Chapter VII

MATERIALS AND METHODS

Since the beginning of 19th century the survey of medicinal plants has attracted researchers to his fascinating field of studies. Probably most of the plants have medicinal values which help in curing one or the other disease. Certain plants having medicinal properties have already been investigated and some are yet to come to light. Researches are being carried from different angles in different parts of the world to explore the potentialities of plants. In olden days, some interested people have done some work on this topic but due to lack of proper facilities including up-to-date equipment, technique and past informations about the plants they have not been able to identify many plants which may be having medicinal values. But now modern scientist has overcome most of the difficulties in investigating the medicinally important plants thoroughly including extraction of active factors present in them.

The survey of plants having Ayurvedic importance is relatively a new work for Assam, as no appreciable work has so far been done on this line in the State. Only scanty informations of the medicinal plants and indigenous drugs of Assam are found in the forest department and Gazetteer volumes of this State. But nobody has given a keen look at the indigenous drugs even though the Brahmaputra valley is garlanded by abundant green grasses, forests and more so has a rich medicinal flora. Besides people are still in practice
of the indigenous system of medicine and a lot of professionals are available in the State of Assam. The collection of medicinal plants in forests is a difficult task because at times of the year particularly during monsoon it becomes simply impossible to go inside the forests due to their thick growth and wild animals. Again among the thousands of plants it is difficult to find out which one has got medicinal property. It is therefore, quite natural that either for a survey or collection of medicinal plants lot of trouble has to be faced by a research worker. However, utmost care has been taken in collecting the plants and their other details from the local physicians, kavirajas, ojas, bezas etc. and other people who are in the know of these informations.

This particular survey was conducted during the three years commencing from early 1977. For the purpose of this research the entire Brahmaputra valley was divided into seven experimental regions with their headquarters at Abhaiyapuri, Bongaigaon, Dhubri (Goalpara district), Gauhati, Nalbari, Barpeta, Sonapur (Kamrup district), Chaparmukh, Salona and Doboka (Nowgong district), Tezpur, Dharikati, Gohpur (Darrang district), Dhemaji, Kakoi, Dulung and Kimin (North Lakhimpur), Kaziranga, Jorhat, Sibsagar (Sibsagar district), Dibrugarh, Doomdooma (Dibrugarh district) and Diphu, Dockmoka (Karbi Anglong) etc. In dividing the valley into experimental regions factors like type of forest, climate, rainfall and other environmental and physical factors were also taken into account. Vegetations in those areas were repeatedly surveyed encompassing all the seasons of the year and intensive collections were made.
Every field trip to an area was accompanied by a local physician or a professional in the time so as to enable the author to the right collection of the medicinal plant. Collection of specimens were made and photographs were taken of the plants either in the flowering or fruiting state. The photographs were either taken in the natural condition or after their collection. The rare medicinal plants were introduced into the small medicinal plant garden of the survey of medicinal plants unit of C.C.R.A.S. (under the Union Ministry of Health and Family Welfare) situated at Govt. Ayurvedic College, Guwhati. Identification of the collected specimen were done in comparison with literatures and confirmed with the authentic specimens in the 'Kanjilal Herbarium' of Botanical survey of India, Eastern Circle, Shillong (Meghalaya). A certain amount of difficulty was also faced regarding scanning and reviewing of literatures. Many original references were not available with the Botanical survey of India Library or other libraries and hence secondary sources of reference had often been relied upon.

The main object of this study was to explore the medicinal plants available in the fertile Brahmaputra valley, Assam, to know about their pattern of distribution, their general character, medicinal properties, local popular uses of the plants or plant parts, their mode of application and informations about other economic values if any. A brief account of the scope of medicinal plant cultivation and possibilities for development of Ayurveda in Assam was also given certain consideration. A considerable number of plants,
having ethnobotanical importance as for food, medicine and for other purposes in the daily life of tribal and rural people had also been included. A brief description of the available economic plants having Ayurvedic values in their broadest sense, with their uses were also discussed. The scientific, Sanskrit and popular or Assamese names of the plants were also given to make location and identification of the plants more feasible. In view of the growing public interest the names of some medicinal plants used for ornamental purposes were also mentioned in this thesis. About the medicinal plants available literatures - old and new had been consulted.

All illustrations were done by the author. Detailed descriptions of the plants had been avoided and instead only brief description of the plant including habit, inflorescence, flower colour (a little bit of informations particularly on the flowers and their parts had been given to enable easy identification), fruits shape etc. were given. The Sanskrit name, local names (Assamese) of the plants had been given for easy identification of the plant. The plants were alphabetically arranged during their treatment in this thesis. An attempt had also been made to help identification easier by giving the photographs of the plants. The drying, poisoning and mounting of the specimens, etc. were done as usual. The thesis had been prepared in one volume.

The entire collections made during the course of this study were deposited in the Herbarium of the Survey of Medicinal Plants Unit (now R.R.C.-G) of the Central Council for Research

Off prints of the research papers published and typed copies of papers accepted for publishing in various research journals are appended to the appendix. The names of the journals, in case of the accepted papers, are also shown on the top of the typed copies.