INTRODUCTION TO THE PROJECT

Since disease has always co-existed with life, its study and treatment must have been contemporaneous with down of human intellect. India is a full of plant resources and raw materials which have been used from times immemorial by the Sages and Physicians for the treatment and cure of diseases. To-day we have forgotten our gift of the nature, and look towards the West for their drugs.

Chemical investigations on medicinal plants on scientific lines started from A.D. 1800 onwards. A large number of plants of medicinal value are common weed generally found throughout India. India is a store house of medicinal plants which are useful from the health point of view. Its wealth and variety of medicinal plants has accumulated through the ages a great mass of popular remedies, many of which are even to-day in common use throughout this country. Some of the medicinal plants well known in ancient times are even now proving of great medicinal value. In the modern age, chemical and pharmaceutical investigations have added a great deal of status to the use of medicinal plants by revealing the presence of active principles and their actions on human and
animal systems. Investigations in the field of phamacognosy and pharmacology have supplied valuable information on medicinal plants regarding their availability, botanical characters, methods of cultivation, collection, storage and therapeutic uses. All these have contributed towards the acceptance of several plants in inclusion in pharmacopoeias.

Since pre-historic days some of the medicinal plants have been used in the treatment of diabetes mellitus. Of these we selected most commonly used eight plants such as Cassia Sophora Linn., Emblica Officinalis Gaertn. Syn., Eugenia Jambolana Lam., Alpinia Galanga Willd., Momordica Charantia Linn., Tephrosia Villosa Pers Syn., Madhuca Indica J.F.Gmel. Syn. and Kickxia Ramosissima Wall. for chemical and pharmacological examinations. This shows that India has sufficient indigenous drugs which can be used for treatment of different diseases. These may be used, after proper investigations, for relieving the suffering of humanity. The economic condition of our people is such that they cannot afford to purchase the costly medicines of the western system and therefore, cheap and effective drugs is a bad necessity in our country.

As the selected medicinal plants have not yet been thoroughly investigated, it cannot be said with any certainty
what principles are responsible for their curative properties in the treatment of diabetes mellitus. These curative properties may be due to the presence of as yet unidentified active principles or alkaloids or may be due to the other normal constituents present in these plants.

Plants produce many chemical substances ranging from giant molecule to simple ones in their cells. Some of the products of metabolism utilised by the living system are considered primary which include proteins, carbohydrates, fats, alkaloids active principles, vitamins, minerals, etc. —which contribute in different ways to the body needs. Vitamins are needed for normal growth, smooth skin and healthy for bones, teeth and mucous membranes. Calcium are far most abundant mineral element in the body and iron improves the quality of blood.

In the assessment of the nutritive value of proteins the amino acid make up assumes the highest importance in the body. Some of the amino acid have been in use in deficiency diseases over a considerable period of times. These have been an increasing use of some of the amino acids for therapeutic purposes led us to identify and determine such amino acids present in the some of the medicinal
plants. Certain amino acids play a role in the treatment of diabetes mellitus. On these lines, we undertook to study the amino acid composition of these selected medicinal plants.

The search for antidiabetic activity led to investigation of some of the medicinal plants for their antidiabetic action. The survey of many medicinal plants were found to possess antidiabetic action. The work done in this project indicates that the selected medicinal plants have shown more or less antidiabetic activity on white albino rats.