CHAPTER - 6
6. CONCLUSION

The field survey was undertaken during 2007-2009 in different Hmar villages of Cachar district of Assam. All information have been collected from medicine men and aged people of Hmar tribe about uses of plants for the treatment of various ailments.

The Hmar tribe is one of the groups of hill tribes in North-East region. Originally, they have come from ‘Singlung’ in South-Western China and gradually spread out the states of Manipur, Mizoram, Meghalaya, Tripura and Assam. Now, some group of Hmar people are permanently settled in various parts of Cachar district of Assam.

Hmar population in Cachar district is distributed in 99 villages where village wise population in most of the cases ranges from 176 (52) – 4950 (2). Only in one village i.e., Hmarkhawlien, population is about 12,230 as per ‘Bark Valley Hill Tribes Development Council’ census report of 2001. It is to be noted that in addition to the 99 villages reported by ‘Bark Valley Hill Tribes Development Council’ few Hmar families are scattered in nearby villages also. Poilapool village under Lakhipur sub-division is a place where few Hmar families have been settled recently.

The Hmar villages are generally covered with jungle. There are a huge number of wild plants used by the Hmar tribe for meeting their multifarious
requirements. They prepare medicines from plant species for curing diseases of their own as well as animals. People of these areas usually practise agriculture for their economic needs. They depend not only on shifting cultivation but also on horticulture and settled cultivation.

The Hmar tribes have no written records about the medicinal plants. This knowledge is passing from one generation to other generation by words of mouth. But due to modern education and urbanization, the traditional knowledge of ethnomedicines which was deep rooted once upon a time is disappearing gradually. Nevertheless, some people are still practicing ethnomedicine.

Present investigation has recorded 203 ethnomedicinal plant species used by the Hmar tribe of Cachar district, Assam, these represent 171 genera under 95 families. Out of total 203 plant species enumerated, 14 species belong to Ferns while 189 species belong to Angiosperms and out of 189 species, 30 plant species are of Monocotyledons and 159 species are of Dicotyledons (Table-2). After statistical analysis, it has been found that the percentage of Dicotyledons is highest with respect to families, genera and species. (Table-3)

Family-wise analysis of the collected plants showed that a total 86 families of Angiosperms, Euphorbiaceae is the dominant family amongst Dicotyledons with 11 no. of species, such as *Cleistanthus collinus,*
Croton caudatus, Euphorbia ligularia, Macaranga peltata, Mallotus roxburghianus, Pedilanthus tithymaloides etc. Zingiberaceae is the major family amongst Monocotyledons with 06 no. of species, namely Alpinia nigra, Curcuma amada, Curcuma zedoaria, Zingiber cassumunar etc. while out of 09 families of Ferns, Pteridaceae is found to be the major family with 03 no. of species, such as Cheilanthes albomarginata, Pityrogramma calomelanos and Pteris semipinnata. Analysis of the data showed that out of total 95 families, Euphorbiaceae is the most dominant family with 11 medicinal plant species used against various diseases. (Fig.- 7, 8, 9)

While conducting field survey it has been observed that common diseases amongst Hmar people are stomach disorder, skin diseases, diarrhoea, dysentery, liver problem, piles blood pressure, diabetes, cancer, female diseases, cuts and wounds, fever, cough and cold, asthma, rheumatism etc. (Table- 7 to 27)

Out of 203 plants identified so far 13.30% plant species are used for the treatment of stomach disorder, 10.34% plants are used for diarrhoea and dysentery, 10.34% species are used as antiseptics for cuts and wounds, 8.86% species are used against skin diseases, 8.37% species are treating against fever, cold and cough and so on, (Table- 30). It is recorded that sometimes one species is used to treat a single disease or a number of
diseases. Similarly, one disease is also treated with combination of a number of plant species or single plant species.

It is interesting to note that out of 203 plant species collected, good number of plants are used to treat stomach disorder, such as Aloe barbadensis, Alpinia nigra, Andrographis paniculata, Calamintha gracilis, Dillenia pentagyna, Eurya acuminata, Mentha arvensis, Pronephrium nudatum, Sterculia coccinea, Strobilanthis flaccidifolius, Terminalia arjuna, Urena lobata etc. (Table-7), however rest of the plants are used for various diseases.

From the study, it has been revealed that 32 number of plant species are used as food (as vegetables and fruits) as well as medicines, such as Alpinia nigra, Ananas comosus, Averrhoa carambola, Blumea lanceolaria, Citrus reticulata, Diplazium polypodioides, Epimeredi indicus, Euphorbia ligularia, Mangifera indica, Moringa oleifera, Pronephrium nudatum, Syzygium cumini etc. (Table- 28, 29)

Out of total 203 plant species, 21 number plant species are used as veterinary medicines, such as, Annona muricata, Blechnum orientale, Butea monosperma, Crinum amoenum, Dryopteris chrysocoma, Erythrina stricta etc. and some are also used for the treatment of animals diseases as well as human diseases, namely, Allium cepa, Azadirachta indica, Citrus limon, Clerodendrum viscosum, Jatropha curcas and so on. (Table- 32)
The recorded ethnobotanical species are distributed over various life forms, of which 34.97% plant species are herbs, 29.06% species are trees, 27.09% species are shrubs and 8.86% species are climbers respectively. So, that the highest percentage of plants habit of herbs is used for preparing medicines, followed by shrubs, trees and climbers. (Fig.-11)

From the present study, it has been revealed that different plant parts of the collected plant species, such as, leaves, roots, stems, flowers, whole plant, rhizomes, bulbs etc. are used as medicines by the Hmar tribe. In major cases, leaves (47.29%) are used for preparing medicines followed by fruits (11.33%), whole plant (8.86%), barks (7.38%), roots (6.89%) etc. (Fig.-12)

Plant components are used either as fresh or dried or both. Mostly medicines are prepared in the form of paste or raw extract and these are applied in a number of methods, such as drinking, sniffing, swallowing, chewing, eating, washing, dry bath, tooth brushing etc.

After analyzing the 16 Hmar villages of Cachar district, namely Hmarkhawlien, Chikur, Diger-Fultal, Poilapool, Saisel, Naksatilla, Balissora, Kumba, Lowerthanzo, Dolakhal, Kuokluong, Kamrang-phailien, Biete, Tuisiet, Lailongsora, Haibuong, it has been observed that most of the plants are found in any two villages and it is considered as 'Poor', i.e., the percentage of 'Poor' (38.42%) is highest, whereas 28.57% plants are moderate in distribution,
12.31% plants are good, 10.83% plants are fairly good and 9.85% plants are very poor in distribution. (Fig.- 13)

Comparative study of all recorded ethnomedicinal plants showed that 27 plant species are recorded as new report, such as, Abutilon bidentatum, Aglanema hookerium, Ambrosia artemisiaefolia, Beilschmiedia roxburghiana, Crinum amoenum, Erythrina wallichiana, Microlepia speluncae etc. For 133 plant species, additional new usages have been reported and for 43 plant species recorded use are similar to that of established reports. (Table- 38)

After analyzing the whole ethnobotanical investigation of Hmar villages of Cahar district of Assam, it has been found that there are different numbers of plant species available in nature and they prepare medicines from natural products for the treatment of various ailments.