SUMMARY

1. The ethnobotanical studies of the Kabui (major tribe, 82,386, census-2001) and the Monsang (minor tribe, 2,130, census-2001) of Manipur state was carried out during 2008-2012 in 41 different study sites, covering 4 districts viz., 2 valley districts – Imphal East (2) and Imphal West (8) and 2 hilly districts – Chandel (6) and Tamenglong (25). The Monsang tribe is restricted in seven villages of Chandel district. The Kabui tribe is distributed in all the 9 districts of Manipur. However, in the present study, 35 villages of the 3 districts of Manipur state viz., Imphal East, Imphal West and Tamenglong districts are taken into consideration for Kabui tribe.

2. Study sites of this present study are given in the Chapter-1.2. The state Manipur is one of the seven states of north-east India. It is one of the distinctive parts of Indo-Myanmar hotspot region and lies between 23.83°N to 25.68°N latitude and 93.03°E to 94.78°E. The topography, soil, drainage, forest, types of forest and vegetation of the state has been described. Due to convenience of transportation, rich in plant resources and having original tradition of the Kabuis and the Monsangs a total of 41 sites were selected in different districts of Manipur for the study. The study has been carried mainly in the 4 districts viz., 2 valley districts – Imphal East (2) and Imphal West (8) and 2 hill districts – Chandel (6) and Tamenglong (25). For the Monsang tribe six villages of Chandel district are taken into consideration. The Kabui tribe inhibited in all the 9 districts of Manipur. However, in the present study, 35 villages of the 3 districts of Manipur state viz., Imphal East, Imphal West and Tamenglong districts are taken into consideration for Kabui tribe.
3. The Chapter-1.3 is ‘about the tribes’. In this chapter, status of tribes in India, Northeastern region and Manipur are given. Population, distribution, habitat, origin of the two tribes are also included. There are thirty-three classified scheduled tribes and seven scheduled castes are settled along with other tribes and immigrant people in Manipur (Sipra, 1992). According to census 2001, total population of tribal people is 7,41,141 out of total population of Manipur 22,93,896. The Kabui tribe contribute a population of 82,386 (Census 2001) and they are inhabited in all the districts of Manipur. Monsang naga tribe is settled only in six villages of Chandel district of Manipur with a population of 2130 (Census, 2001). Food habit and rice variety of these two tribes are shown.

4. In the objective taken up for the present work has been the documentation of ethnobotanically important plants used by the Kabui and the Monsang Naga tribes, to develop a short description, updated botanical name and present status of the collected plants, their significance, phytochemical analysis of selected medicinal plants along with preparation of herbarium specimens etc.

5. In the present investigation, it has been observed that the Monsang tribe of Chandel district has already been converted to Christianity. Therefore the ethnobotanical information of the Monsang is collected from the senior citizens of the Monsang tribe. The ethnobotanically important plants used by the Monsangs are found to be almost similar with that of the Kabui tribe.

6. The life style of the Kabui tribes is closely similar to that of the Meitei community. The family deity commonly known as ‘Lainingthou’ is worshiped by the two tribes. In the hilly areas, majority of the Kabuis are converted into Christianity. However, in the two valley districts i.e., Imphal East and Imphal west of the state, only 20% of the population are converted to Christianity, the
rest is still following the traditional Kabui religion. Therefore, compared with that of the Monsang tribe, the Kabui tribe has its own rich ethnobotanical heritage, but not much in literature, publications etc.

7. Review of ethnobotanical work has been given in Chapter II. Ethnobotany was studied by many scholars in various levels. Since time immemorial, people have used various plant resources suitable for their purposes and the knowledge remained with the healers of the ethnic people in particular. The ancient heritage of Vedic literature in India dates back to 1000 to 2000 B.C., which contain valuable information regarding medicinal plants. Sarmah (1968-69) has listed about 248 botanical drugs from the Atharva Veda and Rig Veda. Singh & Chunekar (1972) have published a full glossary of medicinal plants included in the ancient classical work of Charak Samhita and Sushruta Samhita. Singh et al., (2002) published ‘Tulsi’ as the Mother of Medicine. Jain (1963a & b) described plants used in myths, magico-religious beliefs and witchcrafts. In Ayurveda, Siddha and Unani all together 1100 medicinal plants used has been referred for treating different ailments. Clarke (1889) extended his ethnobotanical work upto Kohima and Manipur. Many tribal areas and tribal communities in the North-East India are either unexplored or under explored with regard to their knowledge of floral wealth along with their ethnobotanical aspects (Rethy et al 2010). Sinha was the pioneer of ethnobotanical work in Manipur and published a book entitled ‘Medicinal plants of Manipur’ in 1996.

8. Materials and methodology of the present work are given this Chapter-III. It shows literature survey, plant collection and documentation-requirements for the collection of plants, methods of plant collection, field survey, and identification of plant specimen and preparation of herbarium specimens. In this chapter gives the methodology of Phytochemical Analysis and Antimicrobial Activities.
9. The forth chapter refers to the result of the present work and highlights enumeration of the selected ethnobotanical plants in Chapter 4.1. In this enumeration, the plants are given in alphabetical order. The scientific names, vernacular names, parst used, flowering and fruiting periods; distributions and description of plants materials are also given. Ethnobotanical uses and established reports have been focused in this chapter. Chapter 4.2 gives the results of ethnobotanical plants.

10. Phytochemical analysis of 12 selected medicinal plants is given in the Chapter-4.3. In the phytochemical analysis, the qualitative analysis of alkaloida, flavonoids, saponins and tannins is done. Chapter-4.4 is about the antimicrobial activity. In this chapter, antimicrobial activity of 5 medicinal plants viz., *Phlogacanthus thyrsiformis, Andrographis paniculata, Vitex trifolia, Potentilla canadensis* and *Artemisia nilagirica* used by the Kabui and Monsang naga tribes of Manipure is examined against four human pathogenic bacteria i.e. *Salmonella typhi, Klebsiella pneumonia, Bacillus subtilis* and *Staphylococcus epidermedis*.

11. Chapter- V is about general discussion. In the present work, 328 plant species belonging to 245 genera and 97 families are reported. Among these, uses of 22 plants are new reports in ethnobotany and 232 plants are used as medicine. Of these medicinal plants, 25 plant species are used to treat diabetes, 18 plants are given as blood purifier; similarly 11 plants for jaundice; 15 plants for piles; 22 plants for asthma; 8 plants for leucorrhoea and appetite; 3 plants for sinusitis; 15 plants for hypertension. 14 plants are used as insecticide, antibiotic and antiseptics. To treat rheumatism, 13 plant species are used; for sexual impotency – 2 plants; vomiting – 4 plants; child delivery – 9 plants; leprosy – 2 plants; burn – 7 plants; constipation – 8 plants; tumor – 3 plants; cholera – 4 plants; abortion – 6 plants; tonsillitis – 4 plants; skin diseases – 35 plants; cuts
and wounds – 21 plants; headache – 15 plants; fracture – 4 plants; toothache -13 plants; eye problem – 3 plants; sprain, muscle pain and joint pain – 16 plants and diarrhea and dysentery – 48 plants are used. Some other diseases i.e., nail infection, corn, epilepsy and malaria are treated with one specie each. As vegetables 73 plant species are taken into consideration; 92 wild edible plants are reported and 47 edible fruit varieties are also reported.

12. The present study is the first of its kind to report on the ethnobotanical knowledge of the Kabui and the Monsang Naga tribes. They inhabited in forest and remote areas. Life style and habitat of these two tribes are more or less similar. However some differences are recorded. All the population of the Monsang tribe is Christians though some people of the Kabui tribe are devoted to their original religion. They depend on forest products to maintain their requirements. Forest products are used in different ways i.e. food, medicine, timber, dye, hair-lotion, fibre, fodder and many other uses. Food-habit of these two tribes is found to be similar. But some vegetables are used by one tribe only viz., polygonum capitatum is taken only by the Monsang and fermented seeds of Hibiscus cababis are consumed only by the Kabuis. The valley dwelling Kabui tribe changed their life style closely similar to the Meitei community. They find and meet their requirements from the markets of their surroundings. These two tribal communities use 328 plant species belonging to 97 families and 245 genera in varied ways of their uses. Out of these plants 226 plant species are used to treat many ailments viz., plies, jaundice, diabetes, hypertension, cough & fever, cuts & wounds, skin diseases, diarrhea & dysentery, leucorrhoea and some other diseases. No body knows about the chemical contents present in the medicinal plants. Even though, the doses of the extract and medicine used in treating diseases are given from the imagination and tradition. Giving of right medicine with sufficient doses is required to cure any disease. Now it is required to extend awareness of scientific knowledge on the herbal medicine to the
villagers for maintaining their health themselves. This may be done by the related governmental authorities and NGOs.

13. Further research programme can also be undertaken on three plants among the twelve plants selected for biochemical analysis. The plants are *Oroxylum indicum*, *Pavetta indica* and *Litsea cubeba*. *Oroxylum indicum* and *Pavetta indica* as they contain maximum alkaloids and *Litsea cubeba* contains maximum saphonin content. Comparatively, among the three plants *Oroxylum indicum* contains maximum alkaloids and flavonoids. Therefore, it can be suggested that *Oroxylum indicum* is one of the very ethnobotanically important plant among the 12 plants studied so far, for qualitative biochemical estimation.

14. The tradition and culture of these two tribes i.e. the *Kabui* and the *Monsang* Naga tribes should be protected for conserving their rich ethnobotanical heritage. All the uses of 328 plant species are closely related to their culture and lifestyle. Therefore conserving their culture will automatically help to conserve their ethnobotanica knowledge.