

CHAPTER III

STUDY AREA

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3.1 Location

The permanent campus of the Mizoram University is selected as the study area. The Mizoram University was established on 2nd July 2001 under the Mizoram University Act, 2000. The Bill of Central University in Mizoram was passed by Rajya Sabha in 1999 and Lok Shaba in 2000 with an outlay of Rs. 25 crores for infrastructure development. The study area is situated in the western side at a distant of about 15 km away from the state capital Aizawl, just below Tanhril village (**Fig. 1a**). The area of Mizoram University Campus is 978.1988 acres and lies between 23°45'25" N and 23°43'37" N latitudes and 92°38'39" E and 92°40'23" E longitudes. The elevation ranges from 300 m to 880 m above mean sea level (msl.) (**Fig.1b**).

3.2 Climate

The climate is humid and tropical, characterized by short winter, long summer with heavy rainfall. During the study period, temperature did not fluctuate much throughout the year which ranges from 13 °C to 36 °C. The highest temperature is observed during April and May, and the lowest is during December and January (**Fig. 2a**). The study area receives rains from the south-west monsoon. The precipitation was heavy in summer, generally from May to September, and lasts till late October. Normally July (376 mm) and August (453mm) were the rainiest months while December (10 mm) and January (8 mm) were the driest months (**Fig. 2b**). The average annual rain fall was about 182 mm.

Three seasons are generally observed in Mizoram (Pachau, 1994).

(a) Cold or winter season

The winter season starts from November to February. Temperature ranges between 8°C and 24°C and a very less rainfall which is received from north-east, generally known as retreating monsoon. During this season morning mists are very common in most valleys.

(b) Warm or spring season

The spring season begins from March to the first part of May and is characterized by a bright sunshine and a clear blue sky. The temperature is fluctuated from 19°C to 32°C. Maximum isolation is received during this period due to the clear blue sky. This season is the hottest season in Mizoram.

(c) Rainy or summer season

Rainy season is the longest season, it lasts for nearly six months from second half of May to late October with varying rainfall from 100 mm (May) to 440 mm (August). This season receives south-west monsoon which blows Mizoram from south-west through Bay of Bengal, sometimes with violent storms in the beginning of the season. The temperature is high but declined to very low during raining.

3.3 Geology, rocks and soil

The soil of Mizoram is generally young, immature and sandy. In the study area, sedimentary rocks are seen at some places in the base lines and in watersheds. Rock plates and hard shales are present in the upper areas, where stone quarries are laying along the side of the PWD road. Soils of the study area are porous, sandy loam, humus and the top soil have been washed away by run off.

3.4 Vegetation

The vegetation of the campus falls under Tropical semi-evergreen forests. (Champion & Seth, 1968). Plant diversity in this area is quite rich particularly in the western sides representing the forests with less biotic disturbances. The most common tree species present in this area are :- *Aporosa octandra*, *Castanopsis tribuloides*, *Schima wallichii*, *Anogeissus acuminata*, *Bischofia javanica*, *Embllica officinalis*, *Glochidon sp.* etc. Some common species of shrubs are *Melastoma nepalensis*, *Clerodendrum infortunatum*, *Chromalaena odorata* , *Garcinia cowa*, etc. and some common herbaceous species are - *Imperata cylindrica*, *Mikania micrantha*, *Erianthus longisetosus*, *Thysanolaenamaxima*, *Ageratum conyzoides*, *Bidens biternata* , *Knoxia corymbosa* etc. Bamboo species present in the study area are – *Melocanna baccifera*, *Dendrocalamus hamiltonii* and *Dendrocalamus longispathus*.

3.5 Drainage system

The area of the Mizoram University Campus is characterized by a series of undulating and slanting slopes of enchanting hill ridge with the western spur that falls under steep slope to the bank of Setlak stream. Setlak is the biggest stream in the study area and is joined by some other streams like Rultawi-lui, Hratdawng-lui, Lalmangkhawng-lui and Lungsumzau-lui. Other important streams are Chengkawl-lui and Kel-lui. Most of the streams run towards north-west direction till they meet the longest river in Mizoram, called ‘Tlawng-lui’ (**Fig. 1b**). (‘Lui’ means river or stream.)

3.6 Experimental sites

Three experimental sites were selected on the basis of disturbance gradient for the present study; they are - highly disturbed (HD), mildly disturbed (MD) and undisturbed (UD). The highly disturbed site is an open area where grasses and a few shrubs and trees are

present. The mildly disturbed site is a secondary forest where jhuming system of cultivation was practiced about 10 - 20 years ago, and the undisturbed site is a natural forest and rocky area, about 20 – 35 years old. There are a number of small streams or brooks traversing the study area; those streams remain dry in almost all seasons except in rainy season (**Photo plate 1**).

Map of Aizawl (1991)

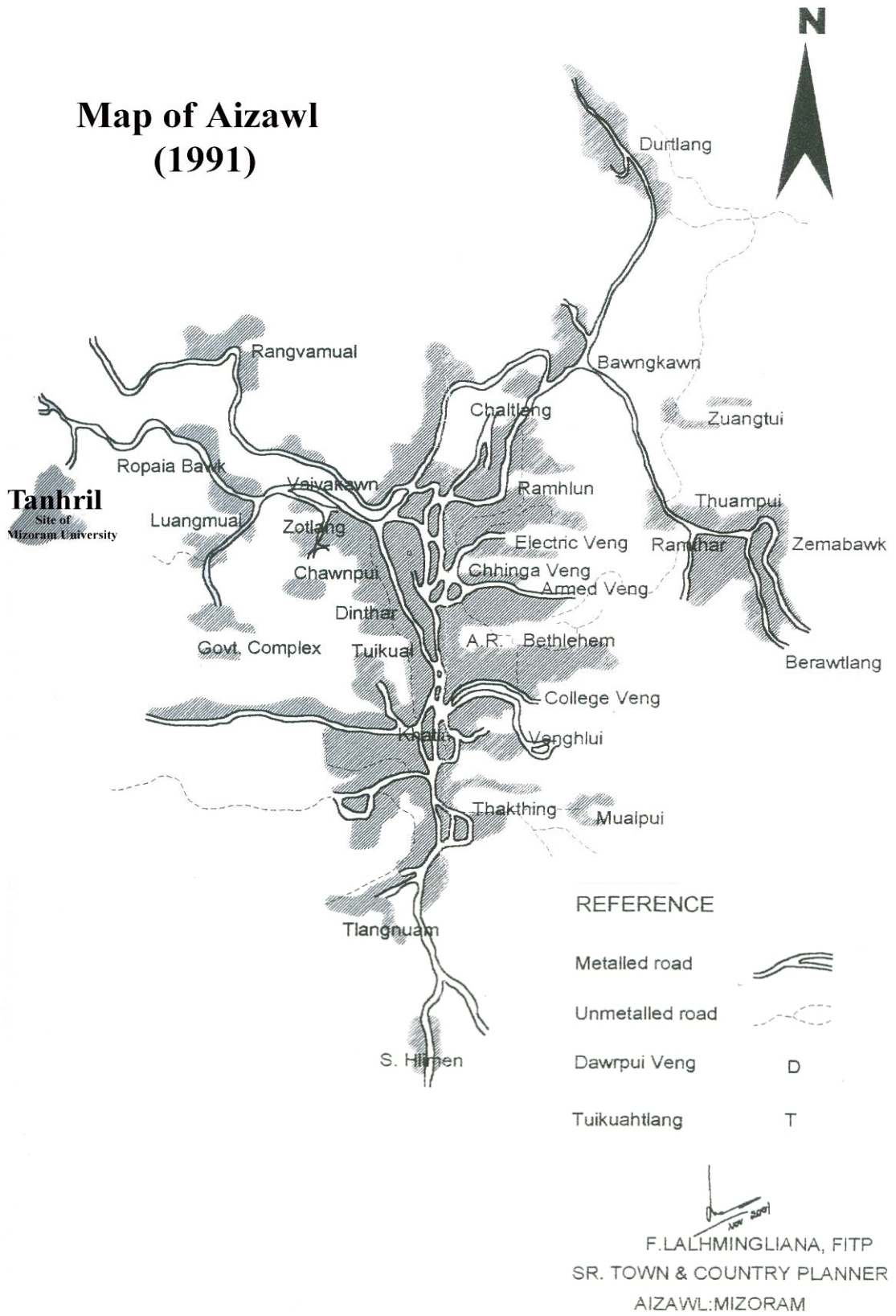


Fig. 1a. Map of Aizawl city under Town and Country Planner, Aizawl, Mizoram (1991).

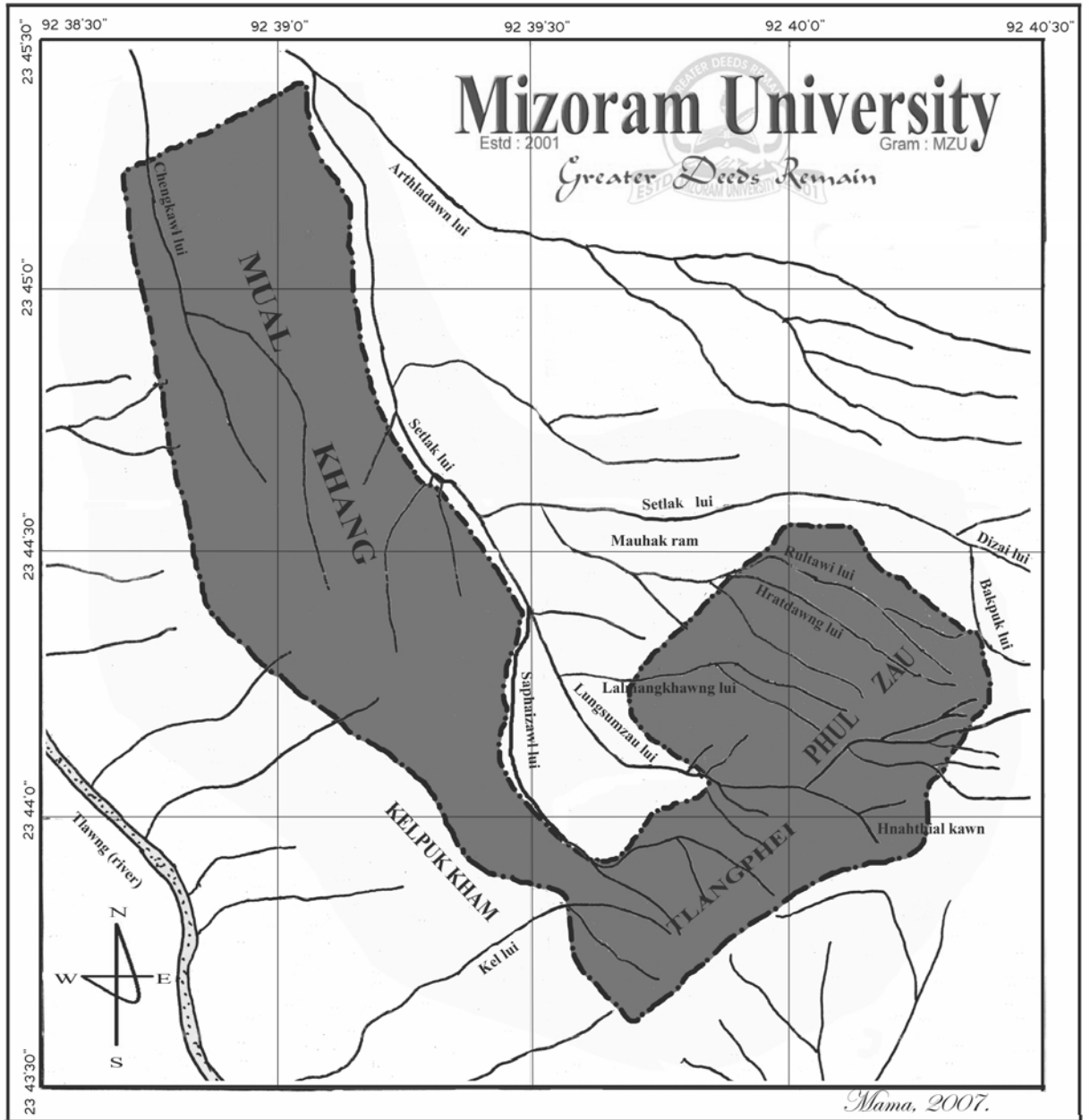


Fig. 1b. Map of Mizoram University Campus, Tanhril, Aizawl, showing boundaries and drainages.

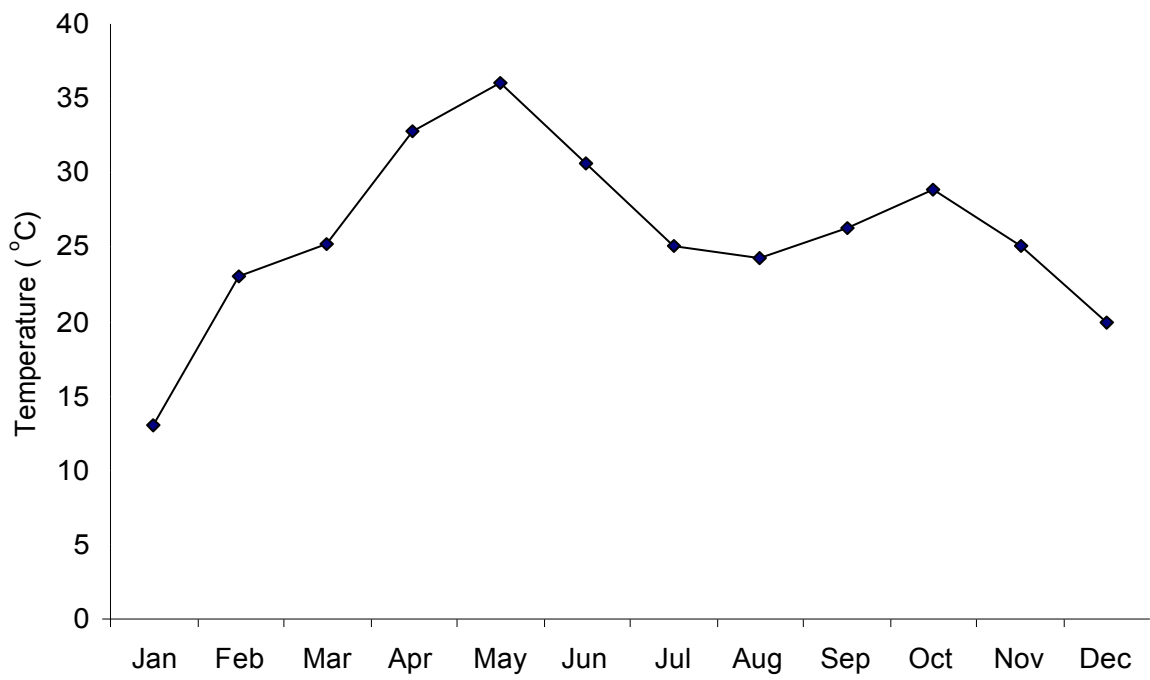


Fig. 2a. Average monthly temperature in the study area (2005).

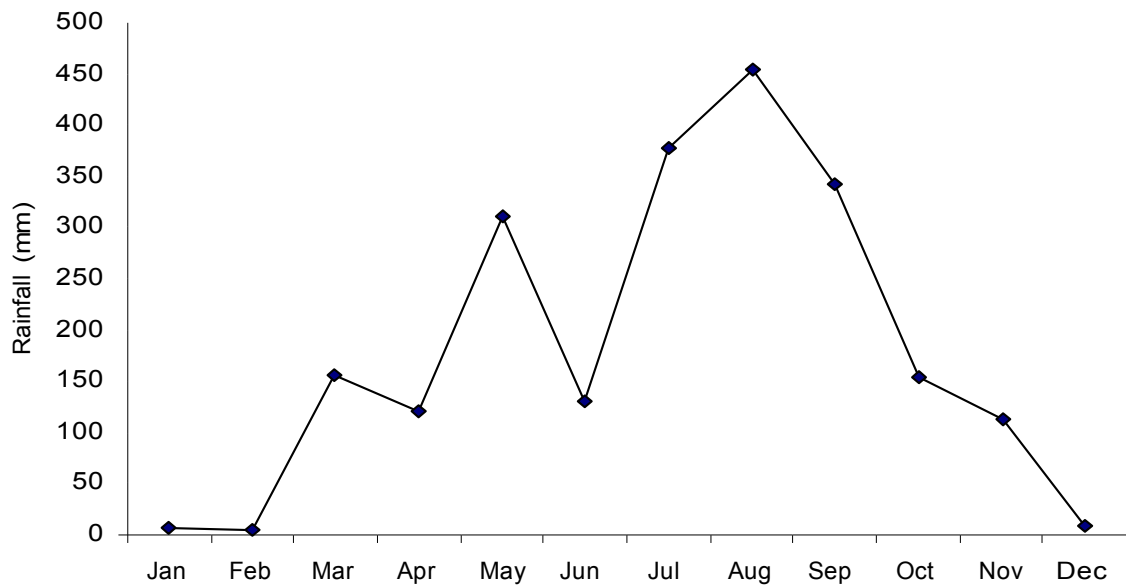


Fig. 2b. Average monthly rainfall in the study area (2005).

Photo plate 1.



Photo 1: Highly disturbed area.



Photo 2: Mildly disturbed area.



Photo 3: Undisturbed area.