

**TRANSPORT NETWORK IN MIZORAM FROM  
COLONIAL TIMES TO 1987**

**A Dissertation Submitted in Partial Fulfillment of the Requirement for  
the Degree of Master of Philosophy**

**By  
C. Lalthlengiana  
2017**



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CERTIFICATE

This is to certify that the dissertation entitled “ Transport Network in Mizoram from Colonial Times to 1987” submitted by Mr. C. Lalthlengliana in fulfillment of Master of Philosophy is an original work and has not been submitted elsewhere for other degree. It is recommended that this dissertation be placed before the examiners for the award of the degree of Master of Philosophy.

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## DECLARATION

I, C. Lalthlengliana, hereby declared that the subject matter of this dissertation is the record of work done by me, that the content of this dissertation 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 dissertation has not been submitted by me for any research degree in other Universities or Institutes.

This is being submitted to Mizoram University for the Degree of Master of Philosophy.

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## ACKNOWLEDGEMENT

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First of all, I thank the Almighty God who gave me the chance and good health to do the research work.

I heartily thanks to my supervisor Dr. Khwairakpam Premjit Singh, Assistant Professor, Department of History and Ethnography, Mizoram University, for his unrelenting advice and guidance, full support bestowed upon me from the beginning till the end of my studies and research work. Nothing would be complete and fall in place without his support and help. By knowing all my possibilities and potentiality, he encouraged me constantly till the end.

My gratitude goes to Dr. Lalngurliana Sailo, Head of Department, History and Ethnography, Mizoram University for his kind help and meaningful advice. All the faculties and staff members of the Department who showed their support and open heart for the completion of the research work from the starting point till the end of the studies, I am indebted.

Lastly and most importantly I would like to express my deep gratitude to my beloved family C. Lalngakliana, K. Lalropuii, C. Lalramngaihhlua for their prayer, full support throughout my studies. They are one of a kind for the completion of my research.

(C.LALTHLEGLIANA)

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Mizoram (the Lushai Hills/the land of the Mizos) is one of the youngest states in Northeast India.<sup>1</sup> The native inhabitants of Mizoram are known as the ‘Mizos’<sup>2</sup>; of course it is a generic term which could have diverse interpretations if we try to define it from anthropological, sociological as well as historical perspectives. But the present research work will primarily focus on history of transport networks of this state since colonial times to the 1980s.

The Mizos were migratory tribes moving from one place to another place in search of better livelihoods. They practised shifting cultivation which requires a vast area of uninhabited natural vegetation. It is believed that since the first half of the 18<sup>th</sup> century, the Mizos left the semi-nomadic lifestyle and permanently settled in Mizoram.<sup>3</sup>

The Pre-Colonial Lushai Hills was a bunch of small countries of multi-ethnic groups. The natives of this region had their own concept on geographical and political boundary. As far as maintaining the boundary between the valley and hilly inhabitants is concerned, they followed the traditional method of boundary line which was based on mutual (verbal) agreement.<sup>4</sup> This kind of mental and physical maps of their geographical boundary was not so much rigid. Of course, there are evidences of frequent changes of frontiers and also raids or feuds against each other. Not having a constant or firm boundary and continuous feuds among themselves does not mean that they did not have the sense or knowledge of geographical boundary and space. That was their style, method, knowledge on geographical boundary. So it is very difficult to define the indigenous concept of their territorial boundary through western mode of interpretations.

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<sup>1</sup>S.L. Saihnuna, *Reflections on the Centennial Church and Mission Paradigm in Mizoram (1894 – 1994)*, Xarima Village, Zotlang, Lunglei, H. Nikungi, 2001, p.1.

Like Arunachal Pradesh on the same day i.e. 20 February 1987 Mizoram became the 23<sup>rd</sup> full-fledged state of India.

<sup>2</sup> The word Mizo in the language means that a highlander (Mi = man, Zo = high or high altitude) or hill-man, even though one important things to note is that all the hill people were not locally known as Mizos. Chib Singh Sukhdev in his book, *This Beautiful India; Union Territories*, p.109, gave a brief description on what the meaning of ‘Mizo’ is.

<sup>3</sup> Lalthanliana, *Mizo Chanchin ( Kum 1900 Hma Lam)*, Model Veng, Aizawl, Mizoram, Vanlalhmuaaka leh Vanlalhruaii (Hruaitei) te Nupa, 2000,p. 323

<sup>4</sup>Cederlof. Gunnel, *Founding an Empire on India's North-Eastern Frontiers 1790-1840*, (OUP, New Delhi), p.72



On 1 April 1891, the southern part of the Lushai Hills which had been controlled by Assistant Political Officer under the Commissioner of Chittagong was formed and placed under a Superintendent.

On 1 April 1898, the tracts, previously known as the North and South Lushai Hills, were amalgamated into the District of Lushai Hills (Mizoram). Apparently, the District of Lushai Hills District brought under the provision of Assam Frontier Tract Regulation of 1880 and the notifications were issued under this Act and the Scheduled District Act, 1874.<sup>5</sup>

When a question arises about the physical geographical of Mizo dominancy areas, it would be better to give response in this line that though there are much in number of different independent tribes, almost certainly associated to each other tribes, inhabiting the country between the Chittagong Hill Tracts and the Chin Hills and encompass the more accurate information's that the Lushai Country (Mizoram) is traversed from the north to the south by parallel ranges of mountains which was increasing in the elevation from the west to east till the line of Chittagong frontier and the river Chindwin. The country is expected to the much opener and less obstructed in the east by the famous highest mountain peak in Mizoram that of Phawngpui Tlang (Blue Mountain) and the rest by the jungle.<sup>6</sup>

Manipur–Lushai Boundary: Since the unification of the North and South Lushai Hills, the boundary commission headed by P. Maxwell and A.W Cole was setup by the Government of India to distinguish the boundary between the Lushai Hills and Manipur. The commission made a wide survey of the Lushai Country and engaged in adjoining boundary with Manipur State from 22 January to 9 February in 1900.

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<sup>5</sup>A.G. McCall,*The Lushai Hills District Cover*, Aizawl, Department of Art and Culture, Government of Mizoram, 1980,p.1.

<sup>6</sup> O.A. Chambers, *Hand Book of the Lushai Country*, Kolkatta, Firma KLM Private Limited on behalf of Tribal Research Institute, Aizawl - Mizoram, 2005, p. 64 – 65.

Tripura–Lushai Hills Boundary: The Government of Assam with the previous approval of Government of India modifies the portion and has a survey on this that Langkaih River and Phaidawr should be taken up as the border line for Tripura State and the Lushai Land.

Chin-Lushai Boundary: In 1901 the Government of India appointed the Boundary Commission to take force upon these two boundaries and later enclosed the boundary from the junction of two big rivers of Tupui and Tuisai stream, Pillar No. 2 was placed on the left bank of Tuisai till the point where Tuisai meets Tuimang and to the points of Bopuilui tributary meets, finally to the source of Bopuilui which was also the source of Tyao.

After so many changes and modifications, finally the government set a fix boundary of Mizoram. As per governmental records, Mizoram lies between 22° 19' and 24° 19' N and 92° 16' and 93° 26' E within the area of 7,227 square miles.<sup>7</sup> Mizoram is bounded on the north by Cachar (southern part of Assam) and Manipur; on the west by the Chittagong Hill Tracts (Bangladesh) and Tripura; and on the east and south by the Chin Hills of Myanmar.<sup>8</sup>

### **1.1 Transport Networks**

The horrible condition of transport and communication of Mizoram even after the British occupation is reflected in McCall's work *Lushai Chrysalis*, an account of 1939-1944 Mizoram was "...a country about the size of Wales with no ordinary roads, even for bicycles, with but one small lake, river as yet too dangerous for boats, excepts in the hands of experts from a far distant land, all composed of steep rugged hills lacerated by these same whimsical rivers."<sup>9</sup>

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<sup>7</sup> B.C. Allen et al., *Gazetteer of Bengal and North – East India*, New Delhi, Mittal Publications, 2010.p. 456.

<sup>8</sup> Pachuau, Rintluanga., *Mizoram: A Study in Comprehensive Geography* , pp.24-25.

<sup>9</sup> A.G. McCall, *Lushai Chrysalis*, Aizawl, Tribal Research Institute, Department of Art & Culture Govt. of Mizoram 1949,p.19.

In 1871 the first bridle paths of Mizoram were constructed by the British expedition forces on trailing Mary Winchester, a four year old baby girl, kidnapped by Bengkhuaia of Sailam (now in Serchhip District). Interestingly, from north-western side one but a long bridle path was constructed (in fact from Cachar to Tipaimukh of Manipur a connecting roadway was already there) from Tipaimukh following the Chalfilh Range, the Khawlian Hills to Champhai under the supervision of General Bouchier in 1871-72.

And another bridle path was also constructed in the same year from Tlabung (western foothill) to Sailam (near Thenzawl) by Captain T.H. Lewin. Another mule path was also constructed in the same year, under the supervision of General Brownlow from Tlabung to Sailam. From Champhai to N. Vanlaiphai (known as Loch Trace Road) under Captain Loch a new bridle path was constructed in 1872.

After they rescued Mary and make appease the Mizo chiefs they left behind the bridle paths. However, those bridle paths were using by the locals for commercial purposes as the new marts were opened by the British in the frontiers posts.

During Chin-Lushai Expedition (1889-90), in the northern part of Lushai Hills the British forces led by Dally occupied Aizawl (1871-72 British occupied Aizawl and established an outpost) in 1890. Later on in 1892 it was fortified. During 1893-97, under the supervision of Mr. Porteau and Syned Hutchinson, the British constructed a bridle-path from Silchar to Sairang of 120 miles. A new bridle-path connecting Aizawl and Lungleh was constructed in 1896-97.

The extreme southern part of Mizoram was connected by a bridle path (government road) from Lungleh to Saiha (Lungleh, Vonlaiphai, Sangao, Vombu, Zechang, Ramri and Saiha) since the 1889-90 British expedition towards the Lushai and Chin Hills.

In the Chin-Lushai Conference held at Lunglei December 1896, the board members recommended the construction of new bridle-paths as well as repairing of existing bridle-paths which were constructed by them in the 1870s. Under this scheme they divided bridle-paths into two categories i.e. a) the first class bridle-path which has partially-furnished rest-houses under in charge of *Chaukidars* and b) the second class bridle path without any aforementioned facilities. In 1896-97 the British India

government constructed three new first class bridle-paths, a) Aizawl-Lunglei (110 miles), b) Aizawl-Falam (160 miles), c) Falam to Tiddim (60 miles) correspondingly. In 1897 two second-class bridle-paths, a) Haka-Lungleh (130 miles) and b) Haka-Kan (65 miles) were also constructed under the supervision of Mr. Tuck, the then Political Officers of the Chin Hills.<sup>10</sup> Silchar to Sairang old bridle path was renovated and transformed it into the first class bridle path in 1897.<sup>11</sup> The bridle paths were mostly used for maintenance of supplies to the Assam Rifle posts in the interior.<sup>12</sup>

Inside Mizoram the bridle paths which had been constructed during colonial times were as follows: Sairang-Changsil (10 Km), Aizawl - North Vanlaiphai (128 Km), Aizawl-Lunglei (165 km), Aizawl-Tipaimukh (115 Km), Lunglei-Serkawar (108 km), Dokhama - Koladyne (50 km) Zawngling - Tongkolong (67 Km), Tuipang - Chakang (72 km) and Loch's trace road (83 km).<sup>13</sup>

A long bridle path was already constructed way back in 1871 in the southern part of Mizoram (i.e. Demagiri-Lungleh) whereas in the next expedition of 1889-90 (the Chin-Lushai expedition) with the establishment of fort town of Lungleh (became capital of South Lushai Hills) J. Shakespeare led team undergone a tedious road survey from Chittagong to Haka to transform the existing (bridle) paths into a better and advanced cart road in 1889. The British India was working hard to update the existing mule-road as they eventually want to make it as a permanent road connecting Chittagong Hill with Burma (now Myanmar). And in 1891 the team submitted the detail report to the British India government and proposed to start cart road construction project in the surveyed area. Point to be remembered is in December 1888, the British column of Chin Lushai Expedition going from Assam, through Manipur, to attack the Siyins constructed a cart road to push rations forward by cart transport in hilly terrains in Kale district (Burma).<sup>14</sup> However, the road construction team of Lt. F.R.F. Boileau renovated the existing mule

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<sup>10</sup> Mizoram State Archives, Aizawl, *Political Department – 36, Carton Box-3*, pp.1 – 3.

<sup>11</sup> MSA, *Pol -36, CB-3*, p.3.

<sup>12</sup> SC. Bhatt, and Gopal K. Bhargava, *Land and People of Indian States and Union Territories (In 36 Volumes) Vol.9*, Delhi, Kalpaz Publications, 2006, p.78.

<sup>13</sup> Bhatt and Bhargava, *Land and People*, p.78.

<sup>14</sup> Bertram S. Carey, and H.N. Tuck, *The Chin Hills*, Vol. 1, Aizawl, Firma KLM Private Limited, 1932, pp.26-27.

path of southern Lushai Hills (Chittagong Hill Tracts (Demagiri–Lungleh) in place of converting it into cart road. Based on J. Shakespeare’s survey guideline the same team constructed a second class bridle path from Lungleh-Tiaogap-Haka in 1893.

While surveying the Southern Lushai Hills, Lt. J.F. Stewart, a surveyor of the 1<sup>st</sup> Leincester Regiment along with him 3 associates were killed by Hausata (a Lai chief from Lungtian), near the Saichul Range (28.5 km approx. from Rangamati) on 3 February 1888. The British India government decided to punish the chiefs of this area. After a few days on 15 February 1888 a *Shendu* raid team attacked in the Chema Valley,<sup>15</sup> and these unrests consequently reduced the amount revenues of the Hill Tracts in an enormous way (from Rs. 89,109 to Rs. 83,222) in 1888.<sup>16</sup> To control these unrests in the Lushai Hills especially in the southern part of Lushai Hills, David Robert Lyall, Commissioner of Chittagong, send a proposal to the Lt. Governor of Bengal to the natives of the Lushai Hills.

“...an expedition should be sent in the ensuing cold weather to exact punishment from the "Shendus" or Pois in a thorough and unmistakable way, in retribution for the long series of outrages which they had committed over so many years.”

On 17 July 1888 the Shendus again attacked and destroyed some villages of the Chittagong Hill Tracts. Taking all these raids into consideration, an expedition force was formed under the commandership of Tregar, Lyall (Civil political officer), Bedford (asst. P.O.), J. Shakespeare (intelligence officer) in January 1889 and after two months the expedition force started entering the Lushai Hills from 14 March 1889. This expedition by nature a kind of preliminary expedition before taking up a major expedition, i.e. the Lushai-Chin Hills Expedition of 1889-90.

Why the researcher is trying to highlight this incident at this particular point is that a team by J. Shakespeare (intelligence team) thoroughly surveyed the feasibility of the terrain for road construction which could connect Chittagong and the Chin Hills. Before this incident there was no bridle-path (government) as they never explored or

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<sup>15</sup>Robert Reid, *History of the Frontier Areas Bordering on Assam*, Assam, Eastern Pub. House, 1942, p.1.

<sup>16</sup>Reid, *Frontier Areas*, pp. 1-3.

reached this area south-eastern part of Mizoram unlike they encountered in 1871-72 with southwest Chiefs (of Lungleh and Sailam Chiefs), Eastern chiefs (of Champhai, North Vanlalphai), central and Northern chiefs (of Aizawl, Serchip and Kolasib). After the Chin-Lushai expedition of 1889-89, which was commenced from 11 September 1889, a report on transport and communication was submitted in 1893 by Lt. F.R.F. Boileau on the 'proposed cart-road to connect the Lushai Hill Tracts with Haka,' he minutely defines the three possible routes to reach to Tiaogap (from Tiaogap to Haka) 1) the northern route, passing south of Teriat down into the valley of the Mat River, running south of Dakara, crossing the Tuiphai and Tiyao up the bed of the Shirtok to Tiaogap; and 2) the Darbili route (No.3) passing South of Dakara and keeping along the north bank of the Kolodayne River and reached to Tiaogap (30 miles shorter than the northern route).

In south under the supervision of Commander Williamson a ring road type cart road was constructed in Lawngtlai and Saiha areas in 1893 and this road connected with main Tlabung-Lungleh-Tiaogap-Haka road.

In March 1893 a British inspection team travelled existing government bridle path (Lungleh-Saiha) to examine the political development in Saiha area. After three years of gap in 1896, the Yakwa-Haka Road was completed and Falam was linked up with Haka and Lungleh.<sup>17</sup> Thus in the 1890s the colonial had completed their major project on a proper surveillance over the Lushai and Chin Hills with (through) surface road as well as telegraph connections. In 1892 the Silchar–Sairang mule road was constructed so that they could have a proper surface communication link between Cachar station and Aijal the then Headquarters of the North Lushai Hills.<sup>18</sup>

Fascinating point, particularly road and transport development during the last decade of the 19<sup>th</sup> century in Mizoram, is the British officials' efforts of widening of few existing bridle/mule paths instead of making cart roads (3feet-6feet). Neither had they constructed Demagiri-Haka nor Silchar-Aizawl cart roads. However, in 1896-1898 the colonial ruler constructed a main connecting road which links two main administrative

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<sup>17</sup>Suhas. Chatterjee, *Mizoram Under the British Rule*, Delhi, Mittal Publications, 1985, p.190.

<sup>18</sup>Chatterjee, *Mizoram Under the British Rule*, p.190.

centres (Lungleh and Aizawl). And in 1898 the two centres merged into one and formed the Lushai Hills District. In 1897 the government constructed two second-class bridle-paths, a) Haka-Lungleh (130 miles) and b) Haka-Kan (65 miles) under the supervision of Mr. Tuck, the then Political Officers of the Chin Hills.<sup>19</sup>

In the first decade of the 20<sup>th</sup> century, with the end of unrest in the Lushai and Chin Hills, the authority handed over the works of government's buildings and road construction to the Public Works Department. In 1910 the Public Works Department (PWD) completed the project of Aizawl-Sairang Cart Road.<sup>20</sup> After this till the 1940s, we could not trace out any kind of proposal on cart road construction in the Lushai Hills. The British India was quite satisfied with bridle paths as it was serving their purpose of connecting their military outposts of the Lushai Hills. In fact they did not like to spend on better road construction once the unrest was over and out. In 1933-34 the PWD repaired the Sairang-Cachar Cart road. Besides this the first Jeep road was constructed by the government of India in 1959.<sup>21</sup>

## 1.2 Review of Literature

According to *Land & People of Indian States & Union Territories*, vol.19, (Mizoram), S C Bhatt & Gopal K Bhargava (ed), Mizoram is connected with a network of primary and secondary roads having a total length of about 6840 kms. The road density of Mizoram was below India's National average. Most of the Mizoram roads are in very poor condition with potholes, ruts, cracks, and other signs of pavement distress in many places and with no proper drainage system lacking of proper maintenance.

B. Maity, *Forced Labour in India: A Note*, talks about the conditions and treatment of labours in India by the higher class or the British in India. Maity explains forced labour as 'Work or service, whether with or without payment, which is exacted from a person, against his will'. He also classified it into three categories as (i) forced labour requisitioned by government for public purpose under legal provisions (ii) forced labour

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<sup>19</sup> MSA, Pol-36, CB-3, p.3.

<sup>20</sup> MSA, Pol-71, CB-7, pp.10.

<sup>21</sup> MSA, Pol-170, CB-17, pp.56.

exacted landlords, creditors and the rulers (iii) customary force labour exacted by private individuals. In his writing, it was proved that forced labour meant a sort of work from a labourer, with or without payment of wages for the services rendered by him. It was essential to note from this that 'bonded labour' is also forced or compulsory labour. It was the witness from Maity was that the forced labour had no freedom to move about freely even inside the workers camp specially created for them. The workers lived like prisoners under strict surveillance.

Brian S. Hoyle in his book *Water Transport and Urban Development: Some Geographical Perspectives and Propositions* articulates that water and transport are the fundamental needs of elements in the human society. Mentioning that all cities in most part of the world are transport dependent. He also stated that every transport decision is a public issue. Brian in his work cited that transport is itself a major complex industry in terms of land use, employment and functions and this transport infrastructure and facilities occupy large areas of land and water space and transport services provide substantial employment to the urban and rural areas.

*Chin – Lushai Land* by A. S. Reid produced many of the valuable sources and documents of how the British worked and had estimation for the construction and improvement of road in the Lushai Hills. He also mentioned the objects of their expedition that to construct a road in the Lushai Hills and to punish Hausata and Zahuata and established an advanced ports in many places. Reid also highlighted the use of rivers like Khawthlangtupui (Karnafuli) and Tlawng (Daleshwari) for their movement in the Lushai Hills and also of their entry point in to the Lushai Land to have an expedition and also to supply many rations and materials to their camp in many places.

*Communication and Colonialism In Eastern India* written by Nitin Sinha was one the most valuable books and resources which enlightened us about the very important issues in which the groups and people that made and managed the transport structure while the other points denotes that the commodities that was travelling along this lines. Through his writing during the colonial period in India we heard about the coolies forcing to work on the road for construction and repaired. The coolies who were hired to do the work on the road construction were paid for their work and sometime were not paid.



*Cost – Benefit Analysis for Transport Networks: Theory and Application* by Yukihiro Kidoro proposes that a consistent benefit estimation method for transport projects in a practically useful manner. Transport networks are modelled as an economy with multiple goods, applying a general equilibrium approach. This approach enables us to represent any kind of transport networks, because the relationship between routes, which may be substitutes or complements, need not to be specified. The degree of congestion is explicitly taken into account in all the parts of transport networks.

*Economics of Scale of State Road Transport Industry in India* by Rajindar K. Koshal and Manjulika Koshal attempt to examine the issues of expansion and extension of transport services by estimating the long run production and cost functions for the state road transport industry in India. In their statements the estimated production function and the total cost function imply that the state road transport industry enjoys economies of scale, which suggests that from the point of view of economic efficiency the corporations should be allowed to expand with the increase in demand for their services then the public can reap the benefits of economies of scale.

Eliot D. Chapple and Carleton S. Coon's in their book *Principles of Anthropology* pointed out that the ability of people to move themselves and their possessions is a prime factor in the determination of the complexity of their adjustments to the environment. It was also dealt directly with the principal techniques of transportation by water. The tribes from different geographical locations how they made themselves adjusted to their environment and learned the instrument or tools have the value of water transportation using the human muscles, wind and machine power.

Emory R. Johnson classified and divided the Inland Waterways to three classes in *Supplement: Inland Waterways, Their relation to Transportation*. In his works Emory articulated that the First one was the natural ways like rivers and lakes. Secondly, he mentioned the existence of inland canal, the purely artificial waterway to connect separated rivers, lakes or arms of the sea., etc. Thirdly, it was the big business and transports in the open ocean which all around the world.

Fritz Voigt and Hermann White in their works *A General Concept of Transportation Theory* deals about the concept of a transportation theory which presents a

comprehensive approach to the analysis of the effect of a transportation system on the entire economy. It was clearly mentioned by the two authors that this concept of transportation theory are the functions of transportation fulfilled within a national economy. They also wrote the variety of the functions of transportation as Consumptive function, Productive function and integrative function.

*Gazetteer of Bengal and North – East India* written by B. C. Allen, E. A. Gait, C. G. H. Allen, H. F. H. Howard traced the boundary, landscape, configuration and river system. This book gives us important information that the Lushai Hills was bounded by Cachar, Manipur, Myanmar and Bangladesh. The Lushai land important rivers which were mentioned were the Tlawng (Daleshwari), Tuirial (Sonai), Tuivol, Chhimtuipui (Kolodyne) and Khawthlangtuipui (Karnafuli). The whole surface of the land was covered with range of hills running North and South directions and this hills or ranges consists of sandstone and dark grey stone.

In the book *This Beautiful India; Union Territories* by Sukhdev Singh Chib show us the historical background of Mizoram and the boundary of the State with other States. It also highlighted how the Lushai's were named and the sub-tribes of Mizo and where they lived. The author mentioned the coming of the British and their annexation of Mizoram. The natural environment, the economic structure and the people and life of Mizoram before Mizoram achieved statehood in 1987.

In the *Lushai Chrysalis*, Major A. G. McCall compared the Lushai Hills with the country of Wales about their size and geographical features which was very rugged hills with no proper roads even for the bicycle to ride on, most of the rivers in the hilly areas were dangerous for boats and could not have a far and long distance connection and also even for big business through land and inland transport.

In their book *Geography of North East India* by N P Goel & R Gopalakrishnan state that the road network development of the country was based on the Nagpur Plan, 1943 suggesting 16km density for every 100 km<sup>2</sup>. In the North east due to lack of geographical phenomena and lack of resources it was difficult to reach the average. Mizoram in 2003, 620 out of 745 villages were all served by roads with the density of 23

km per 100 km<sup>2</sup>. Nearly 140 villages with a population of less than 1000 had no road connection.

In *Zotuthiang: Mizoram Motor Kawng Hmasa Ber Aizawl – Lunglei kan neih dan*, Thangbilha S, articulates that in the Second Lushai expedition in 1890 the British constructed a temporary road for the movement of their troops and their material from Tlabung – Lunglei. All the villages between Aizawl and Lunglei were calculated and their distance too, based on that digging of road between Aizawl-Lunglei was done based on self-help basis. This Road NH-54 remains the most important road which linked many of the villages in Mizoram till today.

It was evident that from *Road and the Environmental Degradation of Tropical Montane Forests* by Kenneth R. Young about the relations and effects between road and the environment. He mentioned the deforestation caused by the construction of roads in the hilly areas. It was highlight the physical environment and Road effects that the road maintenance is politically unattractive rather than the establishment of roads. The Biological patterns and Road effects was also revealed that the construction and maintenance of road in the forest areas of the Hill plants and animal organism or species were disturbed. Extraction and Landscape Transformation due to Transport show the effects, if when there is growth of transportation in the State many people change their economic of income which lead to cutting of timber, hunting animal and birds, medicinal plants etc, which were of having value because good transportation brought easy access of materials and exchange of trade.

Lalrimawia in the *Mizoram: History and Cultural Identity* enlightened about the several divisions without references to ethnic, cultural and linguistic considerations. He wrote the adjoining boundary of Mizoram with Manipur state effecting from 22<sup>nd</sup> January 1900 under the Boundary Commission headed by P. Maxwell and A. W. Cole. From this book we can come across that the boundary with Chin having the two rivers of Tuipui and Tuisai stream as a border line; it was evident in the book that they placed a pillar No. 2 on the left bank of Tuisai. The Lushai hills (Mizoram) boundary with Tripura on the Phuldungsei side and the South & South East Boundary to the Aracan and Chittagong Hill side.

Lewis Mather William in the *Significance of Transportation to Civilization* deals about all the methods and systems for the movement of commodities and persons. Modern transportation like railroad, steamship, highway and skyway has emancipated trade from topography and freed commerce from the caprice of climate. Lewis also deals about the increase in production through this modern transportation that affects the civilization by putting at their disposal a vastly increase outputs of goods and this transportation affect the civilization through the habits of merchandising of the community. The next effect of modern transportation is the breaking down of isolation and levelling of culture. Lewis attempt to show that as far the transportation facilities are multiplied, some people who were formerly isolated will change their standards of living.

Major A. G. McCall in his book *The Lushai Hills District Cover* uttered about the earlier administration of Mizoram. He wrote about the formation and methods of administration in Mizoram. It was from his work which can be found out was the amalgamation of the North and South Lushai Hills in to the District of the Lushai Hills. He made it clear that there is no doubt that the road construction the state or country is necessary and unavoidable. This needs and requirement of roads has to be support by good funding. We can point it out clearly that the Lushai Hills was brought under the provisions of the Assam Frontier Tracts Regulation 1880 and the new Notification was issued under the provisions of this Act and the Scheduled District Act in 1874.

*Mizoram District Gazetteers 1989* shows about the construction of road network and the activities taken up by the Government of India and Government of Mizoram and development in increasing the number of vehicle.

*Mizoram: A Study in Comprehensive Geography* by Rintluanga Pachuau mentions the importance of transport and communication for a particular area or region. The Eastern region of India is still remaining dreadfully backward in transport and communication system. The author highlighted the condition of Mizoram which was hilly and suited the best of roadways transportation. The classification of the road network system in Mizoram was done, i.e National Highway, State highway, Major District Roads, Villages Roads, Town Roads, and Satellite Town & Village Roads.

Newberry M. David and Georgina Santos mentioned in *Road Taxes, Road User Charge and Earmarking* examined in their work that why earmarking failed and what problems arise for replacing taxes by hypothecated road charges by the Government. They claim that recent experiences with regulating capital-intensive network industries make road user charging and the commercialisation of the public highway both feasible and desirable.

One of the most precious sources about Transport Network is *Roads and Motor Transport in India* by Lord Montagu which traced that in India and as in many other countries, the chief roads were originally made for military operations. The author states that through the greater part of India towns and populous districts must have been connected by tracks or kutcha roads for centuries, though no efforts seem to have been made to make them fit for continuous wheel traffic.

Phillip S. Bagwell's *The Transport Revolution 1770-1985* talks about the argument of the Government of Britain during the 18<sup>th</sup> century. The roads road should be covered with small stone and cubic in shape which can easily passable by the vehicle. Road transport can change the whole status of the economy of state. One of the most important in the history of road transport was the discovery of petrol driven engine in 1885 in England.

Richard Gilbert and Anthony Perl's *Transport Revolutions: Moving People and Freight without oil* express that high price of oil can cause the Transport Revolution. Almost all transport is propelled by internal combustion engines. *In the future*, transport will be propelled increasingly by electric motors, using electricity that is increasingly generated from renewable resources. Some 95 per cent of the fuel used for transport is a liquid petroleum product which was made from crude oil.

Rick Szostak in *The Role of Transportation in the Industrial Revolution: A comparison of England and France* compared between England and France in the 17<sup>th</sup> Century. We can see that transport is the necessary finishing point for business. The faster it goes, the better it is for business. In order to have a solid based road for transport which bring the growth for economy and for the improvement of business, drainage was the first key necessary for road transport.

*Road Transport Improvements and Network Congestion* by Anthony J. Venables marked the road traffic improvements create economic benefits by reducing the costs faced by existing travellers and by creating additional traffic, composed of individuals for whom the value of the trip exceeds the private cost. Additional traffic may also create congestion, and this tends to offset the gain from the project. It was mentioned that if congestion is experienced only by those travellers who benefit directly from the road improvement. However, traffic creation in a road network will occur not only in the immediate vicinity of the improvement, but also on the other parts of the network. By coming across the work of Anthony, it can be accepted that the benefits of a road improvement may be offset by traffic creation and consequent congestion.

Suhas Chatterjee in *Mizoram Under the British Rule* talks about the links of communication in the Lushai Hills. By coming across the book, the country was covered with a dense forest, intercepted by large number of streams. The Lushais used bridle paths during the winter, in summer the country was impenetrable. In the book it was written that after the Lushai Expedition in 1871-72, the road connecting to Dalekani and Sungoo Valley was constructed. In this mission both the authorities from Arakan and Chittagong took active interest on this. Chatterjee mentioned that the road connecting to Silchar from Aijal was made complete in 1892. It can also be documented from his work that before the Lushai Expedition 1871-72, there existed the trade connection between the Bengalee and Manipuri Traders. The Lushais were very particular in their dealings with the traders. The Lushais used to get supplies of sulphur, gun, and flint glass for their armament. The trade connection brought the existence of the establishment of bazaars in the direction of extending the civilizing influence in the Lushai Hills, the various commodities like common salt, ivory, tobacco, copper, India rubber, iron, brass were exchanged in the Lushai Hills under the British Rule.

*Sustainable Transport System: Linkage between Environmental Issues, Public Transport, Non-Motorised Transport and Safety* by Dinesh Mohan and Geetam wrote the issues about the transport concerning public, their safety and the environment. They stated that if the infrastructure designs for road transport and communication does not meet the requirements of pedestrians, bicyclist, and non-motorised rickshaws, it means that all modes of transport operate in sub-optimal conditions. It was evident through their works

was that the newly construction of road, redesign and improvement of existing road will not only provide a safer and convenient environment for the public and non-motorised modes, it also should try to improve the efficiency of public transport vehicles and enhance the capacity of passengers for their safety and for Public in their Transportation and communication which was usually based on economy of the State.

The book of *Hand Book of the Lushai Country* written by Captain O. A. Chambers gave us many of the information about the works and activities of the local people and the British in the construction of road in the Lushai Hills. It was cleared that Mr. C.A Mills was appointed by the Government of Bengal to trace the length and location of the place where to start the construction of road to enable the movement of their troops. The coolies who were to do the hard work in construction of road were mostly sent them up from Lucknow and Bareilly, soon after another batch from Punjab and North – West province who were of good physique were also sent them up in the Lushai Hills. The roads were to construct which was passable for elephant and also to establish a telegraph line for communications. According to Chambers, most of the road which was constructed in the Lushai Hills was to have the easy flow of the Lusahi Expedition and to have a good administration in the Lushai Hills, also easy movement of the troops to punish the Chiefs who resisted against them.

The book of *The History of British India* written by John F. Riddick talks about the coming of the British in India for the restoration or building of new irrigation canals, constructing the road that can connect many of the rural and urban areas at one point, railways and installation of telegraph lines in India.

The book which mentioned about the importance and status of communication network to the state is *MIZORAM: Historical, Geographical, Social, Economic, Political and Administrative* written by S. N. Singh. From the writing, developing communication network resulting in to overall economic prosperity of the Sate, also we can find out that Mizoram has the lowest density of road in the country having 16km. Per 100 sq.km. This might be applicable hundred percent in Mizoram where settlements is spares due to difficult mountain terrain with absolutely no economic activities.

*The North-Eastern Frontier of India* by Thomas H. Holdich talks about the difficulty for the surveyor not only due to the physical feature but also due to the hostility of the inhabitants and the difficulty transport. The author argued the need for the construction of road and railway in the North-Eastern region in order to take benefit of rubber produced by the North-East for the economy of the country.

*The Transport Revolution in Industrializing Britain: A survey* by Dan Bogart shows the road transport evolved from packhorses and small wagons to large wagons and stage coaches running continuously between London and major cities during the 1700 in England. The organization of road transport also became increasingly sophisticated. Road quality and capacity were vital to the functioning of road transport. It was often thought that Britain had poor roads in the seventeenth century and need of improvement in constructing a good road transport.

The Tribal Research Institute, Art & Culture Department, Mizoram publication of the *A Fly on the Wheel or How I Helped To Govern India* written by Thomas H. Lewin enlighten the story about the division of Lushai Hills District in to three parts which after the colonial period formed a unification as Mizoram State.

The work by Joseph E. Randell in the *Importance of Inland Waterway Transportation* told us that the improvement of navigable inland waterway is a duty imposed upon the people who are entitled to manifold benefits of cheap water transportation. Ransdell articulated that the creator of the universe made waterways for the use and benefit of man, whereas highways and railways are the creation of latter's labour and inventive genius. Waterways, both inland and oceanic were in general use for thousands of year prior to the advent of the railroad. In the works he is highlighting the reason which should impel us vigorously to understand the completion of inland waterway is the necessity to provide more transportation facilities for the future of the country as a whole. This transportation facilities of the near future imperatively demand the improvement and use of all of our inland waterways that are susceptible thereof.

*Zoram Chanchin (Kum 1900)* by Dr. Lalthanliana, in his book we can find the numbers of different tribes who migrated and settled in Mizoram. We came across that the author wrote about that using the Mizo as an umbrella term for the definition of



different tribes or clans who were the migratory tribes. From this book, the Mizo's were moving north to the South (Chin Area to the present area) around 1720-30. As being a migratory tribe and in fear of the counter enemy who were more powerful than they are, So, people of Mizo came to Mizoram and formed a permanent state.

### **1.3 Statement of the problem**

Most of the works on transport network system in Mizoram, so far available, were published by the Department of Transport (Mizoram) in the form of annual reports. And other secondary works (books and articles) on transports were the published research works of scholars from geography and economics background. Unfortunately, all these sources could not be considered as historical works though the authors talk about the chronological development and changes of transportation system as they didn't deal this subject from historical perspectives. Of course, it's undeniable that these works provide plenty of historical facts. One important point which we cannot forget is so far available secondary works hardly touched the pre-colonial and colonial periods. There is a big gap which needs to be filled up by the researchers. Therefore, the researcher should analyze the role of transport networks, roadways (bridle or cart-road) and waterways, in the establishment of colonial power over the Lushai Hills. Again it also needs an intensive historical research on the road constructions activities and other transport services during the crisis (insurgency) period.

What was the motive behind introducing the modern roadways system in Mizoram?

There are multiple problems in connection with road transportation systems. In the process of expansion and extension of road surface connectivity, the natives have been experiencing many positives as well as negative economic and social effects. There are issues of labor forces, deforestation, ill-treatment of natives, etc.

These aforementioned academic problems and gaps could reduce through historical analysis of transport systems in Mizoram. There are plenty of archival sources regarding transportations in colonial and post-colonial periods in Mizoram State Archives.

#### **1.4 Objectives of the Study**

- \* To trace the development of modern transport networks (roadways and waterways)
- \* To examine the economic and social effects of modern transport systems.
- \* To study the environmental impacts of roadways construction.

#### **1.5 Area of Study**

The proposed study will try to cover the transport network system and its developments in the southern and northern parts of Mizoram since the British occupation to present.

#### **1.6 Methodology**

The researcher will try to collect the different sources (primary and secondary) available in the archives, libraries situated in Mizoram and other states. With respect to the colonial accounts (official and non-official documents, which include the administrative reports, letters, diaries, correspondences and accounts of the administrators) the researcher will try to collect from the state archives (Aizawl, Dispur and Kolkata) and the National Archives of India, New Delhi. The researcher will also try to consult the church records available in the church archives of Mizoram to trace the history of transport networks. Regarding the secondary sources (articles, books, essays, unpublished seminar papers and proceedings), the scholar will try to consult and collect these sources from various libraries like, universities libraries, state and district libraries, etc. As far as the methodology is concerned the scholar will try to employ the quality and descriptive analysis to develop the history of transport networks in Mizoram. However, it will be reinforced by quantitative data analysis because this nature of work demands a critical analysis of statistical data provided by the Colonial and post-colonial administrators rather than simply displaying their data. If necessary the researcher will also try to employ the oral interviews because there are several accounts of mishandling of local peasants in the name of road construction.

## **1.7 Structure of the Study**

### **Chapter I: Introduction**

This chapter will give a brief description of the political history of colonial Mizoram. It will also try to highlight the pre-colonial transport and communication system of Mizoram. Not only analyzing the theories on transport networks of different scholars of different schools, this study will also try to employ those theories in write-ups.

### **Chapter II: Road Transport during the British Raj and Post-independence**

This chapter will deal with the different growth stages of modern roadways, for example the cutting off jungles and making of bridle roads, construction of cart-roads (jeepable roads), metalled roads, etc.

### **Chapter III: Waterways during the British Raj and Post-independence**

This chapter is proposed to examine the growth of waterways and conditions of service and safety aspects from pre-colonial times to 1987. This study will examine how the different parties (natives, colonizers) used this mode of transport for their purposes.

### **Chapter IV: Socio-Economic and Environmental Effects**

This chapter will examine the benefits of the growth of transport network connectivity in Mizoram from economic and social perspectives. It will also deal with the growth passenger transport system. It will try to explore the historical evidences of physical and mental harassment of natives by the Britishers in the name of roadways constructions during colonial period. It will also examine the deforestation of jungles, analyzing the calamities brought by such measures like landslide etc. and disturbances of Mizoram in connection with roadways transport networks since colonial times.

### **Chapter VI: Conclusion**

The chapter will deal with the summary of the research.

## 2.1 Introduction

In the initial stage of Mizoram, the Chiefs having their own suzerainty over their lands and settlement. There was no proper transport and communication among the different tribes and villages dwelling in the area. Therefore, good transport and communication system such as bridle path, cart road, etc., was hardly known to them. Some scholars opined that the foragers were entirely isolated, only interested in foraging and collecting their basic needs, however the pre-colonial Mizo's seemingly 'untouched' were frequently in touch with outsider either for commercial purposes or other requirements.<sup>22</sup> There is a question on why the Mizos were not ready to construct the better and long route? In fact, the whole Mainland Southeast Asia highlanders (swidderners) including the Lushais had chosen this kind of keep distance and nature defense systems to protect themselves from lowlanders (States). Running away from state formation led to poor transport networks would be too hypothetical and insubstantial answer on the above question. Those valley states could construct the roads interior the tribal inhabited areas, but when we look into past of the then valley states they did not even had proper roadways and apart from that their understanding on spatial and network is quite different from present context. Economy played a primary role in the history of transport and communication. Fear of intrusion, headhunting, enmity among the villages, these could be considered as secondary issues in terms of road construction.

## 2.2 Transport Network in the Lushai Hills

In order to have a good Transport Network in the Lushai Hills (Mizoram), at the early stage the East India Company (EIC) recruited thousands of labour forces from the Bengal Province to clear the forest and construct the 'bridle paths' which could lead to the interior parts of Mizoram. That is how they introduced the bridle paths which were fit for loaded ponies (*Sakawr*). For example, 1) The bridle path which connected Mizoram through Chittagong in the west, 2) Cachar plains in the north and the Chin Hills in the east (Burma) was constructed. The EIC, an experienced Company in respect of colonial expansion, wanted to establish 'functioning rule' in the Lushai Hills (Mizoram). But it was not possible in the long run unless they have proper knowledge of the region as well

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<sup>22</sup> J. R. McNeill et al., *A Companion to Global Environmental History*, London, Blackwell Publishing Ltd., 2012,p.88.

as established network systems. Therefore, once they occupied they put more effort on inspections of the Hilly ranges.

During the Second World War, in order to meet the defence requirements with the assistance of the Indian Tea Association, they constructed the Dwarbond road (Silchar to Aizawl). In fact, this was the second and better cart road constructed by the colonial ruler after the Siarang-Aizawl Cart Road.<sup>23</sup>

### ***2.2.1 Raid on Alexandrapur Tea Estate***

On 23 January 1871 (evening time), a warrior team led by Bengkhuai, Mizo Chief, attacked and crushed the Alexandrapur Tea Estate (Cachar, Assam). They killed James Winchester, manager of the Alexandrapur Tea Estate and captured his 6 years old illegitimate daughter Mary Winchester. Apparently, this team of warriors was formed at Sailam (central Mizoram) under the supervision of three/four Mizo chiefs. With all proper planning, the fully armed team of 150 (approx.) followed the bank of Tlawng River (Daleshwari) from Sailam (near Thenzawl) and crossed the river Dullapur and entered the coolie lines of the garden.<sup>24</sup> Alexandrapur Tea Estate Raid could be considered the turning point of transport network system in the history of Mizoram. In the 'Lushai Expedition of 1871-72', the British came to the Lushai Hills (Mizoram) in two columns, one from the Chittagong side and the other one from Cachar. The Chittagong Column was under the command of General Brownlow and the Cachar Column was under General Bouchier. The Cachar Column established their base camp on the bank of Tuiruang (Barak River) at Tipaimukh near Khawpuar village. This expedition force constructed the bridle path from Tipaimukh following the bank of Tuivai River towards the northeast and fall into the South crossing the Chalfilh Range. On the way they were ambushed by the locals of the Khawlian Hill. But, they still moved towards the Northwest to defeat Pawibawia Sailo (Khawruhlian Chief) who did not want to surrender to them. They turned into the Northeast side again and reached Champhai. Whenever the British army with their commander moved from one place to another in

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<sup>23</sup> S.N. Singh, *Mizoram: Historical, Geographical, Social, Economic, Political and Administrative*, New Delhi, Mittal Publications, 1994, p.76.

<sup>24</sup> Singh, *Mizoram*, p.76.

order to attack and crushed the Mizo Chiefs, they constructed bridle paths, as the Lushai Hills was thickly covered with trees and bamboos.<sup>25</sup>

The Chittagong Column of General Brownlow cleared the grass and trees and made a long bridle path from Tlabung (Demagiri) to the route of Tuikawi and they crossed the Buarpui Range and reached Sailam near Thenzawl. This was led by T.H. Lewin. And in 1872 Tlabung (Demagiri) to Lunglei which was further extended to Haka (Burma) (160 kms). In the same year, the British from the Northern column also constructed a bridle path from Champhai to North Vanlaiphai under Mr. Loch which was commonly known as Loch Trace Road.<sup>26</sup>

After this expedition the British India government decided to establish frontier markets at their newly established frontier posts. Main frontier trade marts established after 1874 were: a) Tipaimukh bazaar in north (at the confluence of Barak and Tuipui or Tuivai river), b) Sonai Bazaar in Northwest (Tuirial/Sonai river), c) Bepari bazaar of Changsil in centre of Lushai Hills (Tlawng/Dhaleswari river) and d) Tlabung bazaar in west (Khwalthlang Tuipui river).<sup>27</sup> Fascinatingly, all these marts were located at the waterways feasible points where they could reach and react on time when there is any chaos and unrest. No doubt, these bazaars played a big role of surveillance over the Mizos with less interference of their internal administrative functionaries. After the 1857 Great Revolt, the British India government used to deploy intelligences to Indian bazaars primarily to collect the secret information about what is happening around that particular area.

Now from surface road perspective, Changsil bazaar was one of the most important trade mart headquarters of the colonial Lushai Hills. After the occupation of Aijal (now Aizawl) the British constructed Changsil to Aijal (16 miles) a better and bigger mule road in the 1890s. This was followed by the construction of Silchar to Aijal via Dwarband bridle paths which was completed in 1893.<sup>28</sup> The pathetic and poor

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<sup>25</sup> McCall, *Lushai Chrysalis*, p.48.

<sup>26</sup> McCall, pp.19-20.

<sup>27</sup> S.H. Mate, 'Economic Growth and Development in Mizoram: A Study of Pre-Independence Era', *Journal of North East India Studies*, Vol. 4, No.1 (Jan.-Jul. 2014), p.26.

<sup>28</sup> Lalruatkimi, *Colonial Expansion and Frontier Markets in Mizoram*, M.phil Dissertation (Unpublished), Mizoram University, Aizawl, Mizoram, 2016, p.78.

conditions of transportation was described by A.G. McCall, as ‘...the country which has the rugged and muddy roads, river as yet too dangerous for boats, excepts in the hands of experts, all composed of steep rugged hills lacerated by these same whimsical rivers’.<sup>29</sup> Till the 1890s the connectivity in all respects was not good enough in the Lushai Hills.<sup>30</sup>

### 2.3 Chin-Lushai Conference, Lunglei, December 1896

During the Chin-Lushai Conference held at Lungleh in December 1896, all the officers who attended the Conference agreed for diagonally crossing of the hills from Aijal to Falam by bridle path, in order to move the military police from one station to another stations. But Mr. Tuck considered that “no centre post on such road is necessary”.<sup>31</sup> Mr. Porteous, Captain Loch and Mr. Hutchinson assent to consider of this indispensable that a minor outpost on the ordinary scale would be sufficient because such a post will serve the purpose of an advance base in case of assistance being required from either side of the country or beyond. The construction of the new roads as the first class bridle-paths, which was provided along with the partially-furnished rest house which was look after by the Chaukidars, was recommended by the all members of the Conference. The first recommendation as the first class bridle path in the Chin – Lushai Lushai Conference were from Aijal to Lungleh (110 miles), Aijal to Falam (160 miles), Falam to Tidim (60 miles), Sairang to Silchar (120 miles), Lungleh to Chittagong (140 miles), Haka to Kalewa (150 miles), Fort White to Tidim (24 miles) under Mr. Porteuou and Syned Hutchinson, Superintendent of the South Lushai Hills and completed in 1897.<sup>32</sup>

The Chin-Lushai Conference also recommended for the conversion of Aijal-Sairang bridle path into a cart road as earliest as possible and the length of the road will be 14 ½ miles.<sup>33</sup> After the construction of the above road mentioned, the connection of Manipur valley with Tidim on the east of the Manipur River and with some central point on the Aijal-Falam road to the west of Manipur River was considered desirable. After the consideration and recommendation of the road connecting the Aijal to Falam and Tidim

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<sup>29</sup> McCall, p.20.

<sup>30</sup> McCall, pp. 19-20.

<sup>31</sup> MSA, *Pol-36, CB-3*, p.1.

<sup>32</sup> MSA, *Pol-36*.pp.1-3.

<sup>33</sup> MSA, *Pol-36*, p.3.

after crossing the Manipur River, the road would be the second class bridle paths without rest house and the road should be cleared of slips and jungle also some sun grasses annually in the cold season. Preliminary survey of all new roads was done before the line of sanctioned of funds and the Conference also recommended that a survey of the Aijal-Falam line should be undertaken without any delay.<sup>34</sup> The Most important reason for choosing this route was that it would directly connect by the bridle path of the two district headquarters.<sup>35</sup> The second class bridle path roads like Lungleh to Haka (130 miles), Haka to Kan (65 miles) were also constructed in 1897 under Mr. Tuck, the Political Officers of the Chin Hills.<sup>36</sup>

### **2.3.1 Proposal of Aijal-Falam Link Road**

After the Chin-Lushai Conference held at Lungleh, the Political Officer of the Chin Hills H. N. Tuck made a proposal for the construction of road between Aijal-Falam through Champhai in 1897. In that proposal, it has mentioned that the road from Aijal section will go straight to the north of the direct line and pass through Champhai valley which will be the advantage for the Lushai Administration. The Champhai route would be constructed and paid for by the Lushai Section administration for the opening up of the Champhai Valley route which was advantage to this district.<sup>37</sup> Majority of the proposed bridle/mule paths were constructed by the public works department.

The following bridle paths were constructed by the colonial power till the 1930s: 1) Demagiri to Burma (through Chittagong Hill Tracts) road was by Major Edward Pamberton Leach during the Chin-Lushai expedition (1889-1890); 2) Dwar band (Cachar) - Aizawl (125 km); 3) Aizawl - Falam (Burma) (165 Km) and 4) Lunglei - Haka (Burma) (90 Km). Other small bridle paths were: Sairang - Changsil (10 Km), Aizawl - North Vanlaiphai (128 Km), Aizawl - Lunglei (165 km), Aizawl - Tipaimukh (115 Km), Lunglei - Serkawr (108 km), Dokhama - Koladyne (50 km) Zawngling - Tongkolong (67 Km), Tuipang - Chakang (72 km) and Loch's trace road (83 km). The

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<sup>34</sup> MSA, *Pol- 36, CB-3*, pp.1-3.

<sup>35</sup> MSA, *General Department - 57, CB-5*, p.10.

<sup>36</sup> MSA, *Pol- 36, CB-3*, pp.1-3.

<sup>37</sup> MSA, *G-57, CB-5*, p.10.



bridle paths were mostly used for maintenance of supplies to the Assam Rifle Posts in the interior.<sup>38</sup>

#### **2.4 Proposals of Cart Road / Proposal to the possibility of Rangamati and Haka by cart road**

In the 1890s they had occupied the larger part of the Lushai and Chin Hills. And while trying to impose the colonial administrative system, at the same time they also tried to spread the road connectivity from two parallel administrative centres (South and North). During the year 1891 in Mizoram, the Lieutenant Governor accepted the main proposal and estimate made by Lyall under the heading of buildings and communication.<sup>39</sup> The linkage of the earlier inventions – wheels on smooth irons and the steam engine may allowed the widespread of motorized transport across the land and the beginning of a new in the mobility of people and goods that from the reaming of some British documents, we can see the growth stage of road in the Lushai Hills.<sup>40</sup>

In 1889, Captain J. Shakespeare, Superintendent of the South Lushai Hills, who had been in the range of North to South Lushai Hills, instructed his junior sub-engineers to expand the surface transport network the main important strategic points of the Lushai Hills. In order to cross the Hemphung Bualpui range (Bualpui H) they constructed link road which have to follow the temporary road made by the British Sub–Engineer from the Phyrang (Phairuang). The trace of cart road was almost completed by this time from Phyrang to Lower Lungleh, Capt. Shakespeare asked to sanction a fund for this but his demand was rejected. Thence for 15 miles the present road during this time requires the widening and resurfacing in order to make a good cart road to reach the camp of Mat which was being altered and descents at 1 in 10 by long legged zigzags. The Sub – Engineer after a brief examination and well defined of the area where the cart road was to be constructed, after tracing all the features of the present of the eastern northern range of 15 mile was found rocky and shifted the tracing of road on the western face. The estimated road to cross the Aithur and Thingsai was also found very rocky and would be

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<sup>38</sup> Singh, pp.72-76.

<sup>39</sup> MSA, *Military Department – 12, CB-2*, p.2.

<sup>40</sup> Richard. Gilbert, and Perl. Anthony, *TRANSPORT REVOLUTION: Moving people and Freight Without Oil*, U.K & USA, Earthscan, 2008, p.65.

a very difficult task. It will go on the side of Zakapa village (Chief of Khawhri) (Jacopa's old village). The road will go straight on the side of Tui-phai valley and will turn south and gradually descent to the Tyao (Tiau) river. The height of the range for crossing was about 4,000 – 4,500 feet high. The lines which are suggested for the cart road to pass through were fixed as that in order to pass the Hemphung Bualpui range, the road will passed through the southern side of Hemphung Bualpui hill range. To pass the Kolodyne range of saddle on the north side of Zakapa village between Aithur and Lungleng which was the mouth of Hnahchang Lui (Narchung) or Darjow and for the Lungleng range by saddle on the north of Darbilli or Sangau. The Tiau – Chin range will follow the route of Tiau which is on the Northern side.<sup>41</sup>

On 1 November 1891, the Superintendent of the South Lushai Hills (Captain Shakespeare) sent a letter to the Commissioner of the Chittagong Station, stating about the connectivity of Chittagong Hill Tracts (Demagiri) and Haka by road. The chief main obstacles seems to be surmount in making and constructing the road from the Chittagong side to Haka were of that the Hemphung Bualpui range of the Fort Lungleh stand point which formed the watershed between the Kolodyne River and Karnaphuli River must be crossed. The avoidance of the crossing of Kolodyne River for three times of which the General Tregear had forced the labour for road during estimation to crossed on it. If the Kolodyne was avoided, there was one thing needed to remove or reject the previous construction was that starting from the Lungleng Hill range which run continuously to the South of the Arakan side and spur of Darzo (Fort Tregear) stand point and lastly of the Tiau – Chirian range. The best point to cross the Hemphung Bualpui range follow the general line of their present road from the Phairuang. They crossed the Hemphung Bualpui range from the southern side which was two miles from the summit of Hemphung Bualpui Hill and this range was only about 2,000 feet above the sea level. By using the previous road which the sub – engineer had already been traced for cart from the Phairuang to lower Lungleh in 1889. This road descended in the Mat River through bamboo jungle and soft soil. Thence only about 15 miles of the road requires widening to make the cart road more good for transport and easy to communicate. The road moves straight to the North side of Aitur (Aithur) and Thingshai (Thingsai) crossing the Zakapa Village and fall it in to the Tui-phai valley. Moving along on the left bank of Hnahchang

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<sup>41</sup> MSA, G-14, CB-2, p.1.

(Narchung) stream near to its sources and the plateau of Hnahthial (Dokara) village, then it crossed the Kolodyne from the southern side following the Darjow stream and reached the Sangau range. This cart road construction descended in the Kolodyne and crossing the Sangau range was somehow not so much difficult but was longer than the estimation. The road made by General Treager passed through the two hills of Saisihchhuah (Taogap) which was good situation for a fort. The road crossed the Blue Mountain range and passed the Darzorange (Darbilis) and Lungleng which was 6,000 feet high above the sea level.<sup>42</sup>

## **2.5 Proposal of the Lushai Hills to Haka Cart Road (1893-95)**

In the year 1893, the Lieutenant F. R. F. Boileau (Royal Engineers) made a proposal for the construction of cart road connecting the Lusahi Hills with Haka. On 4<sup>th</sup> February, he met and consulted the Lieutenant Ainslie who done the reporting of the eastern or Burma portion of the road. They agreed that the Saisihchhuah (Taogap) is junction of the road and that their report include the routes to the west of the point while reporting the all of the east. F. R. F. Boileau divides the roads estimate, proposal and report in to three main parts:

- (A) Rangamati to Taogap direct, passing south of the present posts.
- (B) Demagiri to Lungleh
- (C) Lungleh to Taogap

### **2.5.1 Rangamati to Saisihchhuah (Tiaogap)**

The road between Rangamati to Taogap would pass through the Kolodyne river, by entering the gap from south of Bualpui H up to the stream of Darzo till Sangau and falls down to the upper Kolodyne. Construction of road might seem to be beneficial for both the British and the natives living in this area or ranges. During the process of construction in this region Shakespeare suggested and mentioned few of the disadvantages in the course of construction. 1) The road would pass through an absolutely uninhabited country. 2) The necessity of abandoning of our present posts or

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<sup>42</sup> MSA, G-14, CB-2, p.3.

the building of new ones on this line. 3) The country is so cut up by small rivers and ranges of hills that little or nothing in distance would be saved. This clearly shows the road laid out by the colonialist was not favourable by them.

### **2.5.2 Demagiri to Lungleh**

Vigorous work of inspection of land was taken under Lieutenant F. R. F. Boileau (Royal Engineers) along with sub-engineer Bykanto Nath Khan, who was believed to have more knowledge about the area. Nevertheless, it was difficult to obtain reliable blue print of these hilly ranges. Tracing the route and estimation was carried out from different corner of the country and various hilly ranges and searched for the best spot of observation. The next mission was the point of saddle on the Lungsen (*Lungsin*) range which was about three miles south from the post of Demagiri which was only about 1,200 feet high above the sea level. The road will run across the Phairuang (*Phayrang*) village. The outline of road from the Ridge Camp to Lower Lungleh had a good alignment. From this report, there was a letter from Captain Shakespeare advised them to leave their present alignment and have to cross the Bualpui H (*Bolpui*) which would reduce the miles and energy as well, where the range falls in to the height of only 2,000 feet above the sea level. This report and suggestion was laid out in order to link the road up to the Darzo (*Darjow*) valley.

### **2.5.3 Lungleh to Saisihchhuah (Taogap)**

The routes from Lungleh to Saisihchhuah was divided in to three main routes, namely:- The Northern route, The Kolodyne route, Darbili route.

(1) *The Northern route:* In order to reach Saisihchhuah (Taogap), first this route will pass through the Theiriat village till down to the mat valley and run slightly up to South of Dokhara Village (Hnahthial) and will crossed the Tuiphai river and the Bualpui H range through Aithur and South of Thingsai till the Tiau river bed at Saisihchhuah (Tiaogap).

(2) *The Kolodyne route:* The kolodyne route starting from Lungleh would cross the Mat River and passed through the South of Dokhara (Hnahthial Chief) by following the North bank of KolodyneRiver till Saisihchhuah.

(3) *Darbili route*: Darbili route would also follow the same route till Mat River, the road move downward in to the Rotlang (Lalthuama Guard) village, after crossing the Hnahchangriver and passed through the Darzo village (Darbili Village) and S. Vanlaiphai then descended in to the bed of Kolodyne of Sesai or Shirtok (Saisihchhuah/Taogap).

The total cost of road from Demagiri to Lungleh 55 mile would be Rs. 4,40,000 and from Lungleh to Saisihchhuah (Taogap) 92 miles would also be Rs. 7, 36,000 including of small bridges costing Rs. 1,00,000 and excluding bridges over Tuichang, Phairuang, Mat and Kolodyne crossing. The total cost for the construction of cart between Rangamati to Saisihchhuah (Tiaogap) would be Rs. 12,76,000.<sup>43</sup>

## **2.6 Assistant Commandant Williamson's Tour and Survey Reports on Southern Area of Mizoram**

Mr Williamson, The Assistant Commandant, Military Police in the South Lushai Hills submitted a detail report on his survey work done from 19 February to March 1893. In his report many possibilities and problems of surface construction in south Mizoram were clearly mentioned. His tour report in detail as follows:

On 19<sup>th</sup> February, (Fort Tregear (Darzo) to S. Vanlaiphai 7 miles), the Government road which was constructed in the earlier period during the time of expedition. The road was good but over grown with sun grasses and bamboo jungle. The road falls in to the Hnahchang River and reached the Camped South of Dopawrha old village. The time taken from Tregear to Hnahchang river was about 2 hours and from Hnahchang to Vanlaiphai takes 2 hours, the total time period from Tregear to Vanlaiphai was about 4 hours journey.

On 20<sup>th</sup> February, (S. Vanlaiphai to Sangau 9 miles), this road also fall on the same lines of Vanlaiphai roads which was looking good but was blocked in many parts by fallen trees which made the road uneasy way to passed on. Most the villages were not looking after

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<sup>43</sup> MSA, *Pol-19, CB - 2*, p.19

property of their village road, the road were of overgrown with sun grasses and bushes. The time taken for journey between these villages was about 4 ¼ hours.

On 22<sup>nd</sup> February, (Sangau to Kolodyne below Vawmbuk Village), following the same the road of Government made about 3 to 4 miles. The road then turn off to the side of south – east spur then running downward and reached the Kolodyne River due east of Sangau. They crossed the river and recrossed it in about ¼ mile higher up to the west bank. The path runs slightly inland for about 1 ¼ mile through the open forest and fall back a bit and recrossed 300 yards higher up of the stream. The path runs inland and falls to the downward side stream for about a mile and crossed the river below Vawmbuk. The time period could be recorded as that for the first crossing from Sangao took 2 ½ hours and along the Kolodyne for about 4 ½ hours approximately.

On 23<sup>rd</sup> February, (Kolodyne River to Vombuk), the path leads to short distance up a stream running the west in to the Kolodyne. It moves up to the left side of a steep gradient through the Bamboo jungle and runs at an easy gradient north – west for about ½ mile after crossing the steep gradient and reached up the top of the hill. The path enters the village from east. From the Kolodyne River to reached Vombu took 3 hours to reach the village.

On 25<sup>th</sup> February, (Vawmbuk to Siachang River), it runs on the west side out of village along ridge through the jhum for about ½ mile, and then it turns south and descended through open jungle within the ¾ miles of Siachang river area where the path were very steep and bad, then reached the camped on the northern bank of Siachang river which would take 4 hours time of journey.

On 26<sup>th</sup> February, (Siachang River to Ramri), in order to reach the Ramri from Siachang river took 5 hours time. The gradients were of very steep. Till the end of Ramri spur and along the top and the land of the country were of open land and the path fairly level up to ¼ mile of village and need of a little slight ascent, then the path enters the village from North.

On 1<sup>st</sup> March, (Ramri to Saiha), The longest and time taken journey between Fort Tregear to Saiha was the camp between Ramri to Saiha which took 8 hours journey. From Ramri

to Ni-aw river takes 1 ½ hours, Ni – aw river to Blue Mountain (Phawngpui) ridge takes 3 ¼ hours, lastly the ridge of Saiha takes 2 ¼ hours. The road then runs west out of village, crossing steep gradient to stream below Ramri. This short steep gradient of the west side passed through jhums and curves gradient along the thick bamboo forest and drive up in to the Ridge of Blue Mountain. The road then descends sharply to Saiha spur through the open for about 5 miles crossing the two small streams and entered the village from the east.

## **2.7 Tour and survey report on Serkawr to Rotlang (9<sup>th</sup> March – 21<sup>st</sup> March 1893)**

Serkawr (Sherkor) to Tuitlawk (Titloch) river (9<sup>th</sup> March): Here the road run down out of village to the east crossing the jungle and then turned north-west again through the jungle for about ¾ mile, the road was so bad and up and down. From here the road descended sharply for about 3 miles through thick bamboo forest to Koichaw (Kawlchaw) river which it runs a crossed the North for about 2 miles to junction of all stream with Koichaw tributary, where they have a camped before. Here the level of the road was good and the runs to the side of the source of Koichaw tributary. The path then crossed the Titloch River where the descent was very steep. From Sherkor to reach Tiloch River took 7 hours journey during this period.

Tuitlawk River to Saiha (10<sup>th</sup> March): Taking 1 ¼ hour to reach Saiha from Titloch river need to cross a small stream and follow the roads which run up to the village side at a fair gradient. The road runs north-east direction near the village and curved around the village and run inside the village from the south-east direction.

Saiha to Tuisumpui (Tishumpui) River Camp(11<sup>th</sup> March): The road runs north to west out of the village and level for about ¾ mile through the forest and descended down to the Tishumpui River which was crossed at its junction with Saiha River. The road then runs up at Tishumpui which was and recrossed eight times for about 2 ½ miles and level through thropen bamboo jungle and reached the camp. Therefore, to reach the camp from Saiha will take 3 hours.

Tuisumpui Camp to Phalhrang (Mingvar) Camp (12<sup>th</sup> March): The road runs north-west up very steep gradient through the bamboo jungle. The road bends to the North and runs level along the ridge for about 6 miles through the open jungle. The road badly descended to the Kolodyne and runs along the bank to the east which was covered with boulders. Taking 6  $\frac{3}{4}$  hours, finally reached the camp which was about  $\frac{1}{4}$  mile south of the Mingvar River.

Phalhrang Camp to Fungkah (Fanka), 13<sup>th</sup> March: Running along the east bank to junction of Mingvar River, after leaving the Kolodyne and struck uphill to North through bamboo jungle for about 2  $\frac{1}{2}$  mile which was a steep gradient. The road turned slightly east and was level for about  $\frac{3}{4}$  mile and then turned more to the east and swept a round up a short gradient through forest and reached the village from south-east direction which required the 2  $\frac{1}{2}$  hours travelling.

Fungkah to Lungtian (Langtung), 16<sup>th</sup> March: The road runs east in upside down through several small nalas to foot of Vantura's village (Cheural). From here the road was running excellent in zigzags up spur of the hill and enters village from north-west direction and took about 3  $\frac{3}{4}$  hours time.

Lungtian to Vartek (Vatek), 18<sup>th</sup> March: Road runs out of village in north-west direction through jhums and sun grasses; it crossed Howsata's old village (Lungtian) which was covered with thick forest. Excluding Howsata's old village, the levelling of the road was good. The roads were partly blocked by fallen trees in several places. After spending 4 hours journey, it entered the village from south-west direction.

Vartek to Kolodyne below Zotui (Ropui), 20<sup>th</sup> March: It runs along the north out of the village, the path then cuts across a small water-course to Kolodyne and then moved up on the bank of Kolodyne for about 8  $\frac{1}{2}$  miles. The path level was good but the soils were deep and rocky. The Kolodyne was crossed about  $\frac{1}{2}$  miles below the stream which was running from direction of Ropui and reached the camp which took 4 hours of journey.

Camp junction of Zotui (Ropui) stream and Kolodyne to Rotlang (Lalthuama Guard), 21<sup>st</sup> March: Following the path which was started from the head of Zotui stream and turned west up a steep over no proper road through old jhums to the road between Lalthuama's new and old villages. The path then turned north and descended sharply to



small stream running south-east and north-west down to which the Mr. Williamson and his team marched for about a mile; then turned north and runs through bamboo jungle for about 3 miles at a fairly level gradient and struck Lalthuama's old road about 1 ¼ miles from the Government. After passing Zotui and the stream to the old road of Lalthuama and to Government road takes 3 hours and reached the Lalthuama's Guard place from the east. The road construction and conversion of bridle path into cart road was completed in 1893 under Mr. Williamson and Mr. F. R. F. Boileau.<sup>44</sup>

As it was mentioned in the above regarding the report of road condition and proposal for the construction of cart road in the Southern Part of Mizoram by Capt. J. Shakespeare, Superintendent of North – South Hill Lushai Hill Range, Lieutenant F.R.F Boileau, and Assistant Commandant Williamson. The main objectives and policy of the British for the construction and repairing of road in the Lushai Hills were indeed for the easier movement of troops in the interior parts of Mizoram. There were so many reasons which could not be possible to execute the proposal for the construction of cart road because they might thought that Mizoram was a very peaceful place and required no construction and repairing of those bad condition of road. They might also want less movement of troops and want to spend fewer amounts of funds for this from the Colonial Administration in the Lushai Hills. As the Lushai District was a Deficit District and most the year they spend more funds than their annual income of funds from the British/Colonial Administration. After tracing and reported the possibility and condition for the connections of road in many places. Especially the proposed in to the Lushai Hills were found very rocky and many streams or river which was very difficult to crossed. They might not want to risk so many life and time by spending huge amount of funds. If the total cost of proposal for the construction of cart road including bridges between Rangamati to Saisihchhuah (Taogap) would be Rs. 12,76,000.<sup>45</sup> Captain J. Shakespeare proposal fund for the connection of Rangamati – Haka by road was rejected. Therefore, due to so many reasons which was opposed and rejected by the high authority most of the proposal for construction of cart road and road report which were in need of repaired and maintenance in the Southern part of Mizoram were not materialised and most of

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<sup>44</sup> MSA, *Pol-56, CB-6*, pp.5-8.

<sup>45</sup> MSA, *Pol-19, CB - 2*, p.19

them remained unrepaired, maintained and no construction which remained the same as it was.

## 2.8 Establishment of Public Work Department

As far as the cart road (Unmetalled) is concerned, the British India Government converted Aizawl – Sairang (22kms) bridle path in to cart road.<sup>46</sup> In 1908, the British India government established a separate Public Work Department (PWD) in the Lushai Hills to look after the road construction works.<sup>47</sup> Under the correspondence with the secretary in Public Work Department, the completion and estimate of the Sairang cart road was done in 1908 which was undoubtedly be the advantage to the district. This completion of cart road might be the vital point for the reduction of the expenditure on the Santhal collies by a sum of Rs. 6000 per annum. This cart road estimates have a remarkable tendency to increase to the district. But the road will be impassable for some months during the time of rain unless it was metalled. The climate of this Sairang village was somehow not favourable for draught bullocks.<sup>48</sup> The Aijal Sairang cart-road annual repairing work was done in between 1933-34 by using 1to 2 inches gauge local hard stone gravel with proper camber and dressing the surface. As per instruction the village chiefs will be the contractor in this construction of work. They were responsible to deliver to the authority of the finished task in time. The government released a strong notification that ‘if any man selected for this road repairing labour work fail to be present without chief’s written permission they will be put behind the bar for disobedience of orders’. The nominated chiefs as contractors for the stretches were Thangphunga (of Chaltlang) 1 – 5 mile, Rohrenga (of Siphir) 5 – 9 mile and Saikunga (of Sakortuichhun) 9 – 14 mile. The government openly asked the contractors to use local labour. When the task was finished, the contractors (Chiefs) credit loan accounts were withheld.<sup>49</sup>

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<sup>46</sup> Singh, p.74.

<sup>47</sup> MSA, *Pol-170, CB-17*, p.10.

<sup>48</sup> MSA, *Pol-71, CB-7*, p.10.

<sup>49</sup> MSA, *Pol-170, CB - 17*, p.56.

### 2.8.1 P. W. D Road List 1908

**Table No. 1. List of Roads in the Lushai Hills District maintained by PWD in 1908**

Name of Roads	Roads in Mile
Aijal Station road	2 ½
Oldham Cart Road	1 ½
Aijal Lungleh road 1 <sup>st</sup> Sec 54	106
Aijal Lungleh road 2 <sup>nd</sup> Sec 52	-do-
Aijal Sairang Cart road	13 ½
Aijal Dwarband road	93
Aijal Falam road	105 ½
Aijal North Vanlaiphai road	83
Demagiri Thega road	6
Dokhuma Kolodyne road	32 ½
Lungleh Haka road	59 ¼
Lungleh Demagiri road	42
Sairang Changsil road	9 ½
Loch's trace between Champhai and North Vanlaiphai (from 4 ¾ miles of Champhai)	53

Source: Mizoram State Archives.<sup>50</sup>

### 2.9 Jeepable road in Mizoram

When the construction of road seems that there were many people among the Mizo's who thought that the Government of Assam brought about the successful completion of the Aijal Lungleh Jeep Road in 1916. Indeed they were right to some extent as it was the Government of Assam who carried and worked for this construction of road. But to think more deeply on these issues that it might be difficult to conclude that it was built with the honest, sweat, money and efforts of the mizo itself in the face of all sorts of hardship and discomfort. It might due to the zeal and tactful handling by Pu Barkataki of the efforts and enthusiasm of the mizo's that this road was built. The Mizo's

<sup>50</sup> MSA, Pol-144, CB - 14, p.126.

cannot consider the Jeep Road as their own brought with their blood. It appeared that the status of the plains people and Mizo's were being treated differently, even the contractors of the Mizo's on the Aijal Lungleh Road have some more hardships and difficulty while the Plains received better scope. These issues were also highlighted by the Mizo Arsi newspaper/magazine on 15<sup>th</sup> March, 1956 in page 2.<sup>51</sup> During the Second World War in the 1940's in India, the Dwarband road (Silchar–Aizawl) was reconstructed and completed under Indian Tea Association in 1938 in order to meet the defence requirements. In 1942, the four wheeler (Light Petrol) reached Aizawl for the first time in Mizoram.<sup>52</sup>

## **2.10 Road Construction in Post-Colonial Times**

Since 1947, the road transport in India has become a dominant mode of transport, especially in moving short and medium distance passenger traffic. The road transport offers a number of advantages over the other mode of transport, such as flexibility, reliability, speed and door to door service.<sup>53</sup>

### **2.10.1 Aizawl to Lunglei Motor Road**

The construction of Aizawl-Lunglei Motor Road was started since 1950 by the people of Mizo District on self-help base. All villages in the District were requested to help the constructions either by labour or cash contribution.<sup>54</sup> The most remarkable landmark since independence in the development of communication was the construction of a 231.73 km Aizawl to Lunglei Motor Road. The certain period of time in excavating the road between Aizawl to Lunglei was that on January 26, 1950. In Aizawl and Lunglei the Road Committee was set up and discussed the programme for digging the road between Aizawl and Lunglei by calculating all the Villages and their distance between them and categorised them in several Blocks and requested each of the houses to dig the

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<sup>51</sup> MSA, G-230, CB-19, P.81.

<sup>52</sup> Singh, p.76.

<sup>53</sup> Rajindar K. Kosahl, and Manjulika Koshal, 'Economics of Scale of State Road Transport Industry in India', *International Journal of Transport Economics / Rivista internazionale di economia dei trasporti*, Vol. 16 No. 2 (June 1989), p.166.

<sup>54</sup> MSA, *Public Works Department-1213, CB-99, p.1.*

road according to their gap between village and village: Block No.1 (between 5-10 Miles), Block No.2 (between 10-20 Miles), Block No.3 (between 15-20 Miles), Block No.4 (between 20-30 Miles), Block No.5 (between 30-40 Miles), and Block No.6 (outside area of 40 Miles) to dig 18yds, 14yds, 10yds, 8yds, 4yds and 2yds respectively.

On 3<sup>rd</sup> April, 1953 at A.R Ground the First Prime Minister of India, Jawaharlal Nehru inaugurated the first road of Mizoram between Aizawl to Serchhip. After completing the digging of road between Aizawl to Lunglei to pass vehicle across, it became the first motor road, National High Way No.54 in Mizoram.<sup>55</sup> During the time of road construction between Aizawl and Lunglei in the 1950's by many of the People, there that had been some delay in communication of the funds, the sanction of the Rs. 10,000/- for the work on the Aizawl – Lunglei Road Project. This was because of the P. W. D raising the objections and from the Finance Department regarding the manner in which the sanction for the said amount was to be communicated.<sup>56</sup>

Since 1956, the state road transport undertaking has increased in number as well as in size. These undertakings have helped in linking remote areas and bringing in to the main stream of national development creating further pressure on the state road transport activities to extend and expand their services. In response to the aims of the Government of India in the process and development of road transport excavating all the rural areas connect with the road. Many rural areas of the State in Mizoram saw the changes in road transport networks which connect the majority rural areas of Mizoram. The issue of expansion and extension of services, there is estimation that the road transport was estimated for the long run production function and the long run cost function for the state road transport industry in India.<sup>57</sup>

L. S. Ingty, I.A.S., The Deputy Commissioner, Mizo District made a proposal to construct a road from Keitum to Champhai, to Asst. Secretary, Government of Assam with a letter No. GD.13/59/64, dated 1<sup>st</sup> July 1959. In the letter it was written that the

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<sup>55</sup> S. Thangbilha, '*Mizoram Motor kawng hmasa ber, Aizawl - Lunglei kan neih dan*', Zotuithiang, Lunglei, Writer's Club, 2003, pp.99-102.

<sup>56</sup> MSA, G-881, CB-72, p.22.

<sup>57</sup> Kosahl and Koshal, *Economics of Scale of State Road Transport Industry in India*, p.166.

road to Champhai via Tuivawlchhuah covers only the Northern part of Champhai and did not touch the most densely populated portion of the south-eastern part of Champhai. This covered 72 villages with a population of nearly 50,000. The entire area was surplus area on food production that the people in this area do plenty of wet-rice cultivation. The length of the entire road was 100 miles. During the past few years they already made a jeepable road up to Keitumkawn which needs much more improvement and they already started working for the improvement of roads between North Vanlaiphai and Champhai. It was seen in the letter that the fund from the Border Relief amount was allotted from this year but were not able to pay the funds for they do not receive any authority for the supply of amount. L. S. Ingti, stated the importance of roads that if it was properly built even the present shortage of supply which will improve the economic condition of their time.<sup>58</sup>

The Lunglei Sub-Divisional Officer allotted for the construction and widening of road in 1960 taken up by the PWD. The road from Tlabung-Lungleh up to Phairunag required the widening, it was essential to widen the road that rice from Demagiri side will be brought up by boats till Phairuang, from Phairuang rice will be transported to Lungleh Division. This widening and construction of road was done under the SDO, PWD 'B' Lungleh Division with an amount of Rs. 40,000. The construction of road between Haulawng and Zobawk was completed under Sub-divisional Relief Officer and Relief Overseer costing 13,000. Between Lunglei and Lawngtlai via Tuipang road and Tlabung – Serhmun road construction was also completed under Sub-Divisional Officer i/c and Relief Officer by amount of 13,000 & 12,000 = 25,000. The road from Lunglei to Lawngtlai road (42 miles) was already completed as jeepable road from the Border relief and Test Relief Grants. But it was necessary to jeepable road down to the Lakher area under S. D. O, PWD, Lungleh 'B' Division by the amount of 15,000. The road to Lakher area Lawngtlai to Tuipang road will pass through Chawnhu, Saizawh, Tuipui, Paithar, Saikah, Maubawk, Serkawr, Tuipang and Latawh till Bungtlang villages. As being the Lungleh was the main lane of supply to many villages it was necessary to make the narrow path clear and safe to transport for jeep traffic, for this reason widening of Zotlang, Zohnuai, Serkawn, Pukpui was completed by Rs. 3,000 under SDO, PWD, Lungleh 'B'. Similarly, the road of Rualalung, Buarpui, Hauruang, Bungmun side was

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<sup>58</sup> MSA, G-1293, CB-106, p.64.

also completed under the same amount and authorization. The road to Hemphung Bualpui range was also completed which passed through Aithur, Tuipui D, Darzo, S. Vanlaiphai, Muallianpui, Thingsai under Rs. 1,000 by Zonal Relief Officer.<sup>59</sup>

## **2.11 Annual repair and Construction of Bridges in Mizoram under PWD**

The Public Works Department (PWD) tendered a Notice on 4<sup>th</sup> October, 1958 for the annual repairs to Aizal-Lungleh/A-L Road (Jeep Road) 1958 (Construction of fair weather Bridge over Sonai) for the approximate amount of Rs. 2,000/-. In regards to the Notice made by the PWD, the Addl. Executive Engineer, Aijal Division also notified for general information that the Jeep traffic between Bungtlang and Seling-kawn was suspended due from the 21<sup>st</sup> July, 1958 to 30<sup>th</sup> July, 1958 due to the urgent repairs to the bridge over the Sonai river in the 13<sup>th</sup> mile of A-L road and this portion of the road was passable again from the 31<sup>st</sup> July 1958.<sup>60</sup>

### **2.11.1 Construction of Tuirial Bridge**

The Superintendent of PWD in the Mizoram sends a work order No. 25 Of 1948-49 to Hrangliana (King of Chhingchhip Village) to construct a bridge across Tuirial River in the Aijal – North Vanlaiphai road except those who are coolies. Thangliana should follow the estimate and proposal made by the P. W. D overseer. This work was a village contract work and the standing order No. 20 of 1948. The works should be done as fast possible without any complain and controversy. The fund for the worker was providing after the completion of the work at PWD rate of Re. 1/5 (one rupee per Five days).<sup>61</sup> It was cleared from the Letter of Rokhuma of Lungdar Village to the Superintendant of the Lushai Hills that the bridge across the Tiau River was made temporarily by the British during the expedition, Aijal. Rokuma stated that the people of the Lushai Hills and the Chin Hills which were bordering each other had much trade connections during the past few years of 1948. The Chins used to come to Lushai Hills to buy animals, cotton, rice and many other local products. The Lushais also used to buy

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<sup>59</sup> MSA, G-1319, CB-105, p.166.

<sup>60</sup> MSA, PWD-1213, CB-99, pp. 20-22.

<sup>61</sup> MSA, G-718, CB-58, p.68

some textiles, salts, and other several miscellaneous items from Chin Hills supply. This was being the best sources of income for the Lushai Hills and was essential to have an all good weather road link between Chin Hills and the Lushai Hills. As the suspension bridge at Tiau river was impassable for the traders and no one could do the repair, the people of the Chin Hills and the Lushai Hills bordering the district requested him to Construct or repair as a private enterprises and to collect toll from passing through the bridge. He was willing to accept the rate suggested by the Superintendant of the Lushai Hills. The rate suggested by him in crossing the bridge as:

During the rain .....	Rate per Man .....	Rate per Animal
May to October .....	0 – 4 – 0 .....	0 – 8 – 0
November to April .....	0 – 2 – 0 .....	0 – 4 – 0. <sup>62</sup>

### ***2.11.2 Tender for Special Repairing Work and renewal of Suspension Bridges 1949 – 1951***

The Superintendent of P. W. D in Mizoram, S. Barkataki made a notice that all the tenders are invited for annual repairs and special repair works of the bridges during 1949 – 50 and for renewal of suspensions bridges in April 1950. Each of the tenders should mention the work or works at what percentage increased or decreased over the P. W. D schedule of rates for 1949 – 50. For the Suspension bridge rates per running foot of each bridge should be quoted. Tenders should submit all the works except renewal of suspension bridges in plain paper to the PWD Office at Aijal for Aijal Sub-Division to overseer, Lungleh for Lungleh Sub-Division works on or before 15<sup>th</sup> September 1949. Tenders for renewal of suspensions bridges should similarly be submitted on or before 28<sup>th</sup> February 1950.

In Aijal Sub-Division, the Aijal station Road (annual repair was done), Sairang Station Roads (annual repair was done) and the Special repairs to Suspension bridge over Tuirial on Aijal – Tipaimukh road was also done.

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<sup>62</sup> MSA, G-1319, CB-105, p.127.



## (1) Renewal of Suspension bridges during 1950 – 51.

The contract works will the responsibility of the accepted contractor taken by the PWD Superintendant of the Lushai Hills for subsequent repairs and renewal of bridges if and when necessary during 1950 – 51.

1. Bridge over Tuirial on Aijal – Tipaimukh road, approximately Span 200.
2. Bridge over Tuirini approximately span 170} on Aijal – Falam road
3. Bridge over Tuivawi approximately span 140}
4. Bridge over Tuichang approximately span 100}
5. Bridge over Tuipui approximately span 140}
6. Bridge over Tuirial approximately span 200} on Aijal – N. Vanlaiphai Road
7. Bridge over Tuichang approximately span 220}
8. Bridge over Tuipui approximately span 220} on Loch's Traces
9. Bridge over Lau approximately span 1000} on Aijal- Lungleh Road 1st Sec.

In Lungleh Sub-Division, the special repairs to Vanva Bridge on Aijal-Lungleh road was done annually, the Lungleh Station Road was also repaired annually. In Lungleh Sub-Division also the contractors were given the responsibility in repairs and renewal of the Bridge 1950 – 51.

## (2) Renewal of Suspension bridges during 1950 – 51.

1. Bridge over Mat river approximately span 200} on Lungleh – Haka road
2. Bridge over Sailungrek approximately span 120}
3. Bridge over Baraphairuang approximately span 250} on Lungleh – Demagiri road
4. Bridge over Tuichang approximately span 290} <sup>63</sup>

The Constructions of Bridges over the Mat and Mengpui rivers and the establishment of a ferry over Kolodyne River can be seen from the letter No. TAD/com/20 dated 19.4.1954 of Deputy Commissioner of Mizo District that the construction of bridge over the Mengpui River should be taken up within this year on self-help base, as no funds could be available. Letter No. 3077PW dated 11.12.1954 shows for the plan and estimation for the construction of suspension bridge over the Mat

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<sup>63</sup> MSA, G-760, CB-62, pp.20-21.

River between Thualthu and Mualthuam Villages with the amount of Rs. 13,000/-, temporarily with bamboo floor which should be renewed every year before rainy season with the width of the 270 feet which was 18 miles from Lungleh crossing the Mat river.<sup>64</sup>

A report from the Sub-divisional Officer, Lungleh., that in his copy of letter No.LGC.3/60/19 dated Lungleh, the 30<sup>th</sup> May, 1960 revealed the fair-weather bridge at Mat was about to be wash away by the flood and that the old suspension bridge is in bad condition and unfit for traffic and made a proposal and order to the S. D. O., P. W. D Lungleh Division II to rearrange and repair immediately before the bridge was wash away.<sup>65</sup>

## **2.12 The Border Roads Organisation / Border Roads Task Force**

Since 1963, the Border Roads Organisation (BRO) had taken up the construction of roads in Mizoram. In initial stage, they were to take up all the arterial roads and later the expansion and maintenance works. Considering the difficulty and risk of the Soil also the landscape of Mizoram and susceptible to landslides, the achievement of the organisation had been stunning.<sup>66</sup> On 1<sup>st</sup> March when Mizoram was declared a Disturbed Area, all the workers of Border Roads Task Force (BRTF) could not continue and had a fast improvement in constructing the road. The Government of India relocated many villages in Mizoram due to poor linkage of road to have a good and strong administration. The insurgency brought a positive development in the construction of roads in the way of increasing labour and funds. When the Government of India realised that it was essential to have a good transport networks in Mizoram in order to have a strict and strong administration in Mizoram. So, she put more efforts on the construction of roads in Mizoram.<sup>67</sup> The road constructions got momentum and the important roads in Mizoram in the post insurgency periods were Silchar-Aizawl and Aizawl to Lunglei till Tuipang, Lunglei to Tlabung, Seling to Champhai road, Lunglei to Thenzawl, Kutkawk to Sangau road, Lunglei to Buarpui road, Lungsen to Chanwgte road.<sup>68</sup> In May 1967, the

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<sup>64</sup> MSA, G-1275, CB-105, pp 5-8.

<sup>65</sup> MSA, G-1319, CB-108, ,p.243.

<sup>66</sup> *Mizoram District Gazetteers: Mizoram 1989*, Aizawl, Director of Art & Culture, Government of Mizoram, Education and Human Resource Department, 1989, p.181.

<sup>67</sup> Prof. J.V. Hluna, interviewed by C. Lalthlengliana, 2016, Sikulpuikawn, Aizawl, Mizoram.

<sup>68</sup> Singh, p.77.

Government of India launched a project to co-ordinate and speed up the road construction activity in Mizoram. Silchar-Aizawl-Lunglei-Tuipang (NH54) road which was taken up in 1963 was completed in 1972; Lunglei – Tlabung was completed in 1972; the Seling-Champhai road was completed in 1973. A number of new roads were taken up in 1973, the Lunglei-Tuipang road was taken up in 1968; the Lunglei - Serchhip-Thenzawl road was taken up in 1973, the road from Kutkawk– Sangau, Lunglei – Buarpui was completed in 1973-74, Lungsen – Chawngte road was also completed between 1979-80, the Venus Saddle-Saiha Link road was also taken up in 1974;.

**Table No. 2: Roads constructed by the Border Roads Organisation or the Border Roads Task Force (BRTF) till March 1978**

		KM
A	Black top roads	1010
B	Roads not yet blacked topped	234
C	Road-wise under the BRTF	
	Aizawl – Silchar road	117
	Aizawl – Lunglei road via Serchhip	232
	Aizawl – Champhai road via Seling	188
	Aizawl – Tipaimukh road via Seling	181
	Aizawl – Tuipuibari road	187
	Aizawl – Tlabung road	89
	Aizawl – Tuipang road	162
	Saiha – Link road	27
<b>Total</b>		1244

Source: Mizoram District Gazetteers

Besides these, the Lawngtlai – Diltlang – Chawngte road over 80 kms has also been handed over the BRTF and the work would be taken up by them. An outlay of Rs 40 Lakhs was proposed for 1979-80 for works to be done by the Border Roads Organisation.<sup>69</sup> The Road network development of the country was based on the Nagpur Plan, 1943. The Plan, in its totality, thinking that every inhabited settlement was to be

<sup>69</sup>*Mizoram District Gazetteers 1989*, pp. 181-182.

within 8km of all weather roads mainly in the agricultural areas and 30km for every inhabitant in the non-agricultural areas. The density of the roads were increased to 32.5 km per Sq.km in the North East and this was achieved only the State of Tripura in North East. Due to Lack of technical manpower, machinery, and resources created a big trouble or problem for the maintenance of the road in the region.

### **2.13 Functions of Traffic and Road Funding**

In 1956, the leaders of the Mizo District Council, Government and the Police Department have the mind of good functioning Traffic Police in the city of Aizawl. In the 1970s onwards Traffic Police had properly functions and made the three new Traffic Point at Bazar Bungkawn, Darawti Point and Chanmari Point which were used till date. Today, the city of Aizawl was divided in to Zone 5 – Central Zone, North Zone, South Zone, East Zone and West Zone. Besides these zones there were also 12 Sector under the guidance of Sector Officer, under this sector, there are 48 Beat under Beat Officer, under the Beat Officer there is a Point Duty, in the City of Aizawl there are 24 Traffic Point but out of these 24 Points only in 20 points the duty were there, 4 points were left without any duty due to the less in number of workers.<sup>70</sup>

The Transport Department is the main regulatory authority for transport in Mizoram. It is mainly for registration, licensing and control of passenger and cargo transport vehicles; collection of vehicles purchase taxes, and annual taxes on commercial vehicles; annual technical and pollution control inspections of vehicles; licensing of drivers; and the enforcement of provisions of the Motor Vehicles Act 1988, the Central Motor Vehicles Rules and the Mizoram Vehicle Taxation Rules'. The main components of the 'State's General Taxation' system are sales taxes, registration fees and fees on services.

The funding of road up gradation, repairing and maintenance programmes of the Public Works Department (PWD) depends only on State and Central Government allocations. Till the end of the 1987, it can be seen that Mizoram's town and about 341 of its 764 villages have been now connected by all-weather roads. While about 338 villages

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<sup>70</sup> C. Vanlalvena, *Aizawl City Traffic Police Chanchin Tawi*, Aizawl, Aizawl City Traffic Police, 2015, pp.1-5.

are connected by fair weather roads, it seemed about 85 villages are not yet connected by any type of roads. The majority of roads connecting villages are 'Jeep-able links' standard. Almost 50 per cent of the total road network was a modified road surfaces excluding NH-54 which was upgraded to double-lane standards, all Mizoram roads are single lane, having carriage way widths of mostly 3.00 meters.<sup>71</sup>

## **2.14 Conclusion**

Road transportation system had been developed tremendously with the coming of the British supremacy over the Lushai hills. The reason being, they wanted to access in a facile way covering north to south, east to west in order to carry out effective administration covering the whole of Lushai hills and subjugate every chief under the British umbrella.

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<sup>71</sup> Bhatt and Bhargava, pp.190-192.

### 3.1 Introduction

The Tlawng, Tuirial, Khawthlangtuipui, Tuiruang rivers were the main commercial waterways in pre-colonial and colonial Mizoram. Apparently, a tremendous change in waterways system came into being since the Lushai Expedition of 1871-72. Introduction of colonial water transportation was mainly for surveillance over the Lushai chiefs and their territory though we found some evidences of their initiatives in the establishment of frontier trade marts.

### 3.2 Geographical Landscape

The existing river of Mizoram were of small stream and river which was limited in size and volume of water for waterways transportation even for a while there are only less river which were used because the area received a considerable amount of rainfall during summer, and most of the streams were ephemeral in nature. Their volumes are very limited during the dry season, but most of the rivers were swollen by the rains during the monsoon season. Most of the rivers originated in the central part of the state. The rivers were narrow and had been carved out in softer formations. The rivers at various places sometime formed a deep gorge, and cut across the striking ridges forming water gaps. Most of the rivers in the upper course were often intervened by waterfalls. As the river were controlled by parallel ranges, the rivers of the ephemeral and consequent type show trellis, as well as parallel drainage patterns.<sup>72</sup>

The most important Rivers in Mizoram were of the Tlawng (Daleshwari), the Tuirail (Sonai) and the Tuivol which run through the northern portion of the country and eventually joins the Barak. The southern hills were drained by Chhimtuipui (Kolodyne) on the east, with its tributaries the Mat, Tuichang, Tiau and Tuipui; while the Khawthlangtuipui (Karnafuli), at the mouth of which stands Chittagong, with its tributaries the Tuichong, forms the western drainage system.<sup>73</sup>

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<sup>72</sup> Rintluanga. Pachuau, *MIZORAM: A Study in Comprehensive Geography*, New Delhi, Northern Book Centre, 2009,p.36.

<sup>73</sup> BC. Allen et al., *Gazetteer of Bengal and North-East India*, New Delhi, Mittal Publications, 2010, p.456.

### 3.3 Mode of Living

The people who lived on the simplest way of technological levels have no methods to travel or transport by water other than wading and swimming. As it can be seen that swimming might not be the universal; there were many of the tribes and nations of people in the world who cannot swim. Taking the example from the tropical forest-gatherers of Sumatra<sup>74</sup>, the Kubu and Lubu<sup>75</sup> and the Punans of Borneo,<sup>76</sup> cannot cross streams too deep to wade. Once people have developed or learned techniques of travel by water, however, it becomes, in some environments, the principal method of transportation. Especially in the some of the region's transportation through water by using canoe or boats were useful. In the case of Mizoram also, as it was laid in the Tropical rain forest region, some of the villages had simple adjustments to their landscape.<sup>77</sup>

Inland waterways include bayous, creeks, rivers, shallow canals, and lakes. Inland waterways sometime compete with railroads in carrying freight, and there is always more or less rivalry between these two agencies of transportation in England, but in Mizoram being a hilly region it was not possible to compete waterway with railway because there were no big rivers to have a big business and larger transportation and even the railroad to compare with, which can overrule the other means of transportation. Ransdell stated the crucial role of water transport by indicating that the Creator of the universe made waterways firstly for the use and benefit of man, whereas highways, railways, and airways are the creations of the latter's labour and inventive genius. Waterways, both in land and oceanic, were in general use for thousands of years prior to the advent of the railroad, motor road and air routes.<sup>78</sup>

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<sup>74</sup> Sumatra is an Island in Western Indonesia.

<sup>75</sup> The Kubu and Lubu were also called the animist peoples who lived in the central and southeast Sumatra.

<sup>76</sup> They were the ethnic groups which were found in Sarawak, Malaysia.

<sup>77</sup> Eliot D. Chapple and Carleton. Stevens Coon, *Principles of Anthropology* Vol.I, New Delhi, Cosmo Publications, 2004, p.209.

<sup>78</sup> Joseph E. Ransdell, 'Importance of Inland Waterway Transportation', *The North American Review*, Vol. 224, No. 835 (Jun-Aug., 1927),p.2.

This inland water ways can be divided according to Emory R. Johnson in *Supplement: Inland Water Ways, Their Relation to Transportation* in to three classes: Firstly, Natural waterway likes Rivers and Lakes takes the important whose commerce is distinct from the ocean in the sense that ocean vessels cannot navigate them. Secondly, the inland canal, which was that purely artificial waterway whose purpose may be lengthen a natural water course, to connect a separated rivers, lakes or arms of the sea or the establishment of a waterway in the entire region where no water course exists. Thirdly, it was the Ocean ship canal. Among these classes which were mentioned by Emory, only natural water way is applicable in Mizoram.<sup>79</sup>

### 3.4 Boats for Transportation

The boats which was used at first by the Mizo's was the 'bamboo raft', this bamboo raft was a collection of bamboo which was tide on the head and the tail, it can carry only small amount of materials or the person depending upon the length and tide collection of bamboo by the person. It was the only and simple method for waterway transport used by the Mizo's and was applicable in various places than the other boats in the river. By the development in technology and also may be the knowledge brought by the British through waterway transport, they have the mind to improve their boats in order to carry more materials to meet their needs and passengers. Later, the use of canoes became very popular for transportation which can carry more stuff and more safety for the passengers because most of the rivers in Mizoram were much of rapids. Later the use of ferry boats and ferry was known and practise in several places.<sup>80</sup> Waterway transport through ferry boats that carry vehicles and other big machines were still practise till today. The boats which was used by the British were the 'dug out', some of the plank were stitched to the both side with other plank to increase their capacity in carrying things which was also known as 'bullam boats'. These 'dug-out' boats are of all size than can take 300 maund burdens as compared to canoes for one man. Those from 50 to 100 maunds burden were generally employed. The crew normally consisted three to four oarsmen and a munji or a steersman. These oarsmen can pull the boats steadily all day

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<sup>79</sup> Emory R. Johnson, '*Supplement: Inland Waterways, Their relation to Transportation*', The Annals of the American Academy of Political and Social Science, Vol. 4, Supplement 5 (Sep., 1893), p.14.

<sup>80</sup> Chambers, *Handbook of the Lushai Country*, p.63.



long without revealing any sign of exhaustion. Almost, none of the villages in the district altogether were supported by river traffic, but on the other side the significant waterway traffic was carried on Kasalong, Rangamati and Changraguna on the Khawthlangtuipui (Karnafuli) side, which play a very crucial role for the waterway transport between Tlabung and Bangladesh beyond the boundary on the river.<sup>81</sup>

### **3.5 Trade through Waterways in Pre-colonial Period**

The local writers mention that there was a Lungadu trading point at Chittagong which was popularly known by the Mizo's that Lungadu products of steel and iron were in good quality especially in making *dao*, it was far more better than any where during this time and the Mizo's used to go to Lungadu to buy this *dao* from Tlabung to Chittagong with boats.<sup>82</sup> Market played a very important role for transaction, exchanges of goods and knowledge as it was the main centre where the people from every corner of Lushai Hills and valley, came and exchange their commercial trading items for their own purposes. It was only through this trade transactions the hill people (Mizo's) came in contact with the plains. It can be proved that through this trade communication the British can learn lots of things about the Lushai people, how the Lushai people came to the plain, what materials they bring even for their safety or guards and their needs, we can also add that even the weak point of the Lushai people. After having much knowledge about the hill people, the British came in contact with Mizo's at a very high systematic and technical way of expedition.<sup>83</sup> The markets in many places which were existed even in the pre-colonial were one of the best instruments to control and overrule the people in the Lushai Hills.<sup>84</sup>

#### **3.5.1 Tuiruang (Tipaimukh) Bazaar**

The Mizo's used to exchange and get their stuffs from Tuiruang bazaar through Tuivai waterways. They transported many rubbers through this since road connection was not available during this time. As the waterways was seemingly useful for the

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<sup>81</sup> Chambers, p. 63.

<sup>82</sup> Lalruatkimi, *Colonial Expansion and Frontier Markets in Mizoram*, p.31.

<sup>83</sup> Lalruatkimi, p.33.

<sup>84</sup> Lalruatkimi, p.33.

Lushais but there were no large boats to carry and feeds their need, proper and regular transportation could not run for many years, the bazaars were almost in stop working, but when there was famine in Mizoram in 1881-82, this bazaars were made improved and used as a store house to the needs who were coming from the Lushai Hills through the Tuivai river.

### **3.5.2 *Sonai bazaar on Tuirial River***

Though this bazaar, after the negotiation between the two Mizo Chiefs Pi Buki and Kalkhama and the Deputy Commissioner of Cachar with their gift of Elephant tusks request for the establishment of Bazaar on the Sonai. The Sonai Bazaar was established around 1874 after the first Lushai Expedition in 1869-70. It was under the control and safeguard of Chief Kalkhama and all the profits were divided among the Chiefs and the larger share was believe appropriate by him. Through this river till the recent period of time lots of teak and bamboos were transported to the plain side. It was clearly indicated that from the Letter No. B/46.39 of 28/7/1950., of the Divisional Forest Officer, Cachar Division., that Sonai River (Tuirial) was used for transportation of bamboo and Timber by the Mizo's and the plains to the neighbouring States. The Bamboo Block Lushai LV was situated just at the boundary of the Cachar Division and this Block has been kept reserved for the traders to be sold under the permissions of The Superintendent i/c Forests, Lushai Hills., for domestic purpose only in the Lushai Division.<sup>85</sup>

### **3.5.3 *Changsil Bazaar on Tlawng River***

This bazaar can be said to have formerly under the protection and leadership of Suakpuilala before the Expedition in 1871-72, though the exact existing time and date was not known so far. Through this Tlawng River the Mizo traders transport the rubbers to the Cachar side at an average rate of Rs. 27 per *maund* and resale it at an average rate of Rs. 50 to Rs. 60 at Silchar. Changsil bazaar, by showing the increase in the exchange rate from bamboo, cane, cotton and the other Lushai natural products and also even the man made products for the exchange of salts, tobacco and other materials through the Tlawng river and functioned very during the colonial period through the waterway

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<sup>85</sup> MSA, *Forest Department – 146, CB-11*, p.104.

transport by boats. It was from this river that the two pioneer missionaries Rev. F. W. Savidge and Rev. J. H. Lorrain came in Mizoram from Changsil side. As it was emphasized in the previous chapter, the first four wheeler reached Aizawl in 1942, it was from this river that the body and the component parts of the vehicle was transported which was then assembled at Sairang.<sup>86</sup>

#### **3.5.4 Tlabung Bazar on Khawthlangtupui (Karnafuli)**

It can be documented that from the report of T. H. Lewin that, “ In 1873 a sum of Rupees 3000 was sanctioned by the Government to promote the establishment of a frontier market at Tlabung (Demagiri) and eleven shops have been established under my supervision at Tlabung. The shop keepers were mostly the Chakmas and the Bengali Tribes”. T. H Lewin report clearly denoted that trade connection through waterway was carried out between the Mizo’s and the Bengali on Khawthlangtupui. The commodities like India-rubber, Wax, Elephant tusks were exported and the commodities like Salt, Tobacco, brass, glass etc were imported. The exchange of goods and other materials through waterway on Khawthlangtupui between Chittagong and Tlabung was not fine all day long and undoubtedly failure, it could be more or less mainly may due to the Lushai Expedition 1871-72.<sup>87</sup>

### **3.6 Course of Expedition and Transportation**

The natural way of river was famously known and used in the Lushai Expedition of 1871 – 1872 (Operation of Chittagong Column), because of the unique geographical location of the Lushai Hills, the British (colonizers) came to Mizoram through water transportation because during this time there were no proper connections of land transportation.<sup>88</sup> The improvement or make useful of the streams, the rivers enjoy the commercial importance and the wise economy to the state.<sup>89</sup> In the Lushai Hills, on the account of the Lushais raid and counter raids in 1871 – 72, the transport of coolies and the elephants for military and other purposes were commonly done through waterway

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<sup>86</sup> Lalruatkimi, p.38.

<sup>87</sup> Lalrutakimi, p.38.

<sup>88</sup> A.S. Reid, *Chin – Lushai Land*, Aizawl, Firma KLM Private Ltd on behalf of TRI, Mizoram, 1893,p.30.

<sup>89</sup> Emory R. Johnson, *The Annals of the American Academy of Political and Social Science*, p.16.

because as it was mentioned in the initial part, the road connection were very poor and it also save a lot of time and energy as being waterway transportation was the cheapest mode of transportation. During the Expedition, about Four Hundred (400) Men of military police and Two Hundred (200) coolies were dispatched to Chittagong via the Sunder bands, in river steamers and flats. In order to accomplish the requirement of the Military troops which were dispatched to Chittagong column, two hundred coolies were recruited again by the Commissariat Department in the Punjab and North – West Province. Each of the coolies and military were provided a blanket, a pair of shoes, leg bandage and dao. A water proof sheet was also supplied to every four men; special supply of materials to the coolies was done because they were in need to carry the military materials and their stuffs to the hill where there were no proper roads after landing from the boats. On 25<sup>th</sup> of November 1872 the whole force had reached the Chittagong, which was to be used as the base, where Demagiri was being selected as an advanced storehouse.<sup>90</sup> During the time of expedition the district itself (Lushai Hill District) was divided in to three parts (i) the Southern division under Bohmong, a chief of Burmese extraction; (ii) a central tract inhabited chiefly by the Chakma tribe, under the regency of their chief's widow, the Ranin Kalindi, the heir, her grandson, being still a minor; and (iii) the northern portion, inhabited by Burmese speaking clans for the better convenience of movement and arrangement of supply and goods. The District was bounded on the north by the independent state of Hill Tipra, on the south by Akyab District, and on the West by the Regulation district of Chittagong. The eastern boundary was at this time undefined, but it might be considered as an extending area of the British influence itself.<sup>91</sup>

The Inland waterways are particularly important for transporting bulk of goods, raw materials and to a lesser. As only small canoes could be used between the Borkol and Demagiri, it was firmed to march part of the force and after a great deal of trouble a rough road was cut between the two places. On the 30<sup>th</sup> November 1872 the distribution of the troops to move through the water with canoes of the column were as: The 2<sup>nd</sup> Gurkha Regiment, One Company sappers and One Half Batteries would base their camp

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<sup>90</sup> Chambers, p.83.

<sup>91</sup> Thomas H. Lewin, *A Fly on the Wheel Or How I Helped To Govern India*, Aizawl, TRI Art & Culture Department, Aizawl-Mizoram, 2005,p.189.

at Tlabung. 2 Companies of 27<sup>th</sup> Punjab Infantry stationed between Borkhol and Tlabung not only during the time of March of the troops. Four companies of the 27<sup>th</sup> Punjab Infantry at Borkhol, Wing of 4<sup>th</sup> Gurkhas at Kasalong Headquarter and the remaining 4<sup>th</sup> Gurkhas Wing at Rangamati respectively.<sup>92</sup>

Gradually during this period the British started using and hiring about coolies working on the road and for some other works. The coolies were said to come mostly from many areas of India especially from the western India and north eastern of India, as it was mentioned above that the Gurkhas were from the North-Eastern part of the State and the Punjab Infantry were recruited by the Government of Punjab. The military Department frequent request for the provision of coolies was to carry their baggage and other military equipment. They were hired and were paid, sometime they were not paid, for whatever work they were employed to do.<sup>93</sup> From the British records which were still remained, we can see the import of coolies to work for the British Indian Government by carrying their bags, their equipment and also to cook for them in the Lushai Hills through the river transport system. On the 28<sup>th</sup> October 1871, General Brownlow with his team landed in the Chittagong, and there was no lost in the time for completing the commissariat arrangements, which was, well already advanced, and in the supply of rations and other necessities as far as Kasalong. The course of the Khawthlangtuipei above this place was broken at intervals by dangerous rapids, the first of which was situated between upper and lower Borkol. From Kasalong to Borkol the rivers run due east. At Borkol it takes a sudden turned toward the north and above the rapid was found very clear, deep, slow stream navigable by boats for nineteen miles to the brisk of Ootan Chutra. By dint of great labour boats were dragged up the Borkol falls, and a river service was established in contact above. Beyond Ootan Chutra to Demagiri the course of the stream as they ascended turns again to the east, till they reach Demagiri, a point where the great Ohephum range touched the Kurnafuli from the south, and the Sirte Klang (Klang = Tlang) meets it from the north. Canoes were found possible to pass along the Ootan Chutra rapids as far as Tlabung. It was well to be sure that the boat service between Borkol and Tlabung was possible, but for the land route between these

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<sup>92</sup> Chambers, p.84.

<sup>93</sup> Nitin. Sinha, *Communication and Colonialism in Eastern India*, UK and USA, Anthem Press, 2012, p.184.

places seemed impracticable. Only sixteen miles apart as the bird flies, it was a five days march of forty-one and a half miles to go across by the common Kuki path, two thirds of which lay along the beds of torrents, the rest of it was being through all the uninhabited jungle. About four miles above the Tlabung the river was impracticable and shallow, but canoes were placed on the reach above, as they had been above the Borkol, and ten miles more of water carriage was thus secured.<sup>94</sup>

There were many rivers in Mizoram, among the existing number of many rivers only a few of them are voluminous enough to be worth mentioning.<sup>95</sup> One of the reasons which impel the British vigorously to undertake the completion of their inland waterways is the necessity to provide more transportation facilities for the future of the country as a whole. Transportation facilities of the near future must be followed and demand was the improvement and use of all of the inland waterways of the entire region that are susceptible thereof.<sup>96</sup>

### **3.6.1 *Raid of Vanhnuaia through Khawthlangtuipui***

In order to raid Vanhnuaia the great Sylu Chief<sup>97</sup> on the Belkhai range, some little way above the Barkal –Tlabung point the force left the valley of the Khawthlangtuipui and turned northward along the Borkol. From the furthest point on this stream to which canoes could go, the troops started their regular work to the hill, marching north by east Vanhnuaia and to commence that severe course of discipline in time taught the Sailo that the way of transgressors was hard. Down into the valley below and up the range beyond, Colonel Macpherson and his men toiled scrambling and on the third day they made Lal Hera, only eight miles from Vanhnuaia, they burnt with two other villages beyond and destroyed vast quantities of grain, and getting on the Vanhnuaia point on the same stream route on Christmas Day 1872.<sup>98</sup>

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<sup>94</sup> Reid, *Chin-Lushai Land*, p.30.

<sup>95</sup> *Mizoram District Gazetteers 1989*, p.6.

<sup>96</sup> Ransdell, *The North American Review*, p.240.

<sup>97</sup> Sylu Chief = Sailo Chief

<sup>98</sup> Reid, *Chin – Lushai Land*, p.33.

### 3.6.2 *Police attacked between Borkol and Tlabung*

One of the most remarkable incidents which took place during the course of British Expedition happened in 1883 at the junction of Borkol and Tlabung waterway. On the 18<sup>th</sup> November 1883, a party of the Frontier Police were coming from Rangamati to Tlabung in eight boats. Each of the boat carries four police. As it was mentioned before, there was a rapid between Barkal and Tlabung, as the boats could not pass through this rapids, there was a transfer of materials and Police, the boat coming from Rangamati side stop and there was a boat waiting from Tlabung side. While crossing this rapid and transit those materials, a party of Frontier Police were attacked and fired by the Kukis suspecting them as Muallianpui who had come as scouts for a large body of Shendus (Mara). One of the members in the party was shoot death, but remaining Police Party retreated. From the incidents happened between Barkal and Rangamati signify that waterway transportation during this period was no safe due to various problem and especially the Expedition.<sup>99</sup>

The British mostly came to the Lushai Hills through the river by boats with good objections for Expedition. The three object which were defined in the Government letter No. 65-L., dated Fort William<sup>100</sup>, 6<sup>th</sup> February 1889 were as under:

- (1) *To construct a road in the direction of the Shendu Country;* during this time of the Expedition in the Southern Lushai Hill there were no proper connections from place to place; the only means which were used at first was the river connection but was not practicable and cannot be used by the majority of the villages. The first option was to make the road connections in order to achieve their policy of expedition.
- (2) *To punish Howsata and Jahuta for the murder of the late Lieutenant Stewart;* Hausata (Chief of Lungtian) and Zahuata (Chief of Thlantlang) were both of the Lai Chiefs who defended their land and their people from the raiders. Who killed Lt. Steward at Chittagong Hill Tract.

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<sup>99</sup> Chambers,p.93.

<sup>100</sup> Fort William is the present Kolkatta

- (3) *To establish an advanced port to be garrisoned during the summer;* in order to make themselves strong and powerful in their expedition, they were calling for other troops during the summer because summer was the favourite time of seasons in moving around in the Lushai Hills.<sup>101</sup>

The attacked of Frontiers Police and the objective made by the British in Lushai Expedition clearly denoted that there was no proper road connection in the Lushai Hills. Besides this, it is evident that improvement in transport communication would help in the surveillance of the local people.

All the heavy materials and the troops were sent down Tlabung to Rangamatee (also written as Rangamati) were transmitted by steamer and flats to Chittagong. The passenger service of the British India Company availed for the voyage of the expedition by waterway to Calcutta from Chittagong. The troops returned in the following order and were dispatched from their respective stations under the orders of Brigadier-General Commanding the presidency District through Waterway transportation.

From Tlabung to Rangamati, the transport coolies were marched down by boats in unit which was as far as practicable, and from this, they were sent down to Chittagong by steamer and flats. The time when the British arrived at Chittagong, they were settled up with by the Commissariat Department provide with railway licence to their respective homes. The last batch of the troops reached Calcutta on the 18<sup>th</sup> May 1889. Orders having been received from Army Head-Quarter for the objective of the 9<sup>th</sup> Bengal infantry to be stationed at Rangamati, relief for the Frontier Police moved down to Chittagong station by boats.<sup>102</sup>

### **3.6.3 *Account of Expedition against Hausata and Zahuata***

In the account of expedition against Hausata and Zahuata, it is evident that road transportation had been significantly utilised by the British troops. The detail sequence of

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<sup>101</sup> Chambers, p.93.

<sup>102</sup> Chambers, p.102.



events were narrated as in the evening of 12<sup>th</sup> March (Camp below Lungleh) Captain O. A. Chambers received the permission from the high authority to attack Hausata's Village (Lungtian); he recalled all the transport necessity which go as far as Camp Phairuang *en route* to Tlabung.

Captain O. A. Chambers got an ordered on 13<sup>th</sup> March that the following troops to proceed as detailed below:-

*The First Party will be under Lieutenant – Colonel Nicolay, 2 – 2<sup>nd</sup> Gurkhas-  
6 men, Bengal Sappers and Miners,  
20 men, 4<sup>th</sup> Madras Pioneers,  
150 men, 2 – 2<sup>nd</sup> Gurkhas,*

40 men, Frontier Police, to rendezvous at the signalling camp on 14<sup>th</sup> March to the left bank of the Mat River, from the meeting point they cleared the jungle *en route* for passage of the mountain guns.

Second party, under Major Channer, 2<sup>nd</sup> Bengal Infantry-  
*1 gun, No.2 Bombay Mountain Battery,  
50 men, 2<sup>nd</sup> Bengal Infantry,  
50 men, 9<sup>th</sup> Bengal Infantry,*

They marched down from the camp below Lungleh on 15<sup>th</sup> to join the first party on 17<sup>th</sup> on the left bank of Mat river. A guard of 22<sup>nd</sup> Gurkhas, was detailed to escort coolies whose loads had become used up on arrival at the camp on the left bank of Mat River and will be back to camp Lungleh. The objectivity of 9<sup>th</sup> Bengal Infantry could not get in time to take part in the disciplinary of expedition. The No.2 Bombay Mountain Battery arrived in time after most severe marching under Lieutenant Hamilton. In the expedition against Hausata and Zahuata, Mat River plays a very important role in transport of coolies, rations, troops and other materials. Captain O. A. Chambers arrived at Camp on the left bank of Mat River and start collections of force on this date of 17<sup>th</sup> March 1887 and left the Camp at 2:30 pm on the 18<sup>th</sup> March with the following force, he intended to halt for an hour or two on the right bank of Chhimtuipui to push and attempt

to attack surprisingly on at night. This was planned on the account of the difficulty of road and would pass through waterway transportation from Mat River.

The forces under Captain Chambers to attack Hausata's Village starting from Chhimtuipui and turned to Mat River from Vartek Kai with boats were:

*1 gun, Bombay Mountain Battery*  
*6 men, Bengal Sappers and Miners*  
*20 men, 4<sup>th</sup> Madras Pioneers*  
*40 men, 2<sup>nd</sup> Bengal Infantry*  
*163 men, 2 – 2<sup>nd</sup> Gurkhas*  
*30 men, Frontier Police.*

The night passed quietly, at the very early morning they forded the river and going down about a mile on the left bank of the Kaladan hit off a stream which was running down from the Sangau Tlang, they followed this stream and struck a fairly defined path leading to the village of Hausata. On 21<sup>st</sup> March they also burnt Zahuata's village before leaving and went back to the camp on the left bank of Mat River. When 23<sup>rd</sup> March turned on, they marched back in one body as the coolies were so many fewer; they arrived safely at Camp south of Bolpui.

In the results of the expedition 1888 – 1889 on the account of Expedition against Hausata and Zahuata village, the approximate distances between Fort Lungleh and Hausata village were laid down that the importance of water transport revealed their results in succession.

**Table No. 3: Distance between Fort Lungleh and Hausata Village**

Distance	Miles
1. <i>Lunglei to Mualthuam</i>	<i>11</i>
2. <i>Mualthuam to Bualpui</i>	<i>4 ½</i>
3. <i>Bualpui to Lower Bualpui</i>	<i>3</i>
4. <i>Lower Bualpui to Mat River</i>	<i>6 ½</i>
5. <i>Along Mat River</i>	<i>3 ½</i>

6. <i>Mat River to Chhimtuipui</i>	3
7. <i>Chhimtuipui to Darzo Tlang</i>	2
8. <i>Darzo to Zahuata (Lungtian)</i>	4
9. <i>Zahuata (Thlantlang) to Lungtian</i>	5 1/2
Total, Lungleh to Hausata	43

Source : Hand Book of the Lushai Country.<sup>103</sup>

After the expedition of Hausata and Zahuata Village, Mr. Murray arrived at Tlabung and extended his visit to Vandula on 17<sup>th</sup> February 1889, after the visiting of the village and left Vandula's Village and went to on over Theiriati, Mualthuam and Bolpui<sup>104</sup> with his party and went over the Mat River, a tributary of the Chhimtuipui River.<sup>105</sup>

### 3.7 Waterway Transportation Induced Changes

Cities, water and transport are all fundamental elements in human society, and associations between them are inevitably numerous. All the villages in the Lushai Hills are transport dependent, internally and externally; to survive and prosper, all the villages and cities must maintain an efficient internal transport system, and must develop effective links not only with local and national hinterlands but also international. The links between water transport and rural-urban developments are therefore complex, and the consequences and comparative advantages and disadvantages of the use of water and rural-urban transport mode vary substantially and chronologically between locations and overtime. Almost every transport decision is a public issues and that transport is an enormous varied, exciting and controversial area of study.<sup>106</sup> It was documented about the interdependence of the need in transports for the local and the British themselves in the Lushai Hills that in order to construct a road from the Chittagong Hill Tracts to Lungleh, it was the Phyrang River<sup>107</sup> 25 miles from Demagiri who played a very

<sup>103</sup> Chambers, pp. 104-109.

<sup>104</sup> Teiriati = Theiriati, Moisum = Mualthuam, Bolpui = Bualpui.

<sup>105</sup> Reid,p.53.

<sup>106</sup> Brian S. Hoyle, Brian, 'Water Transport and Urban Development: Some Geographical Perspectives and Propositions', *Geo Journal*, Vol. 31, No. 4 (December 1993),p.439.

<sup>107</sup> Phyrang River is the present Phairuang Lui.

important role in the connection and transport of coolies and the materials. The Civil Engineering Staff with Military Engineer to survey left the first camp (Mill's Basha at Lungsen Range which was 3 miles from Demagiri) they reached Tuichawng River which was about a mile from the first camp, after travelling about 13 miles they crossed the Tuichong River and reached the Pioneer's Camp. From the pioneer the ascended by east gradient and meets the Sai-ril-a-tui stream the junction with the Phairuang River. In order to avoid the zig-zag up the west side of Lungsen range and turned down to the east side of Sai-ril-a-tui stream. From the Phairuang River to the Sailungret the road follows nearly the route taken by 1871 – 72 force. After passing over several small heights and after 4 miles it reaches the Sailungret River. From this river the road ascends a steep hill by zig-zag and reached the camp below Lungleh.<sup>108</sup>

In the year 1890, when the British resettled in Mizoram, they built a very important permanent post at Aizawl and Changsil. In 1892 – 1894, the third Mizoram Governor A. W. Davies I. C. S with Capt. G. H. Loch cleared all the way of river for boats between Sairang and Changsil for transportation of goods from Silchar side. The goods which were imported through Tlawng River were distributed to the Aizawl from the Sairang Post through bullock Cart. Sairang is one the most crucial village and station in times of British administration and it became the main entrance to Mizoram through Tlawng River with boats, beyond this communication and transportation in Tlawng River also brought the establishment of Police Station, a Post Office and Dispensary.<sup>109</sup>

### **3.8 Conclusion**

Transport itself is a major complex industry in terms of land use, employment and functions. Transport infrastructures and facilities occupy large areas of land and water space, and transport services provide substantial employment. Transport is highly significant geographically. The majority of the rivers in Mizoram are limited for using as regular and reliable transport system might be due to the its geographical location and rapid of the rivers. The rivers in the Lushai Hills were less volume of water and not wide,

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<sup>108</sup> Chambers, pp. 112-114.

<sup>109</sup> Zakhuma, 'Sairang: Mizoram kawtchhuah No.1 thin kha (Part One)', *M. U. P TLANGAU (Monthly Magazine,)*, January 2000, Aizawl, p.13.

large and deep enough for big business in water transport system. The important river transport system which we had in Mizoram till recent period was the ferry transport in Tuipui D near Hnahthial and Khawthlangtuipui (Karnafuli) in Tlabung (Demagiri) for carrying vehicles and passengers across the river. Due to its rapid flow of water in Mizoram, the waterways transportation was not possible and useful for the state except the waterways used by the British during their colonial period for transport of coolies and other materials to their people. Therefore, the waterways in Mizoram were soon replaced by the road transportation from the colonial period which was constructed by the British, the local people and State Government especially in the Post-colonial period.

## 4.1 Introduction

Indigenous inhabitants of the pre – colonial Mizoram mostly depended on agriculture and hunting. Their way of lives was simple being a pre-industrial society. Since their economy basically had a subsistence characteristic due to their migratory movement, the practice of constructing permanent transport network was not necessarily required for their existence.

It was not easy and possible for the Mizo's to give up their primitive culture of raid and plunder as those are closely connected to their livelihood and also have a good amount of social consideration. However, solely relying on plunder for sustenance was insufficient for them. They, therefore, gradually got accustomed to have a peaceful trade relation after the construction of roads in many places of the Chin and Lushai Hills which could bring a remarkable change in their social and political life. The benefits of the growth of transport network connectivity in Mizoram from economic and social perspectives going to deal in the chapter. The historical evidence of physical and mental harassment of natives by the Britishers in the name of roadways construction during the colonial period and also the growth rate of passenger brought the improvement of road construction is going to highlight in the chapter. It will also examine the environmental effects and disturbances in Mizoram by the construction of road way since colonial times.

## 4.2 Trade benefits, Transport and Commerce

The development and improvement in transport and communication network is very important for proper and rapid development of any region. However, the intensity of benefits may vary in degree in regard to development of communication network, in plains and in hills. Mizoram is composed predominantly of mountainous terrain with only few and small patches of flat lands.<sup>110</sup> The overall relief in Mizoram is higher and the slopes are much steeper than in the western half.<sup>111</sup> This nature of the land provided a fare ground to the EIC to have further extension into Mizoram, through the western part, certainly played a remarkable role in the transport network system of the region.

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<sup>110</sup> Pachuau, *Mizoram*, p.30.

<sup>111</sup> Pachuau, p.33.

However, the extension coincided with the incident of Alexandrapur Tea Estate Raid in 1871. The physiographic landscape facilitates only roadways and other means of transport were almost absent with an exceptional irregular practice of using waterways transport.<sup>112</sup>

Before the Lushai Expedition of 1871-72, there was minimal existence of trade connections with the Bengalee and Manipuri traders with a great high risk. This very existence of trading exchange with the neighbouring tribes was unattainable without the existence of transport connection. The Lushai Chiefs used to get the supplies of sulphur, gun and flint and other necessary materials to manufacture their war armaments. Traders from Cachar side were ambassadors of the plains in the hills and acted as the link between the plains and the hills. The Lushais depended much upon them before the intervention made by the British. The 'intervention policy' of the EIC brought about many changes in the economic and political conditions through the improvement and construction of roads in the Lushai Hills.<sup>113</sup>

The time when the British came into Mizoram as 'Lushai Expedition of 1870's', they built and maintained many roads in order to connect villages for the easy movement and supply of rations and materials to the coolies, troops and the officers. The roads were also built in order to have a good and strong administration in the Lushai Hills. The terms and conditions all facilitated the British.

#### **4.2.1 *Barter system in Pre-Colonial***

Cultivation to meet their needs was commonly practised in the Mizoram even during the Pre-colonial times. Paddy, millet and arumbuld were the Mizo's main staple food. Other crops like maize, yam, sweet potato and cotton were also grown in several places. Before the Mizo's contact with the British, some time they crossed many regions in searching for their basic needs sometime even crossed the border to meet their needs especially in daily needs of food and safety materials. As the Lushai Hills was hardly being touched from the neighbouring states might be due to the lack of proper road

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<sup>112</sup> Pachuau, p. 97.

<sup>113</sup> Chatterjee, *Mizoram Under the British Rule*, p.183.

connection. There were many reason behind the practised of barter system but the main reasons behind the commonly practised of Barter system by the Mizo's according to Orestes Rosanga was *'when a large part of transaction are in the form of unilateral payments when the society is at a rather primitive stage of economic development with slight development of labor, when shortage of commodities are frequent and dangerous when because of the bad conditions of the market and the unbalanced distribution of income there are drastic and frequent shortage of coins, when, in a word, coins are not always available, a society understandably moves toward a barter economy'*. The Lushai economy was tribal society having its own privacy and territory in the form of Village headed by the different Chief. It was not possible to issue Coins as medium of buying and exchanging system by the Chief due to the different tribes living in different regions. But the practise of barter system (exchange of goods and materials) was applicable for all different tribes and clans residing in different Villages. The reasons behind the barter, which became very common in the Lushai Hills in the Pre-colonial might possibly due to bad and poor connectivity, road connection with the Lushai Hills for the neighbouring states and difficult to approach them from outside. Using of coins for medium of exchange was well known and practised after the Mizo's came into contact with the British.<sup>114</sup>

### **4.3 Establishment of Trade Centre**

After the Lushai Expedition of 1871-72, the British took keen interest in the affairs of the Lushais, and this seeks better roadways. Captain TH Lewin saw the interest through the construction of roads that had a link to many villages and suggested the establishment of trade marts at different places in the Lushai Hills. Those marts were constructed by the British Government and traders from Cachar and Chittagong and the traders were guaranteed the security of their life and property by the Lushai chiefs, under the influence of the British.<sup>115</sup>

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<sup>114</sup> Orestes. Rosanga, *"Barter, Tradition and Transformation of Exchange Values Resulting from Colonial Interventions in the Mizo Hills"*, in S. Haukhanlian Mate and Vanrammawii (ed.), *Customs and Traditions of the Hill Peoples of North East India*, New Delhi, Akansha Publishing House, 2016, p.116.

<sup>115</sup> Chatterjee, p.184.



Four marts were established on the southern frontier of Cachar at Tipaimukh at the confluence of Tuiruang River (Barak) and Tuivai River, the Tuirial River (Sonai) and the Jhalnagherra village on the Tlawng River (Daleshwari) and Changsil Bazaar on Tlawng River, which could be traversed through rivers and roads. The establishment of the *bazars* was the first step in the direction extending the civilizing influence in the Lushai Hills because those *bazaars* served as junctions of roads rather than water boats. There were many commodities which were exchanged after the construction of proper roads in the Lushai Hills. Transport services and networks were meant for the division of labour and in addition to that, the exchange of commodities and services for development of markets happened in the Lushai Hills.<sup>116</sup>

#### 4.3.1 *Salt*

The most important commodity in exchange barter trade was common salt. Common Salt was an important article of the Lushai commerce because of scarcity of salt in this region. Before the advent of the British in the Lushai Hills, the inhabitants used to procure salt from salt springs. There were only few salt springs in the Lushai Hills and people came from far distance to take salt for their livelihood. Under poor maintenance of road, this was a burden for many people. Since the entry and settlement of the British in the Lushai Hills, their first policy was to construct and improve the existing roads in the Lushai Hills. With the annexation of Cachar, comparative tranquillity prevailed in the southern border of Cachar and the Bengali traders got encouraged to make trade with the Lushais. The plains people from the Chittagong did the same matter but traders from Cachar and Chittagong could not enter deep in to Lushai Hills to carry out a remarkable trade relation due to poor links of communication. Because of heavy demands and the growth of transportation network in the hills, the traders brought huge amount of salts in the Lushai Country. The Lushai chiefs, under such juncture, made a demand to the British officers to have a regular supply of salts.<sup>117</sup>

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<sup>116</sup> Chatterjee, p.184.

<sup>117</sup> Chatterjee, p.185.

### 4.3.2 *Indian Rubber*

The next important commodity in the Lushai commerce was the crude Indian rubber. The changes and developments brought by transport network connectivity boosted the selling of the crude Indian rubber. But after the expedition Lushai Hills in 1869-70, the British influence extended in the Lushai Hills neglecting the preservation of this valuable tree. Within a few period of time, this negligence deprived the Lushais permanent income and the country became completely free from the India rubber trees. The growth of transport network benefitted the people and changed their source of income from rubber to tea in the Lushai Hills. Subsequently, the British government established tea plantation at many places in the Lushai Hills.

### 4.3.3 *Tobacco*

The other important commerce of the Lushai Hills was that of tobacco trade. In the second half of the nineteenth century, consumption of tobacco became very popular among the Lushais and was commonly consumed by both the sexes in the entire country. During the great famine of 1882 in the Lushai Hills, many people went to the plains for help for their survival. As a result, they got accustomed to the simpler method of tobacco smoking. The demand for the supply of tobacco thus augmented in the Lushai Hills after the great famine. As mentioned, the growth of transport connectivity brought the existence of marts for the economic development of the region. The establishment of trade marts at Changsil, Sonai and Kasalong were the most famous centres of tobacco selling points that benefitted traders and people of the region. It was estimated that common salts, tobacco, iron, brass and the other copper utensils etc., to the value of around Rs. 484,025 (£48,402) was sold by the Bengali traders to the Lushai Hills. It was believed that all these developments and progress of the economic status in the country brought the construction of roads and vice versa in the Lushai Hills.<sup>118</sup>

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<sup>118</sup> Chatterjee, pp.184-188.

#### 4.3.4 *Elephant Tusks (Ivory)*

Elephant Tusks took the important part in the economic condition and medium of exchange in the Lushai Hills. The products which were extracted from the Elephants were one of the most valuable articles in their exchange of trade. As the knowledge of currency exchange was hardly known in the Lushai Hills during this period, the Mizo Chiefs sometime paid their dues in terms of Elephant Tusks to the British and also to the traders from the plain. The great famine of 1881-82 greatly affected the conditions of trade, the imbalance and loss valuable source in Elephant tusks severely affect the Lushai Hills who were largely depended upon the market source from the plain, as they did not have enough Tusks to exchange upon it to meet their needs.

#### 4.3.5. *Cotton, Timber and Bamboo*

As it was highlighted in the initial part, the Mizo's practise *Jhum* cultivation and plants like paddy, maize etc were grown in the fields, beyond this crops, cotton was also grown in several places to meet their requirements. In the 1870's they reshed the knowledge of the profit from cotton, they grew cotton in a larger manner of two types like pure white cotton and light brown cotton at various places for the exchange of trade. They exported large quantity of cotton at the Changsil side. They also exported the forest products like Timber and Bamboo since 1880's. The Lushai Hills was a place where large quantity of trees and bamboos were grown. They exported to the plains for many purposes, the export of Timber and Bamboo to the plains does required less expensive efforts and was transported through river system to the Cachar side, this trade exchange through timber and bamboo was commonly practised in the Tuirial River.<sup>119</sup>

As the inhabitants of Mizoram hardly had the aptitude to understand the harassing official procedures, abilities to organize procure and transport, market economy, capital related matters and spirit of enterprise already settled their issue at a back foot in relation to Bengali and Assamese timber traders. Secondly, the control over trade was done from Cachar. Thirdly, the Dhaleshwari and Karnaphuli had dangerous rapids, which experienced traders and cutters from the Chittagong Hill Tracts could

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<sup>119</sup> Lalruatkimi, p.59.

negotiate, but were beyond the Mizos, who were poor boatmen. Hence, commerce remained out of reach of the Mizos because of the lack of experience and expertise on one hand and lack of capital on the other hand.

#### **4.4 Transport and Administration**

The inland traffic abruptly increased inside the Lushai Hills after the Chin-Lushai Expedition of 1889-90. During the successive resistance made during 1890-91 by the various clans inhabiting the Lushai Hills, the colonial government had to face difficulties in communication, particularly in the North Lushai Hills.

Realizing the difficulties faced during the Chin-Lushai Expedition, for proper maintenance of law and order after the establishment of government, road constructions began inside the Lushai Hills linking different villages. Good conditions and properly maintained road eased transfer of stuffs and it became easier and faster than before for both the locals and the colonialists. It is clearly evident that both the Lushai and Chin administrations largely depended and concentrated their energies in constructing roads in the interior parts of the Lushai Hills. Through the growth of transport network in the Lushai Hills, the administrators of the Lushai Hills decided to keep a close connection of military posts throughout the year. By the end of the nineteenth century, considerable developments in the road works were seen especially in the South Lushai Hills. The hardships and miseries faced by the people during construction of roads infused the spirit of self-determination amongst the freedom loving people of Lushai Hills; but at the same time it ushered in the entry of a new civilization which can alter the face of Lushai Hills socially, economically and politically.<sup>120</sup>

The Superintendent of the South Lushai Hills, Captain J. Shakespear's road report made it apparent that while constructing the road between Vanlaiphai and Sangau on the 20<sup>th</sup> February 1893, they followed the previous pathway made by the local inhabitants which was later taken by the Government. The pathway was almost covered and overgrown with grasses and they cleared the jungle and cut down many trees and bamboos to clear and widen the path inducing many quandaries for the local people. Due

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<sup>120</sup> Chatterjee, p.192.

to roadway construction in this area, it blocked the way that obstructed the movement of people. The clearance of jungle blocked the whole way because of fallen trees and some minor landslide.

The engineer under the Superintendent of the South Lushai Hills continued their work for the maintenance as well as constructed road between Lungtung and Vartek on 18<sup>th</sup> March 1893 shows that the road which they built to connect the village ran in northwest direction through the *jhums* and sun grasses which the road fairly connect and open the way to Hausata's old village, the place where the jungle was very thick. The engineers, being colonizers, started clearing up of the jungle in order to construct the road in this area that had to connect many villages. The levelling of road was also measured carefully but the road was slightly blocked by the fallen trees and small landslide in many areas. So, the entry to the village was shifted in another direction and the road entered the village from the southwest.<sup>121</sup>

In order to propose consistent benefit estimation method for transport projects in a practically useful manner. The transport networks were modelled as an economy with multiple goods, applying a general equilibrium approach. This approach enables us to represent any kind of transport networks, because the relationship between routes, which may be substitutes or complements, need not to be specified.<sup>122</sup> It was from the report submitted by the British Officers who attended the Conference at Lungleh that they chose the construction of road from Aijal to Falam by seeing the important reasons of this route that could be connected directly by a mule track the headquarters of the two districts which have large garrison and the best transport, commissariat, financial and political resources for both the workers and the natives in the region in order to reduced the forces of both administration in order to change the degree of congestion in the invested area in which the moving of the people between the districts was well developed.<sup>123</sup>

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<sup>121</sup> MSA, *Pol- 56, CB-6*, p.7.

<sup>122</sup> Yukihiro. Kidokoro, 'Cost-Benefit Analysis for Transport Networks: Theory and Application', *Journal of Transport and Policy*, Vol. 38, No. 2 (May 2004),p.3.

<sup>123</sup> MSA, *G-57, CB-5*,p.10.

The estimation prepared by the British for the production function and the total cost function implied that the state road transport industry enjoyed economies of scale. It was suggested that from the point of view of economic efficiency, the corporations should be allowed to expand with the increase in demand for their services then the public can reap the benefits of the economy of the state brought by transport network.<sup>124</sup> Brigadier-General Lord Montagu of Beaulieu stated that in India, and also in many other countries, most of the chiefs' roads and other roads were originally made for military operations. The roads were constructed to connect many of the districts but no effort seemed to have been made to make them fit for continuous wheel traffic. It is probable that before the arrival of the British in India, the habitual means of transport was by means of coolies and animals, carrying loads on their heads and backs.<sup>125</sup> In the Lushai Hills, the British also made many proposal and estimation in order to construct roads to have good administration and for the swifter movement of the military troops. But later, the first hand knowledge introduced by the British could not remain the same. The people of the land reaped many of the benefits through the ideas and improved the economic condition of many places of the Lushai Hills.

By the time when the north and south Lushai Hills were amalgamated into one political entity in 1898, road transport line by then connected Silchar and Calcutta. In a short while, a branch line for road transport was opened up from Chittagong to Lala Bazarat Chachar District, which functioned at the foothills of northern Lushai Hills District. Improvement in the connections between Chittagong and Cachar frontiers was benefited greatly in the Lushai Hills region. With that impact, the Lushai Hills endeavoured to have many of the developments brought by trade network along the borders of the territory. As a result, the volume of road traffic largely increased in the Lushai Hills. After having a better transport communication, mobility of population was enhanced thus trade and commerce flourished in the region. This helped to the introduction of new ideas against the tradition always of thinking.

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<sup>124</sup> Koshaland Koshal,p.171.

<sup>125</sup> Lord. Montagu, 'Roads And Motor Transport in India', *Journal of the Royal Society of Arts*, Vol. 68, No. 3529 (July 9, 1920), p.541.

#### 4.5 Transportation and consequent Harassment of indigenous inhabitants

International Labour Organisation (ILO) has defined ‘forced or compulsory labour’ as ‘all work or service which is exacted from any person under the menace of any penalty and for which the said persons has not offered himself voluntarily. It was evident from the ILO statement that forced labour was practiced and popularly known by the people in many parts of the world. On this issue of labour forced by the high authority meant a sort of forced work from a labourer, with or without payment of wages for the service rendered him. This forced labour is as old as history which was practised by many civilizations, in regard to the British; they also practised this labour force in the Lushai Hills during their colonial time for the construction of road and others.<sup>126</sup>

Since the occupation of the Lushai Hills by the British, the Mizo community experienced the brutal act under their administration which was basically brought by the improvement in road connection. In the initial chapter, the British were much concerned about their administration in the Lushai Hills, to have a strong and smooth administration in the Lushai Hills it required the smooth functioning and regular communication by the British through road transportation, telegraph and others in order to have swift information and measures to control one area from another station. The British pertained new methods in Lushai Hills in order to administer effectively, their negotiation with the Chiefs was to get man to extremely work for them without wages, and this could be termed as Forced Labour. The system of forced labour in the Lushai Hills was practically introduced by the British in 1890-91. The British made an order to the Chief to provide labour for them. As the Mizo’s who were being colonized could not have a mind to resist against them. So, they are under the owner and do anything the master imposed upon them. Every one member in each of the family in the Village were demanded to do labour work by the British, even the payment of taxes in cash or in kind was introduced by the British in the Lushai Hills.<sup>127</sup>

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<sup>126</sup> A.B. Maity, ‘Forced Labour in India: A note’, *Indian Journal of Industrial Relations*, Vol. 15, No. 1 (Jul 1979),p.77.

<sup>127</sup> Orestes. Rosanga, “Forced-Labour as a Tool of Colonialism and Hegemony: Mizoram”, in Prof. Sangkima (ed.) *Colonialism and Changes in Mizoram*, Aizawl, Mizo History Association, 2015, pp.48-52.

In order to construct a road in the state, it required lot of workers or labours to do the work and complete the mission. The shortage of labour remained a problem to the colonizers, as felling coincided with the agricultural season and wage rates did not cover carriage and transport to the nearest river sufficiently to attract local labour. Despite these difficulties, labour force is used timely to actively participate in extracting forest products from river banks and float timber down the rivers to Cachar and the Chittagong Hill Tracts. During the colonial period in the Lushai Hills, the British had a policy to construct and made improvement of the existing road. In order to do the work they required many labour from the natives. The order and coercion of people to work without payment and sometime with payment for labour harassed them because of their pitiable condition.

The experienced of Forced Labour in the Lushai Hills was evident from the Letter No. 968G Lungleh, 21<sup>st</sup> December 1896, of R.H Snyed Hutchinson, Superintendent, South Lushai Hills that the officers attending the Chin-Lushai, Lungleh Conference recommended a strength of 100 transport coolies to carry out repairs of road as it was required between Lungleh and Aijal. Mr Tuck considered that forced labour should be levied only from villages in the neighbourhood of the work for which they found necessary to impressed labour. The Letter No.931G, dated Aijal, the 24<sup>th</sup> November 1904 of Major J. Shakespeare, Superintendent of Lushai Hills stated that there was no doubt an increase in house tax from Rs. 2 to even Rs. 4, but that could be paid by the people without any difficulty. He made an order that every village should remain liable for the carriage of baggage of officers and escorts. Whatever inconveniences they suffered from the presence of the British, they had to take as natural results of their obedience.<sup>128</sup>

The scale of impressed labour was a maximum of 10 days per year per house. The demand for the purpose of transport facilities was that porters shall only be impressed for the purpose of facilitating the movement of officials on duty. A day's march for a loaded porter should not exceed 15 miles except in very special circumstances and the load to be carried should not exceed 50 pounds. The British Government made a compensation Act which should be applied to the impressed and

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<sup>128</sup> MSA, *Pol-71, CB-7*, p.4.



voluntary labours. a) No compensation will be paid if there is a suit for damages pending in any court in respect of the accident or sickness. b) Employers of impressed labours or voluntary workers are bound to report to the District or Sub Division Officer all cases of sickness, personal injury or death by accident. Therefore, if the chiefs and member of the village refused to maintain warm relations to the British, they would not be able to claim anything in return from them and should always be available reported themselves regularly to the authorities. This hated imposition 'forced labour' introduced ever in the Lushai Hills was continued till independence era in various regions and was fully eliminated when India was free from the rule of the British.<sup>129</sup>

#### **4.6 Growth of passenger transport system**

The improvement in the maintenance and organization of the road brought many changes for the society. One of the most important that we can be measured systematically was the increase in the growth rate of passengers and the services of vehicles that served the economy of the region. Road traffic improvements also benefitted the economy by reducing the costs of transport for travellers by the creation of new additional traffic.<sup>130</sup> By knowing the improvement brought by this era of road improvement, knowledge of the importance of road improvement was in a need of smooth administrative changes. With the coming and settlement of the British in the Lushai Hills, we can see developments that brought enhancement in the rate of passengers.

The improvement of passenger transport system can be seen from a letter of KL Ray, the Deputy Commissioner of P.W.D in the Lushai Hills District Council to the Executive Engineer (Silchar – Aijal Road Division, P. O. Arunachal) via letter No. DIM/13/54/805 of order, for the maintenance of a road from Old Aijal – Dwarband Road from Vairengte (M. P. 80) to Loharband (M. P. 91 ½), which should be effect from April to October 1954 for Jeep traffic only at their present standard. The letter described the construction of road from Aijal – Silchar. However, due to inadequacy and unsatisfactory management by the staff of the Division, KG.R Iyer, the newly appointed Deputy Commissioner of PWD from 30<sup>th</sup> January, 1954 dismantled a log bridge at 49<sup>th</sup>

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<sup>129</sup> McCall, p.134.

<sup>130</sup> Anthony J. Venables, 'Road Transport Improvements and Network Congestion', *Journal of Transport Economics and Policy*, Vol. 33, No. 3 (Sep., 1999), p.319.

Mile of Aijal – Dwarband Road (between Kolasib and Aijal) for thorough repairs on 7th February 1954 and the road was not passable for all motor vehicles from 9am of 7<sup>th</sup> February to 10am of 8<sup>th</sup> February 1954. The survey work of Kolasib – Aijal and the portion of Silchar – Aijal Road was also completed on 21<sup>st</sup> May 1954. Iyer, the Deputy Commissioner i/c of Police, Lushai Hills assured that it has been decided to introduce daily motor service between Silchar and Aijal provisionally commencing from 15.1.1954 till 15.5.1954. From the notice given out by A. Kundu, the Executive Engineer of Silchar Aijal Road Division, Arunachal, all traffic from Silchar to Aijal were allowed and enabled to be used for vehicles from 15.1.15 (morning). From the documents, it appears to be the first occurrence in the Lushai Hills where the timing for daily motor services had been arranged for a stipulated period, which was effective from 15.1.1954 until further revision was made.

**Table No. 4: The timing for daily service vehicle as per Indian Standard Time (I.S.T) between Silchar and Aizawl.**

Up	Station	Down
1 <sup>st</sup> Time 2 <sup>nd</sup> Time 1 <sup>st</sup> Time 2 <sup>nd</sup> Time Station		
Dept. 11:30 am Dept. 6:30 pm	Silchar (0 miles)	Arvl. 7: 00 pm Arvl. 1:40pm
Dept. 1:00 pm Dept. 8:00 pm	Baghabazar (25.5 miles)	Arvl. 5:25 pm Arvl. 12:10 am
Arvl. 3:00 pm Arvl. 10:00 pm	Chhimluang (15 miles)	Arvl. 3:10 pm Arvl. 10:10 am
Dept. 10:00 am	-do-	Arvl. 3:00 pm Arvl. 10:00pm
Arvl. 5:00 am Arvl. 12:10 pm	Kolasib (20 miles)	Dept. 1:00 pm Dept. 8:30 pm
(Halt)		
Dept. 1:00 pm	Zanlawn (25 miles)	Arvl. 11:40 pm
Arvl. 3:30 pm	-do-	Dept. 9:10 am
Dept. 3:00 pm	-do-	Arvl. 9:00 am
Arvl. 5:00 pm	Aijal (27 miles)	Dept. 6:30 pm

Source: General, Department, Mizoram Sate Archives.

All the traffic rules which were enabled and forced in Aijal Dwarband road remained applicable in this road too. By examining the terms and condition of the transport system and value, the revision of fares for passengers and freight on Silchar – Aijal Road was made. From the 1<sup>st</sup> February 1954 the fares would be forced till 15. 5. 1954 for the carriage of passengers and goods on this route. The revised rate and gate timing to regulate traffics are mentioned under.

From Silchar to Aijal:

By jeep – per passenger – Rs 20/- per ticket

By truck – per passenger – Rs 16/- per ticket (plus Rs 2/- extra for front seat).

Allowing 15 seers of luggage's per passengers without any additional charge. Excess of the permitted luggage seers have to pay extra at the rate of Rs 12/- per maund.<sup>131</sup> For carrying goods all the way from Silchar – Aijal, the freight charge at Rs 12/- was approved.

From Aijal – Silchar:

By jeep – per passenger – Rs 16/- per ticket

By truck – per passenger – Rs 12/- per ticket (plus Rs 2/- extra for front seat).

The goods carrier charge from Aijal – Silchar was fixed at Rs 10/- per maund which was less than Rs 2/- from Silchar – Aijal carrier charge. The freight charge also cost Rs 10/- it shows that the freight charges was high from Silchar – Aijal transport than Aijal – Silchar. The charges only for passengers and freight was not fixed even the vehicle were also needed to pay the charge for tax and for the reservation of vehicles on this route during the period of 1<sup>st</sup> May 1954 – 15<sup>th</sup> May 1954.

The rate for the charges of vehicles are mention under:

Silchar – Aijal: Jeep at Rs 100/-, Truck at Rs 300/-

Aijal – Silchar: Jeep at Rs 80/-, Truck at Rs 250/-.

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<sup>131</sup>One maund is equal to 37.3242Kms.

[http://www.convertunits.com/from/maund+\[India\]/to/kilogram](http://www.convertunits.com/from/maund+[India]/to/kilogram). Accessed on 20th Set 2016-09-20.

Five passengers were permitted per Jeep and twelve passengers per Truck. Anyone found carrying more than the limitation of passengers per motors will be prosecuted under the Motor Vehicle Act. Children below the age of Five (5) were allowed to travel free. Children above three (3) and below twelve (12) were allowed to travel by paying half fare. Anyone above twelve (12) years of age was liable to pay full fare for transport cost. When the rainy season came, the road from Silchar to Baghabazar had become very bad and unfit for use due to rain. So, from 17<sup>th</sup> April 1954 the vehicles for Aijal road used the old Aijal – Dwarband road from Loharband to Vairengte under proper timings.<sup>132</sup>

Governments in most industrial countries are wrestling with the problem of how to create an efficient and sustainable transport policy at minimal public expense.<sup>133</sup> In Mizoram, the transport system of the state gradually improved, the growing passenger rates and increased in the number of vehicles in Mizoram demanded a good administration and proper control to functions and have a good relation between the passengers, vehicles and the Government to look after. In the year 1972 in the month of April, one of the most important Departments in Mizoram which was the Supply and Transport Department was set up in order to facilitate the movement of passengers and goods within the state as well as Inter-State services across the country. Later, after the passing of about one and half decades, the Department was further subdivided into two departments namely Transport Department and Food and Civil Supplies Department in 20<sup>th</sup> December 1988. The Transport Department in Mizoram grew year by year. Though the main functions and developments of the Department has been commercial in nature, the Department is not yet declared as commercial transporter by the Government unlike the other states in India where State Transport Corporations functioned. The Department is looked after and administered by the Government for the purpose of public interest and services which brought many changes for the economy of the state. One of the fastest growing Departments of the State grew in a large degree. The Department has two very important wings viz. Mizoram State Transport Wing and Motor Vehicles with State Transport Authority.

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<sup>132</sup> MSA, G-1000, CB-82, pp 7-9.

<sup>133</sup> David M. Newberry, and Geogina. Santos, 'Road Taxes, Road User Charges and Earmarking', *Fiscal Studies*, Vol. 20, No. 2 (June 1999),p.103.

As Newberry mentioned in the *Road Taxes, Road User and Earmarking*, the aim and objective of the Government in the road construction and transport network policy is to have a reliable transport network at minimal expenses to the public. Even the Mizoram State Transport (MST) wing took initial steps to have a less expenses for the people and that the prime importance of the Department was not only earning profit, but utmost importance was given to its nature of Public Services catering to the need of rural and urban passengers. In order to have a good economy of the state, one important thing which play a vital role in the growth of economy was the growth in transport system and of passengers. So, Mizoram State Transport started operating passenger's service in different routes within and outside the state having 4 stations and 7 sub-stations manned by Station Superintendents and Assistant Station Superintendent respectively with 40 medium buses, 11 deluxe buses, mini buses, 1 truck, 2 oil tankers, 2 recovery vans and one ambulance service for the public. The Motor Vehicle Wing or State Transport Authority was responsible for the enforcement of Motor Vehicle Act (MVA) and rules including Licensing and Registration of Vehicles, Collection of Taxes, fees, fines etc, due to which the growth in economy brought the increased in good transport system and growth in passengers.<sup>134</sup>

#### **4.7 Deforestation of jungles and calamities**

As is already mentioned that the Lushai Hills was covered with many trees and Bamboos and that for the construction of roads many of them had to be removed and this very act led to deforestation to an extent, leaving the worse consequence yet to come to the inhabitants. Deforestation also affected the economic condition and life style of the region. The nature of colonial power always directed towards control over resources and the first area of their adventure happened to be the forest. Laws were enacted to extract valuable forests. Immediate extractable forests were declared reserved, while others were known as protected forests to await their turn for exploitation. Extraction was confined to river banks. Hence, river transport served as an utmost interest to the colonizers for economic gains. Apart from timber leases, cane and bamboo *mahals* were awarded for extraction along the river banks. Sunken log and drift timber *mahals* were also operative and minor forest produce was covered by permits. There were special licences for

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<sup>134</sup> Directorate of Transport Aizawl, Mizoram. *Manual* 2005, pp.1-3.

removal of rubber and wax. However, in order to encourage boat craft and stimulate exports, passes could be issued to allow removal of trees to make dugouts, without charging royalty.<sup>135</sup>

It is also noted that an area of one mile along the entire length of both banks of navigable rivers was designated as riverine reserves. It seems that paddy cultivation was not permitted in those stretches. However, leases or passes, for orange gardens in bamboo areas were issued so long as no trees were cut or land burnt. A strip of land 150 feet in width, on either side of government roads was similarly reserved, and no *jhumming* was ordinarily permitted in order to prevent land slips and preserve roadside trees as shelter for travellers. In exceptional cases, *jhumming* was allowed, and then the village was responsible for keeping the road clear and repairing any damage caused. Forest products in Mizoram did not enjoy internal market. Trade permits were issued for the collection, manufacture, and extraction of forest produce for the purpose of export along the river banks. Entry permit in lieu of trade permits were also issued at times. As an experimental measure in the 1930s, anyone engaged in cutting or purchasing timber who had not been specifically barred entry proceed without a pass, so long as he did not go beyond a mile from the banks of navigable rivers or build a house.<sup>136</sup>

It is evident from the Notice made by S. Barkataki, Superintendent P. W. D, Lushai Hills about the deforestation of jungle by cutting of timber and bamboos which created the problems and blocked the road for transportation. In the places of Aijal Station Roads, Aijal-Sairang Cart Road and Aijal-Dwarband Road, trees, timbers, stones etc., have been kept by Public on road-side drains and on road crests caused blockage of drains and inconvenience to traffic which can cause an effect in the damage and destruction of road due to the improper drainage system and unsafe to the passengers and public residing in this area. The Superintendent made information regarding the removal of such materials within 19<sup>th</sup> march 1949 from Aijal Station Roads and Aijal-Dwarband Road positively. If many materials were found unresolved or congesting the road for motor transport till the specified date will be thrown away by P.W.D without further

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<sup>135</sup> Daman Singh, *The Last frontier, People and Forest in Mizoram*, New Delhi, TATA Energy Research Institute, 1996,p.41

<sup>136</sup> Singh, *The Last frontier*, p.42.

notice, for which no compensation could be claimed.<sup>137</sup> Roads and environmental degradation through the deforestation of jungle is closely linked in the Lushai Hills as it was in the high land.

A sustainable transport system must provide mobility and accessibility to the people in a safe and mode of friendly to the environment. This might be a difficult task and complexity when the needs and demands of people belong to different stage of income. Decisions regarding the mode of transport by the people sometime based on economic criteria, time involved, convenience, comfort and safety.<sup>138</sup> In order to improved and newly construction work was to be done it requires the points which was stated in the above sentences, the construction and improvement of road transport was also done in the Lushai Hills by the in order to achieve and acquired the needs and importance for the passengers and the public in the existing region and for the purpose of their own beneficiary. To have a smooth, fast flow and reliable road for transport, firstly it demands the destruction of things or object in the estimated area. As the Lushai Hills was covered with many trees and Bamboos, it needs to remove and deforested the areas, but this removal and degradation of trees, bamboos and soil might have the bad impact in the days to come. This can cause ecological imbalance, landslide, global warming, fallen trees which may affect the whole economic condition and life style of the region. Kenneth R. Young mentioned in the *Roads and the Environmental Degradation of Tropical Montane Forests* that “An increase in demand results in increases in supply: more forest is cut, crops and pastures are established, and a network of intermediaries begin purchasing and selling”.<sup>139</sup> The people in the Lushai Hills were also increased in the number of population time to time and there were so much demand for their own livelihood. To relief some of the problems and difficulties in their economic condition they need to transport and exchange their needs from one place to another. The British had an eye upon this beyond their supply of materials and ration from far distance, in order to have a well maintain road they cut a lot of trees and soils in many areas of the

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<sup>137</sup> MSA, G-760, CB-62, p.19.

<sup>138</sup> Dinesh. Mohan and Geetam. Tiwari, ‘Sustainable Transport System: Linkages between Environmental Issues, Public Transport, Non-Motorised Transport and Safety’, *Economics and Political Weekly*, Vol. 34, No. 25 (Jun. 19-25, 1999), p.1589.

<sup>139</sup> Kenneth R. Young, ‘Roads and the Environmental Degradation of Tropical Montane Forests’, *Conservation Biology*, Vol. 8, No. 4 (Dec., 1994), pp.972-973.

Lushai Hills to have well planned administration and easy access of communication in the rural areas. Perhaps from the Engineer point of view this Hilly area created much difficult condition for road construction and maintenance because needs to undercut many slopes which can create so much trouble.

It was the programme of the government to promote various developmental activities and thus uplifted the economic condition of the people that largely depended on the capability of road network carrying passengers and goods from one place to another. A well structured and well maintained road network is, therefore, necessary for the movement of people and the supply of materials for the betterment of the economic condition in the country, without which trade and industry cannot maintain a competitive edge.<sup>140</sup>

**Table 5. Composition of Road Transport Network in Mizoram and the Growth in National Highways connecting Villages.**

Sl. No	Category of Roads	Length (Km)	Percentage of Total Length
1.	National Highway (NH)	885	12.94
2.	State Highways (SH)	225	3.29
3.	Major / Other District Roads (M/ODR)	3471	50.75
4.	Villages Roads	935	13.67
5.	Roads within Town and Villages	704	10.29
6.	Other Purpose Link Roads	620	9.06
	<b>Total:</b>	<b>6840</b>	<b>100.00.</b>

Source: Land and People of Indian States and Union Territories.

During the Second World War (1939-45), when the Japanese troops occupied Burma, the strategic importance of Lushai Hills came into focus. A 190 km jeepable road was reconstructed connecting Silchar and Aizawl, which served as an important gateway and transfer of goods from India to Burma. Aizawl – Lunglei jeep road of 250 km was also completed in 1950 in which the people from the rural areas took and exchanged their

<sup>140</sup> Bhatt and Bhargava, p.189.



needs from the capital of Mizoram (Aizawl) to their home village in order to look after the economic conditions of their village and their family. The Border Road Task Force (BRTF) was deployed in Mizoram in 1963 and started their work in the revamping of Aizawl – Lunglei link road with bitumen that had a carry capacity of heavy vehicles and cars. Transporting goods and materials and movement of the people became easier and faster than before that improved the status of economy and everyday life of the state.<sup>141</sup>

While road connection in the Lushai Hills was significant in changing the whole economy of the state, the other means of transport were not so much preferable in the Lushai Hills. After the establishment of the Public Works Department (PWD) in 1908 in the Lushai Hills, it took the responsibility in funding of the road commitments from the Government and allocating the State's normal budget for the road sector as well as performing road maintenance strategies and practices. As of 1938, there were no cartable roads beyond the 13 mile stretch from Sairang to Aizawl. That left the rivers – the Dhaleshwari was with difficulty navigable up to Sairang. Between Sairang and Changsil there were dangerous rapids. The only other possible export route was via the rivers Sonai and Barak into Cachar, and the Karnaphuli into the Chittagong Hill Tracts.

The Lushais began examination of the impact and use of road transport in the production of goods and imports of goods services. Since India got independence in 1947, road transport experienced many development and growth in many of the states not only Lushai Hills District Council but the whole of Indian states. Road transport network and became the dominant mode of transport in Lushai Hills District Council since it was the easiest infrastructure to construct pertaining to the topographic landscape. Road transport offered a number of advantages over other transport system because of its flexibility and reliability of swift and door to door service that was much preferable and useful in the hilly areas.<sup>142</sup>

#### **4.8 Conclusion**

After 1947, trafficking on roads in Mizoram witnessed a growth in socio-economic condition. The meaning of transport in the post-colonial period mainly implies

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<sup>141</sup> Bhatt and Bhargava, pp 77-190.

<sup>142</sup> Koshal and Koshal, p.166.

passengers and goods carrying vehicles that are used for trade and business in many areas. With the pace of economic development picking up in Mizoram, improvement and increase in volume of road traffic is quite significant.

The road development in the state of Mizoram had a good policy that aimed at providing an efficient sustainable road network across the state in order to meet the main transportation needs of every user by maintaining easier access to connect the backward and far flung areas. Transport Department of Mizoram under the government aimed to develop and provide adequate and well maintained road system encompassing all transportation needs to ensure smooth and uninterrupted flow of goods and passengers traffic both within the state as well as inter-state routes. The growth of transport network provide the connectivity which can be useful for the state in terms of economic, social and political to all remaining recognised villages by all weather roads. It also established appropriate social and environmental management policies and practices for prevention and reduction of adverse impact of roads construction. It utilized and optimized the past road investment by providing feeder roads to the existing main roads. The road assets were preserved by ensuring timely and adequate road maintenance.

In the Pre-industrial economic condition of the Lushai Hills where the people had paddy as a staple food. In order to meet their needs of their daily needs for survival and to protect themselves from the others, they practised the Barter system. The coming of the British and administered the Lushai Hills changed the whole economic condition in the exchange of trade by money currency through the introduction and construction of road transportation. These change in some case brought in a positive way which led the growth rate of passengers and in negative way led to the destruction of land and forest for the construction which will connect the Villages with each other swift and smooth.

In the Pre-colonial period, the boundary description to the people of Mizoram was based on verbal agreement and it could not be fitted with any boundary thought of the West. Hence, Western definition on boundary highly deviates. As far as the thought and idea is concerned, Mizo's had been a migratory tribe who practiced *tlang lo neih* or Shifting cultivation. So, the question of having boundary did not arise.

In the Pre-colonial period, lands were directly under the village and hence in search of new land, as was practiced in shifting cultivation, inter feuds was common, every village had a chief and full authority was vested upon him, to provide a systematic administration over the land. They developed few relations with few Bengali and Assamese traders for the few needed articles. However with the occupation of Mizoram by the British soon after the Alexandrapur case in 1871 construction of road could be witnessed.

After the attack of James Winchester and his daughter Mary Winchester by the Lushai Chiefs, the British came in contact with the Mizo's (Lushais) from two columns one from the Tlabung side and one from the Tuiruang (Tipaimukh) side headed by the General Brownlow and General Bouchier. The British came to Mizoram (Lushai Hills) in order to recover Mary Winchester which was captured by the Sailam Chief (Bengkhuai). As they entered the land, they were assisted by surveyors which happened to be the common practice of the British. The surveyor's duty was to locate a pleasant path through which army personnel and their porters could move easily to the strategically required point. The fact that, colonial were disturbed and confused by the Lushai chiefs who carried out raids upon their land. In order to subdue the Mizo chief they implemented supreme power within the hilly region.

As it was already mentioned in the earlier chapter the East India Company recruited thousands of labour force from the Bengal Province to clear the forest and construct a bridle path in Mizoram (Lushai Hill) which could lead to interior parts of Mizoram in order to function more effectively. Mizoram geographical location provides hilly terrains, thick forest where things could not be easily access and many of the workers lost their lives in the process of road construction.

The construction of Bridle path in the Lushai Hills required huge members of the labour. The connection of village from another village easily was the policy brought the Colonizers. In order to have a deep administration in the Lushai Hills and to have more members of the Colonizers to control over the land, it requires the transport and communication better and well developed ever than before. In order to have a better connection in the Lushai Hills the colonizers made an order to the Chief of the village to sanction or provided the labour to work for them sometime with payment and without payment. They had to clear the land for the path of the colonizers to come by the order made by the Colonizers through the Chief of the Village. Sometime the *Khawchhiar* or Village writer was appointed to record all the things happened and movement of the people in the Village. The orders of impressed labour by the colonizers were sometime refused by the Chief and the member of the Village. But, when the colonizers discovered any one resist or refused against them would be punish.

On the other hand through the study of the construction of bridle path, cart road and even jeepable road in the Lushai hills required lots labour force, as it was mentioned that if any one refused against the order of forced labour would be punish. When the colonizers imposed the order that every one man from each village was to do the construction of work would be a burdensome. During this period, the majority of the Lushai People depended upon the *tlang lo neih* or shifting cultivation, they were in need to work for their own land in order to earn their needs because paddy was their main staple food. If they were to follow the orders of the colonizers no man was there to substitute in their land and was in need to leave their land in order to avoid the punishment and the order from the colonizers through the Chief.

One of the remarkable incidents happened in the construction of road was the construction of jeepable road between Aizawl and Lunglei on a self help base in 1950's. The Aizawl-Lunglei Road Committee was set up in Aizawl and Lunglei and the construction was done by the people from each of the village where the road passed through them. Here the Committee calculated the distance between the Villages and the population of the village and made order to work by themselves without the funds provided from the Government because the Government might contended in the existing road between Aizawl and Lunglei constructed by the British in the pre-independence period. In 1960's when Mizoram was declared as *Rambuai* or Disturbed Area, we can

say the construction of new roads in Mizoram was totally stopped because in various villages the people were grouping and almost all these grouping centres were linked or able to communicate by jeep roads. In order to subjugate them easily the Government did not implement any methods and schemes for the construction of new roads but developed new projects for resurfacing and maintenance of the existing roads. So that, this resurfacing and repairing roads made them in easy access to the remote areas. This new projects could be stated as one of the most important subjugation methods in Mizoram.

Besides the road transportation, the earliest mode of transport and communication ever existed in Mizoram in the Pre-colonial period was the waterway transport. Though the exact time since they started trade exchange was not known but can be documented that it also happened till the postcolonial period but was not so much valuable and commonly used than before due to small voluminous of the stream, its rapids and most remarkable was that the replaced by the road transport because road transport was more valuable than waterway in the hilly areas because through road connection people experienced door to door exchange of trade. Trade marts were established at Changsil, Tipaimukh, Tlabung, Tuirial. There was a huge exchange of trade between the Mizo's and the plain people through these marts. The marts which were established by the British were so much imperative to the State of Mizoram. But on the other hands this mart which were established by the British could be a surveillance methods, because the people from the Hills (Mizoram) who were coming down in order to have exchange of trade brought many knowledge about the hills people ethnic identity, their behavior and their interest. Here, interest meant what were their (Mizo's) needs. It can also be noted that the material brought by the Lushais at Trade centre designated their status. The British could easily learn what were their weakness and strong point because the trade centre was the place where a different person meets each other and from the material they brought in order to defended themselves.

Through the waterway transport between the Lushai people gained much knowledge in making of gun powder, use of iron and steel utensils and also the improvement in knowledge of boat making. Only bamboo raft were used in the Pre-colonial period but after the contact with the British, we could discovered the improvement in the boats by the Lushais, they knew how to handle and usefulness of

ferry boats and country which could carry a large amount of materials than Bamboo raft and they imparted the knowledge of value of money currency through the waterway transportation in exchange of trade at different marts which were introduced by the British.

The growth of transport networks in the Lushai Hills benefited the Lushai people which made them change and development in their economic and political condition. Especially after the periods of insurgency in Mizoram, majority of the mizo's in different villages no longer continue their previous way of *tlang lo neih* or shifting cultivation due to grouping and limited area of land to cultivate their crops and it was not possible to move out in search of land because they were under the control of the Government. Due to the improvement and development in road transport and communication, the Government could easily provide and supplied rations to her people.

It could be clearly noted that the improvement in road transport and communication changed the whole economic condition of Mizoram from barter to currency system as the waterway was replaced by the introduction and construction of motor roads in Mizoram. All the commodities were transported and supplied to various places by road transport, as it was mentioned in the initial parts the road transport could be done and experienced next to door by most of the people in each of the Villages. Behind the development and improvement in road transportation, as it was mentioned in the earlier parts this development brought lots of harassment to the indigenous people of Mizoram. In order to construct the roads, the people in the area have no rights to claim for compensation during their works. The introductions of taxes to be paid by the people to the Government became much trouble for the people because the economic conditions of the family in the villages were quite incomparable.

The changes brought by the improvement in road transport and communication which could be measured systematically was the increased in growth rate of passengers and vehicles. From the early 1950's there was jeep services from Aizawl to Silchar witnessed the growth of passengers that the vehicles for transport was upgrade from jeep to Bus which could carry more passengers and materials.

One of the most remarkable points was that construction of roads led to the destruction of land and forest in Mizoram. It required lots of cultivable land to be destroyed for the construction of roads. This destruction of forest and land could also create the ecological imbalance.

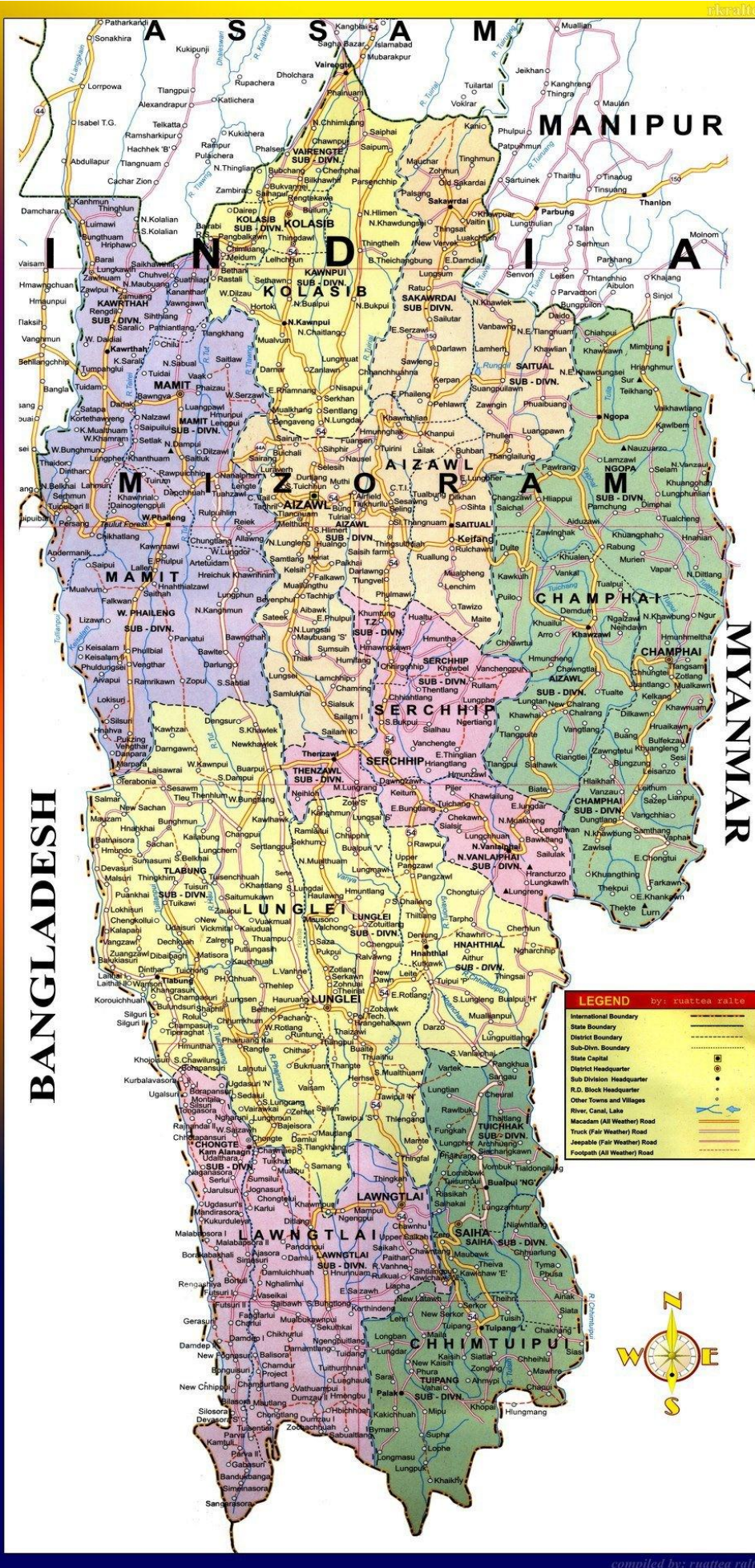
The improvement and growth in transport led to the easy access of cutting of forest products like timber and bamboo because this could be transported simply from one place to another, people extract lots of natural wealth due to the easy movement of vehicles, it also witnessed the increased in number of vehicles in Mizoram and demanded good trafficking. Increasing in numbers of vehicles in some way lead to easy flow and movement of the people also served the daily needs of the people, in case of emergency we can move straight forward to the Hospital too. Through the increasing in number of vehicles brought by the development and improvement of roads the drivers of each of the vehicles could also had the benefits in order to meet their daily needs by earning money from their passengers and goods they carried.

## **ABBREVIATIONS**

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- 1.** E.I.C. – East India Company
- 2.** P. W. D. – Public Work Department
- 3.** B. R.O. – Border Roads Organization
- 4.** B.R.T.F. – Border Roads Task Force
- 5.** I.L.O. – International Labour Organization
- 6.** I.S.T. – Indian Standard Time
- 7.** N.H. – National Highway
- 8.** S.H. – Sate High Way
- 9.** Bualpui H. – Hemphung Bualpui
- 10.** T.R.I. – Tribal Research Institute
- 11.** M.S.A. – Mizoram State Archives
- 12.** G. – General Department
- 13.** Pol. – Political Department
- 14.** Ltd. – Limited
- 15.** M. – Military Department





BANGLADESH

MYANMAR

**LEGEND** by: ruattea rate

- International Boundary
- State Boundary
- District Boundary
- Sub-Div. Boundary
- State Capital
- District Headquarter
- Sub Division Headquarter
- R.D. Block Headquarter
- Other Towns and Villages
- River, Canal, Lake
- Macadam (All Weather) Road
- Truck (Fair Weather) Road
- Jeepable (Fair Weather) Road
- Footpath (All Weather) Road



## BIBLIOGRAPHY

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### **A. Primary Sources**

#### **Archival**

#### **I. Official**

No. 968G., dated Lungleh, the 21<sup>st</sup> December 1896. From – R. H. Sneyd – Hutchinson,

Esq., Superintendent, South Lushai Hills. To – The Chief Secretary to the Government of Bengal. Pol-36, CB-3, MSA.

No. 882 F A/ Road., dated the 9<sup>th</sup> October 1897. From – H. N. Tuck, Esq., Political Officer, Chin Hills. To – The Chief Secretary to the Government of Burma. G-57, CB-5, MSA.

No. 1596H.T/ V-2, dated Chittagong, the 14<sup>th</sup> November 1891. Memo by – W. B. Oldham, Esq., Offg. Commissioner of the Chittagong Division. To – The Chief Secretary to the Government of Bengal, in reference to No. 473P.D., dated 10<sup>th</sup> October 1891. G-14, CB-2, MSA.

No.2393P, From Sir John Edgar, Chief Secretary to Government of Bengal. To – Commissioner of the Chittagong Division, dated Calcutta, 11<sup>th</sup> July 1891. M-12, CB-2, MSA.

Rawal Pindi, dated 27<sup>th</sup> April 1893. From – Lieutenant F. R. F. Boileau, Royal Engineers. To – The Under Secretary to the Government of Bengal, R.E., On the Proposed Cart Road to connect The Lushai Hills Tracts with Haka. Pol-19, CB-2, MSA.

No. 2-M. Road Report., Forwarded in original to Commissioner, Chittagong Division., From – J. Shakespeare, Captain, Supdt., South Lushai Hills. Pol-56, CB-6, MSA.

Office Order No.7 of 1933-34. Sairang Road Metalling., Name of Work:- Annual repairs to Aijal Sairang cart road 1933-34. Pol-170, CB-17, MSA.

Government of Eastern Bengal and Assam Judicial Department No. 931G., dated Aijal, the 24<sup>th</sup> November 1904. From – Major J. Shakespeare, C.I.E., D.S.O., I.A., To – The Secretary to the Chief Commissioner, Assam. Pol-71, CB-7, MSA.

Government of Assam, Tribal Areas Secretariat No. AD/PW/29/50, dated the Shillong, the 7<sup>th</sup> October 1950. From – Sri R. V Subrahmanian, I. A. S., Secretary to the Government of Assam for Tribal Areas. To – The Superintendent Lushai Hills. G-881, CB-72, MSA.

Office of the Deputy Commissioner : Mizo District. No. GD.13/59/64. dated Aijal, the 31<sup>st</sup> July 1959. From – Shri L. S. Ingty, I.A.S., Deputy Commissioner, Mizo District. To – The Asst. Secretary to the Government of Assam. Tribal Areas Department, Shillong. G-1293, CB-106, MSA.

Office of the Deputy Commissioner: Mizo District. No. GC.3/58/16-17, dated Aijal, the the 25<sup>th</sup> Vaisakha 1880 / 15<sup>th</sup> May 1956. From - Shri L. S. Ingty, I.A.S., Deputy Commissioner. To – The Secretary to the Government of Assam, Public Works Department (Roads and Building Wing) development ‘A’ Branch, Shillong. PWD-1213, CB-99, MSA.

Government of Assam, Public Works Department : (Roads and Building Wing) Development ‘A’ Branch. From – The Secretary to the Government of Assam. To – The Deputy Commissioner, Mizo District. PWD-1213, CB-99, MSA.

Work Order No. 28 of 1948-49. From – S.D.O & Superintendent., P.W.D., Lushai Hill. To – Pu Hrang-liana, Chhingchhip Lal. G-718, CB-58, MSA.

Memo.No. 3616-55 PW/ VII-8. Aijal, the 12<sup>th</sup> March 1949. Forwarded by S. Barkataki Superintendent, P.W.D., Lushai Lushai Hills. To – All chiefs along Aijal-Dwarband Road. Editors of Local papers for Information and Circulation through ‘Tlangaus’. G-760, CB-62, MSA.

Extract from Letter No. TAD/Com/20/. Dated 19.04.1955 from the Under Secretary to the Government of Assam, Tribal Areas Department, Shillong to the

Deputy Commissioner, Mizo District, Aijal. For the Construction of bridges over the Mat and Mengpui Rivers and establishment of Ferry over Kolodyne river. G-1275, CB-105, MSA.

Office of the Deputy Commissioner i/c Police, Lushai Hills. Memo No. m/xi-21, dated Aijal, the 25<sup>th</sup> January 1954. From – K. G. R. Iyer, D.C i/c Police, Lushai Hills. For revision of fares for passengers and freight on Silchar-Aijal Road. G-1000, CB-82, MSA.

## **II. Non – Official**

Vanlalvena. C, MPS, O.C, Aizawl City Traffic Police; *Aizawl City Traffic Police Chanchin Tawi*, Aizawl, 2015.

Zakhuma, ‘Sairang: Mizoram kawtchhuah No.1 thin kha (Part One)’, *M. U. P. TLANGAU (Monthly Magazine) January 2000*, Aizawl.

*Manual 2005*, Directorate of Transport Aizawl, Mizoram.

## **III. Interview**

Interview with Prof. J. V. Hluna, Sikulpuikawn, Aizawl, Mizoram. Dated 22<sup>nd</sup> November 2016.

Hualchhingi, Sumsuih, Aizawl District, Mizoram. Dated 23<sup>rd</sup> December 2016.

CH. Lalngena, Thenzawl Vengthlang, Serchhip District, Mizoram. Dated 23<sup>rd</sup> December 2016.

## **B. SECONDARY SOURCES**

### **I. Published Book (English)**

*Mizoram District Gazetteers 1989*, Aizawl, Directors of Art & Culture, Government of Mizoram, Education and Human Resource Department, 1989.

McCall, A.G., *Lushai Chrysalis*, Aizawl, Tribal Research Institute, Department of Art & Culture, Government of Mizoram, 1949.

Reid, A. S., *Chin – Lushai Land*, Aizawl, Tribal Research Institute, Mizoram, 1893.

Chambers, O.A., *Hand Book of the Lushai Country*, Kolkata, India, Firma KLM Private Limited, 2005.

McCall, A.G., *The Lushai Hills District Cover*, Aizawl, Tribal Research Institute, Department of Art & Culture, Government of Mizoram, 1980.

Bhatt, SC, and Gopal K. Bhargava, *Land and People of Indian States and Union Territories: Mizoram, Vol.9*, Delhi, Kalpaz Publications, , 2006.

Pachua, Rintluanga, *Mizoram: A study in Comprehensive Geography*, New Delhi Northern Book Centre, 2009.

Singh, SN, *Mizoram: Historical, Geographical, Social Economic and Administrative*, New Delhi, K. M. Rai Mittal Publications, First Edition, 1994.

Allen, BC, et al., *Gazetteer of Bengal and North – East India*, New Delhi, Mittal Publications, 2010.

Saihnuna, SL, *Reflections on the Centennial Church and Mission Paradigm in Mizoram (1894 – 1994)*. Nikungi H, Xarisma Villa, Zotlang, Lunglei 796691, 2001.

Gilbert, Richard, and Perl, Anthony, *Transport Revolutions: Moving People and Freight without oil*. UK and USA, Earthscan, 2008.

Orestes. Rosanga, “*Barter, Tradition and Transformation of Exchange Values Resulting from Colonial Interventions in the Mizo Hills*”, in S. Haukhanlian Mate and Vanrammawii (ed.), *Customs and Traditions of the Hill Peoples of North East India*, New Delhi, Akansha Publishing House, 2016.

Carey S, Bertram, *The Chin Hills Vol. 2*, Aizawl, Firma KLM Private Limited, 1932.

Chatterjee, Suhas, *Mizoram Under the British Rule*, Delhi, Mittal Publications, 1985.

Lewin H, Thomas, *A Fly on the Wheel or How I helped to Govern India*, Aizawl, Tribal Research Institute Art & Culture Department Government of Mizoram, 2005.

Sinha, Nitin, *Communication and Colonialism in Eastern India*, UK and USA, Anthem Press, 2012.

Rosanga, Orestes., 'Forced Labour as a Tool of Colonialism and Hegemony', in Prof. Sangkima (ed.), *Colonialism and Change in Mizoram*, Aizawl, Mizo History Association, 2015.

Singh, Daman., *The Last frontier, People and Forest in Mizoram*, New Delhi, TATA Energy Research Institute, 1996. Daman

McNeill, J. R., et al., *A Companion to Global Environmental History*, London, Blackwell Publishing Ltd., 2012.

Chapple D, Eliot., and Carleton. Stevens Coon, *Principles of Anthropology Vol. I*, New Delhi, Cosmo Publications, 2004.

## **II. Published Book (Mizo)**

Lalthanliana, *Zoram Chanchin (Kum 1900 hma lam)*, Model Veng, Aizawl, Mizoram, Vanlalhmuaka & Vanlalhruaii (Hruaitai) te Nupa, 2000.

## **III. Articles in Books (Mizo)**

Thangbilha. S., 'Mizoram Motor kawng hmasa ber, Aizawl - Lunglei kan neih dan', *Zotuithiang*, Lunglei, Mizoram, Writer's Club, 2003.



#### **IV. Articles in Journals/Proceedings**

Young R, Kenneth., 'Roads and the Environmental Degradation of Tropical Montane Forests', *Conservation Biology*, Vol. 8, No. 4 (Dec.,1994), pp. 972-976.

Venables J, Antony, 'Road Transport Improvements and Network Congestion' *Journal of Transport Economics and Policy*, Vol. 33, No. 3 (Set., 1999), pp. 319-328.

Maity, A. B., 'Forced Labour in India: A Note', *Indian Journal of Industrial Relations*, Vol. 15, No. 1, (July 1979), pp. 77-92.

Kosahl K, and Manjulika., 'Economics of Scale of State Road Transport Industry in India', *International Journal of Transport Economics / Rivista internazionale di economia dei trasporti*, Vol. 16 No. 2 (June 1989), pp. 165-173.

Ransdell E, 'Importance of Inland Waterway Transportation', *The North American Review*, Vol. 224, No. 835 (Jun – Aug., 1927), pp. 235-240.

Johnson R, Emory, 'Supplement: Inland Waterways, Their Relation to Transportation, *The Annals of the American Academy of Political and Social Science*, Vol. 4, Supplement 5 (Sep., 1893), pp. 1-164.

Hoyle S, Brian, 'Water Transport and Urban Development: Some Geographical Perspectives and Propositions', *Geo Journal*, Vol. 31, No. 4 (December 1993), pp. 439-448.

Kidokoro, Yukihiro, 'Cost-Benefit Analysis for Transport Networks: Theory and Application', *Journal of Transport and Policy*, Vol. 38, No. 2 (May 2004), pp. 275-307.

Montagu, Lord, 'Roads and Motor Transport in India', *Journal of the Society of Arts*, Vol. 68, No. 3529 (July 9, 1920), pp. 541-552.

Newberry M, David. and Georgina. Santos, 'Road Taxes, Road User Charges and Earmarking', *Fiscal Studies*, Vol. 20, No. 2 (June 1999), pp. 103-132.

Mohan, Dinesh, and Geetam, Tiwari, 'Sustainable Transport System: Linkages between Environmental Issues, Public Transport, Non-Motorised Transport and Safety', *Economics and Political Weekly*, Vol. 34, No. 25 (Jun. 19-25, 1999), pp. 1589-1596.