claimed that there is a tendency for the population growth rate to surpass the production growth rate because population increases at a geometrical rate while production increases at an arithmetic rate. Hence, the liberated population growth in a country could plunge it into acute poverty. A large population growth is not only associated with food problem, but also imposes constraints on the development of savings, foreign exchange and human resources. Rapid population growth tends to depress savings per capita and retards growth of physical capital per worker, and the population pressure is likely to intensify the foreign exchange constraints by placing more pressure on the balance of payment. Additionally, too dense a population aggravates the problem of improving the wellbeing of the population (Tsen and Furuoka, 2005).

Economic development in the country is predominantly seen in terms of economic growth the country manages to achieve (Perveen, 2004). Also, rapid population growth is always a threat to economic development. There is no point in denying that rapid population growth is a problem in many developing countries (Kuznets, 1966). As Easterlin (1967) has pointed out that high population growth creates pressures on limited natural resources, reduces private and public capital formation, and diverts additions to capital resources to maintaining rather than increasing the stock of capital per worker. Not just that, population growth threatens human welfare and that there are physical limits to the increase in production, such as the availability of land, scarcity of energy and raw materials, and the carrying capacity of the global environment (Brundtland, 1987: Ehrlich and Ehrlich, 1990: Keating, 1993: IPCC, 2001: Meadows *et al*, 1972: UN, 1994: World Bank, 2003). A higher figure for population growth implies a lower growth rate of per capita income.

Birdsall (1989) declared that, slower population growth would raise per capita income faster or prevent its decline. In any case, population increase

eventually brought falling wages and rising food prices as an increasing supply of labor ran up against the fixity of land and, given diminishing returns, labor productivity fell. Rapid population growth tends to slow down economic growth and yield serious economic consequences in low-income countries. Rapid population growth and the resultant population explosion in countries like India and Bangladesh is considered to be one of the principal causes of poverty, low standard of living, malnutrition, ill health and environmental degradation(Hasan,2002). This is true for a state like Mizoram where the continuing growth of population can hampers the economic development in the state. Since, the analysis of blocks and districts is done on the basis of population growth and socio-economic development; blocks as well as a district which does not have a population growth rate are excluded when studied with a reference period. For instance, Phullen and Khawbung block were excluded during 1991 to 2001 population growth and 2001 socio-economic development. Added to that study period, the study of just two districts of Aizawl and Lunglei are included as they were the only two districts having a growth rate at that time, even though other districts were recently created. Again, four blocks like Champhai, Bilkhawthlir, S.Bungtlang and Saiha were excluded during 2001 to 2011 population growth and 2011 socio-economic development. Be that as it may, all the 26 blocks are clarified modestly in the overall results.

5.2 Population growth 1981 to 1991 and Socio-economic development 1991

5.2.1 Block wise relationship between population growth 1981 to 1991 and socio-economic development 1991:

During this period, the relationship between population growth and socio-economic development has a weak negative correlation as the Pearson Correlation results is -.353. Generally, block which has higher population growth experiences a low level of socio-economic development. The 20 blocks in the state are explained on the basis of their high score in the population growth as follows:

Table 29: Block wise correlation between population growth 1981 to 1991 and socio-economic development 1991

Descriptive Statistics

	Mean	Std. Deviation	N
Population_ Growth1981to1991	31.3300	18.42187	20
Socio_Economic_ Development1991	.0005	3.06179	20

Correlations

		Population_ Growth1981to 1991	Socio_ Economic_ Development 1991
Population_ Growth1981to1991	Pearson Correlation	1	-.353
	Sig. (2-tailed)		.127
	N	20	20
Socio_Economic_ Development1991	Pearson Correlation	-.353	1
	Sig. (2-tailed)	.127	
	N	20	20

1. *Tlangnuam block*: The highest population growth was found in the block of Tlangnuam with a high growth rate of 82.01%, while her socio-economic development score puts this block in the low level of development by accomplishing -1.71%. In fact, when put in the high order rank in socio-economic development level, the block of Tlangnuam stood as low as 14th position among the 20th blocks in the state. Among the 170,667 inhabitants in the block of Tlangnuam, as much as 158,767(93.03%) lived in the urban areas of the two towns of Aizawl and Sairang, where in Aizawl town found the largest urban population of 155,240(60%) and only 11,900(6.97%) lived in the 17 inhabited villages in 1991 census. Since, a large portion of the occupants in this block lived in the urban areas and their workers includes all sorts of government and non government employees, persons engaged in trade, commerce, business, transport, banking, political or social workers, priests and so on, and rank highest in other worker and high in HHI category. The number of literacy rate is highest in this block and yet educational institutions like primary school, middle school and matriculation are lowest which showed that the inhabitants in this block have a larger number of private schools which is not recorded in the census data. This block also did not do well in case of medical facilities as it has very

low number of community workers. Not only that, this block does not have records of dispensary and maternity and child welfare centre, which pulls down in the level of socio-economic development. The block likewise has faced the problem of the availability of drinking water, particularly in the urban areas. In fact, the availability is one of the lowest among the block which again contribute to the lowering of its developmental level. Nevertheless, this block is well served by power supply, T&C, pucca road, post office and market.

2. Lawngtlai block: The second highest population growth with 58.39% was found in the block of Lawngtlai with a low socio-economic development score of -2.54%. This block does not have an urban population during the two censuses of 1981 to 1991 and yet its rural population goes on increasing with an addition of 19,126 within a span of ten years. Since, the population goes on increasing, the indicators of socio-economic development in this block is inadequate for the inhabitants. It has low levels of literacy rate, the literacy and development have a mutually beneficial relationship, and that without literacy development indeed limps on one leg (Bhola, 1984:1990). And yet the number of primary school, middle school and matriculation was very acceptable. Further, the medical facilities in this block are low, particularly in the number of maternity and child welfare centre and dispensary. Further, the number of workers in HHI is the second lowest among the block and the marginal workers is also very low. While, the number of cultivators, agricultural laborers and other workers are satisfactory. The number of post office, market and power supply is again low in this block. On the other hand, T&C, pucca road and drinking water in this block is satisfactory.

3. Tuipang block: The third highest population growth rate with 57.75% has a lower socio-economic development score of -1.77%. This block has an addition of 12,787 populations within a span of ten years where in the rural population increased by 6,136 and the urban by 6,651 populations. Since, this block has Saiha town, it has a large number of other workers and the number of HHI and agricultural laborers are also found in large number. While, the number of cultivators and marginal workers are less in number pulling down the working population. Moreover, this block has moderate availability of medical facilities in which there is no records of maternity and child welfare centre as well as a dispensary. The number

of educational institutions is also moderate, even though there is no record of an adult literacy centre. Further, the supply of power in this block is also inadequate for the inhabitants. Added to that the number of literacy records a low rate of 79.78%. On the other hand, it is on the supply of drinking water that this block is satisfactory. Nonetheless, the socio-economic indicator in this block is not sufficient for the high growth rate of population.

4. Chawngte block: This block has a high population growth rate of 46.44% and the lowest socio-economic development level by achieving -7.40%. Since this block does not have urban population, its rural population increased by 7,887. Most of the inhabitants in this block are engaged in cultivators as it has largest number among all the blocks, very less number of other workers, HHI and agricultural laborers, also with lowest number of marginal workers. Further, the number of literacy rate registered lowest (24.76%) which is unfortunate for this block, as in the long-run, growth of educational opportunities and level of education attained by the individual leads to the economic growth rate and household income (Seebens and Wobst, 2003). Simultaneously, the number of middle schools, matriculation and adult literacy centre records second most minimal among all the blocks in the state, and no records of adult literacy centre. With education, individuals have an easier time finding jobs, qualifying for higher pay, avoiding unemployment, and increasing the value of their work output because of their enhanced skills and knowledge (Crown and Wheat, 1995: Senter, 1999). Further, education affects economic growth in ways beyond the direct effects of human capital. McMahon, (2000) estimates that 40% of the total effects of education on per capita economic growth are indirect. Education also has positive indirect effects on economic growth through enhancing the rule of law, democratization, human rights, and political stability (McMahon, 2000: Psacharopoulos, 2006). This block also records lowest in medical facilities where the number of PHS and community workers is found to be lowest. Not only that, it stood second lowest in the number of PHC and no records of maternity and child welfare centre and dispensary in the block. Further, it records lowest in pucca road, second lowest in power supply, low number of markets and no records of the post office and T&C. Nonetheless, the

availability of drinking water is satisfactory by ranking highest among all the blocks in the state.

5. *Lunglei block*: Lunglei has a medium population growth rate of 40.44% and second highest records of 5.08% in the socio-economic developmental level. This block registered an increase of 13,963 populations, where the rural decreased by 3,441persons, though the urban registered an increased number of 17,404 during the two censuses of 1981 to 1991. Since this block has the most important town in the south Lunglei, it has the second largest number of other workers, large number of marginal workers and HHI. Not only that, this block has the largest number of agricultural laborers while the number of cultivators in this block records second least. The literacy rate is high recording 92.16% and rank third highest next to Tlangnuam and Aibawk blocks. Mirowsky and Ross (2003) expressed that education has an enduring, consistent, and growing effect on health. It has a substantial effect on health independent of status attainment (Feinstein *et al*, 2006). After controlling for socioeconomic status and economic resources, less-educated persons are 67% more likely to die earlier than the more educated (Baker *et al,* 2011). At the same time, this block has the highest score in the number of educational institutions in which the economy of a country depends upon the labour productivity, which relies on education (Afzal *et al,* 2010), and where it has the highest number of adult literacy centre. Further, this block is served with moderate medical facilities where there are a large number of community workers and PHS. The presence of a post office, pucca road, T&C and power supply is quite satisfactory and yet no record of market on this block.

6. *Khawzawl block*: With a medium population growth rate of 40.17% and a developmental score of 1.38%, this block has the unique same position both in the population and developmental level when arrange all the blocks in ascending order of their score. The added population within ten years amounted to 14,385 in which the rural population decreased by 8,143 and while the urban population increased by 22,528, and the total urban population of 30,015 is distributed in the three towns of Champhai (20,809), Khawzawl (7,104) and Khawhai (2,102) respectively. Even though the rural population decreased in this block, the number of agricultural laborers goes on increasing from previous census becoming second

largest number among the blocks. Likewise, the number of HHI and other workers had indicated an increased as well. Whereas, the number of cultivators and marginal workers decline. In case of medical facilities, community accessibilities and educational institutions, this block have moderate availability where the 37 inhabited villages were served. Further, it has the largest number of market, and is well served with power and drinking water. It can be said that the socio-economic indicator in this block is adequate for the inhabitants in this block.

7. *Thingsulthliah block*: This block has a medium population growth rate of 31.29% and a high developmental score of 3.81%. The added population added up to 6,457 and the inhabitants are wholly rural. Even then, the number of HHI, other workers and marginal workers are very high unlike other blocks which do not have urban population. And the number of cultivators and agricultural laborers are found to be moderate. Further, it has an enormous number of markets by positioning third highest among the blocks in the state, good supply of power and large number of post office. Added to that, this block is well served by medical facilities and educational institutions. Furthermore, the community amenities and accessibilities are satisfactory in which this block has the highest score in T&C and pucca road. In any case, it is the supply of drinking water, which is deficient for the inhabitants in this block.

8. *W. Phaileng block*: The population growth rate in this block is 28.23% and a low socio-economic developmental score of -2.17% is registered in this block. The block added population between 1981 to 1991 amounted to 4,753 in the 29 inhabited villages. This block is not well served by medical facilities and yet the presence in the number of community workers is good enough. It has low number of PHS and there are no records in the number of dispensary and maternity and child welfare centre. Not just that, this block has low number of primary school, middle school and matriculation and no records of the adult literacy centre. At the same time, the number of literacy rate is also low registering 53.31%. It is fateful to have a low number of educational institutions which is one of the principal attributes of the quality of a population (Das, 1999). And is one of the main components of Human Development Index (Kumar *et al,* 2014) and has played a central role in the life and well-being of societies. Likewise, play an important role in promoting socio-

economic mobility in society (Sundaram, 2014). Further, the number of post office, power supply and drinking water is deficient for the growth of population experienced in this block. While, T&C, pucca road and the number of markets is adequate.

9. *Serchhip block*: This block has a population growth rate of 28.02% and socio-economic development score of -0.54%. The added population within ten years amounted to 6,565 and the increased is found only in urban amounting10, 861 whereas the rural population decreased by 4,296. And the total urban population of 18,190 is distributed in the two towns of Serchhip (13,688) and Thenzawl (4,502). When arranging the growth and the socio-economic score of this block in ascending order, the score of population growth rate is a lot higher than the socio-economic score. This block has low number of the working population and educational institutions in which there is no records of the adult literacy centre. It is inopportune when a block is low in education which is the key to building human capital, the vital ingredient in building a nation (Haq and Haq, 1998). As Dreze and Sen (1995) has pointed out that basic education and literacy have several valuable features for the enlistment of the society, community and people at large. Further, this block is also very low in the community amenities where the supply of drinking water is lowest among the blocks in the state. On the other hand, it is well served with medical facilities by having the highest number of PHS and second highest number of community workers among all the blocks in the state. Further, the number of PHC, market, HHI and the post office is also adequate for the medium growth of population in this block. Not only that, this block has moderate availability of T&C and pucca road.

10. *W. Bunghmun block*: This block has a population growth rate of 27.04% with a developmental growth of-2.93%. The level of socio-economic development in this block is very low. In fact, it is second lowest next to the block of Chawngte among the blocks in the state. The added population after ten years amounted to 3,310 and the population in this block is disseminated in the 44 inhabited villages. Since, this block is wholly rural and the nearest town Thenzawl is 42km approximately, the number of other workers in this block is lowest among all the blocks. Not only that, it has the second lowest in the number of marginal workers

and agricultural laborers and third lowest in the number of HHI. Yet, there are huge numbers of cultivators by having second largest numbers among the blocks. Further, the number of literacy rate is low with 55.61%, but then the number of educational institutions is satisfactory whereby it has the largest number of matriculation, ample number of primary school, middle school and adult literacy centre. On the other hand, this block is poorly served by community amenities and accessibilities in which the facility of drinking water and T&C is only considered as tolerable.

11. N. Thingdawl block: With a population growth rate of 26.82% and a developmental score of 0.62%, this block growth rate is a lot lower than the socio-economic score. The additional population added up to 9,482, and the addition takes place only in the urban areas of the three towns of Bairabi, North Kawnpui and Vairengte summing 18,518. While, the rural inhabitants diminished by 9,036. It is clear from the percentage score that this block has a negative relationship between population growth and socio-economic development. Since the population growth rate is not high, the inhabitants can enjoys whatever services allotted to them as the population always tends to outgrow the limit of subsistence (Mayer, 1962). This block has largest number of workers in HHI among all the blocks in the state. Also, the number of other workers and agricultural laborers are found in large number. whereas the number of cultivators and marginal workers are few. Further, this block has adequate number of PHS, PHC and community workers. But, no records in case of maternity and child welfare centre and dispensary. Not only that, the number of educational institutions is low especially in the number of primary school and middle school and what's more no records of adult literacy centre. Likewise, the number of literacy rate in the block is low compared to other blocks in the state amounting 86.24%. Nonetheless, this block is well served with community amenities and accessibilities where in the availability of power, drinking water and the number of post office is sufficient.

12. Zawlnuam block: Zawlnuam has a population growth rate of 26.22% and the socio-economic score of -0.83%. The added population after ten years amounted to 6,409, in which the rural population decreased by 592 and the block has started having an urban population due to the birth of two new towns Zawlnuam and Mamit where 7,001 inhabitants reside in 1991 census. The block has negative

relations by having a higher growth rate than the socio-economic score. Though, the socio-economic score is low, there are still a large number of cultivators and agricultural laborers, and yet, the workers in HHI and other workers, which are found in large number in other blocks having urban centre are found to be very low here. In fact, the numbers of workers engaged in other workers are one of the lowest in this block. On the other hand, this block is well served with community amenities where the availability of drinking water, T&C and the number of markets is sufficient. However, the number of post office and power supply needs a little improvement. Even though, adult literacy centre has no records, the number of primary school, middle school and matriculation is as much as necessary. Same is the case in the number of the literacy rate of achieving 69.43%. The availability in case of medical facilities need an improvement as there is no records of dispensary and maternity and child welfare centre.

13. Lungsen block: Lungsen has a medium population growth rate of 25.41% and a low socio-economic development score of -2.48%. It has an added population of 5,369 with an increased population of 970 and 4,399 population resides in the newly created town Tlabung. The vast majority of the occupants in this block are cultivators as it is found in large number, whereas marginal workers, other worker, agricultural laborers and HHI are very few. Besides, this block has poor connectivity in term of medical facilities where the number of PHC is found to be the lowest among all the blocks. Added to that, there are few numbers of PHS and community worker and no records of maternity and child welfare centre and dispensary. Moreover, the community accessibilities in this block are found to be very low by having the second lowest in the number of post office. Also, T&C and pucca road is also modest. Nevertheless, the educational institution, especially the number of adult literacy centre is sufficient, primary school, middle school and matriculation in this block is as much as necessary for the inhabitants in this block. Education (Ahlburg, 1988) plays a key role in the development process as it increases productivity by increasing the quality of the labour force. This occurs directly through schooling and indirectly through post- school training with which it is complementary. Education also decreases population growth through its association with the use of family planning and lower desired fertility. It also

contributes directly to improving the quality of life since it increases an individual's "capacity for effective social participation" (Morris, 1979: 33). If education directly indexes current economic and social development then larger population size and growth are associated with lower levels of development. The findings of Caldwell (1986) imply that education may have a larger future effect on development. Further, the community amenities in this block are moderately adequate as this block has satisfactory in the case of drinking water and the number of markets, and the supply of power is bearable. However, the number of literacy rate in this block is very low. In fact, it is the second most minimal block in the state.

14. Aibawk block: This block has a population growth rate of 23.72% and the third highest socio-economic score of 3.92%. This block, which is wholly rural witnessed an addition of 2,768 populations dispersed in the 23 inhabited villages. There is a negative relation between the growth and the developmental level as the growth is much lower than the socio-economic score in this block. Even though there is no urban centre, it has the second highest number of literacy rate, T&C, pucca road and a post office among the blocks in the state. It even ranks highest in power supply among the blocks in the state. Added to that, the number of educational institutions in this block is also found to be sufficient, as education has multidimensional impacts on the economy, by influencing economic growth positively. Education development also plays a vital role not only in economic development, but in the overall development process of the nation (Tilak, 1994). Human poverty reduces as education improves because the latter enhances the income. Furthermore, among the working population in this block, the number of agricultural laborers is found to be highest, followed by workers in HHI, marginal, cultivators and other workers. Besides, the facilities of medical is seem to be adequate for the inhabitants and though, there are no records of maternity and child welfare centre and dispensary in this block.

15. Sangau block: With a population growth rate of 22.43% and a socio-economic score of 0.51%, this block population growth rate is a lot lower than the socio-economic score when arrange in ascending order. The block has an added population of 1,969 and all the population are scattered in the 17 inhabited villages. The block has the highest number of marginal workers and middle school among the

blocks, second highest number of PHC, primary school and third highest number of cultivators and matriculation among all the blocks in the state. On the other hand, it has lowest number of workers in HHI, second lowest on the availability of drinking water. Not only that, there is no records of agricultural laborers, maternity and child welfare centre, dispensary, adult literacy centre, T&C and pucca road in this block. Nevertheless, the block has a high number of other workers, community workers, PHS, post office, power supply and market. The number of literacy rate in this block also amounted 77.54%. Nonetheless, the socio-economic indicator is satisfactory for the inhabitants in this block.

16. Darlawn block: Darlawn block with a low population growth of 16.15% has a high socio-economic score of 2.24%. The expansion of population amounted to 2,917 wherein the rural population decreased by 692 due to the creation of new town Darlawn where 3,609 people reside in 1991 census. Among the working population in this block, the workers in cultivators are highest, followed by workers in HHI. The block is also well served by medical facilities where there are a large number of PHS and community workers. Not only that, it is also well served by pucca road and there is a large number of post office. To conclude, almost all the socio-economic indicators in this block are enough for the inhabitants during this study period.

17. Hnahthial block: This block has a low population growth rate of 12.15% and highest socio-economic developmental score of 5.14%. Like most other block in the state, this block is wholly rural in 1981 census and adds a population of 2,262 after ten years where the rural inhabitants decreased by 3,286 and a population of 5,548 was concentrated in the newly created town Hnahthial. Despite the fact that, the block does not accomplish highest in any of the socio-economic indicators among the block and yet her score in all the indicators is evenly high to put this block in the highest level of socio-economic development. It has third highest number of marginal workers followed by other workers and HHI. It is also well served by medical facilities where there are large numbers of PHS, PHC and community workers. Moreover, there are many numbers of educational institutions wherein adult literacy centre rank second highest among the blocks in the state. In addition, there are many numbers of the post office and is well served by power and pucca road, the

number of literacy rate is also high by registering 92.08%. Literacy is clearly linked to income. People with limited literacy skills are more likely to have lower incomes than those with greater skills. Not only that, people with limited literacy is more likely to be unemployed and to be working for minimum wage in unskilled jobs as literacy is related to the type of employment (Rootman and Ronson, 2005).

18. E.Lungdar block: This block has a population growth rate of 11.98% and rank third lowest among all the blocks in the state with a high socio-economic score of 0.52%. The addition of population amounted 3,459 where there is a decrease of rural inhabitants by 1,670 and a total urban population of 5,129 were concentrated in the two new towns of Biate and North Vanlaiphai in 1991 census. Among the working population in this block, cultivators are found to be highest, followed by marginal workers and HHI. Other workers and agricultural laborers are few in numbers. The availability of medical facilities in this block is adequate as there are many numbers of PHC, PHS and community workers. Added to that, this block has the second largest number of middle school and large number of matriculation and primary school. The number of literacy rate is also among the high group by registering 88.37%. What's more the availability of drinking water and power supply in this block is also adequate. Nevertheless, this block needs improvement in pucca road, T&C, adult literacy centre, maternity and child welfare centre and dispensary.

19. Ngopa block: This block has second lowest population growth rate of 11.41% and a medium socio-economic score of -0.67%, it has an added population of 2,391 and all the inhabitants are distributed in the 28 inhabited villages. Even though this block is wholly rural, it has the highest number of PHC and post office, second highest number of PHS and matriculation, third highest number of middle school with a high literacy rate of 85.39%. On the other hand, there are few numbers of marginal workers and T&C and very low power supply by ranking lowest among the blocks in the state. Nonetheless, the socio-economic is sufficient for the inhabitants in this block.

20. Reiek block: Reiek block with the lowest population growth rate has a medium socio-economic development score of -0.17%. There is an addition of 1,155 population where the rural inhabitants decreased by 653 and a total urban inhabitants of 1,808 reside in the newly created town Lengpui in 1991 census. There are a large

number of the working population in this block in which the number of cultivators and marginal workers are found to be largest followed by HHI. While, other workers are very few in this block. This block is also moderately served by medical facilities where the number of community workers is found to be largest. The block also has sufficient supply of power and a large number of educational institutions. The number of literacy rate is also high registering 90.6%.

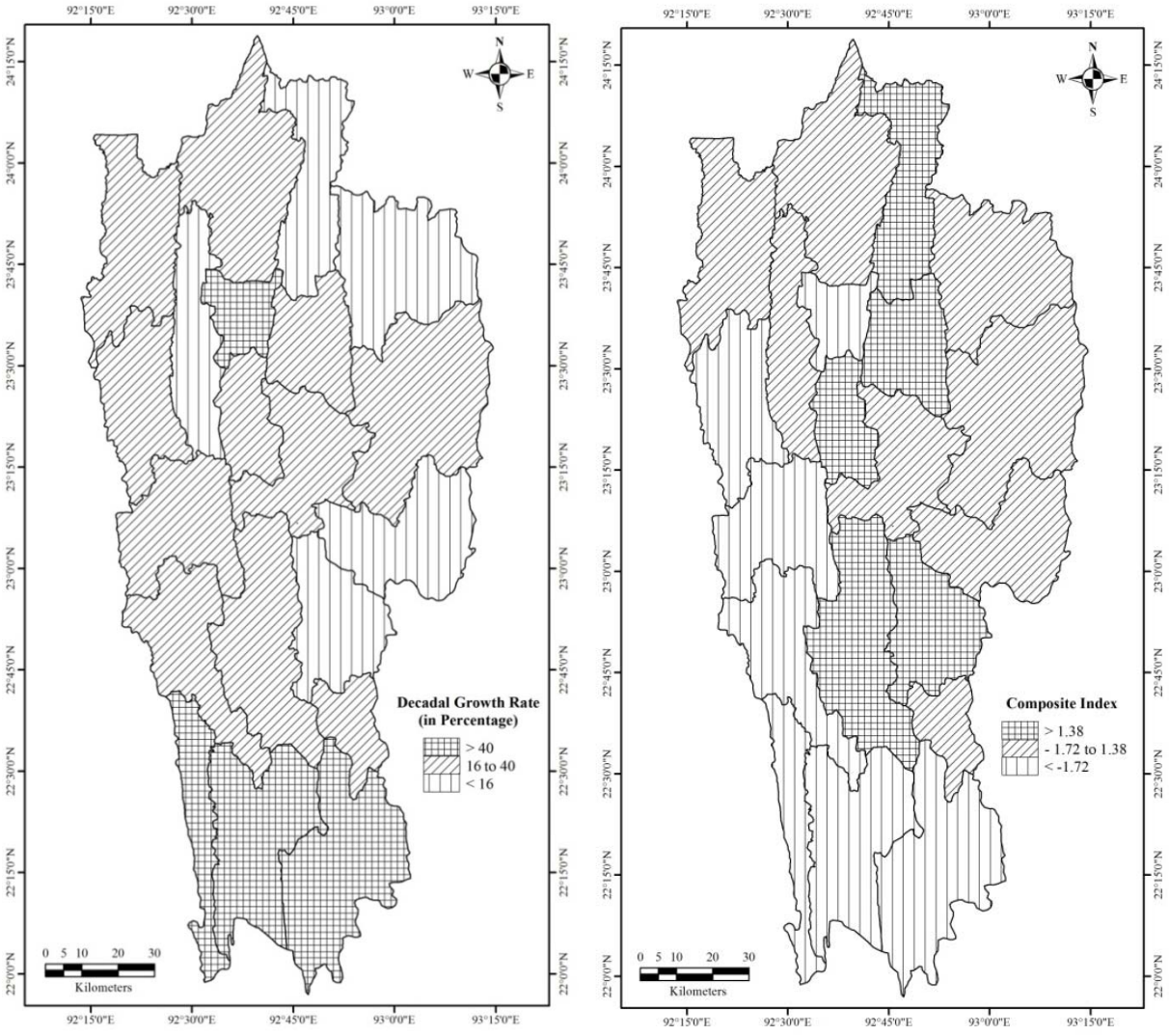

Figure 37: Block wise population growth 1981 to 1991 and socio-economic development 1991

5.2.2 District wise relationship between population growth 1981 to 1991 and socio-economic development 1991:

The relationship between population growth and socio-economic development among the three districts has a Pearson Correlation score of -.687. This outcome demonstrates that there is a high negative correlation between the two variables. Once more, the 3 districts are explained on the basis of their high score in population growth rate as follows:

Table 30: District wise correlation between population growth 1981 to 1991 and socio-economic development 1991

Descriptive Statistics

	Mean	Std. Deviation	N
Population_ Growth1981to1991	39.8467	10.79988	3
Socio_Economic_ Development1991	.0033	3.03045	3

Correlations

		Population_ Growth1981to 1991	Socio_ Economic_ Development 1991
Population_ Growth1981to1991	Pearson Correlation	1	-.687
	Sig. (2-tailed)		.518
	N	3	3
Socio_Economic_ Development1991	Pearson Correlation	-.687	1
	Sig. (2-tailed)	.518	
	N	3	3

1. *Chhimtuipui district*: The district of Chhimtuipui has a very high population growth rate of 50.37% and a very low socio-economic developmental score of -3.39%. This district records an addition of 33,456 populations, where the rural population increased by 26,805 and the urban population records an increase of 6,651. The rural inhabitants are distributed in 198 inhabited villages and the urban inhabitants are concentrated in the one town Saiha. Most of the inhabitants in this district were cultivators as it has the largest number of workers. On the other hand, other workers, HHI, marginal and agricultural laborers are found to be lowest. Added to that, availability of medical facilities and community accessibilities are found to be lowest among the three districts in which the number of PHC, PHS, T&C, pucca

road, power supply, community worker and the post office are found to be lowest. It is only in the case of drinking water and PHC that this district has acceptable availability. The number of literacy rate is also lowest by registering 59.11%. However, it has a large number of educational institutions in which primary school, middle school and matriculation are found to be highest, but there are no records of adult literacy centre in this district.

2. *Aizawl district*: This district with a population growth rate of 40.38% has highest socio-economic scores of 2.44%. It has an added population of 137,639 where the rural population decline by 24,491 and the urban increased by162, 130 persons. The rural populations are concentrated in the 342 inhabited villages and the urban populations are concentrated in the 18 towns in the districts in 1991 census. The socio-economic indicator is sufficient for the inhabitants in this district, as it has the highest number of literacy rate, community accessibilities in which T&C, pucca road and post office records highest. It also ranks highest on the availability of community amenities and medical facilities in which the district again ranks highest on the availability of drinking water, power supply, PHC, PHS, community worker and market. Not only that, it has the highest number of other worker and HHI. Nevertheless, the district has lowest number of cultivators, primary school and middle school.

3. *Lunglei district*: This district has the lowest population growth rate of 28.79% and a medium socio-economic developmental score of 0.96%. The district has an added population of 24,904 in which the rural population decreased by 2,447 and the urban population increased by 27,351. There are 158 inhabited villages and 3 towns in this district in 1991 census. The district has the highest number of marginal workers, agricultural laborers and adult literacy centre. Not only that, second largest number of HHI, cultivators, other workers, PHS, community workers, primary school, middle school, T&C, pucca road, power supply, post office and literacy rate. Nonetheless, it has the lowest number of PHC, matriculation, market and drinking water. Even so, the socio-economic indicator in this block is adequate for the low growth of population in this district.

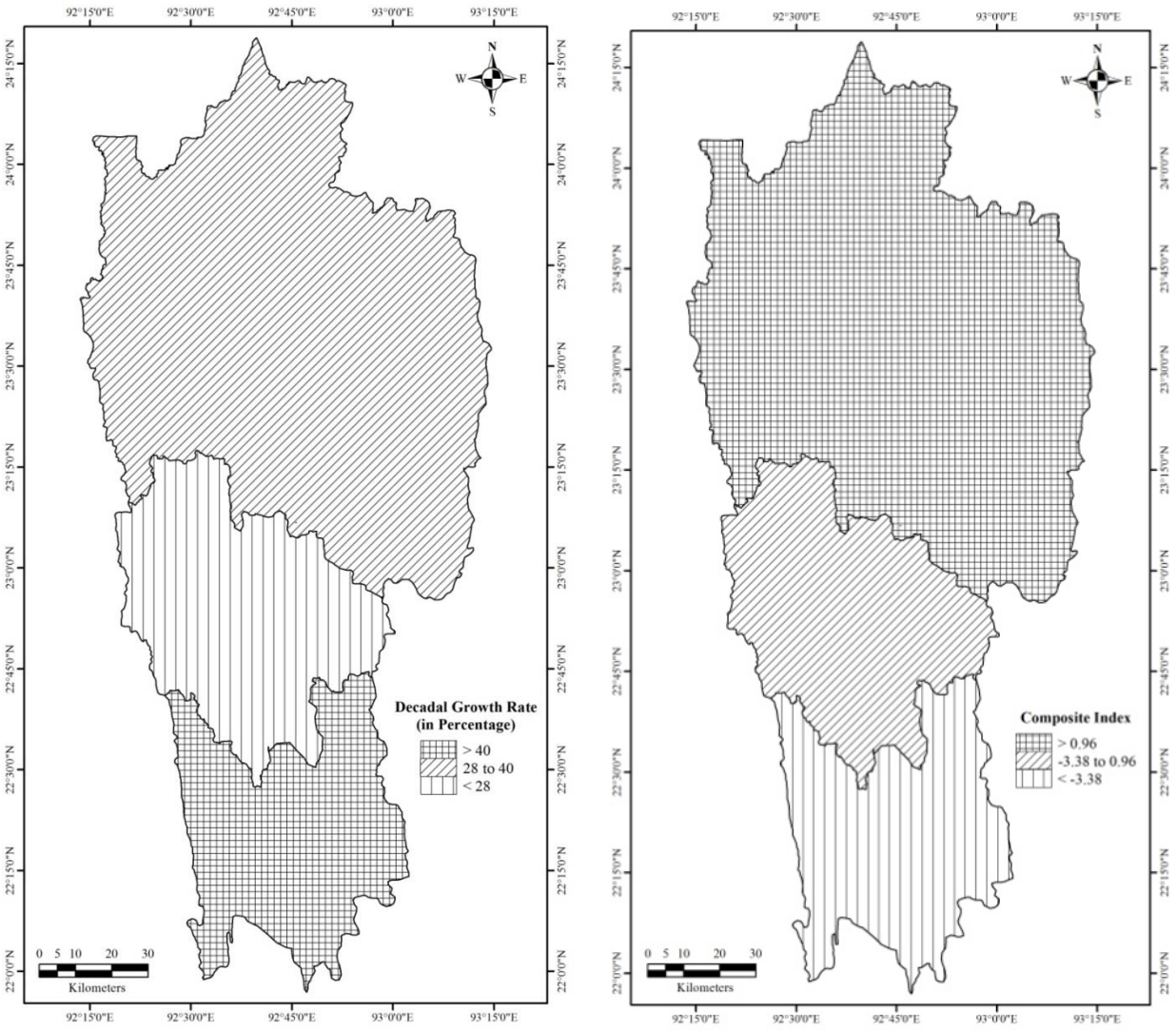

Figure 38: District wise population growth 1981 to 1991 and socio-economic development 1991

5.3 Population growth 1991 to 2001 and Socio-economic development 2001

5.3.1 Block wise relationship between population growth 1991 to 2001 and socio-economic development 2001:

During this study period, there is a statistically significant correlation between the two variables. That implies, increases or decreases in one variable do significantly relates to increases or decreases in the second variable. The Pearson correlation score of population growth and socio-economic development amounted

to -.402. The 20 blocks which have population growth rate are again clarified on the basis of their high score in population growth as follows:

Table 31: Block wise correlation between population growth 1991 to 2001 and socio-economic development 2001

Descriptive Statistics

	Mean	Std. Deviation	N
Population_ Growth1991to2001	16.5785	22.52922	20
Socio_Economic_ Development2001	-.2215	3.60855	20

Correlations

		Population_ Growth1991to 2001	Socio_ Economic_ Development 2001
Population_ Growth1991to2001	Pearson Correlation	1	-.402
	Sig. (2-tailed)		.079
	N	20	20
Socio_Economic_ Development2001	Pearson Correlation	-.402	1
	Sig. (2-tailed)	.079	
	N	20	20

1. *Tlangnuam block*: Tlangnuam has the highest population growth rate of 45.14% and a medium socio-economic development score of 0.49%. This block has added 77,036, with a rural population by 2,489 and urban population by 74,547. There are 18 inhabited villages and two towns Sairang and Aizawl in this block. This block has the largest number of other workers and third largest number of HHI and at the same time lowest number of cultivators among the blocks in the state. Further, it has the highest number of literacy rate and T&C, also with third highest on the availability of pucca road. Nonetheless, the block has shortage on the availability of drinking water, educational institutions and dispensary. The socio-economic indicator in this block is inadequate for the high growth rate of population.

2. *Chawngte block*: The next highest block with a population growth rate of 38.84% has second lowest socio-economic developmental score of -6.19%. This block has an added population of 9,659 with total inhabited villages of 81. Since this block is wholly rural, the number of agricultural laborers is highest followed by HHI, marginal workers, cultivators and other other workers among the working population present in this block. The availability of medical facilities is found to be very poor

due to the presence of the lowest number of PHS, second lowest number of PHC and no records of community workers, maternity and child welfare centre and dispensary. Further, post office, T&C and power supply are the lowest among the blocks in the state. Not only that, this block also had poor connectivity of pucca road, very low number of matriculation and no records of market and adult literacy centre. The number of literacy rate in this block is also one of the lowest among the block in the state registering 60.17%. Countries least advanced educationally are observed to have higher rates of population growth; their birth rates, already high, are tending to rise further (Liu, 1967). However, this block has the highest number of primary schools and the availability of drinking water also ranks highest among the block in the state.

3. *Lunglei block*: Lunglei block with the third highest population growth rate of 36.33% has a medium socio-economic development score of 0.49%. This block has enlisted an increased population of 17,618 occurring both in rural with 5,090 in 38 inhabited villages and urban with 12,528 in one urban centre called Lunglei town. This block has the second largest number of other workers and the number of HHI and agricultural laborers are found in enormous numbers. While, cultivators and marginal workers are found to be exceptionally less in this block. The number of literacy rate in Lunglei block is high recording 96.38%. It is also well served with power supply, drinking water and pucca road. However, the number of post office on this block is one of the lowest among the blocks in the state. Since, the population growth rate is much higher, the socio-economic indicator in this block is deficient for the occupants in this block.

4. *N.Thingdawl block*: The fourth highest population growth rate of 36.16% has a low socio-economic developmental score of -1.00. The block added 16,213 populations where the increased in rural population amounted to 6,514 and the urban registered 9,699. The rural inhabitants are distributed in the 32 inhabited villages and the urban population is concentrated in the 4 towns of Vairengte, Bairabi, Kolasib and N.Kawnpui. Though, the socio-economic score is low, there are a large number of other workers, HHI and agricultural laborers. While, the number of cultivators is, very few. There is a large number of PHC, PHS and is well served by power, drinking water and T&C. But, the presence of the post office and the

educational institutions is very few in number. Moreover, there are no records of market, adult literacy centre, maternity and child welfare centre and community worker during this period. The number of literacy rate record 91.23%.

5. *Tuipang block*: This block has a high population growth rate of 34.79% and a low socio-economic developmental score of -3.79%. The added population amounted to 12,154 where 5,997 is contributed by the rural having 49 inhabited villages and the remaining 6,157 by the one town Saiha. Although, the socio-economic development could not keep pace with the high growth rate of population in this block, there are a large number of other workers followed by HHI, few numbers of agricultural laborers and very few numbers of marginal workers and cultivators. The block is also poorly served by medical facilities where there are few numbers of PHC and PHS and no records of maternity and child welfare centre, community worker and dispensary. Added to that, it has poor power supply, T&C, pucca road and no records of market and adult literacy centre. The number of literacy rate is also low recording 82.90%. However, the availability of drinking water, post office and educational institutions is adequate for the inhabitants.

6. *Lawngtlai block*: The block has a high population growth rate of 33.28% and a low socio-economic development score of -3.44%. This block adds a population of 9,761 and all the population are distributed in the 58 inhabited villages. Though, the socio-economic indicator is much lower for the high growth of population. There is some indicator in which this block is sufficient for its populations by having the highest number of workers in HHI among all the blocks, large number of other workers and agricultural laborers, very few numbers in marginal workers and cultivators. The block is also poorly served by medical facilities by having a very low number of PHC and PHS and no records of maternity and child welfare centre, community worker and dispensary. Also, it is poorly served by power and low number of post office. However, the number of educational institutions is ample and the availability of drinking water is also adequate for the large number of population.

7. *Khawzawl block*: With a high population growth rate of 31.05% and a slightly lower socio-economic score of 2.05%, this block have added 15,587 populations in which the rural contributes 5,780 and the urban by 9,807. There are 42

inhabited villages and three towns namely, Khawzawl, Champhai and Khawhai. This block is the only blocks which have a nearly positive relation between the population growth and the socio-economic development as their rank is very close to each other. Among the working population, it has the highest number of agricultural laborers, third highest number of marginal workers and many in HHI and other workers. However, has low number of cultivators. It is also well served by medical facilities where there are large numbers of PHC and PHS and yet no records of maternity and child welfare centre, community worker and dispensary. Added to that, the number of educational institutions is very low and the literacy rate amounted to 91.79%. Nonetheless, it has a large number of post office, T&C, pucca road, power supply and the availability of drinking water is adequate.

8. Sangau block: This block has a high population growth rate of 30.02% with a very low socio-economic developmental score of -4.07%. This block has 19 inhabited villages with an added population of 3,226. Even though this block is wholly rural, there are large numbers of other workers, which are generally found in block with urban centre. It also has a large number of cultivators and marginal workers, very low number of agricultural laborers and lowest number of HHI among the blocks in the state. Further, it is poorly served by medical facilities where there are large numbers of PHC and very low number of PHS and no records of maternity and child welfare centre, dispensary and community workers. Besides, this block has the poorest connectivity of the pucca road among the block in the state along with poor supply of power and drinking water and no records of adult literacy centre and market. What's more, low number of primary school, yet, sufficient number of middle school and matriculation and the number of literacy rate is also low recording 79.79%, which is a prerequisite for the development of financial systems and its influences the supply of savings (Sandberg, 1982).

9. Thingsulthliah block: This block has a population growth rate of 29.86% and a much higher socio-economic development score of 3.18%. When arranged in ascending order, the growth rate ranks 9th place while the socio-economic development rank 5th place, indicating lower growth of population in a block generally has a higher socio-economic condition. This block has added 8,091population in which 5,527 inhabitants were contributed by the rural having 28

inhabited villages, and 2,564 inhabitants by the urban centre having one town Saitual. In this block, found a large number of other workers, HHI and marginal workers and the presence of workers in cultivators and agricultural laborers are also sufficient. And is also very well connected with pucca road, T&C and a sufficient supply of power and the literacy rate is also high numbering 94.69%. Further, the block is moderately served by medical facilities where there are few numbers of PHC and PHS and yet no records of maternity and child welfare centre, community workers and dispensary. Besides, the number of educational institutions in this block is also few and no records of the adult literacy centre.

10. Serchhip block: This block has a medium population growth rate of 18.43% and a high socio-economic developmental score of 2.27%. It has registered an increased population of 5,527 in which 1,114 is by the rural inhabitants having 16 inhabited villages and 4,413 from the two towns of Serchhip and Thenzawl. The block is very well served by medical facilities by having the largest number of PHS and a large number of PHC. Among the working population, it has the second largest number of workers in HHI, large number of agricultural laborers and other workers. The supply of power is also sufficient, and there are a large number of post office and is well connected with pucca road. Not only that, the number of literacy rate is high recording 95.53%. However, the availability of drinking water, T&C and educational institutions is very poor. Since, the socio-economic indicators in this block are much higher than the growth rate, they are found to be satisfactory for the population in this block.

11. Hnahthial block: With a population growth rate of 18.04% and much higher order, socio-economic developmental score of 1.95%. The added population in this block amounted to 3,766 in which the rural contributes 2,176(57.78%) from the 24 inhabited villages and 1,590 from the one town Hnahthial. Among the working population in this block, it has a large number of other workers followed by marginal workers. There are also few amounts in the number of cultivators and agricultural laborers and low number of HHI. The block is well served by medical facilities where it has the second largest number of dispensaries. Added to that, there are large number of PHC and PHS. Further, there are also large numbers of post office, and the presence of T&C and pucca road is sufficient. However, it is in the

case of drinking water that this block needs to be improved. The number of educational institutions is tolerable and the number of literacy rate records 92.88%.

12. Lungsen block: Lungsen has a population growth rate of 15.67% and the lowest socio-economic developmental score of -7.06%. There is an added population of 4,152 where the rural inhabitants increased by 4,870 and the urban decreased by 718 inhabitants. This block has 63 inhabited villages and one town Tlabung. Most of the inhabitants are cultivators and agricultural laborers; there are also few numbers of other workers and very low number of HHI and marginal workers in this block. The block is also poorly served by medical facilities where there are lowest number of PHC and second lowest number of PHS and no records of community workers, maternity and child welfare centre and dispensary. Even though, this block has lowest socio-economic developmental level, the number of educational institutions is found to be adequate. Also, availability of drinking water rank second highest among the blocks in the state. On the other hand, the number of literacy rate in this block is lowest amounting 57.84% and it has a very low supply of power and the number of post office is also very few.

13. Darlawn block: This block has a medium population growth rate of 15.18% and a high socio-economic development score of 2.49%, with an addition of 3,186 populations, 2,930 inhabitants are from the rural areas having 29 inhabited villages and 256 from the one town Darlawn. Except other workers, all other workers like HHI, cultivators, agricultural laborers and marginal workers are all found in large number. The block is also well served by medical facilities by having a large number of community workers and PHS. The number of educational institutions in this block is also high by having the second largest number of adult literacy centre and middle school among the blocks in the state. Also, the number of matriculation and primary school are also large in number during this period. Added to that, the number of literacy rate is also high registering 92.16%, as education and literacy lead to changed attitudes, which indirectly result in higher productivity (Anderson and Bowman, 1976). At the same time, this block is also well connected with pucca road, T&C, large number of post office and is well served with drinking water facilities.

14. Reiek block: Reiek block has a unique position both in terms of population growth and socio-economic development when arrange it according to

ascending order by occupying the same position. Indicating that the growth of population and the socio-economic development moves in the same direction during this period. The population growth rate is 14.73% with a socio-economic score of-0.49%, it has an added population of only 1,787 where the rural with 21 inhabited villages contributed 1,172 and the urban with one town Lengpui contributes 615 populations. Most of the inhabitants were agricultural laborers and cultivators, there are also a large number of workers in HHI, few numbers in marginal and other workers. Added to that, the availability of medical facilities is not sufficient as there are few numbers of PHS and no records of maternity and child welfare centre, dispensary and community workers. While, the number of educational institutions are adequate and the number of literacy rate is also quite high recording 93.75%. Moreover, the supply of power is sufficient and there are large numbers of post office, and yet T&C, pucca road and drinking water are not found to be satisfactory.

15. Aibawk block: The block of Aibawk has a low population growth rate of 10.72% and the highest socio-economic developmental score of 5.49%. The added population within ten years amounted 1,548 which takes place in the 22 inhabited villages. This block has the second highest number of cultivators and marginal workers among the blocks, few numbers of workers in HHI and agricultural laborers and very low number of other workers. The block is also well served by medical facilities by having a third largest number of PHS and large number of PHC, but no records of a community worker, maternity and child welfare centre and dispensary. The number of educational institutions is very high by having the largest number of middle school and matriculation along with a large number of primary schools. The number of literacy rate is also high. In fact, it is second highest among all the blocks registering 96.80%. The supply of power is also sufficient by ranking highest among the blocks in the state. Besides, it has a large number of post office, well connected with pucca road and T&C. However, it is the supply of drinking water that this block is found to be deficient.

16. W.Bunghmun block: This block has a population growth rate of 1.75% and a low socio-economic score of -3.76%. The addition of population in this block after ten years is only 272 and all the population are distributed in the 35 inhabited villages. Though, the growth of population is not much, yet it is still higher than the

socio-economic development level when arranged in ascending order. Still, this block has the third largest number of cultivators among the blocks in the state, few numbers of marginal workers and other workers, very few numbers of HHI and agricultural laborers. This block also has poor medical facilities in which there are few numbers of PHC and PHS and no records of community workers, maternity and child welfare centre and dispensary. It is also poorly connected with pucca road, T&C and power supply, few numbers of the post office and no records on the market. The number of literacy rate is also very low recording 67.05%. However, the numbers of educational institutions are quite adequate by having the second largest number of primary schools, large number of middle school and matriculation and yet no records of the adult literacy centre.

17. W.Phaileng block: This block has a population growth of -1.92% and a socio-economic score of -1.66%. The growth rate is much lower than the socio-economic development score in this block. There is an added population of 414 distributed in the 27 inhabited villages. Except workers in HHI and agricultural laborers, this block has a large number of workers in marginal, cultivators and other workers. It is poorly served by medical facilities where there are few numbers of PHC and very few numbers of PHS and no records of a community worker, maternity and child welfare centre and dispensary. The number of educational institutions is adequate where there are a large number of primary schools, few numbers of middle school and matriculation and yet no records of the adult literacy centre. The number of literacy rate is also very low registering 59.44%. Added to that, the supply of power and the availability of drinking water are meager and no records of the market during this period. On the other hand, it is very well connected with pucca road, T&C and had a large number of post office. Nonetheless, since the growth rate is low, the socio-economic development in this block is adequate for the inhabitants.

18. Zawlnuam block: Zawlnuam had a low population growth rate of -10.24% and a medium socio-economic score of -0.10%. There is a decrease of 3,160 populations in the block where the rural population decreased by 4,389 and the urban increased by 1,229. There are 34 inhabited villages and two towns namely, Zawlnuam and Mamit. The block has the second largest number of agricultural

laborers, large number of other workers, HHI and cultivators, low number of marginal workers. It is well served by medical facilities where second largest number of community workers is found, also a large number of PHS and very few numbers of PHC and yet no records of maternity and child welfare centre and dispensary. The numbers of educational institutions are adequate and had a literacy rate of 86.44%. Besides, drinking water, power supply, T&C and pucca road are sufficient while the numbers of post offices are few and no records of the market during this period. Even so, the socio-economic indicators are sufficient for the residents in this block.

19. Ngopa block: This block has a very low population growth rate of -25.63% and a high socio-economic developmental score of 3.58%. The decreased of population amounted to 5,985 with an inhabited village of 16. This block is wholly rural and the number of other workers is very little; it has a large number of agricultural laborers, HHI, cultivators and marginal workers. The block is well served with medical facilities by having the second largest number of PHS and large number of PHC and yet no records of a community worker, maternity and child welfare centre and dispensary. The numbers of educational institutions are sufficient by having the second largest number of matriculation and third largest number of middle school and yet no records of the adult literacy centre. The number of literacy rate records 88.35%. Moreover, it has well connected pucca road, adequate power supply and T&C, the number of post office is also highest among the blocks in the state.

20. E.Lungdar block: The block having the lowest population growth rate of -40.63% has a very high socio-economic development score of 5.14%. This block experienced a large amount decreased of 13,142 population where 13,515 is contributed by the rural population, having 16 inhabited villages, while the urban increased by 373 population in the two towns of Biate and N.Vanlaiphai. This block has the highest number of marginal workers among the block in the state. There are also large numbers of cultivators, few numbers in HHI and other worker and very few numbers in agricultural laborers. The availability of medical facilities is sufficient by having the largest number of PHC, community worker and dispensary as well as a large number of PHS. The number of educational institutions is also adequate and a high literacy rate recording 94.76%. Moreover, it has the second

largest number of the post office and is well connected with pucca road and the power supply is sufficient as well.However, it is the supply of drinking water that this block is inadequate.

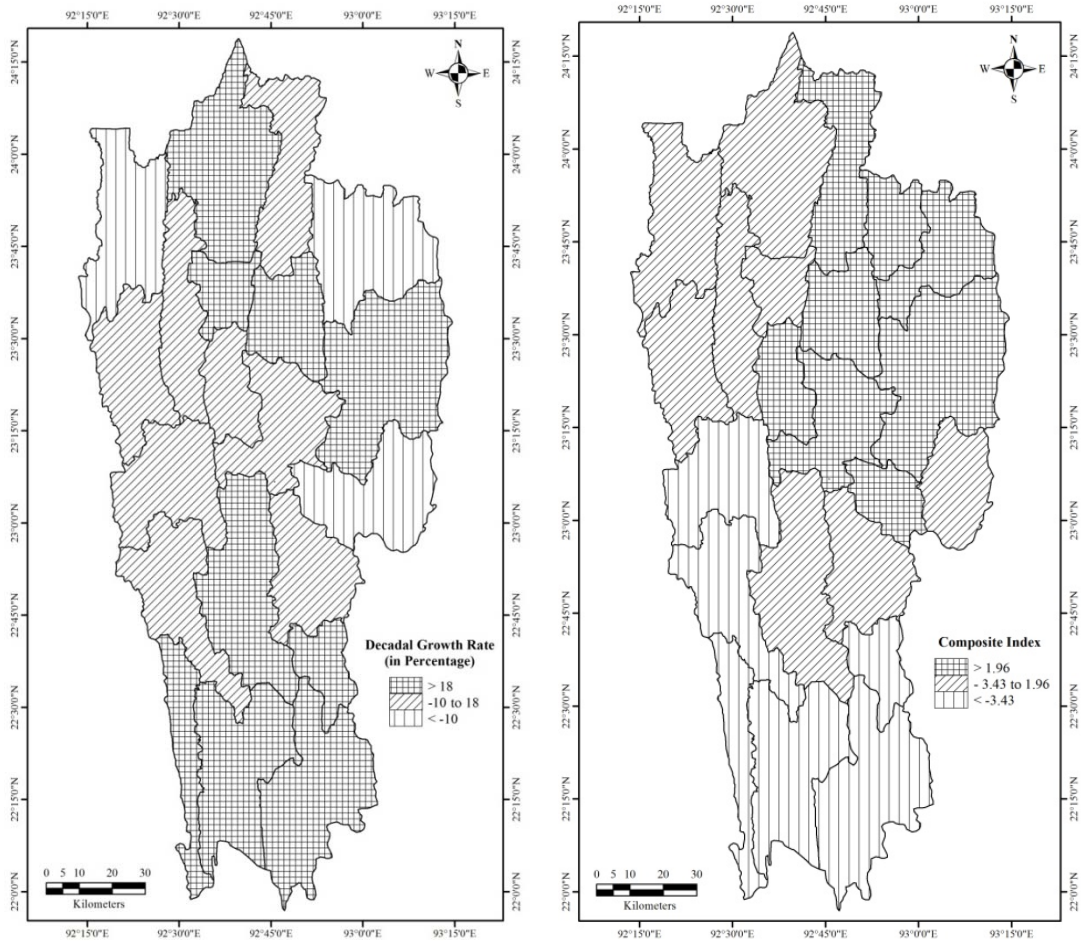

Figure 39: Block wise population growth 1991to 2001 and socio-economic development 2001

5.3.2 District wise relationship between population growth 1991 to 2001 and socio-economic development 2001:

There is a perfect negative correlation between population growth and socio-economic development as the correlation score amounted to -.1.000**. The two districts are analyzed as follows:

1. *Lunglei district*: This district has a population growth rate of 23.16% and a low socio-economic score of -1.40%. There is a large addition of population both in rural and urban areas amounting 25,808 where the rural adds 12,408 having 160 inhabited villages and the urban 13,400 from the three towns. The district has a

large number of other workers followed by cultivators. In fact, all the workers constituting the working population are found to be adequate in this block. Even though, there are many numbers of dispensary, it is poorly served by medical facilities as there are few numbers of PHC and PHS and no records of maternity and child welfare centre and community worker during this period. Also, the number of educational institutions is inadequate and the number of literacy rate also registered 84.17%. Moreover, the number of post office is few and poorly connected with pucca road, T&C, no records of the market and poorly served with power supply and yet, the availability of drinking water is abundant.

Table 32: District wise correlation between population growth 1991 to 2001 and socio-economic development 2001

Descriptive Statistics

	Mean	Std. Deviation	N
Population_ Growth1991to2001	-4.3850	38.95451	2
Socio_Economic_ Development2001	1.9050	4.67398	2

Correlations

		Population_ Growth1991to 2001	Socio_ Economic_ Development 2001
Population_ Growth1991to2001	Pearson Correlation	1	-1.000**
	Sig. (2-tailed)	.	
	N	2	2
Socio_Economic_ Development2001	Pearson Correlation	-1.000**	1
	Sig. (2-tailed)	.	
	N	2	2

**. Correlation is significant at the 0.01 level (2-tailed).

2. *Aizawl district*: Aizawl has a very low population growth rate of -31.93% and a very high socio-economic score of 5.21%. This district lost a large population amounting 152,789 which happens both in the rural and urban areas due to the creation of 4 new districts in the state during this period from this district. The decreased in the rural population amounted to 141,213 and 11,576 from the urban areas where the number of inhabited villages also decreased from 342 to 96 as well as the towns from 18 to only 4 during this period. In this district found the highest number of other workers and second highest number of HHI, few numbers of marginal workers and agricultural laborers and very few numbers of cultivators.

Further, it is moderately served by medical facilities. The number of educational institutions is sufficient where it has the highest number of adult literacy centre and even the number of literacy rate is very high recording 96.51%. Moreover, it is well connected with pucca road, T&C and has an adequate power supply. Nevertheless, the number of post office, market and the supply of drinking water are inadequate.

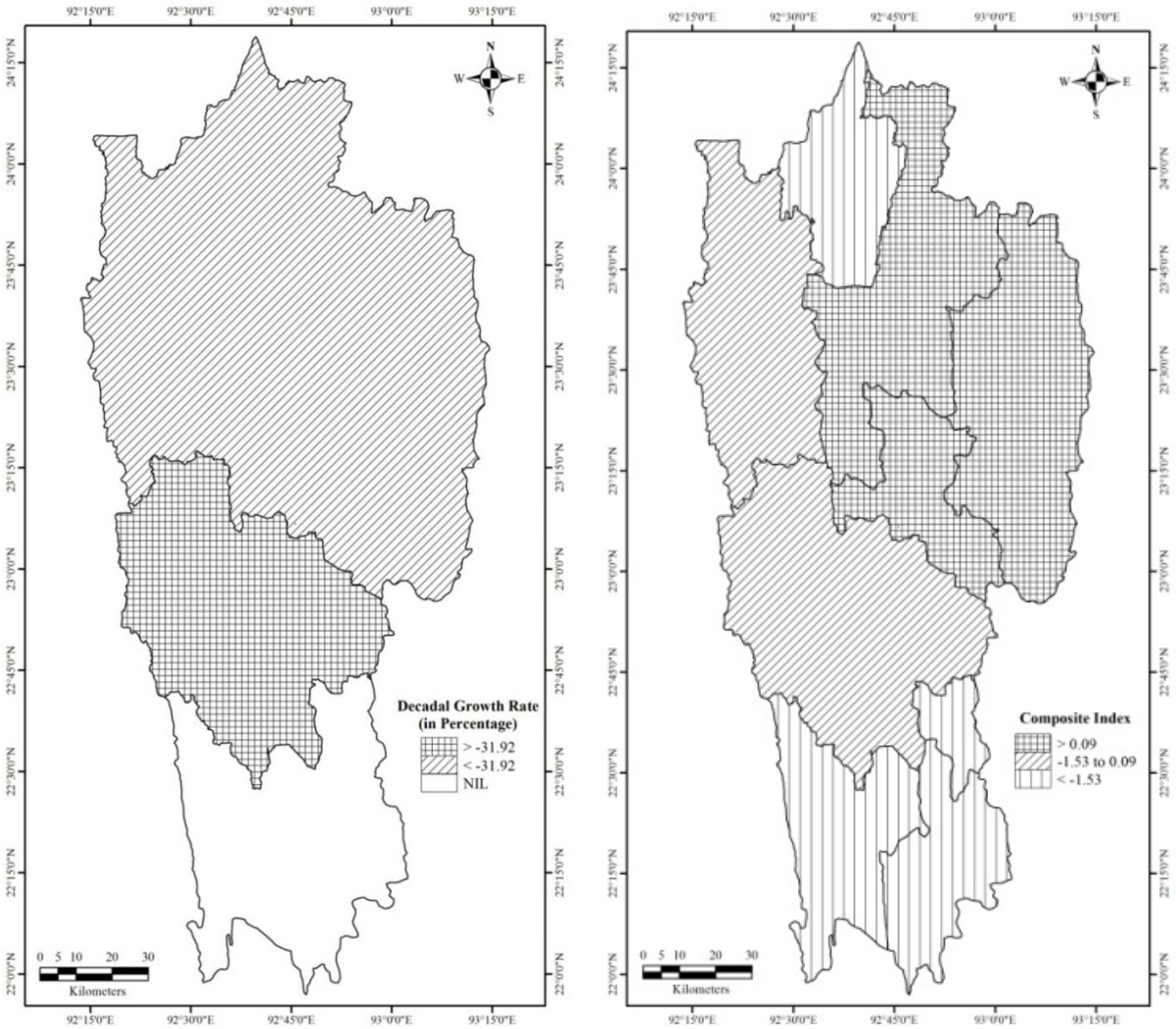

Figure 40: District wise population growth 1991 to to 2001 and socio-economic development 2001

5.4 Population growth 2001 to 2011 and Socio-economic development 2011

5.4.1 Block wise relationship between population growth 2001 to 2011 and socio-economic development 2011:

The Pearson's Correlation results -.141 indicating a weak negative correlation between the population growth and the socio-economic development during the study period. The 22 blocks having growth rate are explained on the basis of the high score as follows:

Table 33: Block wise correlation between population growth 2001 to 2011 and socio-economic development 2011

Descriptive Statistics

	Mean	Std. Deviation	N
Population_ Growth2001to2011	7.4091	30.04611	22
Socio_Economic_ Development2011	.3709	3.33475	22

Correlations

		Population_ Growth2001to 2011	Socio_ Economic_ Development 2011
Population_ Growth2001to2011	Pearson Correlation	1	-.141
	Sig. (2-tailed)		.530
	N	22	22
Socio_Economic_ Development2011	Pearson Correlation	-.141	1
	Sig. (2-tailed)	.530	
	N	22	22

1. *Zawlnuam block*: This block with the highest population growth rate of 70.4% has a low socio-economic development score of -3.36%. There is an addition of 19,495 populations in which the rural adds 16,108 having 43 inhabited villages and the urban with 3,387 having two towns, Mamit and Zawlnuam. Almost all the socio-economic indicators in this block are low during this period. Though the working population has shown an increase than the previous census, the number of workers constituting the working population is low especially cultivators, HHI and marginal workers, yet, other workers and agricultural laborers are quite plenty. This block is also poorly served with medical facilities where there are few numbers of community workers, maternity and child welfare centre, dispensary and very low number of PHC and PHS. The number of educational institutions is also very low

and the literacy rate records 82.61%. The block is also poorly served with power, T&C and there are few numbers of market and post office. However, the supply of drinking water and pucca road is adequate.

2. *Chawngte block*: The second highest population growth rate is experienced by the block of Chawngte with 31.21%, had on the other hand, the lowest socio-economic score of -5.02%. There is an addition of 10,778 populations in the 81 inhabited villages. There are large numbers of working population in this block, educational institutions and the presence of community amenities is quite adequate. By having large number of primary schools and ample availability of drinking water and the workers in marginal, agricultural laborers and other workers are quite abundance. However, the inhabitants are very poorly served by medical facilities by having few maternity and child welfare centre and dispensary, lowest number of PHS and no records of PHC. In addition, the community accessibilities and literacy rate is lowest among all the blocks in the state. By having second lowest number of post office among the blocks in the state. It is also the block which is least supply with power, very poorly connected with pucca road and has a very few availability of transport and communication as well.

3. *Reiek block*: The block having the third highest population growth rate with 28.45% has a socio-economic score of -0.59%. The increased population amounted to 3,952 where the rural contributes 3,093 from the 22 inhabited villages and the urban contributes 859 from the one town Lengpui. This block has low number of working population where the numbers of cultivators are found to be largest, followed by other workers and agricultural laborers and very few numbers of HHI and lowest number of marginal workers. The block is also poorly served by medical facilities where there are no records of community workers, dispensary and maternity& child welfare centre and yet there are few numbers of PHC and PHS to care for the wellbeing of the inhabitants during this period. However, the number of educational institutions is adequate by having a large number of middle school and matriculation, and the literacy rate is also high recording 96.81%. It is on the number of adult literacy centre and primary school that this block needs advancement. Further, the block is well connected with pucca road, had a large number of market

and adequate supply of drinking water, but the presence of a post office, T&C and power supply is one of the lowest among the blocks in the state.

4. *Tlangnuam block*: With a high population growth rate of 28.12% and a medium socio-economic development score of 0.20%. This block is one of the few blocks in the state which can withstand a large increased of population as the socio-economic development score is also quite high. It has a large addition of 69,656 populations where 3,604 were contributed by the rural population having 17 inhabited villages and the urban contributes 66,052 from the two towns of Aizawl and Sairang. In this block found the largest number of other workers and third largest number of HHI. While, there are a few agricultural laborers and marginal workers, very few numbers of cultivators. In fact, this block has the lowest number of cultivators among the blocks in the state. On the other hand, the number of literacy rate is highest recording 98.28%. It also has the second largest number of market and pucca road, and is well served by T&C, power supply and there are large numbers of post office. It is the availability of drinking water that this block is insufficient.

5. *Lungsen block*: This block has a high population growth rate of 27.32% and a low socio-economic score of -1.46%. The addition of population amounted to 8,372 in which the rural having 64 inhabited villages contribute 7,499 and the urban having one town Tlabung contributes 873 populations. Since, a larger number of inhabitants have lived in the rural areas there are large number of cultivators and marginal workers in this block. Workers in HHI and agricultural laborers are also found in fewer numbers, and very few in the number of other workers. The inhabitants in this block are poorly served by the medical facilities, yet, all the medical centre are present in few numbers and it is only in the case of community worker that no record is found during this period. There is also less number of educational institutions where there is no record of adult literacy centre and the number of literacy rate in this block is very low amounting 70.65%. Added to that, the supply of power, drinking water and T&C is low and no records on the market. However, the number of the post office and connectivity of pucca road is satisfactory.

6. *Serchhip block*: This block also has a high population growth rate of 24.56% and a low socio economic score of -0.91%. There is an addition of 8,722 in

which 2,908 is from the rural having 17 inhabited villages and 5,814 from the two towns of Serchhip and Thenzawl. There are a large number of other worker and second largest number of HHI workers among the blocks, few numbers of marginal worker and agricultural laborers and very few numbers of cultivators are found in this block. This block is well served with medical facilities by having large numbers of PHS and a few numbers of PHC and maternity and child welfare centre. However, no records of the community workers and dispensary during this period.The number of educational institutions are less in numbers and are one of the lowest among the blocks, and yet the number of literacy rate is second highest among all the blocks in the state recording 98.13%. Further, the community accessibilities in this block are very poor by having poor connectivity with pucca road and no records of T&C, it is only the post office which is found to be present in large number during this period. The community amenities on the other hand, are found to be quite adequate in case of power supply and the market. Nevertheless, it is on the supply of drinking water, which ranks one of the lowest among the blocks.

7. *Sangau block*: Sangau has a population growth rate of 19.8% and a socio-economic development score of 0.34%. In this block, the growth rate is higher than the socio-economic score when arranged in ascending order separately. However, the negative relation is not that strong, indicating that the socio-economic indicator found in this block is moderately adequate for the inhabitants. The added population amounted to 2,767 which happen in the 19 inhabited villages. Most of the inhabitants were agricultural laborers and a few numbers of other workers, very few number of HHI and cultivators and the marginal workers are meager. This block is moderately served by medical facilities by having large numbers of PHC and dispensary, few numbers of PHS and no records of maternity and child welfare centre and community worker. The educational institutions on the other hand, are large in number, and the literacy rate registered 89.04%. Besides, it is well connected with pucca road, T&C and power supply. There are also few numbers of post office, yet no records of the market, and the availability of drinking water is insufficient as well.

8. *W.Bunghmun block*: This block has a population growth rate of 18.91% and a low socio-economic score of -3.16%. The addition of population

amounted to 2,992 in the 35 inhabited villages. There is a large number of the working population, in which this block has the highest number of cultivators among the blocks in the state. Also, few numbers of marginal workers and low number of HHI, agricultural laborers and other worker. Further, the number of educational institutions is high in which highest number of primary schools, large number of middle school and matriculation is found here, and the number of literacy rate registered 77.28%. Nevertheless, the other three indicators of medical facilities, community amenities and accessibilities are meager where there is a very low number of PHC, PHS, Post office, T&C, and the supply of power and pucca road is far from satisfactory. However, there are large numbers of the dispensary and the availability of drinking water is sufficient in this block.

9. *Lunglei block*: This block has a population growth rate of 17.2% and a socio-economic score of 0.21%. There is a large addition of 11,371 inhabitants in which the rural contributes 1,497 having 39 inhabited villages and the urban contributes 9,874 from the one town Lunglei. The socio-economic position rank 12th, while the growth rate rank 9th in the higher order of blocks. Among the working population, agricultural laborers are found to be highest, followed by other workers and HHI, while the cultivators are second lowest among the blocks and there are few marginal workers. The availability of medical facilities in this block is quite satisfactory by having large numbers of dispensary and community worker and there are presence records of all other medical centre during this period. On the other hand, the number of educational institutions is inadequate and no records of adult literacy centre during this period. Further, there is high literacy rate registering 97.33%. Furthermore, the supply of power and drinking water is sufficient, and the number of T&C and pucca road is adequate. However, the number of the post office and market is less in number.

10. *Khawbung block*: This block has a medium population growth rate of 12.96% and a high socio –economic score of 3.16%. The added population amounted to 2,539 from the 26 inhabited villages. Among the working population, cultivators and agricultural laborers are found in large number and the cultivator even ranks fifth highest among the blocks in the state. While, workers in marginal, HHI and others are found in a few numbers in this block. On the other hand,the block is well served

by medical facilities by having the second largest number of PHS and large number of PHC, maternity and child welfare centre and community worker. Added to that, it also ranks highest in the number of educational institutions during this period and the number of literacy rate registered 96.15%. The availability of community amenities and accessibilities is also sufficient by having plenty supply of power, drinking water and T&C, large number of post office and market. Yet, this block has poor connectivity of pucca road.

11. *E.Lungdar block*: With a medium population growth rate of 8.34% and a high socio-economic development score of 2.29%, this block has an addition of 1,602 populations where the rural contributes 1,225 from 15 inhabited villages and the urban contributes only 377 from the two towns of Biate and N.Vanlaiphai. Almost all other socio-economic indicators in this block are found to be adequate except the working population, which rank third lowest among the blocks in the state. Among the working population in this block, workers in HHI and cultivators are found to be large in number followed by other worker, and very few numbers of marginal worker and agricultural laborers. This block has adequate medical facilities by having the second largest number of PHC, third largest number of maternity and child welfare centre, fourth largest number of PHS among the blocks in the state. There are also a large number of community worker and dispensary. Moreover, there is a large number of post office and market, and is well connected with pucca road and adequate supply of power. However, the supply of drinking water and T&C in this block is inadequate. Nonetheless, since the socio-economic developmental level is high, it is considered enough for the residents in this block.

12. *Ngopa block*: This block has a population growth rate of 7.88% and a very high socio-economic score of 4.40%. The added population amounting only 1,368 from 15 inhabited villages. The socio-economic developmental level of this block is high by having the highest medical facilities among the blocks in the state, by having the biggest number of PHS and community worker, second highest number of maternity and child welfare centre, third highest number of PHC and a very large number of dispensary. Added to that, the community accessibilities are satisfactory by having the largest number of T&C, the second largest number of the post office and well served with pucca road. On the other hand, the number of

educational institutions is not plenty compared to the other indicators in this block as there are no records of adult literacy centre and the number of literacy rate registered a low 94.36% by ranking 15th position among the blocks in the state. Also, the number of the working population is low as there are a few workers in the number of HHI, cultivators and agricultural laborers, very few workers in marginal and other workers. Besides, the supply of drinking water is lowest among the blocks, and the number of markets is not adequate. However, there is an abundant supply of power.

13. *Phullen block*: With a population growth rate of 7.83% and a high socio-economic score of 2.31%, this block add only 966 populations from the 12 inhabited villages. The socio-economic indicator presence on this block is sufficient for the population. This block has the second largest number of cultivators followed by marginal workers among the block in the state and few numbers in the other working population. Since this block is wholly rural, the other workers like HHI and other workers are very less in numbers. Among the six indicator composition in this block, the community accessibilities is lowest as it has low availability of T&C lowest connectivity of pucca road among the blocks in the state and yet the number of post office presence are large in number. Further, in case of community amenities, the supply of power is satisfactory and yet no records of market and the availability of drinking water is one of the lowest among the blocks. The numbers of educational institutions, however, are adequate and the number of literacy rate registered 95.55%. Besides, the facilities of medical is sufficient and rank second highest among the blocks as there are largest number of PHC, very large number of maternity and child welfare centre and community worker, large number of PHS and dispensaries are found in this block.

14. *Darlawn block*: This block has a population growth rate of 7.77% and a socio-economic score of 1.44%. The added population is 1,879 where 1,975 are from the 27 inhabited villages, while 96 urban inhabitants are lost from Darlawn town. Since the growth rate is not high, the socio-economic indicator is found to be sufficient for the inhabitants in this block. Among the socio-economic indicators in this block, the working population is lowest in which low number of other worker, HHI and marginal workers are found. However, cultivators and agricultural laborers are found in large number. The facilities of medical in this block are sufficient by

having the second largest number of dispensary and community worker, the number of PHC and PHS are also found to be quite adequate. The number of educational institutions is also adequate and the literacy rate records 95.12%. There are a large number of market and post office and the availability of drinking water is also adequate. Nonetheless, it is the supply of power and the pucca road which is inadequate.

15. *Thingsulthliah block*: This block has a population growth rate of 7.7% and a socio-economic score of 1.28%. The added population in this block amounted 2,711 in which the rural adds 2,058 having 29 inhabited villages and the urban adds only 653 from the one town Saitual. The working populations are few in numbers even though there is a large number of an agricultural laborer followed by other worker and HHI. While the cultivators and marginal workers are meager. And, the medical facilities available in this block are low compared to other blocks where the number of PHC is lowest and a low number of PHS is found and yet the number of dispensary, maternity and child welfare centre and community workers is adequate. The number of educational institutions is also few and the literacy rate records 97.10%. On the other hand, the community amenities and accessibilities are adequate by having a large number of markets, post office, T&C and are well connected with pucca road, adequate supply of power and drinking water. Since, the socio-economic indicator is much higher than the population growth rate, when arrange the blocks in higher order, the socio-economic indicators are sufficient for the inhabitants.

16. *Aibawk block*: With a population growth rate of 7.14% and a very high socio-economic score of 5.10%, the addition of population in this block amounted to 1,141 from 22 inhabited villages. The entire socio-economic developmental indicator in this block is high, even though there are some indicators which are found to be lesser in numbers particularly among the working population. Agricultural laborers and cultivators are found to be highest in this block followed by marginal and other workers and there are few numbers of workers in HHI are found here. The availability of medical facilities on the other hand, is adequate by having a large number of the entire medical centre and large number in community worker. The numbers of educational institutions are also sufficient as there are a large number of middle school and matriculation. The community amenities and

accessibilities are also satisfactory by having the highest availability of power supply and pucca road during this period. Further, the number of literacy rate is also high recording 98.03%.

17. *Hnahthial block*: This block has a low population growth rate of 5.97% and a highest socio-economic score of 9.53%. The added population amounted 1,470 in which the rural contributes 1,421 having 23 inhabited villages and the urban contributes only 49 from the one town Hnahthial. In this block found the highest number of marginal workers and a large number of agricultural laborers, few numbers of other worker, HHI and cultivators. The medical facilities are adequate where the blocks have the largest number of maternity and child welfare centre, except dispensary, all other medical centre are found in large number. Further, it has the largest number of market, adequate supply of power and drinking water. In short, all the socio-economic indicators are found to be adequate here.

18. *W.Phaileng block*: This block has a population growth rate of 0.62% and a very low socio-economic score of -3.74%. Indicating that the socio-economic indicator in this block is inadequate for the medium growth of population. This block has 21 inhabited villages and a very few added population numbering only 132. The entire socio-economic indicator in this block ranks low. Most of the inhabitants in this block are cultivators, the other workers like marginal, HHI, agricultural laborers and other workers are found in fewer numbers. This block is also poorly served by medical facilities as the presence of only PHC is found to be adequate and there are few numbers of PHS and no records of maternity and child welfare centre, community worker and dispensary. The number of educational institutions is also low with no records of the adult literacy centre. Added to that, the literacy also records a low rate of 79.95%. However, other indicators like pucca road and a post office are found to be satisfactory.

19. *Lawngtlai block*: This block has a low population growth rate of -0.94% and a low socio-economic score of -3.17% and is one of the rare block which has the same position in terms of population growth and socio-economic development when arrange the blocks in ascending order. There is no addition of population in this block during this period. In fact, this block lost 369 populations during 2001 to 2011. There is a lost of 21,199 populations from the rural areas and

the inhabited villages also reduced from 58 to 32 in number. The lost of population in the rural areas is due to the birth of Lawngtlai town in 2011 census, where 20,830 resides, and also due to the creation of new block S.Bungtlang from this block. Among the working population in this block, other worker is found to be highest, followed by marginal worker, agricultural laborer, HHI, and the cultivators. The presence of medical facilities here is moderate by having the largest number of dispensaries. The number of educational institutions is also moderately adequate, and the literacy rate records 84.44%. On the other hand,the community amenities and accessibilities in this block is very poor by having a very low supply of power, pucca road, very low number of T&C, post office and market. Nonetheless, the availability of drinking water is sufficient.

20. *Khawzawl block*: This block has a low population growth rate of -45.38% and a high socio-economic score of 0.89%. The total loss of population in this block amounted to 29,848. The loss of population in the rural areas amounted 3,544 where the inhabited villages also reduced from 42 to 29, and the urban inhabitants amounted 26,304 in which the number of towns also reduced from 3(Khawzawl, Khawhai, Champhai) to 2(Khawzawl and Khawhai) after ten years, due to the creation of Champhai block. This block has a large number of all workers in which workers in HHI is largest followed by agricultural laborers. The facilities of medical, community amenities and accessibilities is also adequate by having a large number of post office and the availability of pucca road and drinking water is also sufficient. The number of educational institutions is also moderately adequate and the literacy rate records 95.83%.

21. *Tuipang block*: This block has a low population growth rate of -55.31% and a socio-economic score of -1.06%. The loss of population amounted to 26,041 where the rural loss 6,215 with the loss in inhabited villages from 49 to 33, and the urban loss 19,826 along with its one town Saiha in the 2011 census. This block has a large number of workers in marginal and other worker, HHI and cultivators, it is only in agricultural laborers that the workers are few. The number of educational institutions is also many and the literacy rate registered 86.12%. The three other indicators of medical facilities, community amenities and accessibilities are quite low. However, it is only on the availability of drinking water that this block

is adequate. Nevertheless, the socio-economic indicator is ample for the inhabitants in this block.

22. *N.Thingdawl block*: This block has the lowest population growth rate of -67.5% and a socio-economic score of -0.49%. The loss of population amounted to 41,206 where the rural loss 12,439 with the loss in inhabited village from 32 to 11 and the urban loss 28,767 persons, with the loss happens from 4 towns (Vairengte, Bairabi, Kolasib, and N.Kawnpui) to 1 town (N.Kawnpui) after ten years. Within this block, marginal workers and other worker are found to be largest in number, few numbers of HHI and very few numbers of cultivators and agricultural laborers are also found. The facilities of medical in this block are also moderately adequate for the inhabitants where there are large numbers of dispensaries and a few numbers of PHC and PHS and yet no records of maternity and child welfare centre and community worker. The number of educational institutions is very low and no records of adult literacy centre and yet the number of literacy rate has been quite high recording 96.31%. The availability of pucca road, T&C and post office is sufficient. However, the supply of power and the availability of drinking water are scanty. Nevertheless, the socio-economic indicators in this block are sufficient for the low population growth in this block.

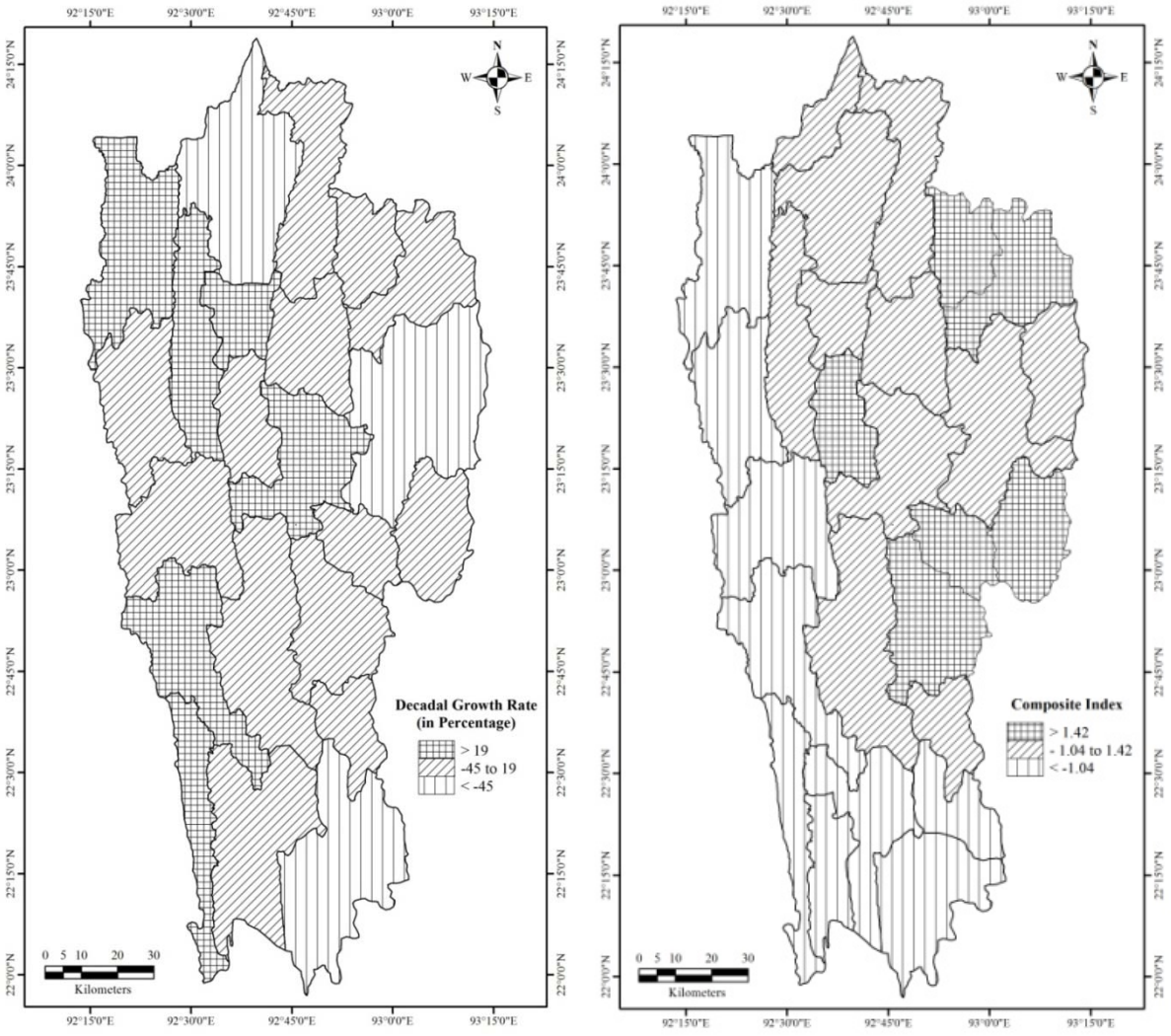

Figure 41: Block wise population growth 2001 to 2011 and socio-economic development 2011

5.4.2 District wise relationship between population growth 2001 to 2011 and socio-economic development 2011:

The high population growth is risky for the low socio-economic development among the districts in the state. The correlation results show a negative correlation of -.509 showing that the continuing growth in the populations is inversely correlated with the socio-economic development among the districts in the state.

Table 34: District wise correlation between population growth 2001 to 2011 and socio-economic development 2011

Descriptive Statistics

	Mean	Std. Deviation	N
Population_ Growth2001to2011	24.3450	19.27035	8
Socio_Economic_ Development2011	.0000	2.32049	8

Correlations

		Population_ Growth2001to 2011	Socio_ Economic_ Development 2011
Population_ Growth2001to2011	Pearson Correlation	1	-.509
	Sig. (2-tailed)		.197
	N	8	8
Socio_Economic_ Development2011	Pearson Correlation	-.509	1
	Sig. (2-tailed)	.197	
	N	8	8

1. *Lawngtlai district*: This district has the highest population growth rate of 60.14% and the lowest socio-economic development score of -3.03%. The high growth of population in this district and the very low socio-economic development has a perfect negative correlation indicating as one move higher, the other moves lower. There is an addition of large population amounting 44,274 where the rural adds 23,444 along with the increased in inhabited villages from 139 to 159. The urban has 20,830 resides in the newly created towns Lawngtlai. The district has the lowest score in the three indicators of medical facilities, community accessibilities and literacy rates in which number of PHC, PHS, pucca road and post office is lowest, and the literacy records a low rate of 65.88%. Besides, the other three indicators which are little bit higher i,e community amenities where the supply of power is again lowest. While, the working population is found to be acceptable. It is only in the number of educational institutions that this district is found to be ample.

2. *Mamit district*: The second highest population growth with 37.56% has the second lowest socio-economic development score of -2.96%. The added population records 23,579 where 19,333 are from the rural with an increased inhabited village from 82 to 86 and the addition from the urban amount 4,246 in the three existing towns. Since a larger number of the population lives in the rural areas,

cultivators and agricultural laborers constitute the largest number of workers, the other workers in the marginal, HHI and other workers constitutes the lowest number among the eight districts in the state. The facilities of medical is also poor by having the lowest number of maternity and child welfare centre, second lowest number of dispensary and community worker, the third lowest number of PHS, it is only in the number of PHC that the district has plenty. The community amenity and accessibilities on the other hand, are quite satisfactory, in which the availability of pucca road is adequate, it is the supply of power that needs advancement. Further, the number of educational institutions is adequate and the literacy rate records 84.93%.

3. Kolasib district: The third highest population growth with 27.28% has a socio-economic score of 0.30%. The addition of population is 17,995 where the rural contributes 7,616 and the inhabited village decreased from 39 to34. The added population in the urban also amounts 10,379 in the four existing towns. The growth of population in this district is not detrimental to the socio-economic development to a great extent. Since, there are four socio-economic indicators in which this district is found to be sufficient. First is the working population where this district has the highest number of agricultural laborers, third highest in other workers and marginal, fourth highest in the number of HHI, it is on the cultivators only, that this district is found to be very low. Second are the facilities of medical where the number of PHS is second largest and dispensary also rank third largest among the district. The third is on the community accessibilities where T&C is second highest and post office is third highest. The fourth is on the literacy rate, which records 93.5%. On the other hand, the number of educational institutions and community amenities is very poor by being second lowest in the state in which the availability of drinking water records lowest among the eight districts in the state.

4. Aizawl district: The fourth highest population growth rate with 22.92% has a socio-economic score of 1.45%. The added population within ten years amounted to a high number of 74,633 and even though the number of inhabited villages decreased from 96 to 94 the contribution of the rural still records 8,024 populations. The urban also contributes 66,609 from the existing 4 towns. Since, this district has the state capital, where most of the state development occurs, and is also a place where the high growth of population takes place. As such, the much added

population and the socio-economic development in this district move side by side to a great extent during this period. The district has the largest number of other workers, second largest number of HHI, large number of marginal and agricultural laborers, yet the number of cultivators is lowest in the entire district of the state. The facilities of medical, community amenities and accessibilities is sufficient where there are the highest number of dispensary, community worker, pucca road and second highest number of market, third highest number of PHC, power supply, T&C and drinking water among the entire district is found. Besides, the number of literacy rate is high recording 97.89%.

5. *Serchhip district*: This district with a population growth rate of 20.56% has a socio-economic score of -0.43%. There is an addition of 11,076 populations, where the rural contributes 4,935 from 35 inhabited villages and the urban contributes 6,141 from the three existing towns. The district has the largest number of workers in HHI and second largest number of cultivators and yet the low number of workers in marginal, other workers and agricultural laborers make the working population in this district second lowest in the state. The facilities of medical is quite adequate for this population as the district has the largest number of PHC, the second largest number of maternity and child welfare centre, third largest number of PHS and even the number of community worker and dispensary is satisfactory. Moreover, the number of literacy rate is highest recording 97.91%. Added to that, the community amenities and accessibilities are found to be quite satisfactory, however, T&C, pucca road and drinking water needs an improvement.

6. *Lunglei district*: This district has a population growth rate of 17.64% and a second highest socio-economic score of 2.35%. The addition of population in this district amounted to 24,205 where 13,409 is from the rural with increased in inhabited villages from 160 to 161 and 10,796 populations from the existing three towns. This district has rank sixth position in term of population growth while the socio-economic score rank second highest, which indicates that the low addition of population during this period has a positive impact on the socio-economic development of this district. The number of working population in this district is largest by having the largest number of marginal and second largest number of agricultural laborers, large number of other workers and cultivators are also found.

Not just that, the community amenities in this district is highest in which the availability of drinking water is maximum. The number of educational institutions is also third largest in the state. It is in the case of medical facilities, community accessibilities and literacy rate that this district is inadequate even then; it still has the largest number of maternity and child welfare centre and second largest number of primary schools.

7. Champhai district: This district with low population growth rate of 16% has highest socio-economic scores of 3.30%. Still, the added population amounted to 17,353 where the rural adds 10,873 persons, though the inhabited village decreased from 88 to 83 and the urban add 6,480 in the four existing towns. Even though there is an addition of a large amount of population both from the rural and the urban areas, the growth rate is found to be second lowest, this is beneficial for the inhabitants as the socio-economic development is highest among the entire district in the state during this period. All the indicators of socio-economic development are found to be sufficient in this district. It has the largest number of PHS, matriculation, T&C and post office, the second largest number of PHC, community worker, power supply, third largest number of HHI, cultivators, agricultural laborers, maternity and child welfare centre, literacy rate and Pucca road.

8. Saiha district: The lowest population growth rate with -7.34% has a socio-economic score of-0.98%, which is still higher than the growth rate when arrange the block in ascending order of their score. This district has loss 4,482 population in which the rural losses 9,766 with the loss in the number of inhabited villages from 68 to 52 while the urban gain 5,284 population in the one existing town Saiha. The district has the second largest number of marginal and other workers and a large number of HHI. But, the number of cultivators and agricultural laborers are found to be lowest among the entire district in the state. The facilities of medical, the number of educational institutions and the literacy rate in this district is found to be adequate. It is in the case of community amenities and accessibilities that this district needs progress, especially on the number of post offices and pucca road.

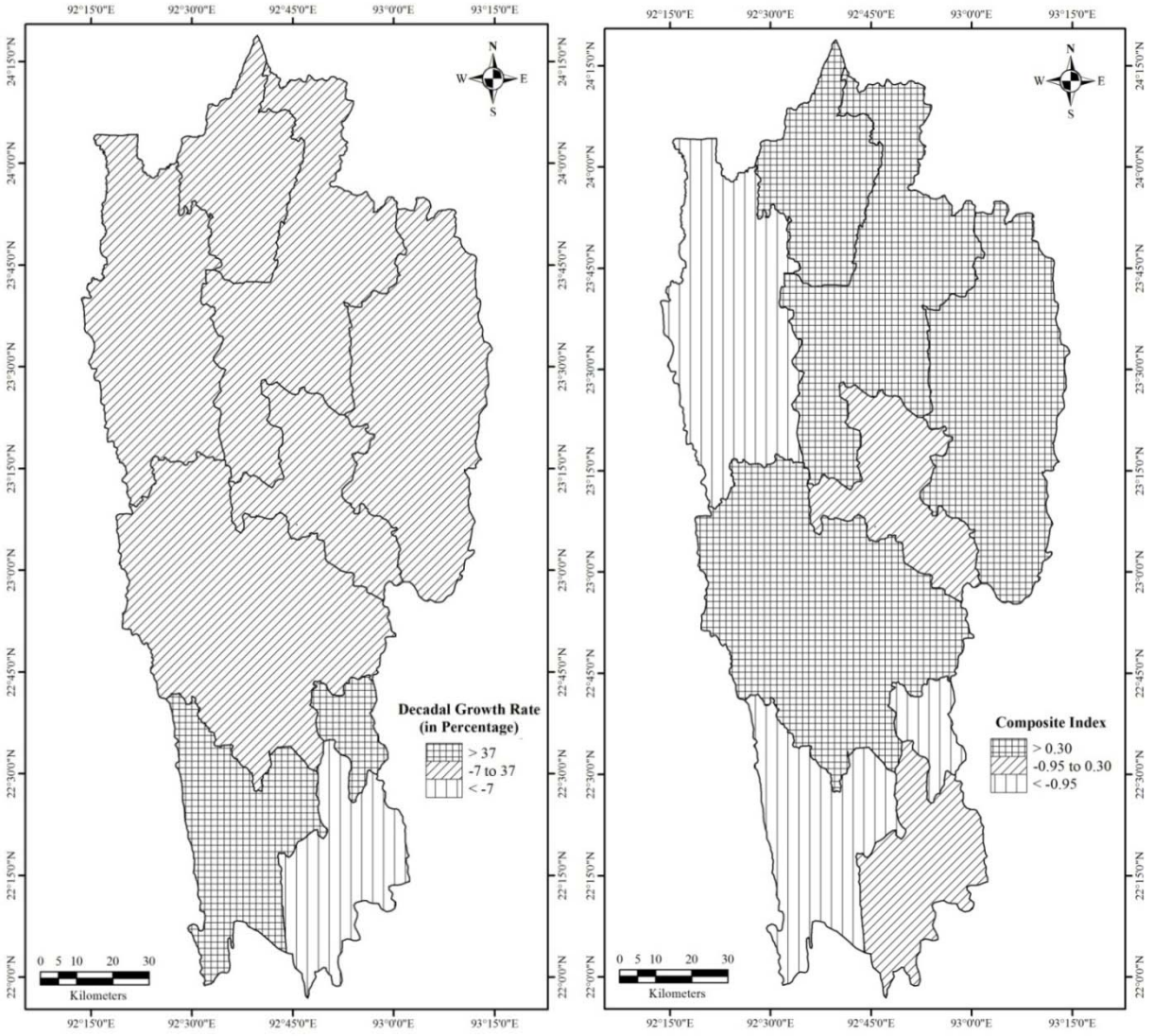

Figure 42: District wise population growth 2001 to 2011 and socio-economic development 2011

5.5 Overall relationship between population growth and socio-economic development

5.5.1 Block wise relationship between population growth and socio-economic development 1981 to 2011:

The Pearson Correlation results -.363 indicating a weak negative relation between the population growth and the socio-economic development among the blocks in the state. In the overall result all the blocks and districts in Mizoram are included. In the most recent enumeration of 2011, the state of Mizoram has 26 blocks due to the birth of four new blocks namely Champhai, Bilkhawthlir,

S.Bungtlang and Saiha. Since they are newly created, they cannot have population growth, but then, have a large number of populations. In this way, they are explained based on their total population exists in each of their blocks, since they cannot be included in the calculation. The other 22 blocks are again explained on the basis of their high growth rate in ascending order:

Table 35: Block wise correlation between population growth and socio-economic development 1981 to 2011

Descriptive Statistics

	Mean	Std. Deviation	N
Population_ Growth1981to2011	16.9868	14.16974	22
Socio_Economic_ Development1981to2011	.1100	3.71884	22

Correlations

		Population_ Growth1981to 2011	Socio_ Economic_ Development 1981to2011
Population_ Growth1981to2011	Pearson Correlation	1	-.363
	Sig. (2-tailed)		.097
	N	22	22
Socio_Economic_ Development1981to2011	Pearson Correlation	-.363	1
	Sig. (2-tailed)	.097	
	N	22	22

1. *Tlangnuam block*: The highest population growth rate of 51.76% has a medium socio-economic development score of 0.87%. This block has the continuous addition of population all through the study period. And the growth rate of the population occupied the high level by being highest in 1981 to 1991 and 1991 to 2001 and fourth highest during 2001 to 2011 which all adds to the highest growth rate in the overall results. While the socio-economic score of this block experienced a contrasting level by being among the highest in 1981 to low in 1991 to medium in 2001 and 2011 and in the overall results. This block has a strong negative correlation between the population growth and the level of development as it is clear from the first correlation study period i,e 1981 to 1991 growth and 1991 socio, in which this block has the highest growth rate while the socio-economic score of this block is among the low group. Then, the next study period of growth (1991 to2001) and socio

(2001) results the population growth highest, while the socio-economic development among the medium which continue till the next study period. When the growth rate is high, the level of development in this block is low. But there are some socio-economic indicators in which this block is always high no matter how many populations is added in the block i, e the number in other worker and literacy rate where this block always has largest number all through the study period. Next is the worker in HHI where very large numbers of inhabitants in this block always engaged in. Moreover, the supply of power, pucca road, number of post office, PHS, PHC, market and T&C in this block is always found to be sufficient. Added to that the literacy rate always registered highest among the blocks all through the study period. Nevertheless, the other socio-economic indicators all need advancement in this block.

2. *Chawngte block*: This block has second highest population growth rate of 38.83% and the lowest socio-economic score of -8.10%. Even though, this block is wholly rural, it witnessed the continuous addition of population all through the study period with increasing numbers in its inhabited villages. Added to that, it is among the high growth rate group all through the study period while the developmental level always occupied the low group. The high growth of population is inversely correlated with the low socio-economic development in this block. Nevertheless, there are three socio-economic indicators that this block is adequate. First, is the number of working population which goes on increasing with every census, and where large numbers of cultivators and agricultural laborers are found. Second is in the number of educational institutions where there are large numbers of primary school. Third is a community amenity where this block always has sufficient availability of drinking water. On the other hand, the other three indicators of medical facilities, community accessibilities and the literacy rate in this block need a great advancement in order to sustain the on growing population in this block.

3. *Lunglei block*: This block has a high population growth rate of 31.32% and the socio-economic score of 2.29% and is also among the high level and yet when compare to the high order rank of blocks in terms of socio-economic and growth rate, the developmental level is much lower by being 7th position while the growth rate occupied the 3rd position. The population in this block also goes on

increasing with every census in which the urban keeps on increasing and the rural population, even though decline between 1981 to 1991, goes on increasing till the latest census of 2011. The large added populations do not match with the low working population in this block where there are low number of marginal workers and cultivators and very high number of agricultural laborers and other worker. As Cassen (1976) stated that, in a low income economy the rapid growth of population does hamper development, if what is meant by development is the provision of a decent life, not for some, but for all. Not just that, the number of educational institutions, especially the adult literacy centre is found to be insufficient. Besides, the community accessibilities are poor in which the number of post office is very less. Nonetheless, medical facilities, community amenities and the literacy rate in this block are adequate for a growing population.

4. *Lawngtlai block*: With a high population growth rate of 30.24% and second lowest socio-economic developmental score of -4.53%. This block has a negative correlation showing that the growth of population and the low socio-economic development moves reverse which is damaging for the inhabitants. The population goes on increasing till 2001 census and decreased in 2011 census, and this increased took place in its rural population from 1981 census to the 2001 census as this block does not have urban population. Then, in 2011 census, this block acknowledges the birth of Lawngtlai town where more than half of its population resides and the block witnessed a decreased in its population at the same time due to the reason already mentioned in the previous chapter. Although, this block has very low level of development, it is fortunate to find a large number of other workers and agricultural laborers throughout the study period. The medical facilities which are always inadequate shows a great improvement in 2011 census. Whereas, the number of educational institutions, community amenities and accessibilities is insufficient to maintain the growth of the population experienced in this block. The number of literacy rate goes on declining, which is an important indicator of socio-economic and cultural development. It is regarded as both a means and the end of development. Sen (1995) has shown that literacy has instrumental as well as the intrinsic significance in the dynamic process of development, which is in fact, the foundation of all other developmental processes.

5. *Zawlnuam block*: The population growth rate in this block is 28.79% with a contrasting socio-economic score of -1.97%. This block has experienced decreased of its population during the census of 2001. Added to that the rural population witnessed a decreased in its population during the entire study period. While, the urban population has gone on increasing till 2011 census from the time when the presence of urban inhabitants is registered from 1991 census. All the socio-economic indicators in this block are low. Yet, when taken as single indicator, this block has adequate numbers in 3 of the single indicators. Namely, agricultural laborers, availability of drinking water and the number of community workers. So, in order to keep a balance between population growth and the socio-economic development, this block needs improvement in other indicators of development, especially in the supply of power and the number of educational institutions. Since, education is considered as the main ingredient in establishing human capital to ensure the economic growth (Lucas, 1988: Barro, 1991: Owen's, *et al*, 2009). It plays a vital role in shaping the way in which future generations learn to cope with the complexities of economic growth. Educational institutions prepare the citizens to be able to participate actively in all walks of life including economic activities. Human capital has proven itself to be one of the most important determinants of sustainable economic growth and hence development. It has multidimensional impacts on the economy. On one side it influences economic growth positively and on the other, it reduces poverty and creates such a social and political environment that attracts investment. Rapid growth of population exacerbates unemployment and underemployment and problems of food production and distribution and is a factor in deforestation, overgrazing and over cultivation which favor desertification. Much of the arable land will be difficult and expensive to bring under cultivation .With malnutrition widespread, children especially are more vulnerable to infectious diseases (Hamburg,1984)

6. *Sangau block*: With a population growth rate of 24.08% and a socio-economic score of -2.11%, this block have continuously increased in its population which is wholly rural. There are a large number of agricultural laborers, and other workers, which are generally found in block with urban inhabitants. This block needs upgrading in the number of maternity and child welfare centre, community worker,

adult literacy centre and market as this indicator does not show improvement all through the study period and rather remained the same. Besides, cultivators, marginal workers, PHC, post office and literacy rate go on decreasing while the population goes on increasing. This has a strong negative effect on the socio-economic upliftment of the inhabitants in this block.

7. *Serchhip block*: This block has a population growth rate of 23.67% and a socio-economic score of 1.37%. The population in this block goes on increasing in the urban centre, whereas the rural population records a decrease in 1991 census and then goes on increasing as well. There is a large number of the working population in this block, especially the workers in HHI and other worker is sufficient. While the population explosion stalls a country's growth, a productive working population serves a country's economic interest. A country's economy benefits when its working population is vast and productive (Majaski, 2019). Also, the facilities of medical, community amenities and the literacy rate are adequate. Nonetheless, the number of educational institutions and community accessibilities needs improvement. Besides, when taken as single indicator, the availability of drinking water, pucca road, T&C, the number of dispensary and community worker is inadequate for the large number of population especially a population which keeps on increasing.

8. *Thingsulthliah block*: This block has a population growth rate of 22.95% and a high socio-economic score of 3.94%. This block also witnessed a continuous increased in its population, but the rural population registered a decrease in 1991 census, while the urban population goes on increasing from the census of 1991 as this block started having urban inhabitants from that time. The three indicators of the working population, medical facilities and educational institutions are insufficient, while, the other three socio-economic indicators of literacy rate, community amenities and accessibilities in this block are sufficient even for the growing population. In case of working population, it is on the number of cultivators and marginal workers that this block needs improvement. Further, on the facilities of medical, this block needs improvement in the number of PHC and PHS as these two centres go on decreasing.

9. *Lungsen block*: This block has a population growth rate of 22.80% and a low socio-economic score of -3.91%. There is the continuous addition of population in this block and this addition happens in rural areas, while the urban population starts from the 1991 census has faced a decrease in 2001 and then increased in 2011. In this block, found a very large number of marginal workers and cultivators and even though large numbers of inhabitants lived in the urban centre the number of other workers and HHI are low. Added to that, the facilities of medical, especially community worker are very low to sustain the ongoing population. Health contributes to socioeconomic development (Williams *et al,* 1972). Improved health and nutrition directly affect population size, age-sex structure, labor force components, and productivity levels, all of which may either inhibit or facilitate economic progress. As with the relationship between health and development, both health and population growth may each be regarded as a determinant as well as a consequence of the other. Health and population growth also may be intervening variables in the interactions between each of these forces and development. Health status influences all of the components of population change: it directly affects the level of mortality and morbidity; it directly and indirectly affects level of fertility; and it has considerable influence on migration (Taylor *et al,* 1976). Further, the community accessibilities especially the number of post office is insufficient, and the number of literacy rate in this block is low. Nevertheless, the number of educational institutions, especially the number of primary schools is found to be satisfactory. Not only that, this block has a satisfactory availability of drinking water.

10. *Reiek block*: This block has a population growth rate of 17.89% and a socio-economic score of -1.01%. Though, there is an addition of population in this block every census, the rural inhabitants decreased during the 1991 census and then goes on increasing till 2011. This block started having an urban population from 1991 census and goes on increasing till the latest census of 2011. The working population in this block is the lowest among all the blocks where most of the inhabitants are cultivators, few numbers of agricultural laborers and other workers are also found which is hazardous for a growing population. The availability of medical facilities, although goes on decreasing, and yet has a large number of PHC and PHS and no records of dispensary, maternity and child welfare centre. Not only

that, the community amenities and accessibilities go on decreasing, especially the supply of power, T&C and post office is inadequate for the inhabitants in this block. Nonetheless, the number of educational institutions and literacy rate goes on increasing and is satisfactory for the inhabitants.

11. *W.Bunghmun block*: With a population growth rate of 15.90% and a low socio-economic score of -4.31%, the growth rate and the developmental score in this block have a negative relation. Although this block is wholly rural, the population goes on increasing till the latest census of 2011. This block has very large number of cultivators, and large number of marginal workers and yet workers in HHI, other workers and agricultural laborers are very few in numbers. The facilities of medical in this block are inadequate as the number of medical centre goes on decreasing which will be difficult to keep up with the increasing inhabitants. Not only that, the number of literacy rate, community amenities and accessibilities is also low and yet the availability of drinking water in this block is found to be sufficient. Also the number of educational institutions in this block is satisfactory.

12. *Aibawk block*: This block with a population growth rate of 13.86% has a very high socio-economic score of 5.16%. Though the population in this block goes on increasing with every census, the added population is not that large compared to the added population in other blocks which is beneficial for the inhabitants as the socio-economic level is still high. Even so, the number of working population in this block is particularly low among the workers in HHI and other workers due to the block inhabitants being wholly rural. However, the facilities of medical in this block go on increasing and are sufficient. Likewise, all the other socio-economic indicators are adequate for the inhabitants of this block. However, when taken as single indicator, the number of adult literacy centre and the availability of drinking water need upgrading.

13. *Darlawn block*: This block has a population growth rate of 13.03% and a high socio-economic score of 2.46%. Although this block continuously added to its population with every census, the addition is not large and while the socio-economic score is high. The population in the rural areas decreases during the periods between 1981 to 1991 and then goes on increasing till 2011 census. At the same time, this block started having an urban population from 1991 census and

registered an increased in 2001 and then decreased in the latest census of 2011. Though, the socio-economic score in this block is high, there are few numbers of the working population in this block which goes on decreasing and most of the inhabitants are cultivators. The other workers in marginal, agricultural laborers, HHI and other workers are small in number which unfortunately goes on diminishing with every census. Added to that, the community amenities in this block also faced a declining trend, particularly the power supply. Further, the number of literacy rate is also declining. Nonetheless, the medical facilities, number of educational institutions and community accessibilities are adequate for the inhabitants in this block, and yet when taken as single indicator, the number of PHS, matriculation, adult literacy centre, T&C and pucca road goes on declining and no records of maternity and child welfare centre all through the study period.

14. *Tuipang block*: This block has a population growth rate of 12.41% and a low socio-economic score of -2.56%. The block has registered an addition to its population till 2001 census and experienced a decreased in the final census of 2011, same is the case in the rural and urban population except it is more so in the urban as there are no more urban inhabitants in the 2011 census due to the creation of an entirely new block Saiha from this block during this period. Although this block has loss a large number of the inhabitants because of Saiha block, the socio-economic developmental score is still low for the inhabitants. Except for the working population and educational institutions, the other socio-economic indicator faced a declining trend. There are still a large number of other worker and HHI even though they show a waning tendency. Whereas there are very large numbers of marginal workers, few numbers of cultivators and very few numbers of agricultural laborers. The facilities of medical, literacy rate and the community amenities and accessibilities all needs enhancement, particularly with the availability of power supply and pucca road. Added to that, the number of post office, dispensary and community worker is inadequate for the inhabitants as they show a declining trend.

15. *Hnahthial block*: This block has a population growth rate of 12.05% with the highest socio-economic score of 7.63%. There is a continuous addition of population in this block, where the rural population experienced a contrasting situation as it lessen in 1991 to increase in 2001 and then to decrease in 2011 census,

whereas the urban population from the start of 1991 continued to increased till 2011census. Though this block experienced and addition of inhabitants, the addition is not large and the socio-economic indicator score also experienced an up and down situation, depending on the increase in the growth of the population each census. For instance, the socio-economic indicators in this block score very high in the latest census of 2011, the time when this block registered an increase of only 49 in its urban inhabitants, the same is the case in the other census. However, all the socio-economic indicators in this block are adequate for the population in this block. Nonetheless, there is still some indicator which needs advancement when taken as single indicator. Namely, the number of dispensary, adult literacy centre, pucca road and post office.

16. *W.Phaileng block*: With a population growth rate of 8.98% and a low socio-economic score of -4.08%. This block completely with rural inhabitants, has registered an addition of population in 1991 to a loss in 2001 and to an increased in 2011 census. The entire socio-economic indicators and the population growth in this block experienced an up and down trend during the study period. When the socio-economic score is high, the growth rate is low and vice versa in this block. Although, the socio-economic score is low, there are some indicators in which this block is sufficient. Namely, the number of cultivators, primary school, post office, availability of pucca road and drinking water.

17. *Khawzawl block*: With a low population growth rate of 8.61% and a high socio-economic score of 2.56%, this block has a large addition of population till 2001 census, and yet experienced a large decreased in 2011 census, due to the creation of Champhai block from this block. Same is the case in the urban inhabitants while the rural experienced alternate increased and decreased in its population. The socio-economic indicators also follow alternate increase and decrease in its condition. Nevertheless, the socio-economic indicators in this block are adequate for the inhabitants.

18. *Khawbung block*: This block has a low population growth rate of 4.32% and a high socio-economic score of 1.18%. Though, there is a large addition of population in this block, the low growth rate is due to the growth rate for one census only as it is created in 2001. The working population in this block shows a

great decline between 2001 to 2011 census. It is clear that most of the inhabitants in this block are cultivators and large numbers are also engaged in agricultural laborers. All the other socio-economic indicators show a great increase, particularly on the number of educational institutions. However, it is on the availability of the pucca road that this block need step up.

19. *Phullen block*: This block has a low population growth rate of 2.61% and a high socio-economic score of 1.81%. Since, it is created in the 2001 census and the added population is small in numbers, the socio-economic score is high and adequate for the inhabitants. Though, there are only two indicators in which the socio-economic score has shown an increased after ten years and yet, the score in other indicators is plenty enough for the population in this block. However, there are some indicators which need step up particularly on the availability of drinking water, T&C and pucca road. The two increased indicators are the working population and the medical facilities in which largest number of PHC and second largest number of cultivators are found. In fact, all the medical centre and community workers are found in large number.

20. *N.Thingdawl block*: This block has a low population growth rate of -1.51% and a high socio-economic score of 0.90%. This block keeps on adding to its population till 2001 census and loss a large amount of its inhabitants in 2011 census, same is the case with the urban inhabitants due to the creation of new block Bilkhawthlir from this block. Whereas, the rural population registered increased only in the 2001 census. Since this block has a high socio-economic score, it is likely that it has registered a decline in two of its indicators only, in the number of educational institutions and community amenities. Further, even though, these block loss three towns to Bilkhawthlir block and consist of only one town Kawnpui in the final census, there are still a large number of other workers and marginal workers.

21. *Ngopa block*: This block has second lowest population growth rate of -2.11% with a high socio-economic score of 2.14%. Though this block has registered a decreased only in the 2001 census, the decreased number amounted to 5,985 which are much larger than the increased population, resulting in the low growth rate. Almost all the socio-economic indicator is found to be adequate for the inhabitants in this block except for the drinking water which needs advancement.

22. *E.Lungdar block*: This block has the lowest population growth rate of -6.77% and a high socio-economic score of 2.69%. According to Mason (1996) slower population growth will yield more rapid development in most countries, especially in relatively poor, agricultural nation. Though, this block has loss population only in the 2001 census, the growth rate is the lowest among the blocks in the state as the loss is much greater (13,142) than the addition (5,061). The block started having an urban population from 1991 census and continues to increase till the latest census of 2011, whereas the rural population continue to decrease till 2001 and increased in 2011census only. The three indicators of medical facilities, community accessibilities and literacy rate goes on increasing. While, the other three indicators of the working population, educational institutions and community amenities registered an up and down situation with every census. Nonetheless, except drinking water, which needs upgrading, all the other indicators are adequate for the inhabitants in this block.

The following are the four blocks which do not have population growth rate due to their creation in 2011 census, and they are analyzed on the basis of the total population in their own respective blocks. They are:

23. *Bilkhawthlir block*: This block has a total population of 58,487 in which the rural population registered 19,341concentrated in the 16 inhabited villages and the urban recorded 39,146 distributed in the three towns of Kolasib, Vairengte and Bairabi. The block is among the medium level of development group, and the presence of the socio-economic indicator in this block is not enough for the large number of population. From the ascending order of socio-economic development, this block has high score only in the working population where there are second highest number of agricultural laborers are found, large number of HHI, other worker and marginal workers, and very few numbers of cultivators. The score on the availability of community amenities and accessibilities is moderately high, and yet, the availability of drinking water and pucca road is rather low. Further, in case of the facilities of medical, there are absolutely no records of PHC centre and community worker. Besides, the number of literacy rate, which rank as low as 17th position among the 26 blocks in the state is found here. Added to that, the number of educational institutions is low where it ranks 24th situation among the blocks.

24. *Champhai block*: This block has a total population of 43,040 with more urban population amounting 32,734 concentrated in the one town Champhai, than the rural population registering 10,306 concentrated in the 10 inhabited villages. With a medium level of socio-economic development, and the presence of a large number of inhabitants, this block has a negative correlation between the two variables. There are large numbers of the working population in this block, in which marginal workers, HHI, agricultural laborers and other workers are found to be many. Whereas, the cultivators are very less in number. Added to that, the community accessibilities are also sufficient in which the number of post office on this block is highest. The facilities of medical on the other hand, are lacking except for PHC and PHS, other than that there are no records in the number of dispensary, maternity and child welfare centre and community workers. Further, the number of educational institutions and the supply of drinking water are insufficient for the inhabitants. However, the supply of power and the literacy rate is moderately high.

25. *Saiha block*: The total population in this block amounted to 35,531 in which the rural population consists of 10,421 distributed in the 19 inhabited villages and the urban population amounted 25,110 concentrated in the one town Saiha. The socio-economic development of this block is among the low group during the study periods, which do not seem to be enough for the large number of inhabitants. This block high score is found in the amount of working population in which other worker consists of very large numbers by occupying 2nd highest among the blocks in the state. There are large numbers of HHI and marginal worker, while, agricultural laborers and cultivators are very less in this block. Further, the facilities of medical in this block are not enough, though there are a large number of community workers and a large number of PHS. Whereas, few numbers of PHC and no records of dispensary and maternity and child welfare centre. Population growth increases health costs, as more people require more health services (Birdsall, 1977). Moreover, the number of educational institutions is less where there are no records of the adult literacy centre. However, the community amenity and accessibilities are moderately high by having sufficient number of power supply, T&C and pucca road. Yet, the number of the post office and the supply of drinking water are less and there are no records on the market.

26. *S.Bungtlang block*: The total population in this block amounted to 17,126 which are wholly concentrated in the 27 inhabited villages. This block has the lowest socio-economic development among the blocks in the state. Except the number of educational institutions and working population, which rank 6th and 19th position respectively, the other socio-economic indicator in this block is found to be very low. Nevertheless, when taken as single indicator, the workers in HHI in this block are largest and cultivators rank 3rd position as well among the blocks in the state. While, marginal workers, other worker and agricultural laborers in this block are very few in number. However, the number of dispensary, market and the availability of drinking water in this block are sufficient for the inhabitants. Even so, the low socio-economic indicator in this block is insufficient for the population.

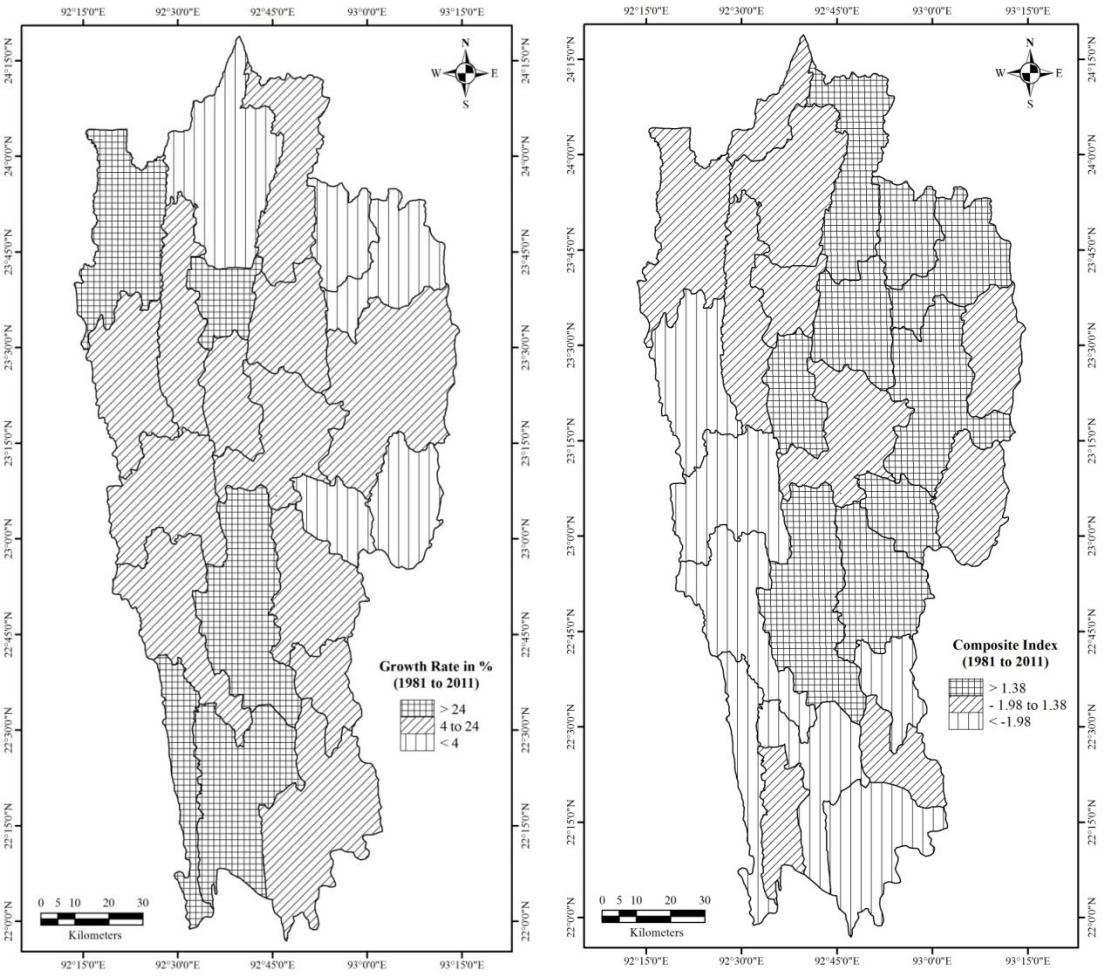

Figure 43: Block wise population growth and socio-economic development 1981 to 2011

5.5.2 District wise relationship between population growth and socio-economic development 1981 to 2011:

The Pearson's correlation result is -.182 indicating a weak negative correlation between the population growth and the socio-economic development among the districts in the state. In the overall results, the analysis of nine districts is explained due to the existence of Chhimtuipui district during 1981 to 1991 census. Though, this district is no longer in existence after 1991 census, it will be inappropriate not to include in the overall results.

Table 36: District wise correlation between population growth and socio-economic development 1981 to 2011

Descriptive Statistics

	Mean	Std. Deviation	N
Population_ Growth1981to2011	11.3156	7.90486	9
Socio_Economic_ Development1981to2011	.0000	3.02567	9

Correlations

		Population_ Growth1981to 2011	Socio_ Economic_ Development 1981to2011
Population_ Growth1981to2011	Pearson Correlation	1	-.182
	Sig. (2-tailed)		.640
	N	9	9
Socio_Economic_ Development1981to2011	Pearson Correlation	-.182	1
	Sig. (2-tailed)	.640	
	N	9	9

1. *Lunglei district*: This district has the highest growth rate of 23.20% with a socio-economic score of 1.57%. There is the continuous addition of population all through the study period, which happens in the urban population having three towns, while the rural population decreases in 1991 and then increases in 2001 till 2011 census, and had161 inhabited villages. Though the socio-economic score is lower than the population growth, and yet it is high enough indicating that the high growth of population in this district is not detrimental for the socio-economic development during the study period for this district in particular. Except the community amenities, the other entire indicator experienced either declining

trend or an alternate situation every census. There are few indicators like HHI, PHC, and PHS which are considered inadequate for the inhabitants.

2. *Lawngtlai district*: With a population growth rate of 20.05% and second lowest socio-economic score of -2.96%. This district created after the 1991 census with growth rate only one time has a very large addition of population. The rural populations with 159 inhabited villages show an increased and after ten years witnessed the presence of urban population in the one town. The presence of the socio-economic indicator is insufficient for the inhabitants in this district. The three indicators of medical facilities, community accessibilities and literacy are second lowest among the entire district. There is a greater prevalence of acute and infectious diseases like diarrhoea, tuberculosis etc, in the lower socio- economic strata. The high morbidity rates are a direct function of poor socio-economic development and poor sanitary conditions. Another finding is that the lower socio-economic strata have the highest birth rates (Kannan *et al,* 1992). On the other hand, the other three indicators of educational institutions, community amenities and working population fortunately go on increasing. However, the number of agricultural laborers and power supply is insufficient for the inhabitants.

3. *Chhimtuipui district*: This district with a third highest growth rate of 16.79% has lowest socio-economic score of -4.35%. For a one time growth, this district has a high growth rate as there is the addition of a large number of populations, both in the rural with 198 inhabited villages and in the urban with only one town. It has the lowest socio-economic score due to the shorter existence in the state of Mizoram. Nonetheless, this district adds to the findings of highest population growth rate in an area generally has lower socio-economic development.

4. *Mamit district*: With a population growth rate of 12.52% and a low ranking 6th highest position of socio-economic score of -1.34%. This district has added a large number of the population after ten years, both in the rural having 86 inhabited villages and in the urban having three towns. The district shows a weak negative correlation as the growth rate also stood at 4th situation. Except the two indicators where the number of educational institutions goes on increasing and the number of literacy rate remains the same, the remaining indicators in this district go

on declining. Further, the number of marginal workers, HHI, other workers, maternity and child welfare centre and the market are inadequate for the inhabitants.

5. *Aizawl district*: The population growth rate of 10.46% has the highest socio-economic score of 5.64%. This district has loss a large number of populations in 2001 census due to the creation of four new districts in the state of Mizoram out of this district. However, the growth rate ranks only 5th higher situation which shows that the low growth rate of population in this district and a high socio-economic developmental level is beneficial for the inhabitants. The population in the rural having 94 inhabited villages registered a decreased in its population till 2001 census and increased in 2011 census. While the urban having 4 towns registered an up and down situation by an increase in 1991 to a loss in 2001 and then increase in its inhabitants in the 2011 census. Though, it has a highest socio-economic level, there are few socio-economic indicators in which this district goes on declining during the study period. Nonetheless, the entire socioeconomic indicator is sufficient for the inhabitants in this district.

6. *Kolasib district*: This district has a population growth rate of 9.09% and a little higher rank socio-economic score of-0.31%. There is a large addition of population after ten years as this district was created in 2001 census, both in the rural having 34 inhabited villages and in the urban having 4 towns. Though, there is a negative correlation, the relation is not that strong as the socio-economic score rank higher being 5th position than the population growth rate rank of 6th position. The two indicators of medical facilities and community amenities neither decreased nor increased even after ten years. However, the availability of drinking water is insufficient for the inhabitants. The other four indicators of the working population, educational institutions and community accessibilities go on increasing. Whereas, the number of literacy rate shows a decline.

7. *Serchhip district*: This district has a growth rate of 6.85% and a socio-economic score of 0.62%. The district adds to its population, both in the rural having 35 inhabited villages and the urban having 3 towns. This district created in the 2001 census has a low negative correlation as it occupied the 3rd lowest population growth rate and the 4th highest socio-economic developmental score. There are two indicators of literacy rate and community amenities which show an increase. At the

same time, there are three indicators of the working population, medical facilities and educational institutions which show a decline. It is only the community accessibilities which remain the same. However, the socio-economic in this district are sufficient for the low growth of population.

8. *Champhai district*: The district with the second lowest growth rate of 5.33% and second highest socio-economic score of 2.61% is created in 2001 census. This district adds a large number of population both in the rural having 83 inhabited villages and the urban having 4 towns. There is a strong negative correlation between the population and the socio-economic development as the growth rate is at among the bottom while the socio-economic development level is among the high group. There are four indicators of medical facilities, educational institutions, community accessibilities and the literacy rate in which this district goes on increasing. While, there are two indicators of the working population and community amenities which shows a decline. As Kundu *et al* (1999) has pointed out that rapid population growth and low investment in urban development have created a serious deficiency in the availability of infrastructure and basic amenities in the towns and cities of the country. However, except for other worker which is less in number, all other indicators are sufficient for the inhabitants.

9. *Saiha district*: This district has the lowest growth rate of -2.45% and 7th highest socio-economic score of -1.48%. This district created in the 2001 census has loss a large number of populations after ten years due to the transfer of Sangau block to the Lawngtlai district in 2011 census. The loss of inhabitants happens only in the rural areas with 19 inhabited villages while the urban having one town registered an increased. There is a negative correlation between the growth rate and the socio-economic score in this district as the socio-economic score is at a much higher rank. There are three indicators of the working population, medical facilities and the literacy rate which shows an increased. Further, there are another three indicators of educational institutions, community amenities and accessibilities which remain the same. Nonetheless, all the socio-economic in this district are sufficient for the low number of inhabitants in this block.

Table 37: District wise population growth & Socio-economic development 1981 to 2011

Name	Population growth&socio-economic development 1981 to 2011	
Aizawl	10.46	5.64
Champhai	5.33	2.61
Kolasib	9.09	-0.31
Lawngtlai	20.05	-2.96
Lunglei	23.2	1.57
Mamit	12.52	-1.34
Saiha	-2.45	-1.48
Serchhip	6.85	0.62
Chhimtuipui	16.79	-4.35

Source: Results from table 15&28

The analysis reveals that there is a negative correlation between population growth and socio-economic development among the blocks and districts in the state throughout the study period. The period during population growth 1991 to 2001 and socio-economic development 2001 (district wise)has a perfect negative correlation between population growth and socio-economic development as the correlation score amounted to -.1.000**.

CONCLUSION

The state of Mizoram has witnessed an increased in its population all through the study period by adding 195,999 during 1981 to 1991 censuses to 198,817 during 1991 to 2001 censuses and to a huge addition of 208,633 between 2001 to 2011 censuses. The added population during the thirty years (1981 to 2011) amounted to 603,449. There are five blocks which manage to remain in their level all through the study period, despite experiencing a change in its growth rate. Specifically, the two blocks of Tlangnuam and Chawngte constantly occupied the high level of population growth during the thirty years. Added to that, the three blocks of W.Bunghmun, Aibawk and W.Phaileng all managed to occupy the medium level in their growth rate. There are seven blocks in the state which show an increase in its growth rate. Namely, Ngopa and E.Lungdar from low level in the two previous censuses (1981 to 2001) to medium level in the census between 2001 to 2011. Same is the situation with the two blocks of Serchhip and Lungsen from medium level in the two previous censuses to high in the latest census of 2011. Likewise, Darlawn and Hnahthial from low level (1981 to 1991) to medium level in the last two censuses (1991 to 2011). Further, Reiek block shows a continuous improvement in its growth rate by being low level to medium level and then to high level in the last enumeration of 2011. On the other hand, there are two blocks which shows a decrease in its growth rate, Tuipang block from high in the two previous censuses to low in the final and the block of Lawngtlai from high in the two previous censuses to medium level in the last census of 2011. All the remaining blocks and the two districts of Aizawl and Lunglei in the state experience an alternate rise and fall in their growth rate every census. The study of the growth of population in Mizoram clearly reveals that the population growth trend in the state has generally an alteration of ups and downs after every decade in terms of percentage. Nevertheless, it has a positive growth rate in all the decades, and the rural population registered a negative growth rate during 1981 to 1991 census. Aizawl district registered the greatest decline in its rural population. While Chhimtuipui witnessed a large increased in its rural population. The rural population has lower education levels, higher poverty, higher mortality and higher fertility. Not only that, the rural residents had relatively fewer modern

amenities compared to their urban counterparts. Like Sekher (2012) said the disparity with regard to education, employment, land ownership and assets are more pronounced in rural areas.

The development levels of different blocks and districts of Mizoram are measured by applying the composite index based upon an optimum combination of selected socio-economic development indicators. The relationship between developments of different sectors of the economy is evaluated and the blocks and districts are positioned exactly as per their levels of socio-economic development. The outcomes show that wide variations in the level of socio-economic development exist among different blocks and districts within and between different regions of Mizoram. Certain areas in Mizoram have relatively high levels of development while others have low levels of development or no development by any means.

Despite the fact that different policies have been implemented in an attempt to stimulate development of the economy, the state despite everything, has far to go if there should be an occurrence of industry. It has shown an incredible improvement in the three indicators of power supply, pucca road and the literacy rate from the starting census of the study period. The other remaining indicators experienced alternate increase and decrease with every census. There are eight blocks and four districts which continue to occupy the same level of development all through the study period. In particular, the two blocks of Aibawk and Phullen, also the two districts of Aizawl and Champhai occupying high level of development. Further, the three blocks of Reiek, Champhai and Bilkhawthlir by being on the medium level. Added to that, the three blocks of W. Bunghmun, Lawngtlai and Chawngte along with the two districts of Lawngtlai and Chhimtuipui from being in the low level of development. Besides, there are seven blocks which shows a decrease in their level of development, the two blocks of Thingsulthliah and Darlawn being high level in the previous three censuses to medium level in the last census of 2011. Lungsen, Zawlnuam and Tuipang from medium level to low in 2011 census. Again, the district of Serchhip from high to medium, and Mamit district from medium to low level. On the other hand, there are seven blocks which shows an increase in their socio-economic developmental level, Ngopa and E.Lungdar from medium level in the two

previous censuses to high in the last two censuses. Same is the situation with the block of Khawbung from the medium in the 2001 census to high in the 2011 census. Further, the two blocks of Saiha and S.Bungtlang from low level in 2001 to medium level in 2011 census. Furthermore, the district of Lunglei which occupied medium in the three censuses to high level in 2011 census. Likewise, Saiha district from low level in 2001 census to medium level in 2011 census.

In Mizoram, blocks and districts which have experienced a high growth of population has low socio-economic development. In the same way, blocks which have low population growth has high socio-economic development. This is especially true for the block of Chawngte and Lawngtlai located in the southern part of Mizoram where it has witnessed a high growth of population and occupying the high level group has a very low level of socio-economic development by being among the low level throughout the study period. In addition, the district of Lawngtlai and Chhimtuipui has the high growth rate of population and low level of socio-economic development. Same is the situation with block having a low growth of population has high socio-economic development, particularly for a block like Ngopa and E.Lungdar.

As Sundaram (2014) has brought up that human poverty is vastly influenced by lack of skills among the poor. While the literacy rate is high, the skill development is low among youth in Mizoram. The rate of unemployment in the areas is also very disturbing. Besides, a large part of the inhabitants in the state depend on the aged old primitive type of agriculture for their livelihood, dependence on agriculture, almost as an exclusive source of livelihood for the rural population, has been a matter of serious concern for India since independence (Kulkarni, 1994). Although, about 60% (Economic Survey Mizoram) are engaged in agriculture, the agricultural products are insufficient for the state requirement, and the absence of large scale industries in the state worsens the unemployment problem. Obviously, the rate of growth of employment opportunities is far below the growth rate of population in Mizoram. The poor people have either no benefits or assets with very low productivity and thus they continue to work very low paid occupations. Unless the condition of these categories of people is improved, the root cause poverty will not be alleviated and overall development process will be delayed by further decades

(Das, 1999). Moreover, low income group view their children as an economic asset. The attitude towards children as economic assets constitutes an important constraint on population control in Mizoram especially in the rural parts of the state. Ignorance and illiteracy, superstition, lack of cultural pursuits, especially among the Riangs and Chakmas are responsible for high growth rate (Lalhlimawma, 1995). In addition, as most of the rural people are dependent on primary activities, an increase in the population in the rural sector has obviously put a pressure on local production and consumption. Consequently the quality of life is going down by pulling the socio-economy of the area downward, which causes a fast influx of people in urban area bringing about decaying the urban conditions. Problems like unemployment, air pollution, health care, drug abuse, high prices of urban amenities are the result of over congestion in town. The fast changes in ways of life, westernization, wearing away of traditional value and the consequent corruption in public life and so forth, have made the issue of urban population increasingly crucial.

Since, the government is now well aware of different hindrances in the method of progress over from Jhum to settled land used and is keen to speed up proceeds, one can expect positive outcome toward this path. With the higher productivity from agriculture and allied pursuit, the average income and standard of the people would raise. This together with greater awareness for small families to keep up a high standard of living as well as greater care for children would also promote a reduction in birth rate and thus for a quicker decline in the population growth rate.

Suggestions: The following points are suggested to reduce the disparity among the regions in the state:

1. Despite high literacy and having great potential in terms of natural resources. The ever increasing populations do not bring the same space of economic development. Therefore, to bring about the socio-economic development of the state, education should be taken with oriented goals.

2. Potentials in natural resources should be tap in a meaningful way in terms of agro/forest based industries and systematic agriculture.

3. All these are to be boosted by development in hydro electric power, development of road and improvement of all other socio-economic amenities.

Kurian (2000) has clearly stated that, an important factor which influences the speed of socio-economic progress of a state is the nature of the administration. It's anything but an occurrence that, overall, the states which are in the forward groups are better administered when contrasted with the states in the backward group. A better administered state is more proficient in raising incomes and putting the incomes to all the more likely use. Such states are quick in reacting to opportunities and are frequently ready to prepare possible projects and effectively propose for central assistance. In the backward states, things move slowly, and often corruption and inefficiency exist together and this is a dangerous mix. If the government wants a fair distribution of development facilities, consideration should be revolved around the areas whose development has lingered far behind. To accelerate the process of equitable socio economic development, dimension specific policy is urgently called for, which will require concerted efforts on the part of states government and the centre. The determination on the part of government and the individuals everywhere is considerably more important. Accordingly, true development requires government activity to improve elementary education and health care.

The steady rise in the growth of population has led to weakening in the quality of life. Needs increased due to the growth of population. However, the state is dependent on the funds of the central Government. Not just that, the state is not even self sufficient in the food grains, absence of big industry and the meager agricultural products. All these factors lead us to conclude that the rapid growth of the population doesn't welcome in the state in view of the problem and setback.

APPENDICES

Appendix A: Socio-Economic Development Indicators of 1981

For 1981	Appendix A1: Indicators of Working Population						
Blocks	*Marginal Workers*	*Household Industry Workers*	*Cultivators*	*Agricultural Laborers*	*Other Worker*	*Total*	*Working Population*
Darlawn	4.46	0.57	84.77	0.64	14.02	104.46	20.89
Aibawk	0.73	0.27	90.59	0.16	8.97	100.72	20.14
Tlangnuam	2.54	2.8	23.17	6.28	67.74	102.53	20.51
Thingsulthliah	3.92	0.9	79.51	0.99	18.59	103.91	20.78
Ngopa	0.96	0.06	91.29	0.36	8.29	100.96	20.19
Khawzawl	5.36	0.67	82.88	3.97	12.48	105.36	21.07
N.Thingdawl	9.92	1.12	69.27	3.93	25.68	109.92	21.98
Chawngte	1.15	0.02	92.84	0.98	6.15	101.14	20.23
Lawngtlai	0.91	0.08	71.28	1.11	27.52	100.9	20.18
Sangau	3.99	0.25	83.86	0.84	15.05	103.99	20.80
W.Bunghmun	2.18	0.05	80.27	0	19.68	102.18	20.44
Lungsen	2.41	0.15	80.21	0.48	19.15	102.4	20.48
Lunglei	1.17	0.26	49.86	4.4	45.48	101.17	20.23
Hnahthial	4.98	1.33	78.92	2.12	17.62	104.97	20.99
Zawlnuam	3.83	0.38	90.78	2.26	6.58	103.83	20.77
W.Phaileng	2.82	0.22	73.32	1.36	25.1	102.82	20.56
Reiek	4.52	0.25	88.96	0	10.79	104.52	20.90
Tuipang	6.26	0.89	63.42	3.71	31.98	106.26	21.25
Serchhip	5.7	0.48	82.94	0.96	15.62	105.7	21.14
E.Lungdar	3.9	0.69	88.91	0.14	10.26	103.9	20.78
Districts							
Aizawl	4.14	1.08	69.42	2.74	26.76	104.14	20.83
Lunglei	2.44	0.44	69.44	2.12	28.01	102.45	20.49
Chhimtuipui	3.16	0.29	77.92	1.69	20.1	103.16	20.63

Appendix A2: Indicators of Medical facilities							
Blocks	*PHC*	*PHS*	*Dispensary*	*Maternity& Child Welfare Centre*	*Community Workers*	*Total*	*Medical facilities*
Darlawn	9.68	12.9	9.68	NA	9.68	41.94	8.39
Aibawk	5	70	NA	NA	NA	75	15.00
Tlangnuam	3.57	25	3.57	NA	NA	32.14	6.43
Thingsulthliah	23.08	15.38	NA	NA	NA	38.46	7.69
Ngopa	14.81	33.33	NA	NA	7.41	55.55	11.11
Khawzawl	7.14	30.95	NA	NA	7.14	45.23	9.05
N.Thingdawl	7.14	14.29	7.14	NA	2.38	30.95	6.19
Chawngte	4.17	4.17	6.25	NA	NA	14.59	2.92
Lawngtlai	5.36	1.79	3.57	NA	1.79	12.51	2.50
Sangau	18.75	6.25	18.75	NA	NA	43.75	8.75
W.Bunghmun	2.56	20.51	NA	NA	5.13	28.2	5.64
Lungsen	5.56	11.11	5.56	NA	7.41	29.64	5.93
Lunglei	4.76	23.81	9.52	4.76	14.29	57.14	11.43
Hnahthial	15.38	46.15	3.85	NA	30.77	96.15	19.23
Zawlnuam	3.7	16.67	NA	1.85	7.41	29.63	5.93
W.Phaileng	3.23	12.9	3.23	NA	6.45	25.81	5.16
Reiek	10.71	17.86	NA	NA	3.57	32.14	6.43
Tuipang	10	14	NA	NA	NA	24	4.80
Serchhip	31.58	15.79	NA	5.26	15.79	68.42	13.68
E.Lungdar	11.9	40.48	NA	2.38	28.57	83.33	16.67
Districts							
Aizawl	9.74	24.36	2.05	0.77	7.95	44.87	8.97
Lunglei	6.21	22.36	4.97	1.24	12.42	47.2	9.44
Chhimtuipui	7.65	6.47	4.71	NA	0.59	19.42	3.88

Appendix A3: Indicators of Educational Institutions						
Blocks	*Primary School*	*Middle School*	*Matriculation*	*Adult Literacy Centre*	*Total*	*Educational institution*
Darlawn	1.19	0.51	0.17	9.68	11.55	2.89
Aibawk	1.2	0.84	0.26	20	22.3	5.58
Tlangnuam	0.21	0.08	0.26	10.71	11.26	2.82
Thingsulthliah	0.17	0.08	0.03	7.69	7.97	1.99
Ngopa	0.16	0.08	0.04	22.22	22.5	5.63
Khawzawl	0.14	0.06	0.02	26.19	26.41	6.60
N.Thingdawl	0.77	0.28	0.13	2.38	3.56	0.89
Chawngte	1.25	0.21	0.1	10.42	11.98	3.00
Lawngtlai	1.86	0.4	0.2	NA	2.46	0.62
Sangau	1.47	0.63	0.28	NA	2.38	0.60
W.Bunghmun	1.42	0.49	0.11	10.26	12.28	3.07
Lungsen	1.27	0.39	0.06	11.11	12.83	3.21
Lunglei	0.79	0.27	0.12	7.14	8.32	2.08
Hnahthial	1.36	0.5	0.16	30.77	32.79	8.20
Zawlnuam	1.11	0.27	0.12	NA	1.5	0.38
W.Phaileng	1.12	0.31	0.03	6.45	7.91	1.98
Reiek	1.21	0.6	0.27	NA	2.08	0.52
Tuipang	1.23	0.58	0.13	NA	1.94	0.49
Serchhip	0.72	0.39	0.13	21.05	22.29	5.57
E.Lungdar	0.19	0.07	0.03	NA	0.29	0.07
Districts						
Aizawl	0.78	0.32	0.13	9.23	10.46	2.62
Lunglei	1.11	0.38	0.11	13.04	14.64	3.66
Chhimtuipui	1.44	0.44	0.16	2.94	4.98	1.25

Appendix A4: Indicators of Community Amenities					
Blocks	*Drinking water*	*Power supply*	*Market/Hat*	*Total*	*Community amenities*
Darlawn	31	3.23	6.45	40.68	13.56
Aibawk	20	10	NA	30	10.00
Tlangnuam	28	28.57	7.14	63.71	21.24
Thingsulthliah	26	19.23	15.38	60.61	20.20
Ngopa	27	NA	11.11	38.11	12.70
Khawzawl	42	4.76	7.14	53.9	17.97
N.Thingdawl	42	7.14	9.52	58.66	19.55
Chawngte	48	NA	2.08	50.08	16.69
Lawngtlai	56	1.79	3.57	61.36	20.45
Sangau	16	NA	NA	16	5.33
W.Bunghmun	39	NA	2.56	41.56	13.85
Lungsen	54	2.22	7.4	63.62	21.21
Lunglei	42	4.76	4.76	51.52	17.17
Hnahthial	26	3.85	11.54	41.39	13.80
Zawlnuam	54	NA	3.7	57.7	19.23
W.Phaileng	31	NA	NA	31	10.33
Reiek	28	NA	3.57	31.57	10.52
Tuipang	50	NA	2	52	17.33
Serchhip	19	NA	10.53	29.53	9.84
E.Lungdar	42	NA	2.38	44.38	14.79
Districts					
Aizawl	390	5.38	6.15	401.53	133.84
Lunglei	161	2.48	6.21	169.69	56.56
Chhimtuipui	170	0.59	2.35	172.94	57.65

Appendix A5: Indicators of Community Accessibilities					
Blocks	*T&C*	*Pucca road*	*Post office*	*Total*	*Community accessibilities*
Darlawn	6.45	35.48	25.81	67.74	22.58
Aibawk	NA	NA	60	60	20.00
Tlangnuam	10.71	53.57	35.71	99.99	33.33
Thingsulthliah	7.69	50	38.46	96.15	32.05
Ngopa	NA	NA	40.7	40.7	13.57
Khawzawl	2.38	16.67	28.57	47.62	15.87
N.Thingdawl	4.76	23.81	30.95	59.52	19.84
Chawngte	NA	10.42	12.5	22.92	7.64
Lawngtlai	1.79	5.36	12.5	19.65	6.55
Sangau	NA	NA	43.75	43.75	14.58
W.Bunghmun	2.56	NA	20.51	23.07	7.69
Lungsen	9.26	11.11	24.07	44.44	14.81
Lunglei	NA	26.19	26.19	52.38	17.46
Hnahthial	NA	30.77	50	80.77	26.92
Zawlnuam	7.41	5.6	18.52	31.53	10.51
W.Phaileng	3.23	12.9	16.13	32.26	10.75
Reiek	NA	10.71	32.14	42.85	14.28
Tuipang	4	18	22	44	14.67
Serchhip	10.53	21.05	36.84	68.42	22.81
E.Lungdar	NA	NA	40.48	40.48	13.49
Districts					
Aizawl	4.36	17.95	31.79	54.1	18.03
Lunglei	3.73	15.53	27.95	47.21	15.74
Chhimtuipui	1.76	10	18.24	30	10.00

Appendix A6: Indicators of Literacy rate			
Blocks	*Literacy rate*	*Blocks*	*Literacy rate*
Darlawn	64.45	Lunglei	68.1
Aibawk	69.42	Hnahthial	65.03
Tlangnuam	76.48	Zawlnuam	49.67
Thingsulthliah	67.99	W.Phaileng	32.2
Ngopa	61.46	Reiek	65.13
Khawzawl	63.48	Tuipang	44.76
N.Thingdawl	65.38	Serchhip	65.59
Chawngte	15.88	E.Lungdar	63.59
Lawngtlai	39.89	*Districts*	
Sangau	52.69	Aizawl	65.09
W.Bunghmun	46.29	Lunglei	56.89
Lungsen	37.53	Chhimtuipui	37.07

A7: Blocks Standardized or Z score

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Working_Population	20	20.14	21.98	20.7155	.45376
Medical_Facilities	20	2.50	19.23	8.6465	4.55517
Educational_Institutions	20	.07	8.20	2.8095	2.36453
Community_Amenities	20	5.33	21.24	15.2880	4.53164
Community_ Accessibilities	20	6.55	33.33	16.9700	7.56461
Literacy_Rate	20	15.88	76.48	55.7505	15.38360
Valid N (listwise)	20				

A8: Districts Standardized or Z score

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Working_Population	3	20.49	20.83	20.6500	.17088
Medical_Facilities	3	3.88	9.44	7.4300	3.08336
Educational_Institutions	3	1.25	3.66	2.5100	1.20876
Community_Amenities	3	56.56	133.84	82.6833	44.30632
Community_ Accessibilities	3	10.00	18.03	14.5900	4.13668
Literacy_Rate	3	37.07	65.09	53.0167	14.40598
Valid N (listwise)	3				

Appendix B: Socio-Economic Development Indicators of 1991

For 1991	**Appendix B1: Indicators of Working Population**						
Blocks	*Marginal Workers*	*Household Industry Workers*	*Cultivators*	*Agricultural Laborers*	*Other Workers*	*Total*	*Working Population*
Darlawn	2.93	0.46	83.66	1.33	10.89	99.27	19.85
Aibawk	5.78	0.6	74.6	3.75	12.45	97.18	19.44
Tlangnuam	8.26	2.21	14.47	4.58	44.17	73.69	14.74
Thingsulthliah	12.84	1.45	68.13	2.88	20.56	105.86	21.17
Ngopa	2.54	0.33	82.99	1.19	14.24	101.29	20.26
Khawzawl	6.94	0.9	73.79	6.05	14.08	101.76	20.35
N.Thingdawl	4.36	12.68	65.84	4.24	19.92	107.04	21.41
Chawngte	0.05	0.32	91.66	0.75	6.62	99.4	19.88
Lawngtlai	3.19	0.05	75.1	2.83	19.99	101.16	20.23
Sangau	13.08	0.05	85.18	0	14.51	112.82	22.56
W.Bunghmun	1.27	0.08	88.19	0.25	5.97	95.76	19.15
Lungsen	1.77	0.24	84.69	1.15	12.34	100.19	20.04
Lunglei	10.9	0.86	46.73	7.33	34.58	100.4	20.08
Hnahthial	12.49	0.69	79.59	1.58	15.25	109.6	21.92
Zawlnuam	6.37	0.29	83.42	3.22	9.34	102.64	20.53
W.Phaileng	9.84	0.66	79.8	0.76	15.76	106.82	21.36
Reiek	9.75	0.83	83.85	2.25	9.48	106.16	21.23
Tuipang	5.23	0.95	62.13	4.01	24.29	96.61	19.32

Serchhip	4.7	1.25	72.37	1.73	13.98	94.03	18.81
E.Lungdar	7.88	0.35	85.05	0.42	12.23	105.93	21.19
District							
Aizawl	7.17	1.27	56.13	3.41	24.23	92.21	18.44
Lunglei	7.68	0.56	68.8	3.61	20.98	101.63	20.33
Chhimtuipui	4.19	0.4	76.57	2.36	17.16	100.68	20.14

Appendix B2: Indicators of Medical facilities

Blocks	*PHC*	*PHS*	*Dispensary*	*Maternity& Child Welfare Centre*	*Community Workers*	*Total*	*Medical facilities*
Darlawn	7.14	60.71	NA	NA	92.86	160.71	32.14
Aibawk	8.69	47.83	NA	NA	86.96	143.48	28.70
Tlangnuam	11.76	29.41	NA	NA	47.06	88.23	17.65
Thingsulthliah	4	28	NA	NA	84	116	23.20
Ngopa	21.43	64.29	NA	NA	89.29	175.01	35.00
Khawzawl	8.11	37.84	AN	NA	91.89	137.84	27.57
N.Thingdawl	9.68	35.48	NA	NA	74.19	119.35	23.87
Chawngte	2.82	9.86	NA	NA	38.03	50.71	10.14
Lawngtlai	3.33	21.67	NA	NA	71.67	96.67	19.33
Sangau	17.65	52.94	NA	NA	94.12	164.71	32.94
W.Bunghmun	4.54	31.82	NA	NA	77.27	113.63	22.73
Lungsen	1.64	19.67	NA	NA	63.93	85.24	17.05
Lunglei	3.33	43.33	NA	NA	96.67	143.33	28.67
Hnahthial	8.69	47.83	NA	NA	91.3	147.82	29.56
Zawlnuam	4.44	26.67	NA	NA	80	111.11	22.22
W.Phaileng	3.45	17.24	NA	NA	82.76	103.45	20.69
Reiek	4.17	33.33	NA	NA	100	137.5	27.50
Tuipang	4	46	NA	NA	86	136	27.20
Serchhip	12.5	75	NA	NA	100	187.5	37.50
E.Lungdar	12.82	51.28	NA	NA	92.31	156.41	31.28

District							
Aizawl	8.77	40.94	NA	NA	85.67	135.38	27.08
Lunglei	3.79	31.65	NA	NA	77.85	113.29	22.66
Chhimtuipui	4.54	26.26	NA	NA	65.15	95.95	19.19

Appendix B3: Indicators of Educational Institutions

Blocks	*Primary School*	*Middle School*	*Matriculation*	*Adult Literacy Centre*	*Total*	*Educational institution*
Darlawn	1.10	0.47	0.22	NA	1.79	0.45
Aibawk	1.12	0.64	0.24	NA	2.00	0.50
Tlangnuam	0.05	0.04	0.01	NA	0.10	0.03
Thingsulthliah	0.61	0.34	0.13	NA	1.08	0.27
Ngopa	1.08	0.67	0.35	NA	2.10	0.53
Khawzawl	0.52	0.22	0.08	NA	0.82	0.21
N.Thingdawl	0.42	0.20	0.07	NA	0.69	0.17
Chawngte	1.73	0.09	0.02	NA	1.84	0.46
Lawngtlai	1.45	0.43	0.18	NA	2.06	0.52
Sangau	1.62	0.72	0.28	NA	2.62	0.66
W.Bunghmun	1.37	0.38	0.76	31.82	34.33	8.58
Lungsen	1.01	0.39	0.06	31.15	32.61	8.15
Lunglei	0.44	0.15	0.06	60.00	60.65	15.16
Hnahthial	0.94	0.49	0.19	39.13	40.75	10.19

Zawlnuam	0.79	0.27	0.09	NA	1.15	0.29
W.Phaileng	0.80	0.29	0.05	NA	1.14	0.29
Reiek	1.16	0.60	0.23	NA	1.99	0.50
Tuipang	0.91	0.55	0.12	NA	1.58	0.40
Serchhip	0.43	0.31	0.08	NA	0.82	0.21
E.Lungdar	0.94	0.70	0.20	NA	1.84	0.46
Districts						
Aizawl	0.48	0.26	0.09	NA	0.83	0.21
Lunglei	0.79	0.30	0.08	37.97	39.14	9.79
Chhimtuipui	1.35	0.42	0.13	NA	1.90	0.48

Appendix B4: Indicators of Community Amenities					
Blocks	*Drinking water*	*Power supply*	*Market/Hat*	*Total*	*Community amenities*
Darlawn	28.00	53.57	10.71	92.28	30.76
Aibawk	23.00	95.65	NA	118.65	39.55
Tlangnuam	17.00	82.35	11.76	111.11	37.04
Thingsulthliah	25.00	64.00	28	117.00	39.00
Ngopa	28.00	3.57	10.71	42.28	14.09
Khawzawl	37.00	32.43	35.14	104.57	34.86
N.Thingdawl	31.00	58.06	6.45	95.51	31.84
Chawngte	71.00	7.04	4.23	82.27	27.42
Lawngtlai	60.00	25.00	3.33	88.33	29.44
Sangau	17.00	47.06	5.88	69.94	23.31
W.Bunghmun	44.00	15.90	2.27	62.17	20.72
Lungsen	61.00	16.39	6.56	83.95	27.98
Lunglei	30.00	70.00	NA	100.00	33.33
Hnahthial	23.00	69.57	NA	92.57	30.86

Zawlnuam	45.00	24.44	31.11	100.55	33.52
W.Phaileng	29.00	27.59	6.9	63.49	21.16
Reiek	24.00	54.17	NA	78.17	26.06
Tuipang	50.00	14.00	6	70.00	23.33
Serchhip	16.00	18.75	12.5	47.25	15.75
E.Lungdar	39.00	38.46	5.13	82.59	27.53
Districts					
Aizawl	342.00	43.27	14.62	399.89	133.30
Lunglei	158.00	34.18	3.16	195.34	65.11
Chhimtuipui	198.00	17.68	4.55	220.23	73.41

Appendix B5: Indicators of Community Accessibilities

Blocks	*T&C*	*Post office*	*Pucca road*	*Total*	*Community accessibilities*
Darlawn	42.86	53.57	42.86	139.29	46.43
Aibawk	60.87	60.87	56.32	178.06	59.35
Tlangnuam	47.06	47.06	52.94	147.06	49.02
Thingsulthliah	64.00	44.00	64.00	172.00	57.33
Ngopa	10.71	71.43	NA	82.14	27.38
Khawzawl	18.92	48.65	16.22	83.79	27.93
N.Thingdawl	12.90	41.94	16.13	70.97	23.66
Chawngte	NA	11.27	NA	11.27	3.76
Lawngtlai	26.67	23.33	20.00	70.00	23.33
Sangau	NA	41.18	NA	41.18	13.73
W.Bunghmun	15.90	20.45	NA	36.35	12.12
Lungsen	9.84	16.12	9.84	35.80	11.93
Lunglei	43.33	33.33	23.33	99.99	33.33
Hnahthial	21.74	60.87	30.43	113.04	37.68
Zawlnuam	37.78	31.11	NA	68.89	22.96
W.Phaileng	44.83	27.59	41.38	113.80	37.93
Reiek	4.17	25.00	8.33	37.50	12.50
Tuipang	14.00	38.00	14.00	66.00	22.00
Serchhip	18.75	56.25	18.75	93.75	31.25

E.Lungdar	5.13	35.90	NA	41.03	13.68
Districts					
Aizawl	29.24	43.86	22.81	95.91	31.97
Lunglei	19.62	27.22	12.66	59.50	19.83
Chhimtuipui	11.62	24.24	9.60	45.46	15.15

Appendix B6: Indicators of Literacy Rate			
Blocks	*Literacy rate*	*Blocks*	*Literacy rate*
Darlawn	86.34	Lunglei	92.16
Aibawk	93.55	Hnahthial	92.08
Tlangnuam	94.62	Zawlnuam	69.43
Thingsulthliah	91.3	W.Phaileng	53.31
Ngopa	85.39	Reiek	90.64
Khawzawl	89.52	Tuipang	79.78
N.Thingdawl	86.24	Serchhip	90.35
Chawngte	24.76	E.Lungdar	88.37
Lawngtlai	57.93	*Districts*	
Sangau	77.54	Aizawl	88.06
W.Bunghmun	55.61	Lunglei	77.73
Lungsen	52.19	Chhimtuipui	59.11

B7: Blocks Standardized or Z score

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Working_Population	20	14.74	22.56	20.1760	1.60439
Medical_Facilities	20	10.14	37.50	25.7470	6.76822
Educational_Institutions	20	.03	15.16	2.4015	4.35883
Community_Amenities	20	14.09	39.55	28.3775	7.12036
Community_ Accessibilities	20	3.76	59.35	28.3650	15.73225
Literacy_Rate	20	24.76	94.62	77.5555	19.09190
Valid N (listwise)	20				

B8: Districts Standardized or Z score

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Working_Population	3	18.44	20.33	19.6367	1.04069
Medical_Facilities	3	19.19	27.08	22.9767	3.95452
Educational_Institutions	3	.21	9.79	3.4933	5.45474
Community_Amenities	3	65.11	133.30	90.6067	37.20569
Community_ Accessibilities	3	15.15	31.97	22.3167	8.68134
Literacy_Rate	3	59.11	88.06	74.9667	14.67149
Valid N (listwise)	3				

Appendix C: Socio-Economic Development Indicators of 2001

For 2001	**Appendix C1: Indicators of Working Population**						
Blocks	*Marginal Workers*	*Household Industry Workers*	*Cultivators*	*Agricultural Laborers*	*Other Workers*	*Total*	*Working Population*
Darlawn	14.7	0.93	84.16	2.55	12.36	114.7	22.94
Aibawk	19.51	0.6	87.5	0.44	11.45	119.5	23.90
Phullen	8.04	0.45	89.9	0.09	9.56	108.04	21.61
Tlangnuam	10.63	1.8	9.22	2.97	86.01	110.63	22.13
Thingsulthliah	14.66	1.36	69.6	1.94	27.09	114.65	22.93
Ngopa	14.51	1.68	83.02	3.37	11.93	114.51	22.90
Khawzawl	17.51	1.18	60.14	9.39	29.28	117.5	23.50
Khawbung	15.89	0.73	85.07	0.97	13.23	115.89	23.18
N.Thingdawl	12.11	1.18	61.21	3.9	33.71	112.11	22.42
Chawngte	14.12	0.97	80.93	3.17	14.92	114.11	22.82
Lawngtlai	7.75	10.07	64.38	3.02	31.59	116.81	23.36
Sangau	13.12	0.12	81.11	0.5	18.26	113.11	22.62
W.Bunghmun	10.62	0.29	85.9	0.41	13.4	110.62	22.12
Lungsen	7.77	0.42	83.75	2.33	13.5	107.77	21.55
Lunglei	5.96	0.79	44.42	1.29	53.49	105.95	21.19
Hnahthial	11.84	0.54	76.16	1.77	21.54	111.85	22.37
Zawlnuam	10.07	0.85	74.97	4.48	19.7	110.07	22.01
W.Phaileng	15.88	0.72	79.18	0.79	19.31	115.88	23.18

Reiek	11.4	0.81	80.14	4.07	14.98	111.4	22.28
Tuipang	9.33	1.07	62.26	1.59	35.08	109.33	21.87
Serchhip	11.81	3.02	67.78	3.3	25.89	111.8	22.36
E.Lungdar	20.84	0.75	83.25	0.84	15.15	120.83	24.17
Districts							
Aizawl	11.55	1.47	31.41	2.51	64.61	111.55	22.31
Champhai	17.04	1.12	70.19	6.37	22.31	117.03	23.41
Kolasib	12.23	1.13	61.52	3.83	33.52	112.23	22.45
Lawngtlai	10.74	0.99	71.52	3.08	24.4	110.73	22.15
Lunglei	7.96	0.59	65.23	1.52	32.65	107.95	21.59
Mamit	12.32	0.8	77.51	3.29	18.39	112.31	22.46
Saiha	10.2	0.79	67.66	1.28	30.26	110.19	22.04
Serchhip	14.37	2.64	72.77	2.32	22.27	114.37	22.87

Appendix C2: Indicators of Medical Facilities

Blocks	*PHC*	*PHS*	*Dispensary*	*Maternity & Child Welfare Centre*	*Community Workers*	*Total*	*Medical facilities*
Darlawn	3.45	44.83	NA	NA	3.45	51.73	10.35
Aibawk	9.09	50	NA	NA	NA	59.09	11.82
Phullen	16.67	41.67	NA	NA	NA	58.34	11.67
Tlangnuam	5.56	33.33	NA	NA	NA	38.89	7.78
Thingsulthliah	3.57	39.29	NA	NA	NA	42.86	8.57
Ngopa	12.5	68.75	NA	NA	NA	81.25	16.25
Khawzawl	7.14	42.86	NA	NA	NA	50	10.00
Khawbung	11.11	40.74	NA	NA	NA	51.85	10.37
N.Thingdawl	3.12	40.62	3.12	NA	NA	46.86	9.37
Chawngte	2.47	11.11	NA	NA	NA	13.58	2.72
Lawngtlai	3.45	18.96	NA	NA	NA	22.41	4.48
Sangau	15.79	26.31	NA	NA	NA	42.1	8.42
W.Bunghmun	5.71	31.43	NA	NA	NA	37.14	7.43
Lungsen	1.59	14.29	NA	NA	NA	15.88	3.18
Lunglei	7.89	39.47	NA	NA	NA	47.36	9.47

Hnahthial	12.5	41.67	4.17	NA	NA	58.34	11.67
Zawlnuam	2.94	41.18	NA	NA	5.88	50	10.00
W.Phaileng	7.41	29.62	NA	NA	NA	37.03	7.41
Reiek	9.52	28.57	NA	NA	NA	38.09	7.62
Tuipang	6.12	34.69	NA	NA	NA	40.81	8.16
Serchhip	12.5	75	NA	NA	NA	87.5	17.50
E.Lungdar	18.75	50	6.25	NA	6.25	81.25	16.25
Districts							
Aizawl	6.25	41.67	NA	NA	1.04	48.96	9.79
Champhai	9.09	48.86	1.14	NA	NA	59.09	11.82
Kolasib	5.13	41.03	2.56	NA	NA	48.72	9.74
Lawngtlai	2.88	14.39	NA	NA	NA	17.27	3.45
Lunglei	5.62	28.12	0.62	NA	NA	34.36	6.87
Mamit	6.1	34.15	NA	NA	2.44	42.69	8.54
Saiha	8.82	32.35	NA	NA	NA	41.17	8.23
Serchhip	14.29	57.14	NA	NA	2.86	74.29	14.86

Appendix C3: Indicators of Educational Institutions

Blocks	*Primary School*	*Middle School*	*Matriculation*	*Adult Literacy Centre*	*Total*	*Educational institutions*
Darlawn	0.85	0.53	0.22	3.45	5.05	1.26
Aibawk	0.75	0.54	0.44	NA	1.73	0.43
Phullen	1.02	0.49	0.24	8.33	10.08	2.52
Tlangnuam	0.05	0.03	0.02	NA	0.10	0.03
Thingsulthliah	0.47	0.31	0.13	NA	0.91	0.23
Ngopa	0.82	0.51	0.35	NA	1.68	0.42
Khawzawl	0.30	0.23	0.09	NA	0.62	0.16
Khawbung	0.80	0.50	0.33	NA	1.63	0.41
N.Thingdawl	0.22	0.14	0.06	NA	0.42	0.11
Chawngte	1.30	0.30	0.08	NA	1.68	0.42
Lawngtlai	0.80	0.39	0.14	NA	1.33	0.33
Sangau	0.61	0.45	0.26	NA	1.32	0.33

W.Bunghmun	1.12	0.44	0.12	NA	1.68	0.42
Lungsen	0.65	0.32	0.09	NA	1.06	0.27
Lunglei	0.35	0.21	0.06	NA	0.62	0.16
Hnahthial	0.51	0.28	0.2	NA	0.99	0.25
Zawlnuam	0.61	0.28	0.15	NA	1.04	0.26
W.Phaileng	0.99	0.35	0.12	NA	1.46	0.37
Reiek	0.65	0.51	0.29	NA	1.45	0.36
Tuipang	0.53	0.44	0.15	NA	1.12	0.28
Serchhip	0.36	0.27	0.11	NA	0.74	0.19
E.Lungdar	0.59	0.46	0.22	NA	1.27	0.32
Districts						
Aizawl	0.20	0.12	0.06	2.08	2.46	0.62
Champhai	0.48	0.32	0.18	NA	0.98	0.25
Kolasib	0.27	0.18	0.08	NA	0.53	0.13
Lawngtlai	1.01	0.35	0.12	NA	1.48	0.37
Lunglei	0.53	0.27	0.1	NA	0.90	0.23
Mamit	0.75	0.36	0.17	NA	1.28	0.32
Saiha	0.55	0.44	0.18	NA	1.17	0.29
Serchhip	0.48	0.38	0.16	NA	1.02	0.26

Appendix C4: Indicators of Community Amenities

Blocks	*Drinking water*	*Power supply*	*Market/Hat*	*Total*	*Community amenities*
Darlawn	29	55.17	NA	84.17	28.06
Aibawk	22	100	NA	122	40.67
Phullen	12	91.67	NA	103.67	34.56
Tlangnuam	18	88.89	NA	106.89	35.63
Thingsulthliah	28	100	NA	128	42.67
Ngopa	16	81.25	NA	97.25	32.42
Khawzawl	42	69.05	NA	111.05	37.02
Khawbung	27	70.37	NA	97.37	32.46
N.Thingdawl	32	75	NA	107	35.67
Chawngte	81	12.35	NA	93.35	31.12

Lawngtlai	58	29.31	NA	87.31	29.10
Sangau	19	47.37	NA	66.37	22.12
W.Bunghmun	35	62.86	NA	97.86	32.62
Lungsen	63	31.75	NA	94.75	31.58
Lunglei	38	97.37	NA	135.37	45.12
Hnahthial	24	91.67	NA	115.67	38.56
Zawlnuam	34	85.29	NA	119.29	39.76
W.Phaileng	26	55.56	NA	81.56	27.19
Reiek	21	90.48	NA	111.48	37.16
Tuipang	49	34.69	NA	83.69	27.90
Serchhip	16	100	NA	116	38.67
E.Lungdar	16	93.75	NA	109.75	36.58
Districts					
Aaizawl	96	84.37	NA	180.37	60.12
Champhai	88	72.73	NA	160.73	53.58
Kolasib	39	76.92	NA	115.92	38.64
Lawngtlai	139	19.42	NA	158.42	52.81
Lunglei	160	63.12	NA	223.12	74.37
Mamit	81	76.83	NA	157.83	52.61
Saiha	68	38.23	NA	106.23	35.41
Serchhip	35	97.14	NA	132.14	44.05

Appendix C5: Indicators of Community Accessibilities

Blocks	*T&C*	*Pucca road*	*Post office*	*Total*	*Community accessibilities*
Darlawn	51.72	51.72	62.07	165.51	55.17
Aibawk	59.09	50.00	72.72	181.81	60.60
Phullen	33.33	NA	75.00	108.33	36.11
Tlangnuam	83.33	61.11	38.89	183.33	61.11
Thingsulthliah	67.86	67.86	46.43	182.15	60.72
Ngopa	56.25	56.25	87.50	200.00	66.67
Khawzawl	40.48	28.57	69.04	138.09	46.03
Khawbung	33.33	29.63	51.85	114.81	38.27

N.Thingdawl	34.37	21.87	28.12	84.36	28.12
Chawngte	NA	3.70	11.11	14.81	4.94
Lawngtlai	27.59	25.86	34.48	87.93	29.31
Sangau	26.32	NA	47.37	73.69	24.56
W.Bunghmun	22.86	17.14	40.00	80.00	26.67
Lungsen	23.81	23.81	19.04	66.66	22.22
Lunglei	44.74	44.74	39.47	128.95	42.98
Hnahthial	41.67	50.00	66.67	158.34	52.78
Zawlnuam	38.23	32.35	44.12	114.70	38.23
W.Phaileng	70.37	70.37	55.56	196.30	65.43
Reiek	23.81	19.05	52.38	95.24	31.75
Tuipang	18.37	14.29	48.98	81.64	27.21
Serchhip	18.75	25.00	50.00	93.75	31.25
E.Lungdar	31.25	31.25	81.25	143.75	47.92
Districts					
Aizawl	57.29	46.87	58.33	162.49	54.16
Champhai	42.04	35.23	68.18	145.45	48.48
Kolasib	43.59	33.33	33.33	110.25	36.75
Lawngtlai	11.51	12.95	20.86	45.32	15.11
Lunglei	31.25	31.25	35.62	98.12	32.71
Mamit	45.12	41.46	50.00	136.58	45.53
Saiha	20.59	10.29	48.53	79.41	26.47
Serchhip	31.43	34.29	60.00	125.72	41.91

Appendix C 6: Indicators of Literacy Rate			
Blocks	*Literacy rate*	*Blocks*	*Literacy rate*
Darlawn	92.16	Zawlnuam	86.44
Aibawk	96.8	W.Phaileng	59.44
Phullen	93.75	Reiek	93.75
Tlangnuam	97.2	Tuipang	82.9
Thingsulthliah	94.69	Serchhip	95.53
Ngopa	88.35	E.Lungdar	94.76

Khawzawl	91.79	*Districts*	
Khawbung	90.07	Aizawl	96.51
N.Thingdawl	91.23	Champhai	91.19
Chawngte	60.17	Kolasib	91.34
Lawngtlai	68.64	Lawngtlai	64.74
Sangau	79.79	Lunglei	84.17
W.Bunghmun	67.05	Mamit	79.14
Lungsen	57.84	Saiha	82.19
Lunglei	96.38	Serchhip	95.15
Hnahthial	92.88		

C7: Blocks Standardized or Z score

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Working_Population	22	21.19	24.17	22.6095	.76298
Medical_Facilities	22	2.72	17.50	9.5677	3.79163
Educational_Institutions	22	.03	2.52	.4332	.52159
Community_Amenities	22	22.12	45.12	34.3927	5.57272
Community_ Accessibilities	22	4.94	66.67	40.8205	16.46091
Literacy_Rate	22	57.84	97.20	85.0732	13.33956
Valid N (listwise)	22				

C 8: Districts Standardized or Z score

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Working_Population	8	21.59	23.41	22.4100	.54806
Medical_Facilities	8	3.45	14.86	9.1625	3.36784
Educational_Institutions	8	.13	.62	.3087	.14397
Community_Amenities	8	35.41	74.37	51.4488	12.44626
Community_ Accessibilities	8	15.11	54.16	37.6400	12.69628
Literacy_Rate	8	64.74	96.51	85.5538	10.45366
Valid N (listwise)	8				

Appendix D: Socio-Economic Development Indicators of 2011

For 2011	Appendix D1: Indicators of Working population						
Blocks	*Marginal Workers*	*Household Industry Workers*	*Cultivators*	*Agricultural Labourers*	*Other Workers*	*Total*	*Working population*
Darlawn	4.52	0.52	79.18	4.07	16.22	104.51	20.90
Aibawk	4.58	0.59	75.67	6.51	17.22	104.57	20.91
Phullen	7.4	0.23	85.42	0.42	13.93	107.4	21.48
Tlangnuam	6.05	2.02	7.37	4.66	85.94	106.04	21.21
Thingsulthliah	3.48	0.98	60.6	13.63	24.79	103.48	20.70
Ngopa	4.47	1.09	78.24	4.4	16.28	104.48	20.90
Khawzawl	4.83	1.38	74.21	5.4	19	104.82	20.96
Champhai	9.3	1.74	42.76	12.88	42.61	109.29	21.86
Khawbung	2.38	0.38	83.37	4.11	12.13	102.37	20.47
N.Thingdawl	9.25	0.88	67.85	2.31	28.96	109.25	21.85
Bilkhawthlir	8.48	1.32	44.92	14.15	39.61	108.48	21.70
Chawngte	8.67	0.43	75.62	3.98	19.98	108.68	21.74
Lawngtlai	5.84	0.66	44.68	2.87	51.79	105.84	21.17
S.Bungtlang	4.4	3.36	84.05	1.45	11.14	104.4	20.88
Sangau	3.22	0.71	66.03	9.45	23.81	103.22	20.64
W.Bunghmun	6.38	0.4	90.5	0.66	8.44	106.38	21.28
Lungsen	9.25	0.83	80.1	3.57	15.5	109.25	21.85
Lunglei	3.55	1.14	28.54	18.92	51.39	103.54	20.71
Hnahthial	33.37	0.82	72.36	5.45	21.36	133.36	26.67
Zawlnuam	4.56	0.72	66.73	9.71	22.83	104.55	20.91
W.Phaileng	2.92	0.29	83.9	0.29	15.52	102.92	20.58
Reiek	2.13	0.45	81.06	1.62	16.86	102.12	20.42
Tuipang	11.8	0.93	71.74	1.59	25.73	111.79	22.36
Saiha	6.43	1.1	34.53	1.14	63.22	106.42	21.28
Serchhip	4.67	2.49	65.46	3.94	28.1	104.66	20.93
E.Lungdar	2.64	1.1	80.08	0.67	18.15	102.64	20.53
Districts							
Aizawl	5.8	1.6	23.94	5.4	69.05	105.79	21.16
Champhai	5.75	1.23	67.53	6.96	24.27	105.74	21.15
Kolasib	8.31	1.15	52.13	11.25	35.47	108.31	21.66
Lawngtlai	6.35	1.08	66.71	3.84	28.37	106.35	21.27

Lunglei	10.08	0.92	56.05	10.68	32.34	110.07	22.01
Mamit	3.65	0.55	74.44	5.42	19.58	103.64	20.73
Saiha	8.43	1.04	48.07	1.31	49.58	108.43	21.69
Serchhip	3.94	2.34	69.54	3.37	24.74	103.93	20.79

Appendix D2: Indicators of Medical Facilities

Blocks	*PHC*	*PHS*	*Dispensary*	*Maternity& Child Welfare Centre*	*Community Workers*	*Total*	*Medical facilities*
Darlawn	7.41	44.44	22.22	NA	11.11	85.18	17.04
Aibawk	13.64	50	18.18	4.54	4.54	90.9	18.18
Phullen	33.33	58.33	16.67	8.33	8.33	124.99	25.00
Tlangnuam	11.76	52.94	NA	NA	NA	64.7	12.94
Thingsulthliah	3.45	37.93	10.34	3.45	6.9	62.07	12.41
Ngopa	20	73.33	13.33	20	13.33	139.99	28.00
Khawzawl	6.9	51.72	NA	6.9	3.45	68.97	13.79
Champhai	10	60	NA	NA	NA	70	14.00
Khawbung	19.23	61.54	3.85	7.69	7.69	100	20.00
N.Thingdawl	9.09	45.45	18.18	NA	NA	72.72	14.54
Bilkhawthlir	NA	50	12.5	6.25	NA	68.75	13.75
Chawngte	NA	12.34	1.23	2.47	6.17	22.21	4.44
Lawngtlai	NA	21.87	62.5	NA	3.12	87.49	17.50
S.Bungtlang	3.7	14.81	7.41	NA	NA	25.92	5.18
Sangau	15.79	36.84	10.52	NA	NA	63.15	12.63
W.Bunghmun	5.71	22.86	14.28	NA	NA	42.85	8.57
Lungsen	1.56	14.06	3.12	3.12	NA	21.86	4.37
Lunglei	10.25	43.59	20.51	2.56	5.13	82.04	16.41
Hnahthial	13.04	52.17	NA	47.83	4.35	117.39	23.48
Zawlnuam	6.98	34.88	2.32	2.32	2.32	48.82	9.76
W.Phaileng	14.29	14.29	NA	NA	NA	28.58	5.72
Reiek	13.64	50	NA	NA	NA	63.64	12.73

Tuipang	9.09	45.45	NA	6.06	NA	60.6	12.12
Saiha	5.26	52.63	NA	NA	10.52	68.41	13.68
Serchhip	11.76	58.82	NA	5.88	NA	76.46	15.29
E.Lungdar	33.33	60	6.67	13.33	6.67	120	24.00
Districts							
Aizawl	10.64	45.74	15.96	3.19	7.45	82.98	16.60
Champhai	14.46	61.44	3.61	8.43	6.02	93.96	18.79
Kolasib	8.82	52.94	11.76	2.94	NA	76.46	15.29
Lawngtlai	2.52	17.61	15.72	1.26	3.77	40.88	8.18
Lunglei	6.21	28.57	9.32	8.7	1.86	54.66	10.93
Mamit	10.46	33.72	1.16	1.16	1.16	47.66	9.53
Saiha	7.69	48.08	NA	3.84	3.84	63.45	12.69
Serchhip	17.14	51.43	2.86	8.57	2.86	82.86	16.57

Appendix D3: Indicators of Educational Institutions

Blocks	*Primary School*	*Middle School*	*Matriculation*	*Adult Literacy Centre*	*Total*	*Educational institutions*
Darlawn	0.52	0.48	0.19	NA	1.19	0.30
Aibawk	0.60	0.57	0.34	NA	1.51	0.38
Phullen	0.48	0.48	0.24	NA	1.20	0.30
Tlangnuam	0.02	0.02	0.01	NA	0.05	0.01
Thingsulthliah	0.33	0.31	0.16	NA	0.80	0.20
Ngopa	0.37	0.37	0.29	NA	1.03	0.26
Khawzawl	0.37	0.37	0.14	NA	0.88	0.22
Champhai	0.11	0.11	0.05	NA	0.27	0.07
Khawbung	0.58	0.58	0.36	NA	1.52	0.38
N.Thingdawl	0.19	0.16	0.05	NA	0.40	0.10
Bilkhawthlir	0.13	0.14	0.03	NA	0.30	0.08
Chawngte	0.84	0.41	0.10	NA	1.35	0.34
Lawngtlai	0.43	0.33	0.07	NA	0.83	0.21

S.Bungtlang	0.78	0.49	0.09	NA	1.36	0.34
Sangau	0.59	0.53	0.25	NA	1.37	0.34
W.Bunghmun	0.86	0.50	0.16	NA	1.52	0.38
Lungsen	0.78	0.35	0.07	NA	1.20	0.30
Lunglei	0.24	0.22	0.06	NA	0.52	0.13
Hnahthial	0.41	0.37	0.28	NA	1.06	0.27
Zawlnuam	0.37	0.30	0.10	NA	0.77	0.19
W.Phaileng	0.42	0.30	0.09	NA	0.81	0.20
Reiek	0.56	0.56	0.32	NA	1.44	0.36
Tuipang	0.66	0.50	0.18	NA	1.34	0.34
Saiha	0.25	0.22	0.01	NA	0.48	0.12
Serchhip	0.20	0.20	0.06	NA	0.46	0.12
E.Lungdar	0.33	0.31	0.19	NA	0.83	0.21
Districts						
Aizawl	0.11	0.10	0.05	NA	0.26	0.07
Champhai	0.31	0.31	0.17	NA	0.79	0.20
Kolasib	0.17	0.16	0.04	NA	0.37	0.09
Lawngtlai	0.66	0.41	0.11	NA	1.18	0.30
Lunglei	0.47	0.31	0.11	NA	0.89	0.22
Mamit	0.42	0.35	0.15	NA	0.92	0.23
Saiha	0.41	0.33	0.08	NA	0.82	0.21
Serchhip	0.27	0.25	0.11	NA	0.63	0.16

Appendix D4: Indicators of Community Amenities

Blocks	*Drinking water*	*Power supply*	*Market/Hat*	*Total*	*Community amenities*
Darlawn	26.00	74.07	14.81	114.88	38.29
Aibawk	21.00	100.00	18.18	139.18	46.39
Phullen	12.00	100.00	NA	112.00	37.33
Tlangnuam	17.00	94.12	29.41	140.53	46.84
Thingsulthliah	29.00	100.00	20.69	149.69	49.90

Ngopa	15.00	93.33	6.67	115.00	38.33
Khawzawl	28.00	93.10	6.90	128.00	42.67
Champhai	10.00	100.00	0.00	110.00	36.67
Khawbung	26.00	100.00	7.69	133.69	44.56
N.Thingdawl	9.00	81.82	NA	90.82	30.27
Bilkhawthlir	16.00	87.50	12.50	116.00	38.67
Chawngte	77.00	30.86	12.34	120.20	40.07
Lawngtlai	32.00	43.75	3.12	78.87	26.29
S.Bungtlang	27.00	33.33	7.41	67.74	22.58
Sangau	19.00	94.74	NA	113.74	37.91
W.Bunghmun	33.00	51.43	NA	84.43	28.14
Lungsen	62.00	84.38	6.25	152.63	50.88
Lunglei	39.00	100.00	2.56	141.56	47.19
Hnahthial	23.00	100.00	56.52	179.52	59.84
Zawlnuam	40.00	41.86	4.65	86.51	28.84
W.Phaileng	21.00	71.43	NA	92.43	30.81
Reiek	20.00	59.09	9.09	88.18	29.39
Tuipang	33.00	45.45	9.09	87.54	29.18
Saiha	19.00	100.00	NA	119.00	39.67
Serchhip	17.00	100.00	11.76	128.76	42.92
E.Lungdar	15.00	93.33	13.33	121.66	40.55
Districts					
Aizawl	92.00	92.55	15.96	200.51	66.84
Champhai	82.00	96.39	6.02	184.41	61.47
Kolasib	32.00	85.29	11.76	129.05	43.02
Lawngtlai	155.00	41.51	8.18	204.69	68.23
Lunglei	157.00	83.23	11.18	251.41	83.80
Mamit	81.00	53.49	4.65	139.14	46.38
Saiha	52.00	65.38	5.77	123.15	41.05
Serchhip	35.00	97.14	17.14	149.28	49.76

Appendix D5: Indicators of Community Accessibilities					
Blocks	*T&C*	*Post office*	*Pucca road*	*Total*	*Community accessibilities*
Darlawn	14.81	70.37	37.04	122.22	40.74
Aibawk	36.36	77.27	72.73	186.36	62.12
Phullen	8.33	75	8.33	91.66	30.55
Tlangnuam	29.41	47.06	70.59	147.06	49.02
Thingsulthliah	24.14	48.28	58.62	131.04	43.68
Ngopa	53.33	86.67	46.67	186.67	62.22
Khawzawl	17.24	65.22	44.83	127.29	42.43
Champhai	20	90	40	150	50.00
Khawbung	42.31	50	34.62	126.93	42.31
N.Thingdawl	27.27	54.55	54.55	136.37	45.46
Bilkhawthlir	31.25	68.75	18.75	118.75	39.58
Chawngte	4.94	17.28	16.05	38.27	12.76
Lawngtlai	9.38	6.25	31.25	46.88	15.63
S.Bungtlang	14.81	22.22	25.93	62.96	20.99
Sangau	26.32	47.37	47.37	121.06	40.35
W.Bunghmun	2.86	40	8.57	51.43	17.14
Lungsen	14.06	20.31	37.5	71.87	23.96
Lunglei	17.95	41.03	41.03	100.01	33.34
Hnahthial	39.13	43.48	39.13	121.74	40.58
Zawlnuam	11.63	44.19	41.86	97.68	32.56
W.Phaileng	14.29	57.14	42.86	114.29	38.10
Reiek	4.55	31.82	63.64	100.01	33.34
Tuipang	12.12	33.33	15.15	60.6	20.20
Saiha	31.58	26.32	42.11	100.01	33.34
Serchhip	0	64.71	11.76	76.47	25.49
E.Lungdar	13.33	80	46.67	140	46.67
Districts					
Aizawl	23.4	62.77	52.13	138.3	46.10
Champhai	32.53	68.67	40.96	142.16	47.39
Kolasib	29.41	64.71	38.24	132.36	44.12

Lawngtlai	10.06	19.5	24.53	54.09	18.03
Lunglei	16.15	32.92	32.3	81.37	27.12
Mamit	10.47	44.19	47.67	102.33	34.11
Saiha	19.23	30.77	25	75	25.00
Serchhip	5.71	65.71	31.43	102.85	34.28

Appendix D6: Indicators of Literacy Rate

Blocks	*Literacy rate*	*Blocks*	*Literacy rate*
Darlawn	95.12	Hnahthial	96.66
Aibawk	98.03	Zawlnuam	82.61
Phullen	95.55	W.Phaileng	79.95
Tlangnuam	98.28	Reiek	96.81
Thingsulthliah	97.1	Tuipang	86.12
Ngopa	94.36	Saiha	92.27
Khawzawl	95.83	Serchhip	98.13
Champhai	96.15	E.Lungdar	97.64
Khawbung	96.15	*Districts*	
N.Thingdawl	96.31	Aizawl	97.89
Bilkhawthlir	92.13	Champhai	95.91
Chawngte	46.38	Kolasib	93.5
Lawngtlai	84.44	Lawngtlai	65.88
S.Bungtlang	51.55	Lunglei	88.86
Sangau	89.04	Mamit	84.93
W.Bunghmun	77.28	Saiha	90.01
Lungsen	70.65	Serchhip	97.91
Lunglei	97.33		

D7: Blocks Standardized or Z score

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Working_Population	26	20.42	26.67	21.3419	1.20028
Medical_Facilities	26	4.37	28.00	14.4435	6.23960
Educational_Institutions	26	.01	.38	.2365	.10969
Community_Amenities	26	22.58	59.84	38.6223	8.79160
Community_ Accessibilities	26	12.76	62.22	36.2523	13.05457
Literacy_Rate	26	46.38	98.28	88.5335	13.78616
Valid N (listwise)	26				

D8: Districts Standardized or Z score

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Working_Population	8	20.73	22.01	21.3075	.44934
Medical_Facilities	8	8.18	18.79	13.5725	3.80799
Educational_Institutions	8	.07	.30	.1850	.07578
Community_Amenities	8	41.05	83.80	57.5688	14.99341
Community_ Accessibilities	8	18.03	47.39	34.5188	10.75327
Literacy_Rate	8	65.88	97.91	89.3612	10.53913
Valid N (listwise)	8				

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1. Population Distribution in Aizawl District during 1981 to 2011: A Block Wise Analysis(pg 44-54) Vol.No 12.July,2017(Geographic, Peer Reviewed ISSN0975-4121)
2. Socio-Economic Development in Mizoram: District Level Analysis(pg 62-72) Vol.No 13 July,2018(Geographic, Peer Reviewed ISSN0975-4121)
3. Decadal Disparity in the Growth of Population in Aizawl District from 1981 to 2011(pg55-63) Vol.No 12 July-December,2018(SENHRI, Peer Reviewed ISSN:2456-3757)
4. Socio-Economic Development in Mizoram: A study at Block Level(pg36-48) Vol.No 14,July,2019(Geographic, Peer Reviewed ISSN0975-4121)

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ABSTRACT

SPATIO-TEMPORAL ANALYSIS OF POPULATION GROWTH AND SOCIO-ECONOMIC DEVELOPMENT IN MIZORAM

A THESIS SUBMITTTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

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DEPARTMENT OF GEOGRAPHY & RESOURCE MANAGEMENT

SCHOOL OF EARTH SCIENCES & NATURAL RESOURCES MANAGEMENT

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SPATIO-TEMPORAL ANALYSIS OF POPULATION GROWTH AND SOCIO-ECONOMIC DEVELOPMENT IN MIZORAM

BY

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Submitted

In partial fulfillment of the requirement of the Degree of Doctor of Philosophy in Department of Geography & Resource Management of Mizoram University, Aizawl.

ABSTRACT

Economic development in space is generally lopsided at all levels, at city level, national level, continental level and even global level. Furthermore, these imbalances in levels of development between regions within a country are frequently viewed as a problem. The magnitude of the problem is more severe in developing countries than in developed countries (Chazireni, 2003). Economic development in the country is predominantly seen in terms of economic growth the country manages to achieve (Perveen, 2004).

The issue of population and economic development is as old as economics itself. Malthus (1798) claimed that there is a tendency for the population growth rate to surpass the production growth rate because population increases at a geometrical rate while production increases at an arithmetic rate. Hence, the liberated population growth in a country could plunge it into acute poverty (Tsen and Furuoka, 2005).

Population growth refers to increase in the size of a population over an area, and is one of the primary concerns of the modern world, as it is growing at an incredibly infuriating rate, while the world resources nearly remain constant. The current rate of population growth is presently a critical burden to human wellbeing. Whatever advance made in the fields of agriculture and industry could scarcely adapt to the requirements of a rapidly growing population. The growth in human population around the world influences all people through its effect on the economy and the environment. High growth of population will hinder opportunities for economic development. So, the number of inhabitants in a country should be assessed with regards to the condition in which it happens, regardless of whether the growth of population contributes to the economic growth depends on the country's size of population, the availability of natural resources, capital resources and prevailing technology. When a country crosses the optimum point and become over populated as a result of population growth, its level of productivity or yield per capita decline, which bring down the standard of the people.

Socio-economic development is a multidimensional process which improves the quality of life of the people. It requires the satisfaction of economic, social, political and cultural rights, equitable distribution of development benefits and opportunities, dignified living environment, gender equality and empowerment of the poor and marginalized (Ohlan, 2013). Achieving socio-economic transformation requires continuous improvement in the way goods and services are produced within an economy (Museveni, 2010). According to Bhattacharjee and Shastri (1976), within the past two decades, vast changes have occurred in many aspects of life in every country of the world, and the most significant has been the recognition, that rapid rate of population growth influences every sector of economic and social development.

Since 1950, population growth has been faster where income is low, and it has been concentrated in developing countries. Where populations are still highly dependent on agriculture, continuing large increases in population can contribute to overuse of limited natural resources, such as land, mortgaging the welfare of future generations. When undue stress is placed on traditional agricultural systems and the environment is damaged, the economic wellbeing of the poor is particularly threatened. Unless this dilemma is confronted today, there will be poverty- stricken people in tomorrow's developing world in increasing numbers and in indescribable misery. Population growth is a key issue in development, we cannot and we must not bequeath to future generations a world in which the most spectacular growth has been in the number of people living in absolute poverty. How many more billions will be added? Unless this dilemma is confronted today, there will be poverty stricken people in tomorrow's developing world in increasing numbers and in indescribable misery (Clausen and Paden, 1985).

Birdsall (1989) proclaimed that, slower population growth would raise per capita income faster or prevent its decline. In any case, population increase eventually brought falling wages and rising food prices as an increasing supply of labor ran up against the fixity of land and, given diminishing returns, labor productivity fell. Rapid population growth tends to slow down economic growth and yield serious economic consequences in low income countries. Rapid population

growth and the resultant population explosion in countries like India and Bangladesh is considered to be one of the principal causes of poverty, low standard of living, malnutrition, ill health and environmental degradation(Hasan, 2002). This is true for a developing state like Mizoram where agriculture still continues to occupy a significant position in the state's economy. In fact, Mizoram is one of the most underdeveloped and agricultural state, where about 60% of the population depends upon agriculture and allied sector (Economic survey, Mizoram 2012 to 2013) that linked particularly to rural areas. Owing to the practice of shifting cultivation, difficulties in marketing facilities of whatever little surplus, and many more, the agriculture which is the livelihood of the rural people remaining depressed, and is deteriorating due to population pressure. The land use pattern highlights a little scope of agriculture to shoulder further pressure of population on land as the people of Mizoram practiced an age old primitive shifting cultivation. The fast rising demand for food grain on account of the increase in population could not be met from within the state, in spite of an increase in productivity. In fact, this increase of production happens at a very slow rate and it could not meet the needs of the growing population, causing import of food grain from outside the state. Not only that, Mizoram has no major industry, whatever industry available in the states is the cottage and small scale industry that comprises of handloom and handicrafts. In short, Mizoram is economically very backward. Needs and wants increase every year due to the population growth, but productivity is not increased. Such a situation is harmful for a developing state like Mizoram which is affecting adversely the economy, resulting in the slowing down of its pace of development. The impact of rising population as a drag on economic resources in Mizoram is felt in a variety of ways.

Though, Mizoram is an area with low population concentration, and is one of the most thinly populated states of India. Nonetheless, it has witnessed an ever increasing growth of population all through the entire study period with increasing pressure on land and economic resources which is reflected in slow economic progress and unemployment. The population of Mizoram stands at 10,97,206 persons as per 2011 census, which was more than two times larger than that of the 1981

census (493,757 persons), a growth rate of 122.22% within the three decadal census of the study period. There has been an enormous increase in the population for a developing state like Mizoram which heavily dependent on outside help for practically all her requirements. The net accretion during the period of 1981to 2011 was 603,449. The highest decadal growth rate was observed to be 39.7% during 1981to1991 censuses, and the net increase in population was 195,999. The growth rate continues to be 28.82 % in 1991to 2001 censuses and the net addition were 198,817 persons. Then, it reaches 23.48% in the final decades of 2001to2011 with a net addition of 208,633 populations. The analysis of population growth, therefore, holds significance for a developing state like Mizoram where a rapid increase in population may act as the main drawback in achieving the desired degree of economic progress.

There exists in the state variations of socio-economic development and in order to reduce these variations and adopt suitable policies for balanced regional development, it needs to identify regions which are developed and underdeveloped. In order to find out the level of development in the state, 21 indicators governed by availability of data were applied and divided the blocks and districts into developmental level and compare it with the growth of population. The methods employed includes percentile for the growth of population, Z-score and Jenks methods for socio-economic development, and Karl Pearson's coefficient of correlation for the relationship between population growth and socio-economic development.

Between 1981to1991 censuses, there are 20 blocks and 3 districts in the state of Mizoram, with 6 towns and 721 inhabited villages in which the town increased to 22 in numbers and on the other hand the inhabited village decreased numbering 698. Among this, the block of Tlangnuam has the highest population growth in which her share of growth amounted to 82.01%, while the lowest growth is found in the block of Reiek with only 10.53%. Added to that Chhimtuipui district witnessed the highest growth. The block of Tlangnuam continues to record the highest growth rate between 1991 to 2001 censuses, while E. Lungdar records the lowest population growth. The census of 2001witnessed a great change in the history of population in the state

where 6 new districts and 2 new blocks were created in the state and the district of Chhimtuipui is bifurcated into Lawngtlai district and Saiha district, and Chhimtuipui district has been completely removed from the state of Mizoram. The number of towns remains the same and the inhabited village amounted to 707 in this census. Then, Zawlnuam block achieved the highest growth rate between 2001 to 2011 among the blocks, for a place in which the existing population is already strained by many difficulties. And, this census identifies the birth of four new blocks in the state of Mizoram, namely, Champhai, Bilkhawthlir, S. Bungtlang and Saiha.

The block of Tlangnuam consistently has highest density all through the study period followed by Lunglei from 1981 to 2001 until it was surpassed by the two new recently created blocks of Saiha and Bilkhawthlir in the latest census in 2011. While, the least density is continually found in the block of W.Bunghmun. There are 5 blocks which show a reduction in their density during the study period. Namely, Zawlnuam, W.Phaileng, Khawzawl, N.Thingdawl and Tuipang because of the formation of new blocks from each of these blocks where a reduction in the population occurs. The remainder of the 21 blocks all shows an expanded in their density.

The study of the growth of population in Mizoram clearly reveals that the population growth trend in the state has generally an alteration of ups and downs after every decade in terms of percentage. Nevertheless, it has a positive growth rate in all the decades, and the rural population registered a negative growth rate during 1981 to 1991 census. For the most part, blocks and districts which have better amenities have more population, which is true for the blocks of Tlangnuam and Lunglei due to the inclusion of the state's capital Aizawl, and Lunglei, the most important town in the southern parts of the state. Additionally, blocks which are nearer to the state's boundary like the block of Chawngte, Lawngtlai and Zawlnuam have large population due to migration. Then again, blocks which are away from the main arteries of roads and do not possess the ability to hold large population have a low growth rate of population.

The three socio-economic indicators of power supply, pucca road and the literacy rate has shown an incredible improvement in the state from the starting census of the study period. The other remaining indicators experienced alternate increase and decrease with every census. Regarding socio-economic development, the block of Phullen and Aibawk, likewise with the two districts of Aizawl and Champhai continuously occupied the high level all through the study period. On the other hand, the three blocks of W.Bunghmun, Lawngtlai and Chawngte has continuously remained in the low level of development throughout the study period. The remaining blocks and districts experienced an alternate decrease and increase with every census. The block of Aibawk has high literacy rate and community accessibilities which put in the high level of development and the block of Phullen from its creation in 2001 has high medical facilities and large number of educational institutions during the entire study period. Likewise the district of Champhai has high literacy rate and is well endowed with community amenities and accessibilities. Further, the district of Aizawl has high literacy rate, also medical facilities, community amenities and accessibilities are sufficient. Whereas, the district of Lawngtlai from its creation in 2001 is found in low level of development till 2011 census as well as the three blocks of W.Bunghmun, Lawngtlai and Chawngte all in the low level during the entire study period. The outcomes show that wide variations in the level of socio-economic development exist among different blocks and districts within and between different regions of Mizoram. Certain areas in Mizoram have relatively high levels of development while others have low levels of development or no development by any means.

The relationship between population growth and socio-economic development results shows that there is a negative correlation between the growth rate and the developmental level among the blocks and the districts in the state. In fact, blocks and districts which have experienced a high growth of population has low socio-economic development. In the same way, blocks which have low population growth has high socio-economic development. This is especially true for the block of Chawngte and Lawngtlai located in the southern part of Mizoram where it has witnessed a high growth of population and occupying the high growth rate

group has a very low level of socio-economic development by being among the low level of development throughout the study period. In addition, the district of Lawngtlai and Chhimtuipui has the high growth rate of population and low level of socio-economic development. Same is the situation with block having a low growth of population with high socio-economic development, particularly for a block like Ngopa and E. Lungdar.

Such is the condition in Mizoram especially in rural areas who are dependent exclusively on primary activities cannot withstand a large population and results in migration to the urban areas bringing about decaying urban conditions. In order to accelerate equitable socio-economic development, efforts on the part of the state government and the people are required. This, along with greater awareness for small families to keep up a high standard of living would promote a reduction in birth rate and thus for a quicker decline in the population growth rate.

Despite high literacy and having great potential in terms of natural resources. The ever increasing populations do not bring the same space of economic development. Therefore, to bring about the socio-economic development of the state, education should be taken with oriented goals. Potentials in natural resources should be tap in a meaningful way in terms of agro/forest based industries and systematic agriculture. All these are to be boosted by developments in hydroelectric power, development of road and improvement of all other socio-economic amenities.

Kurian (2000) has clearly stated that, an important factor which influences the speed of socio-economic progress of a state is the nature of the administration. It's anything but an occurrence that, overall, the states which are in the forward groups are better administered when contrasted with the states in the backward group. A better administered state is more proficient in raising incomes and putting the incomes to all the more likely use. Such states are quick in reacting to opportunities and are frequently ready to prepare possible projects and effectively propose for central assistance. In the backward states, things move slowly, and often corruption and inefficiency exist together and this is a dangerous mix. If the government wants a fair distribution of development facilities, consideration should

be revolved around the areas whose development has lingered far behind. To accelerate the process of equitable socio economic development, dimension specific policy is urgently called for, which will require concerted efforts on the part of states government and the centre. The determination on the part of government and the individuals everywhere is considerably more important. Accordingly, true development requires government activity to improve elementary education and health care.

The steady rise in the growth of population has led to weakening in the quality of life. Needs increased due to the growth of population. However, the state is dependent on the funds of the central Government. Not just that, the state is not even self sufficient in the food grains, absence of big industry and the meager agricultural products. All these need careful study and only then proper policies can be framed so that development in Mizoram does not remain confined isolated pockets but spreads far and wide.