



Research Paper

Checking Environmental Equilibrium in Urbanization Process in Mizoram

Lallawmsanga

Ph. D Scholar

Department of Sociology, NEHU

Shillong, Meghalaya

India

The un-paradoxical unrest between urbanization and environmental conservation generates a wide domain of interest for social thinkers on environment. It is pertinent to state that urbanization has implicitly or explicitly pose threat to the environment, so also it is pivotal to note that a dilemma between the need of growth and maintaining environmental equilibrium always exist. Mizoram, located in the southernmost corner of northeast India; like any other larger part of the country is also greatly experiencing the process of urbanization. The population influx in the urban area of Mizoram, which can be seen in the census report, made to contend that urbanization has an effect on maintaining the environmental equilibrium of the state.

This paper will examine the changes ushered by urbanization in relation to the environmental aspect of Mizoram. It will study if there is any relation or cause and effect with the alarming decline in forest area of the state. According to the Indian State of Forest Report (ISFR) 2017, there is a loss of 531 sq. km. of forest area; which recorded the most rapid decrease in forest cover within the country.

Key words: Environmental equilibrium, Urbanization, Change, Forest.

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I. Introduction

The Mizo's in the past are migratory and nomadic in search of better land for cultivation and security, the traditional way of selecting their village sites has certain sets of social and cultural norms. However, in contemporary society the state experienced a massive change in the method of formation or establishment of village and urban areas. The opportunities created by several developmental projects in an urban area attracts many of the population to the urban centre; the pull and push factor for urbanization in the state is enormous. Urbanization is rapidly taking place in the state of Mizoram, according to the census 2011 report; out of 10,97,206 total population 5,71,771 people live in the urban area which is 52.11 per cent of the total population. The state ranked seventh position in the most urban states in India according to the census 2011. There can be several reasons for the rapid urbanization process; the opportunistic economic structure and the occupational mobility in urban areas counts one of the major reasons.

The urbanization process, the environmental aspect and the state economy have an intricate relationship. According to the Indian State of Forest Report (ISFR) 2017 the state has 18,186 square kilometers of forest cover that is 86.2 per cent of the total geographical area (ISFR 2017, p.28). According to the Mizoram State Economic Survey 2017-2018 report Mizoram is among the four high growth states with its economy continuously growing at the rate of more than 8 per cent during 2013 to 2016. The Gross State Domestic Product (GSDP) at constant (2011-12) prices has clocked 12 per cent average annual growth rate during the financial years of 2012-13 to 2016-17. The projected growth rate of India as a whole has been placed at 6.75 per cent in 2016-17 (Economic Survey 2017-18, pp. 1,3). Therefore, maintaining environmental equilibrium within the state is supposed to be of a great deal.

Conceptual framework

To have a sociological analysis of the effect of urbanization on the environment and vice versa is crucial for the study. It is important to note that, 'Earth Day 1970' is often said to represent the debut of the modern environmental movement (Hannigan 1995, p.1) and the environmental sociology section of the

American Sociological Association was only launched in the year 1976. The classical thinkers are often said to neglect the ecological aspect while framing the subject. However, in the present days environmental sociologists made an attempt to show that they (the classical thinkers) were the ones who laid down the foundation stone for the theoretical framework of the subject. J.B. Foster stated that, recently, however, there have been a great deal of research within environmental sociology directed not at circumventing the main classical sociological theorists but at unearthing alternative foundations within the classical literature, neglected in later interpretations (Foster 1999, p. 369). Emile Durkheim, Karl Marx and Max Weber – arguably had an implicit environmental dimension to their work, this had never been brought to the fore, largely because their American translators and interpreters favored social structural explanations over physical or environmental ones (Buttel 1986, p.338). The most dramatic growth of literature in relation to classical sociology, however, has centered on Marxist ecological contributions, which were more extensive than in the other classical theorists (Foster 1999, p. 369).

J.B. Foster's work titled; '*Marx's Theory of Metabolic Rift: Classical Foundations for Environmental Sociology*', addressed a paradox; he argued that classical sociological tradition is devoid of systematic insights into environmental problems however he showed that the evidence of classical thinkers contribution is abundant by illustrating analytical Marx's theory of *Metabolic Rift*. According to him, the general acceptance that the classical sociologist neglect the environmental aspect is an absurd statement, the prevailing humanistic world view that emphasizes human distinctiveness in relation to nature is contrast by the New Environmental Paradigm (NEP) which rejected the anthropocentric world view which gradually shed the blinders imposed by Human Exemptionalism Paradigm (HEP).

Foster continued that, it was Marx who made the most contribution in laying down the theoretical foundation. The capitalist agriculture production causes urban population ever growing preponderance that resulted to disturb the metabolic interaction between man and earth by preventing the return of what is consumed to the soil. Therefore, a *rift* exists in the metabolic interaction between man and earth through the removal of its constituent elements from the soil. Another essential concept that arise is *Sustainability*, that due to the metabolic rift in the capitalist agriculture the basic conditions for sustainability has been violated. For Marx the excrement produced by mans natural metabolism along with industrial production and consumption needed to be recycled back as part of complete metabolic cycle (Foster 1999, p. 384).

II. Objectives:

To study the possible relationship between the decline of forest in Mizoram with the urbanization process. According to the Indian State of Forest Report (ISFR) 2017; Mizoram experienced forest loss of 531 square kilometers which is the highest forest loss within the country.

III. Findings

Mizoram has 23 census towns within its urban areas with one Urban Local Bodies (ULB) that is Aizawl Municipal Corporation (AMC). According to population census 2011, 52.11 per cent of the total population lives in urban area and the urban population in the last ten years has increased by 52.11 percent (<https://www.census2011.co.in/census/state/mizoram.html>). Several factors are responsible for the growth of Urbanization process in the state, the major pull factor for urbanization process are: the establishment of government offices and allocation of several headquarters within the urban region, the concentration of hospitals within the urban region viz. 11 government undertaken hospitals and 19 private hospitals as on 01.04.2017 according to the Health and Family Welfare Department, government of Mizoram (<https://health.mizoram.gov.in/page/number-of-hospitals>), the establishment of schools and higher educational institutions like colleges and university in the urban area- according to Mizoram University record there are 36 affiliated/ constituent colleges of Mizoram University during the year 2017-2018 (<https://www.mzu.edu.in/index.php/about-mzu/affiliated-colleges/details-colleges>) which are all located in the urban region, the opening up of bigger market places, shopping malls, service centers etc. The concentration of the headquarters and main branch of several administrative institutions of; political, educational, sport, health, engineering, business, religions, banks etc. all add to the increased urbanization process in Mizoram.

Sl. No.	Name of Census Town	Code	Name of District	Area (sq. km.)	Population (2011)	No. of Local/Village Councils	No. of ULB	No. of elected members
1.	Aizawl	AZL	Aizawl	129	293416	83	1	618
2.	Saitual	STL		57	11619	7	-	37
3.	Lengpui	LPI		43	7884	1	-	6
4.	Sairang	SAI		25	5950	3	-	7
5.	Darlawn	DLN		64	3769	3	-	12
6.	Lunglei	LLI	Lunglei	44	57011	24	-	127
7.	Hnahthial	HTL		15	7187	4	-	20
8.	Tlabung	TLB		80	4554	2	-	14

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9.	Saiha	SHA	Saiha	41	25110	22	-	132
10.	Champhai	CPI	Champhai	52	32734	18	-	108
11.	Khawzawl	KZL		16	11022	8	-	35
12.	Khawhai	KHI		48	2496	1	-	7
13.	Biate	BTE		51	2277	1	-	7
14.	Kolasib	KLB	Kolasib	36	24272	15	-	76
15.	Vairengte	VTI		28	10554	4	-	22
16.	N. Kawnpui	KNP		85	7732	4	-	24
17.	Bairabi	BAI		26	4320	2	-	12
18.	Serchhip	SER	Serchhip	23	21158	10	-	55
19.	Thenzawl	TZL		25	7259	4	-	22
20.	N. Vanlaiphai	VLP		64	3602	1	-	6
21.	Lawngtlai	LTI		29	20830	12	-	65
22.	Mamit	MMT	Mamit	13	3733	6	-	30
23.	Zawlnuam	ZLN		48	11617	3	-	15
Total					5,80,106	328	1	1457

Table 1. Source: UD & PA, Mizoram.

The population density of the urban region is 974 persons per sq. kms. while the rural part has a population density of 26 persons per sq. kms. (<https://indikosh.com/st/285704/mizoram>). From table 1. we can see that Mizoram has a total urban area of 1,042 square kilometers out of the total geographical area of 21,081 sq. km., which means that almost 5 per cent of the total geographical area of the state is under urban area. The state has one Urban local Body (ULB) that is Aizawl Municipal Council (AMC) which was established on 1st July, 2008 and was upgraded to Corporation on 15th October, 2015 by the Fourth Amendment of The Mizoram Municipalities Act, 2007 (The Mizoram Municipalities Act, 2007- As Amended in 2015) . AMC is comprised of nineteen (19) wards and 83 Local Council within the Municipal Area. The urban and rural distribution of the state is shown in fig. 1 by using a pie diagram:

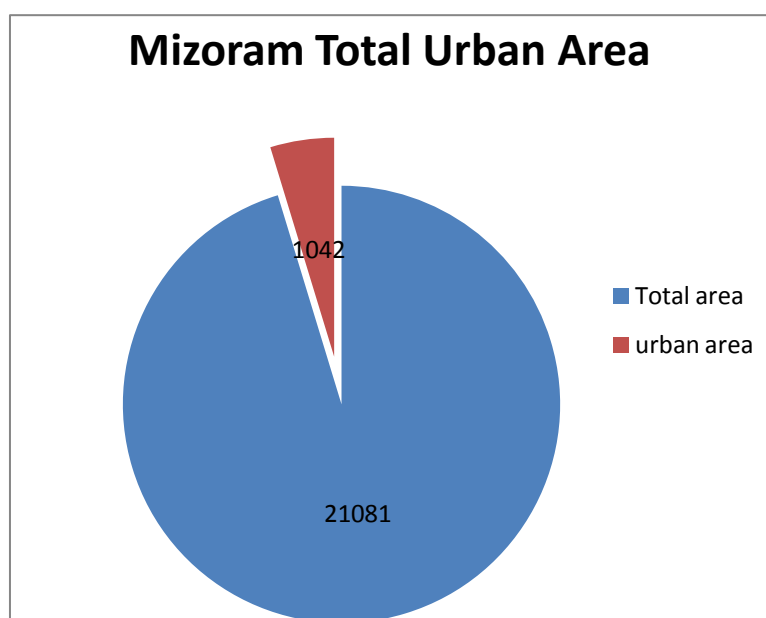


Fig. 1. Pie Diagram showing Mizoram Total Urban Area.

Mizoram has a total forest area of 18,186 sq. kms. which is 86.27 per cent of the states total geographical area which ranked Mizoram to the second highest percentage of forest cover within the country after Lakshadweep (ISFR 2017, Forest Cover p.25). Although the state has a high percentage of forest, it is facing a continuous alarming forest loss in the recent years. According to the ISFR, the term ‘Forest Cover’ refers to all lands more than one hectare in area with a tree canopy of more than 10 per cent, irrespective of land use, ownership and legal status (ISFR 2017 Introduction p. 5). The Forest Survey of India (FSI) classify forest cover into three density classes namely; Very Dense Forest ie. canopy density greater than 70 per cent, Moderately Dense Forest- ie. canopy density between 40 per cent to 70 per cent, Open Forest- ie. canopy 10 to 40 per cent since 2001. The total forest cover of the country as ISFR 2017 is 7,08,273sq km which is 21.54% of the total geographic area of the country. The following table shows the comparative distribution of forest cover in Mizoram according to the ISFR 2013, 2015, 2017:

Table 1. Forest Cover in Mizoram

Sl. No.	Year	Forest Cover (in sq. kms.)	Change in Forest Cover (sq. kms.)
1.	2013	19,054	-
2.	2015	18,748	-306
3.	2017	18,186	-562
4.	2019	18,006	-180
5.	2021	17,820	-186

Source: ISFR 2013, 2015, 2017, 2019, 2021

From table 2. we can see that the gradual forest loss trend has been started since 2015 where the state experienced forest loss of 306 square kilometers with respect to 2013 report then continued which led to hit 531 square kilometers of forest loss in 2017 report. When comparing the data of 2013 with 2017, we can find that within four years Mizoram has experienced forest loss of 868 square kilometers which means that if the momentum of forest loss continues at the same rate within the coming ten years Mizoram will experience forest loss of 2,170 square kilometers. According to the above data, the Open Forest (OF) are most prone to deforestation which occupy the major forest cover area under forest classification by ISFR. The fact that the OF is less protected and wide in area led to face several illicit and illegal as well as legit deforestation within its area. It is an alarming case to see the forest loss of a particular state which the state government should take prompt measures in order to stop the forest decline. The gradual forest loss overall within the state is crystal from the above table, albeit the state efforts towards forest conservation, afforestation projects and compensatory afforestation missions.

The forest cover of the state within 2013, 2015, 2017, 2019 and 2021 according to ISFR is shown in fig. 2 by using pie diagram:

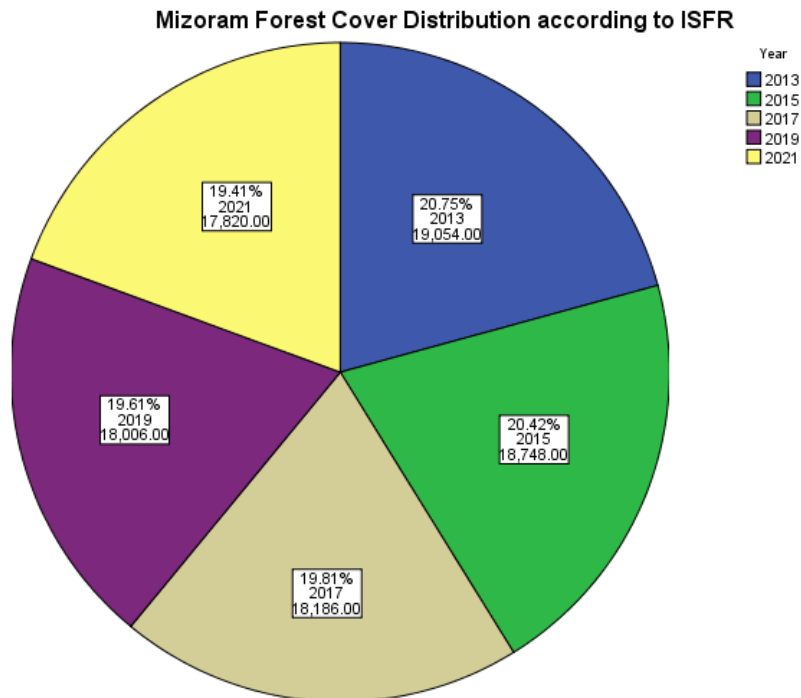


Fig. 2 Pie diagram of forest cover in Mizoram according to ISFR 2013, 2015, 2017, 2019, 2021

IV. Suggestions/ Conclusion

From the above data we can say that Mizoram is experiencing a gradual growth in urbanization as well as increase in forest loss. Although it is not possible to compare the rate of forest loss with the rate of urbanization taking place because of the fact that the population census is conducted after every ten years while forest survey is conducted biennially i.e. after every two consecutive years; however it is clear that Mizoram is experiencing growth in urbanization process as well as loss in forest cover. It will be an absurd statement to say that urbanization has direct effect in the forest cover which resulted to a massive loss of forest area. But still, it is quite rational to contend that, from the above data there is an implicit relationship as well as cause and effect between urbanization process and forest loss when taking the case of Mizoram as a subject of study.

The reserved forest in Mizoram which comprised of 9891.2929 sq. kms (Environment, Forest and Climate Change, Mizoram). Are mostly located in the rural areas of the state, the increase in population or the expansion of urban area within the state does not seem to have direct forest depletion in a sense that the enlargement of urban area take place within the periphery of urban settings. However, the gradual increase in population density which also affected the number of households and buildings in the urban areas has caused severe decline in the availability of trees, open soil, space for gardening and agricultural activities. This has a massive impact in maintaining environmental equilibrium affecting the fresh water source, animals and birds and also caused various natural disaster due to settlement projects.

It is important to have a decentralization of the establishment of administrative set up within the state in order to meet more uniform pace of development. If the massive loss of forest is not promptly controlled, the state will engaged in a gigantic loss of forest which will have much negative result to the social set up. There is a deep connection between the Mizo and their forest since the past, so the forest loss can result not only to material loss but also to a massive intangible loss of their culture and practice which was the essence of their identity.

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