CHAPTER-I

Introduction:

The North Eastern region of India is known for its verdant rain forest and rich vegetation. This is particularly untouched virgin land of India which is the least explored by naturalist and botanist.

The fertility of soil and climatic condition help in the luxuriant growth of the vegetation. Most of the areas are still without communication and inhabited by most backward tribal people like the Khampti, Singphow, Idu, Padam, Moklong, Tikhok tribes of India. These people are almost exclusively dependant on natural flora and fauna for shelter, clothing, food and medicine for their survival.

Large number of plants are used for extraction of fibre and dye stuff, the techniques of which are still not widely known. A few of the medicinal plants are gradually being domesticated and cultivated on small or large scale basis.
Many of the uses specially medicinal of Indian plants have entirely been neglected; only a few have so far been tested such as *Rauwolfia serpentina*, *Coptis testa*, *Papaver somniferum*. But a study of the richness and variety of the natural products and their local uses and other tribal lore will help in improvement of the Natural resources of the country.

The aim of the present work is to explore the range of wild plants and domesticated plants of Lohit District of Arunachal Pradesh and study the uses to which they are put by the backward tribals who inhabit the interior regions. Beside describing their Botanical status, the medicinal uses in particular are undertaken with special reference to Ethnobotany. So far there has been no such study from Lohit District of Arunachal Pradesh.

This district is inhabited by a large number of tribes who have since time immemorial been subsisting, apart from hunting and fishing, upon the wild plants for food, fibre, medicine etc. Alongside, they have been practicing primitive methods of farming; the slash and twin method of shifting cultivation. In
many instances the cultivars are wild, partly domesticated plants in the remotest areas though rice and maize as cultivars are also used.

These wild plants which have obviously been tested for their utility to man by the tribals indeed constitute the germ plasm for raising new and useful crops by the present day agriculturist, so far unknown to the civilized people. The modern agricultural technology has been confined to improvement of well known cereals, legumes, oil plants etc which were domesticated by neolithic man about 7-10,000 years ago and there is hardly any new crop which modern agricultural technology has given to mankind.

Recently, the modern cytogeneticists have intensified their efforts towards the search of germ plasm in the wild plants used for thousands of years by tribals. There is also at the same time, progressive efforts to bring about socio-economic change among the tribals through altering their food habit and through introduction of modern agricultural methods and highly evolved
cultures. If steps are not taken urgently to collect the wealth of information on the use of wild plant by the tribals with their rapid socio-economic transformation, the time is not far off when we shall have lost all these wealth of information.

Surveys of plants are usually botanical and deal mainly with the families, genera and species of the plants found in any area under study. Seldom do we find a study that describes not only the main characteristics of the plants identified but also the use to which they are put by the inhabitants. Books on medicinal plants (Chopra 1933, Kirtikar and Basu 1935, Dastur 1951, Jain 1968) mainly deal with the plants which have come into commerce. But, the uses of hundreds of plants by large groups of backward people living in the remote regions of India, particularly, Arunachal Pradesh though unknown, may provide some valuable scientific information so far not known to people.

The present study was conducted among different groups of people living from generation to generation without the accepted norms of human civilization as
to daily life, food, shelter, clothing and medical care. How they have existed without our modern amenities, where they less adapted to combat natural enemies, disease and ailments? Or have we with the population explosion and advanced technology become greater victims of our own handiwork. These and other questions can only be solved by an honest and thorough study of the still isolated regions and people in relation to the various aspects of their life. Though this entails the work of numerous people and many disciplines, an attempt has been made here to begin with the work by investigating the uses of wild plants as medicine among a number of widely separated groups of tribals in the Lohit District of Arunachal Pradesh. Several species of plants and their uses seem to overlap among different tribes, hence plants are arranged alphabetically in the Chapter with their uses by various ethnic groups. Distribution and local names are given as far as possible by repeated verification.

All plants were collected from Lohit District of Arunachal Pradesh. The people of this region are not accustomed to the outsiders and are often suspicious of them and often uncommunicative. Hence the data regarding their taboos, uses and customs had to be acquired with infinite tact and patience.
Little or no work has been undertaken on Lohit District which comprises of remote and interior forests. The people unlike the plains still live unaffected by any form of civilization and it is an arduous and at times dangerous task requiring time and tact to seek out the way of their lives, custom and culture and the mode of using plants for their day to day needs not only in health but also in illness and every ceremony of these ethnic groups. It is now generally recognised in many parts of the world that Ethnobotany is an interdisciplinary science which requires the study of the primitive people and the plants of their environments. It is only possible by an on the spot study of the people in their natural habits, study of the plant folklore in written accounts, herbaria, museum materials and analysis by the fossilised remains of plants and other remnants of human occupation.

Perhaps Panini in the 7th Century coined 'Drawya' (meaning drug). In Rigveda there is a large number of drugs with scientific details. 'Osadhisukta' of Rigveda was perhaps the oldest classification. In 'Saraka Samhita' (1000 BC) there is detailed description of medicinal plants.
In Bhagawata, the use of *Twakshira* as a substitute for *Vasna lochana* has been recorded.

Pharmacognusy though one of the oldest Botanical Sciences has remained an unpopular and little known subject until a couple of centuries ago when modern Scientists studied its application.

But, now there is an increasing tendency among the naturalist and researchers to know about the medicinal plants. So, during the last few decades some work have been published from Haridwar and ISM Survey Unit at Ranikhet (UP) where they had conducted surveys in the Kumaon Himalayas (Uniyal and Isar 1967, Unial 1968, Unial and Isar 1969).

In 1969, Government of India constituted an autonomous body "The Central Council for Research in Indian Medicine and Homoeopathy" to initiate, guide, develop and co-ordinate scientific research in different aspects of fundamental and applied Ayurveda, Siddha, Unani, Homoeopathy and Yogatherapy.
Development of phytochemistry with newer and simplified techniques has reached the chemistry of many groups of compounds in many medicinal plants and as many as 50,000 alkaloids have been discovered in plants (Rao-1977). There is also great accumulation of information on cultivation and improvement of many medicinal plants after collection of their parts for using in medicine lead to death and decay of those plants reducing their population - examples are offered by following plants:

- *Rauvolfia serpentina* root, bark of *Saraca indica* whole plant of *Datura metal*, *Riccinus communis* (whole plant) and *Terminalia indica* bark etc.

Chopra at the Drug Research Laboratory, Jammu, tried to investigate Himalayan Region of Jammu, Kashmir and Himachal Pradesh for medicinal plants. The important work done by Chopra and Kapoor (1952) and Kapoor et al (1979), dealt with plants used either as folklore, indigenous system or in modern system of medicine. Forest department of Himachal
Pradesh continued similar study to assess the potentiality of medicinal herbs within the State. Shabnam (1964) conducted a survey of medicinal plants at Samba forest. Later Chouhan et al (1971) conducted a similar survey in the Kangra Valley.

Since 1963, the Central Drug Research Institute at Lucknow has been engaged on the collection of nearly 1460 plant specimens from different parts of the country.

In India, systematic study of medicinal plants actually started under the leadership of Col Chopra in 1921, after the setting up of the School of Tropical Medicine at Calcutta. The team initiated researches on indigenous medicinal plants from the chemical, pharmacological and clinical points of view. Chopra analysed about 118 drugs.

In 1941, All India Survey of Medicinal and Poisonous plant, was started at the Drug Research Laboratory of R.N. Chopra. The results of their investigations were published in the Indian Medicinal Plant.

The aim of the present study was to collect all the plants wild and domesticated and used by the people of Lohit District in manyfold ways particularly in folk medicine with special reference to ethnobotany. It is hoped that the result of this study will help in better
understanding and utilization of the rich natural resources of this part of our country.

The present work is confined to the Lohit District of Arunachal Pradesh only.