CHAPTER - I

RESEARCH DESIGN.

Introduction:

Like agriculture, pisciculture, mines and minorology, forestry is also open for economic exploitation for its rich and varied resources. However, nature levies its own limitations on its bounties. Forest wealth is not unlimited and hence there is a need for its systematic exploitation, scientific sustenance and planned and phased growth. With the growth of technology and science, utilisation of forest wealth, which was earlier confined to the cutting of timber and fuel for construction and as a fire energy, it has now opened a vast vista for its use, with its manifold resources by organising various industries in cottage, small scale and big organised sectors, thus, giving rise to rural employment and better and more systematic and planned economic development.

This thesis entitled "Economic Implications of Forest-Based Industries in Karnataka - with particular reference to Sandal-Wood", is a first systematic attempt to analyse the economic implication of small scale industries using forest based raw material in Karnataka with special reference to Sandalwood in which the State has the monopoly and has carved out a name and a fame in the use of Sandalwood. It is no exaggeration, if we say that the entire state smells of nothing but Sandal. However, we have not analysed the impact of large scale industries using forest based raw material as this segment alone with the small scale is too big an area to be covered by an individual researcher.

Karnataka State has a total forest area of 37,865-98 sq.Kms, which is noted for its apart from the scenic beauty which is breathtaking-abundant forest wealth. The teakwood of Dandeli (Western Ghats) is well known in the country which is considered to be superior to the Burma teak of Irravady. Whith is now imported in the country.
As compared to the national average, Karnataka has a smaller area under forest, it being 13574 sq.miles constituting 18.1 percent of the total geographical area. The national average under forest is 21.4 percent. However, it could be said to the advantage of Karnataka that the quality and yield of this forest is much better, resulting in the returns from forest to the Government of Rs.4185 as compared to Rs.1541 per Sq.mile for the entire country.

There are five types of forests in Karnataka, they are (i) Tropical dry deciduous (ii) Dry Thorn (iii) Tropical Moist (iv) Tropical wet Evergreen and (v) Beach or Dune forests. Bamboo brakes occur in the semi-evergreens and in the moist and the dry deciduous forests. It is also seen in the dry thorn area.

The forest also abounds in many medicinal plants and other varieties of plant which could be exploited economically.

The first systematic approach to the use of forest-based resources of Karnataka (then Bombay State) was announced in 1948 as a result of which a paper mill, with the use of bamboo was established. This was the beginning for establishment of industries on a large scale with forest based resources, in the midst of the forest itself though there was already a mill using the timber for manufacture of plywood and other boards.

The Need to Study the Problem:

Indiscriminate exploitation of forest resources has created many problems such as the shortage of firewood, ecological problems, and shortage of rain fall. In short, deforestation has caused many untold
As a result, state have put up many afforestation schemes including schemes of social forestry programmes. The Five Year Plans have large targets in various fields of forest improvement and development such as planting of valuable species, purchase of mechanical equipment, construction of forest roads, rehabilitation of graded forests, afforestation of wastelands, installation of saw mills, seasoning and preservation of plants, supply of raw material to the industries etc. This has resulted in a high tempo of forest planting (I) working the forests in order to enable forest industries to develop in a big way and (III) opening of remote areas for regular exploitation. Karnataka State has achieved the targets and is in the grip of vast forest developments. With the establishment of Karnataka Forest Plantations Corporations Ltd., and the Karnataka State Forest Industries Corporation, this state is well set for the systematic exploitation of forest wealth. This study aims at analysing the economic implications of forest based industries which are already in existence and the new industries which are proposed to be started by the above agencies with their economic consequences. Since there is no systematic study on the subject, we have undertaken this research problem, as the researcher has a good grounding in Botanical Sciences, being M.Sc. in the subject and also having taught the same for considerable number of years in the college.

Scope of the Study:

The study cover all categories of industries based on the raw material available from the forests in Karnataka - (I) Small Scale industry as defined currently and (II) Industries based on the use of Sandalwood. The study also surveys the available raw material for existing and proposed industries. The emphasis is on the raising of the sandalwood and its use with all its economic implications such as capital, technology, marketing, employment, income generation etc.
This topic has been taken up mainly to analyse systematically the use of forest wealth in Karnataka and to examine how far this effort has succeeded and what scope is there for better utilisation of the already getting scarce forest resources of Karnataka.

Previous Studies:

There are various studies undertaken on special afforestation programmes such as social forestry, rural employment and forest resources etc. But there is no study undertaken on a regional basis about the economic implications of industries - both small scale and large scale-based on the raw materials available in the forest of a state. There are individual studies undertaken on one or two industries using the raw material from the forest. The five year plans give considerable information on the scheme of development of forests in various states in India and in the country as a whole. But a systematic study, collecting data and analyzing and interpreting the same in relation to its economic viability, is not undertaken so far and least so on the forestry in Karnataka. Hence this study is a pioneering one, presenting the systematic and scientific literature on the subject, which can be considered as original in that respect.

Objective of the Study: The objectives of the study are broadly classified as under:

(i) To survey the existing forest resources which are economically exploitable.

(ii) To examine the schemes of forest development and project schemes of forest growth.
(c) Wood-wool manufacturing units.

(d) Saw Mills.

(e) Seasoning Kilns.

(f) Wood Preservation Plants.

(g) Furniture and house building manufacturing units including sleepers for railways.

(3) (a) Units using Grass.

Dehydrated green grass manufacturing unit.

(b) Khair Katha manufacturing units.

(4) Fabricated Wood materials Manufacturing units.

(5) Wood carving and Handicraft units using.

Sesqum as well as sandlewood.

In this connection, it may be noted that we have not taken into account the mining and mineral units located in the forest area surveyed by us for the simple reason that it is based on mines. So also, we have ignored the electricity or power generating units which are again located in the forest area for obvious reason.
(iii) Analyse the existing small scale industries using forest resources.

(iv) Analyse the economics of units based on sandalwood.

(v) To examine the economics of small scale industrial units from the point of view of capital, raw material, labour, marketing etc.

(vi) To examine the potentialities of future growth of industries using forest raw material.

(vii) To analyse the economic implications of units using sandalwood as raw material.

(viii) To make suggestions based on the data collected and analysed.

Concept: Forest-based industries are those industries which are relying entirely on the raw material raised or grown in the forest area.

Economic implications involves all the economic aspects of an industrial unit, such as land, labour, capital and organisation. It includes the viability of an industrial unit from the point of view of its profitability.

Agarbatti, it is also known as joss sticks or incense sticks or Oodabatti. These are the smelling sticks which burn. They are used in the temples and all other religious places of worship including the residential quarters for their fine smell.
Limitations of the study:

The study is limited by various constraints associated with the survey. The response from the small scale industries is always poor and half hearted lacking in secondary data. The industries which indulge in many illegal activities in the forest in the absence of a proper supervision, do not respond to the collection of data faithfully and truly. Besides, the area to be covered is pretty large though concentrated. There is a dual control of the forest by the Forest Department and also the Revenue Department, though majority of the forest is controlled by the Forest Department. This leads to administrative difficulties which are usually associated with such surveys.

Methodology and Sampling Tools:

Field survey method is adopted to collect the data required for the study. The secondary data for the statistical part of the report has been collected from the reports published by various sources such as Five Year Plans, Annual Plan Reports of the State, Forest Department Reports, Project Reports prepared by the Karnataka State Forest Industries Corporation Ltd, the Karnataka State Forest Industries Corporation Ltd, and the techn-economic survey undertaken by the State. Besides, we have relied on the reports published in magazines and newspapers and the statistical statements relating to the forests by the Forest Department of the Govt. of Karnataka.

Collection of Data:

For collecting the primary data a detailed questionnaire was prepared for small scale industry. It was tested first with five selected small scale units, in which two units were indulging in the manufacture of sandal wood products.
We have followed the clustered sampling of 100 units. The units were selected on the basis of their strength in the list. The area selected was Bangalore and the surrounding area, since it represented all varieties of industrial units.

To supplement the data collected through the questionnaires, the researcher visited the small scale units and had interviews with the proprietors and the managers and other officials to "feel the pulse of the industry and to understand the problems faced by them in its entirety. The researcher had also interviews with the officials of the Forest Department and the two Corporations mentioned above to study in depth the part played by these departments and corporations in the economic exploitation of forest wealth. Only 10 units of Sandalwood were covered as they were all alike and getting their raw material from the Forest Department of the Govt.

Coverage: 100 units of each category of the small industries and 10 units of sandalwood units were covered. The units covered are

1) Units using bamboo as raw material.
   (a) Units manufacturing Agarbatti Sticks -
   (b) Units manufacturing Baskets and other household goods including cane furniture -

2) Units using timber as raw material.
   (a) Crystal boards manufacturing units.
   (b) Packing Paper manufacturing units.
Coverage of the Period:

The period covered by us is from 1976 to 1981 - a period of five years. The scientific utilisation of forest raw materials and its tapping of the resources was noticable only since 1976. The earlier attempts were only the time honoured practices of forest development.

The researcher has also attempted to analyse the farm forestry and social forestry programmes.

Analysis of Data:

Generally, simple frequency tables and two dimensional tables are used to analyse the data and to arrive at meaningful interpretations. Integrated approach is given to the data collected for the conclusions regarding the economic implications of the raw materials used in the manufacturing units. Thus, for example, the bamboo is used for manufacturing paper, Rayon pulp, and agarbatti industry with all its limitations such as flowering once in 10/12 years, when the entire crop dies.

Chapter Scheme:

The first chapter deals with the Research Design of the thesis.

The Second chapter entitled "Forest backdrop of Karnataka" presents all about the forest of Karnataka in all its statistical details.
The third chapter entitled "Organisation and management framework of the forest-based units in Karnataka", deals mainly with the organisational aspect of the units surveyed.

The fourth chapter entitled "Financial Management and practices of forest-based small industries in Karnataka" deals with the financial aspects of the units.

The fifth chapter entitled "Production management of forest-based industries in Karnataka" deals with all aspects of production of the units surveyed by the researcher.

The sixth chapter entitled "Marketing management of forest based industrial units in Karnataka" deals primarily with all aspects of marketing problems faced by forest based industrial units in Karnataka.

The seventh chapter which is one of the care chapters dealing with sandalwood industry, entitled "Economic implications of sandalwood industry" deals with the major economic problems faced by it.

The eighth chapter is a concluding chapter dealing with the summery of the various chapters dealt with earlier and makes various suggestion based on the observations.