CHAPTER I

From the beginning of time man depended on plants to meet the needs of their day to day life. Plants play a great role in all the living beings. In fact the survival of any animal on this planet is depending on plants. Plants provide, food, shelter, medicine and the life sustaining oxygen. In recent years, people depend more and more on plants for medicinal purposes. Due to the advancement of Science and Technology there are various methods to screen the active principles of plants and cultivate many medicinal plants.

Truly, Botany and medicine are inseparable. Today, most of the drugs have been derived from plants sources. Many of the pharmaceutical companies are having their own medicinal plant garden to propagate plants which contain particular drug. Even toxic plants contain many active principles which can cure some deadly disease. As the modern techniques of extracting useful drugs from plant sources, chemically-synthesized drugs are replaced plants as the source of most medicinal agents in many countries. Ethno botanists investigate and gather information from various sources and emphasises the role of plants in the life of man and in the environment.

The 1990’s have seen a growing shift in interest once more; plants are remerging as a important source of new pharmaceuticals. More and more people are taking recourse to naturopathy as they are realising the harmlessness of the medicines prepared from plants. Industries are now interested in exploring parts of the world where plant medicine remains the predominant form of dealing with illness. The moist deciduous forest of Dangs, in South Gujarat for example, has an amazing diversity of plant species and has been regarded as a resource of medicinal plants.

Therapeutic and Ethanbotanical investigation is the study where people of Dangs dt. in Gujarat make use of indigenous plants for various medicinal purposes. In this study the investigator documented therapeutic practices of Dangs and the medicinal plants that are used for various therapies. Each therapeutic practitioner has ones own way treating and dealing with disease. As one explores and reads ahead the chapters of this study will know the richness and the wealth of medicinal knowledge of the traditional healers of Dangs.

1.2 GUJARAT STATE AND ITS BIODIVERSITY
Gujarat was constituted as a state of Union of India on May 1, 1960 after bifurcation of the Bombay State. The state of Gujarat with a geographical area of 196024 Sq. km accounts for 5.98% of the country. The largest coastline; two of the three gulfs in the country; unique saline desert of the Ranns of Kutch, Patan and Banaskantha; vast grasslands; extensive thorny and dry deciduous forest in Saurashtra and North Gujarat; moist to semi-moist forests in South Gujarat and a large area under variety of wetlands, lake and mountains make this state very important. Gujarat is a forest poor State yet it is rich in biodiversity has forest cover area of 19393 sq. Km. (i.e. 9.9%), but the actual forest cover area is 12957.5 Sq. Km. (i.e. 6.61%). Dangs contributes about 70% of the total major forest produce in the state.

1.3 “THE DANGS” THE STUDY AREA

The name Dangs means a hilly terrain. There is also another connotation of the word Dangs, which means a place of bamboo. The District of Dangs has geographical area of 1778 Sq. Km. with a population of 1.87 lakh and 311 villages. The entire population is rural living. Out of the total geographical area 1698.56 Sq. km is forest area which is about 95% of the total geographical area and it comprises of 844.06 Sq. km Reserved Forest and 854.50 sq. km protected forest. Dangs contributes about 70% of the total major forest produce in the state, and about 15 lakh bamboos produced that contribute about 50% of the state production.

1.4 LOCATION, TOPOGRAPHY AND GEOMORPHOLOGY

The tract falls between the parallels of latitude 20.33”53” and 21.4’52” and the meridians of longitude 73.27’ 58” and 73.56’36”
. The Dangs forest tract starts from the rugged mountain chains of Sahyadri in the east and descends on the western side extending to the edge of plains of Gujarat. The hills are mostly low and flat topped, except in the south and the East Dangs where hills are rugged and higher going up to 11.00m. The tract varies in elevation from 105M near Bheskhatri to 131M above MSL on the Khandesh border in Piplaidevi Range. On the whole most of Dangs lies between elevations of 300m to 700m above MSL. Saputara – the only hill station of Gujarat is also located in the Dangs.
1.5 CLIMATE

There are three distinct seasons namely the summer, the monsoon, and the winter seasons. The summer starts from March till middle of June, the monsoon starts from mid June till the end of October and the winter season starts from November till February. The average rainfall is about 2000mm per annum with 90-100 rainy days per annum. Maximum rainfall recorded is 4800mm in 1993.

Temperature varies from minimum of 10°C in January to maximum of 36°C in June. Easterly wind prevails in winter South-westerly winds of moderately velocity prevails throughout the year.

1.6 WATER RESOURCES

Dang is the place of origin of four gushing and torrential rivers: namely Purna, Girna, Ambika and Khapri. These rivers with crystal clear water provide beautiful scenery to any route that one takes in Dangs. Gira and Purna rivers are perennial. There are many small rivulets and streams, distributaries of the main rivers, which flow during monsoon and dry up in summer. Water table varies from 3m to 20m. The tract receives heavy rainfall in monsoon season but beyond the monsoon there is hardly any shower. The geological formation and soil condition is such that rainwater falling on the ground rapidly drains away creating very dry condition during several months of the year.

In monsoon with an average annual rainfall of 2,000 mm, this is spread over 90 days makes Dang a paradise. With lush green forest, bamboo brakes and waterfall greet at every nook and corner, one really feels that the wilderness-meeting nature face to face. The entire hilly terrain of Dangs harbours an amazing variety of plants, butterflies and birds; the forest appears alive and inviting. Although there are numerous waterfalls in Dangs, the Gira fall at Girmal stands out best, as it is the highest waterfall of the state.

1.7 VEGETATION TYPES
Dangs forests are rich in biodiversity with large diversified flora. It consists of mixed tree growth among which teak is the predominant species. The main characteristic features of the forests are the extreme variation in quality, density and irregular age class distributions. One and the same compartment may often have more than one or all of the moist, semi-moist and dry types irregularly mixed.

The north and east region of Dangs have superior growth than the west and the south. Bamboo is more in the western Dangs. The main forest types are moist teak and dry teak with bamboo bearing and non-bearing forest. Being deciduous forest the vegetation becomes leafless during the dry season. However there are good numbers of evergreen trees in under wood and shrubs cover

1.8 THE PEOPLE OF DANGS

It is interesting that Dangs is believed to be the “Dandakaranya” of Ramayana and Shabri” was a Bhil woman. Ethnic/tribal people mainly inhabit Dangs. 95% of the people of Dangs are tribals. These tribals are namely, Bhils, Kokanas, Warlis, and Gamits. All the tribal people are greatly dependent on the forests for variety of their needs ranging from food and shelter to medicines and fuel. By and large people of Dangs are closely knit by themselves, simple, peaceful and gentle.

The population of the Dangs was only 18,333 in 1901 which has increased to 71,567 in 1961 and 145000 in 1991. At present the population of the Dang district is 186712 with 94001 males and 92711 females. The sex ratio is 986 female to thousand males. In total 92% of population is of tribal community.

Almost 80% the population speaks the local language known as Dangi which is a mixture of Gujarati and Marathi but they understand Gujarati and Marathi as well. The main occupation of the people of Dangs is agriculture. Many work as labourers in forest and farmlands, livestock rearing and grazing. Dangs has not seen the light of industrialization due to its hilly terrain and forest dominated area. Hence the scope for employment opportunities in Dangs is very less. Therefore, migration of youths to adjoining districts for getting employment is the major concern for district authorities. Very few Dangi people are in Government jobs. Most
of them have retained their old traditional way of lifestyle and it is indeed interesting to see how closely they are linked with forests.

1.9 HEALTH STATUS AND MEDICAL KNOWLEDGE.

The people of Dangs have developed their own traditional method of treatment using a wide variety of plants. The individuals involved in such kind of treatments are known as Bhagats. Normally these people derive this kind of traditional knowledge from their ancestors and pass it on from one generation to another. Some who had possessed rich herbal knowledge have vanished without revealing it to anybody. Some claim to have herbal knowledge through dreams where Dungar Devi revealed the uses of some particular plants. Some of the persons whom the investigator encountered in the present investigation also shared similar information. The medicine men of Dangs possess rich knowledge of medicinal use of various parts of plants such as root, rhizome, flower, leaf, latex, bark etc. These plants are used in a variety of forms like, paste, powder, decoction, extracted oil etc.

The seasonal diseases such as Dysentery, Jaundice, Respiratory tract infections Vomiting, Diarrhoea, Snake bite, fracture, swellings, injury, sickness affecting women and children are some of the widely prevailing diseases in Dangs forested areas. The medicine men of Dangs possess rich knowledge of medicinal use of various parts of plants such as root, rhizome, flower, leaf, latex, bark etc. Each village has 2-3 medicine persons to take care of the health of the needy. They have their own Herbal remedies to protect themselves from various sicknesses. Since most of the people live far away from health centres they have their own Herbal First Aids. For example, if one is bitten by snake they take their own home remedies and then approach the hospital to save the patient. They have their own practices to protect and prevent themselves from contagious diseases like Cholera, Diarrhoea, and Vomiting etc., which are usually taken during summer and just before monsoon. They report that there are two main seasons where the sickness rate is maximum and they use their own natural remedies and prepare medicines in large quantity using various plant types, and distribute it to the whole village for people. They even give this medicine to their cattle too.

Having spent about seven years in the forest area of south Gujarat, the investigator had several occasions of meeting traditional healers by using local plants. Hence it was felt to take up the present investigation for the PhD thesis with the following objectives.

1.9. OBJECTIVES:
It is important to document this dying information for the future generations thus **the following objectives are covered during the research.**

- To conduct a survey of traditional healers for exploring Ethnobotanical knowledge of Dangs in Gujarat.
- To Document the therapeutic practices that are practiced by the traditional healers.
- To document various remedies that are carried out for various illnesses, with name of the plants, plant parts, preparation and its intake or its application.
- To document most commonly used medicinal plants with their botanical names and family along with their local names and its uses.

The map of the Study area along with the name of **25 villages** that were visited and investigated by the investigator is shown in the next page.
FIGURE 1

Exploded Villages

1. Bhapkal
2. Bourigoutan
3. Burapani
4. Chichinagoutta
5. Chirapada
6. Dhuda
7. Dhumkal
8. Dungarada
9. Gana
10. Gaygotton
11. Gundvahal
12. Halmudi
13. Kotba
14. Nalagchod
15. Pimpri
16. Ranpada
17. Sathbabla
18. Savardakasa
19. Shamghahan
20. Soupdahad
21. Subir
22. Thunduniya
23. Vankan
24. Vati
25. Zari