CHAPTER VI

SUMMARY, CONCLUSIONS AND SUGGESTIONS
The various natural resources of the earth provide the basic needs for man survival and thrive. The quality and quantity of natural resources at society’s command are both the cause and effect of its development. However, resource availability alone is not a sufficient condition to bring about an economic change and resource scantiness cannot be regarded detrimental to economic progress. The crucial difference between a developed and underdeveloped economy lies not so much in the size of the resources base but in the degree of rational utilization of existing resources. Rich resources will have cumulative effect on economic development of a country. The conservation and economic exploitation of the natural resources is more essential for accelerating the economic growth. Mineral, water, power and other natural resources have immense value because they play a decisive role in stimulating economic growth and are indisputable for industrialization.

Our sub-continent is one of the world’s richest biological regions endowed with top soil and blessed with full of tree forests and wildlife. India has varied rainfalls and a wide range of climate enabling it to grow a rich variety of crops/products which will be useful to both agriculture and industry. Among the resources of India, a high place
must be given to her forests “the green umbrella” or “green gold”, because of the great diversity of her geographical factors. Forests are an important geographical feature which has tempering effect and moderating influence on the climate, soil erosion and floods. There is a significant relation between forestry and rural development because a large population lives in rural areas in India. It is not an exaggeration to say that, the development of forests and forest-based industries can go a long way in raising the level of living condition of the poor and unalterable sections in various ways. The forests are considered as one of the influencing elements and life support systems because they supply much required firewood to the rural poor, raw material to the traditional cottage and village industries, and provide job opportunities to the labour class. They also help in sustaining soil productivity through many ways. With their importance, the forests have compelled the people to realize and to follow corporate plantations where ‘tree’ as an investment opportunity which is said to be better money spinner.

Forestry sector, to a considerable extent, causing the productive capacity of economy to grow. The sustained production, utilization of its multiple products, envisages not only current increase in income but also future increase with its capital accumulation. Forests provide a variety of food items, various species of edible plants and also raw material for many industries. Apart from these, the forests are managed to attain the development in the crucial aspects of water
conservation, soil conservation, wild life protection, tribal development and outdoor recreations (tourism development).

PRESENT STUDY

State of Karnataka has rich forest resources on the majestic western ghats with abundant lofty trees from the colourful evergreen forests and magnificent semi-evergreen gives a variety of products based on which many small and cottage industries can be established in addition to the medium and large scale industries. The paper mills, plywood and veneer units, and saw mills are the most important primary forest-based industries which were established in the organized sector. Besides these, numerous wood-based and non-wood based industries like matches making, bee keeping, beedi making, manufacturing of bamboo and cane products, agarbathis, wood carving, toy making etc., were also established in the unorganized sector. The proper exploitation of this abundant forest wealth has made a lot of scope for industrial development in the State. The present study concerns itself with the in-depth study of various forest based industries in Karnataka. This study assumes significance in view of the fact that the development of forest wealth and forest-based industries is attracting the attention of the larger sections of the society with scientific and commercial outlook.

Chapter One deals with the introduction, study area, need for the study, review of literature, objectives, data and methodology,
limitations and layout of the study. The broad objective set for is to evaluate the status of forestry and forest-based industries in Karnataka. The review of literature reveals that, many studies were carried out on the development of forests and forest based in India in general. Some studies are historical in nature and others are concentrated as a few aspects of this type of industries. In the study an attempt has been made to present a comprehensive picture both on forestry and forest-based industries particularly in Karnataka. The study is primarily based on secondary data collected from different sources.

Chapter Two deals with forestry and forest-based industries in India. The topics discussed in the Chapter are: Profile of India, economic situation, land use pattern, forests and forest area, forest cover and tree cover, growing stock, state-wise waste lands, classification of forests, management of natural forests, forestry and plan outlay, forest development, forest policy, social forestry, forest produce, forest revenue and expenditure, employment generation and forest-based industries in India.

Some of the important conclusions arrived in the Chapter are following:

- Economy of India is mainly based on agriculture and forest sector contribute 22.00 percent of Gross Domestic Product (GDP).
Forests in India cover 76.5 million hectares which represent 23.27 percent of the total land area. Forests have suffered degradation in last few decades due to ever-increasing demand of goods and services. In order to have forests at least in one third of it’s geographical area, various plans and programmes were taken up by the Central Government in cooperation with state governments and funding agencies.

In India, thirteen states and two union territories have forest area of more than 33.00 percent of their geographical areas, seven states and one union territory have forest area in the range of 15.00 and 33.00 percent and the remaining states and union territories have less than 15.00 percent area as forest area.

Growing stocks, which indicate the availability of wood from important tree species growing inside and outside forest areas, are found maximum in the states of Arunachal Pradesh, Andhra Pradesh and Karnataka.

Per capita availability of forests, which indicates the potentials of carrying economic activities, states that India has the lowest per capita forest cover of 0.06 hectares and the United States of America have the highest per capital of 0.80 hectares.

The Central Government has been providing funds under different Five Year and Annual Plans for forestry development. The
percentage share outlay for forests has been increasing over the years and plan periods.

- Through its various programmes, the Central Government emphasized more on afforestation and tree planting, and raise green belts to check erosion and desertification. During seventh and eighth plan period, about 19.00 million hectares afforestation was made and in the subsequent plan periods the focus got reduced. By the end of ninth plan the cumulative area afforested is 28.38 million hectares.

- The expenditure on forestry is increasing continuously while the revenue realized from the forestry activities is not sufficient to meet the expenditure. The expenditure was two times more than the revenue in case of all the states. In case of both expenditure and revenue, the major portion belongs to the states of Madhya Pradesh, Maharashtra and Karnataka.

- The forestry sector is playing a significant role in generation of overall employment in the country. About 75 million mandays are generated annually under agro-forestry and farm forestry programmes. Protection, maintenance and harvesting of forests are estimated to generate about 100 million mandays.

- Forest products of India have got both domestic market as well as foreign market. State Forest Departments, Forest Development...
Corporation, Tribal cooperatives etc., are the main players in trade of forest products in India.

- Considering the scarcity for wood raw material and to help the situation in processing industries, the Government of India has been importing the forest products from other countries. The import value of the forest products during 2001-02 was Rs.13,95,022 lakhs and every year the increase in the value get effected by 15.00 percent.

- More than 90 percent of India's wood based industries are presently under the private sector. The production trend in the major wood based industries does not show any conspicuous increase. As such, there is a decline trend in number of factories in operation and output fluctuate over the years.

Chapter Three deals with forestry and forest development in Karnataka. The important topics covered under this Chapter are: Profile of Karnataka, forest resources, forest development, wild life conservation, forest produce, supply of wood raw materials to industries, marketing of minor forest produce, revenues and expenditure, forest policy of the Karnataka Government, role of various forest corporations etc.

Some of the important conclusions arrived in the Chapter are the following:
The annual rainfall in Karnataka state varies roughly from 50 to 350 cm. The South West monsoon is the principal rainy season during which the state receives 80.00 percent of its rainfall. The total geographical area of this state is 19.05 million hectares and about 3.83 million hectares of land is under forest coverage representing 20.10 percent. This coverage is less than the all India average and far less than the standard (i.e., 33.00 percent) prescribed by the Forest Policy of India. As far as tree cover is concerned, the state stands fourth at All India level. The percentage of forest area to the total geographical area has been decreasing due to encroachments from many sides.

The average volume of growing stock per hectare is above the national average and a favourable position is observed with the Karnataka. Comparatively, the annual increment in growing stock is also high.

The funds were utilized under various schemes for the development of forests at increased level and the targets were achieved in many years. The state government has implemented the forest development schemes effectively and raised plantations at large level.

In spite of implementation of schemes for conservation and protection, the population of almost all species of wild life declined drastically and some were out of seen today.
Karnataka forests have plenty of visual resources which do not affect forest wealth including wild life by the visitors. They have a tremendous potential for promoting ‘eco-tourism’ with innumerable scenic values and adventurous possibilities.

Loss of forests through diversion, encroachment and degradation has led to a low proportion of geographical area under forests and observed low productivity from the forests than estimated.

Inadequate and ineffective participation of local communities and private initiatives in forestry, lack of legal support to Joint Forest Management Programme (JFM), ambiguity in granting rights to individuals who have raised the trees on forest lands, regulations regarding harvesting and transportation of forest produce, uncertain market conditions for forest products etc., have restricted the development of forests at desired level.

The supply of wood raw materials found inadequate. The Forest Department of Karnataka was supposed to supply 1,92,596 cu. meters of wood and the actual supply made was 87,893 cu. meters per annum, on an average. Because of inability to meet the demand of the industries, all agreements made with the industrial units were terminated by the forest department.

The expenditure on forests has been increasing continuously and the revenue does not correlate positively with the expenditure.
because in all the years the revenue figures are below the figures of expenditure.

**Chapter Four** deals with the development of forest-based industries in Karkataka. The elements in the Chapter are: Classification of forest-based industries, development of paper manufacturing industry, plywood industry, veneers, saw milling, match industry, agarbathi industry, wood furniture, bamboo and cane products industry, bee-keeping, beedi rolling industry, sports goods industry, paper based products industry, large and medium scale forest industries and their marketing strategy, role of institutions in promotion and development of forest industries in Karnataka.

Some of the important conclusions arrived in the Chapter are the following:

- There is a substantial increase in the production of paper during the study period. Though the demand for the paper has been increasing, the state is able to meet the demand of paper to the maximum extent with the production carried through the mills located in the State.

- Due to shortage of raw materials and irregular delivery of logs by the government department and agencies, many of the medium scale plywood units were closed down. A large number of units were located in Kodagu and Mysore districts. It is found that,
the production of plywood and its products by domestic industries is insufficient to meet the growing demand.

- A large number of veneer mills are located in Kodagu and Mysore circles. These mills also facing the problem of shortage of round wood logs in the state. The entrepreneurs inevitably import a large size timber of suitable species from other states and also from other countries. The import of wood in logs has been showing increasing trend.

- The process of sandal wood oil distillation is carried by both government factories and private units in small scale in the state of Karnataka. The production of sandal wood oil varies from year to year. The oil production has been declining gradually.

- The wood furniture industry is considered as non-organized sector and the handicraft production accounts for about 85.00 percent of the furniture production in India. More than 9468 registered small scale units and a sizeable un-registered furniture making units engage in this craft and 20,000 plus persons got benefited with employment. The annual indices of production of wood products and furniture are showing increasing trend over the years.

- The saw milling is one of the largest consumers of big logs and the most profitable branch of wood utilization. The main sources of timber for saw mills in the state are, private lands, purchase
from government depots, import from abroad and from other states. A large number of units are working in Bangalore division.

➢ The vegetation in western ghats and other hill stations with flowery forests enabled bee-keeping to come up as a popular cottage industry in the rural areas of 'Malnad Region' in Karnataka. There are 20 working units reported with their production and sales worth respectively Rs.262.08 lakhs and Rs.4212.10 lakhs (during 2004-05) along with part-time employment provided to 3659 persons

➢ The sports goods industry is largely concentrated in the cottage and small scale sector. This industry is highly labour intensive providing employment to the weaker sections of the society and also employs a large number of women workforce.

➢ About 500 registered units are involved in paper products industrial activity and providing employment to more than 2000 people all over Karnataka. Each unit is engaged in manufacture of more than one paper product and largely located in cities and towns where there is a regular demand for the products.

Chapter Five present the details of the problems faced by the forest based industries in Karnataka. Some of the important specific and general problems determined industry-wise are the following:
Due to low yield of wood per hectare and inadequate levels of bamboo production, all the paper mills in Karnataka are suffering heavily. The availability of quality raw material is getting scarce day-by-day due to deforestation. The ever-increase in the raw material cost is observed as the entrepreneurs are compelled to import the raw materials from other states even from the other countries.

Many industrial units in paper industry in Karnataka are suffering from absolute technology. As these units are not capable of getting and adopting sophisticated technology, the quality and quantity of the products are found inferior and inadequate. As a result, these units are not getting benefited with the large scale economies.

The plywood industries are suffering from non-availability of required varieties or species in the local forests. Out of the species identified suitable for plywood manufacture, a few species are grown in Karnataka's forests and many in north-eastern region of India. Import of timber in large size from other states is found uneconomical.

Increase in the prices of other inputs also causing increase in cost and the domestic paper mills have to forcibly reduce the prices to meet competition from the external units. This has been causing
a narrow gap between revenues and costs, allowing the units be satisfied with low margins.

- Dearth of skilled labour and absence of professional management practices, also causing many small scale units to suffer from insurmountable problems like productivity, stoppage of production activities, wastage in raw materials etc. The facilities for providing specialized training to workers are presently not available in many industries. Most of the workers acquire proficiency in the trade by sheer experience. The turnover of skilled labour from one unit to another units also effecting the frequent dislocation in works.

- Most of the rural artisans and small entrepreneurs find lack of financial resources. Due to ignorance and paucity of information and exposure, most of the entrepreneurs have not made use the financial and non-financial facilities that are offered by the State Government.

- Many industrial units have to obtain raw materials through or from middlemen which leads to high cost of raw materials and in turn, sell the finished goods through the same intermediaries at low prices. The marketing system of these units is unorganized and the scientific marketing is limited by the scant facilities. Market finds with self-use, local sales, sale to private traders and sale through cooperatives and KVIB.
Many small scale and cottage units suffer from shortage of labour when people are diverted by themselves to engage in their primary agricultural work during cultivation and harvest seasons.

Electric power supply in the state is inadequate and irregular, frequent stoppages of power supply on all working days, leaves many industrial units to suffer from under-utilisation of men and machine resources.

The continuous extraction of forest produce over a long span of time in unsustainable way, resulted in large scale degradation of natural forests. At no point of time government had the required funds to rehabilitate such degraded forests and also the forest-based industries did not invest even in a small portion of their profits for the regeneration of exploited forests.

Most of the traditional forest-based industries face the lack of finance and credit. The initial investment of these industries comes mainly from owners’ contribution or borrowed funds from non-government agencies which are not sufficient to meet the expenditure and expand the units. In many cases, credit is obtained at a very high rate of interest which is exploitative in character. They have to rely on government assistance. But government agencies like Banks and Karnataka State Finance Corporation (KSFC) are generally reluctant to advance money thinking that they are not in a position to offer the required
guarantee and repay loans in time. Due to a lengthy and delayed procedures, the entrepreneurs get fed up with and give up the projects even though they are more viable.

- Though the government often states its support and commitment to the rapid development of small scale forest-based industries, the entrepreneurs have to face a lot of problems while getting licenses, subsidies and incentives. Government officials are often unhelpful in issue of licenses and many small entrepreneurs do not know how to approach and take financial assistance announced by the Central and State Governments.

**SUGGESTIONS**

The meticulous analysis of various problems from the present study clearly conveyed that, the development of forest and forest-based industries become twined with each other. The following measures are worthwhile to be considered for the development of forests and forest-based industries in the Karnataka State.

- Allow controlled extraction of forest products from natural forests so that wastes and shortage of forest products are minimized and make way to meet the need of raw materials to some extent of forest-based industries.

- In order to meet the growing demand of forest products, the existing resources are to be conserved and new plantations are to be raised on large scale.
• Both the Central and State Governments together with private sector should strive to promote bamboo plantation and eucalyptus plants which form basic raw material for paper and paper boards, and to take steps to strengthen its technological base by effective research and development.

• Extensive use of unconventional raw materials such as bagasse, jute etc., and recycling of waste papers and paper cuttings to be further encouraged.

• Domestication of wild plants yielding non-wood products, involving their genetic improvement and growing them under intensive cultivation practices is to be considered as a means of ensuring efficiency in production. Once a product achieves commercial importance, its supply from wild sources tends to be replaced by cultivated sources with a view to bring production, quality and cost under control. Productivity of cultivated crops can be enhanced through improved agro-technology.

• As a large amount of waste land available in the State, to be further allotted to the industries on merit basis. This will definitely encourage the forest industries to have scope for obtaining on their own, the required amount of raw materials in future.

• The schemes framed by industries creating loan to farmers to grow trees on their lands presently being adopted by Harihar polyfiber in Chitradurga, Davanagere, Bellary and Belgaum may
be followed by other industries to meet their requirement of raw materials timely.

- The Forest Development Corporation would be the agency to assess the requirements of all wood based industries and develop appropriate strategies to meet the requirements of raw materials.

- New forest-based industries except at village or cottage level should not be allowed to establish unless sources for meeting the raw materials exist or created privately and a proper inventory is maintained.

- Non-Government Organisations (NGOs) in Karnataka should take up an intensive programmes of afforestation, forestry management and watershed management to meet the growing demand of forest products by the public and forest industries in the State.

- Since the forest department is not meeting the demand of industrial timber directly, the industries are to be allowed to meet their requirement from import timber from other states and other countries, without the intervention of the government agencies.

- The State Governments should take necessary actions against the smuggling of forest wealth or export of forest produce without permission to other States.
• The Governments should open sales depots of forest produce in the vicinity of the forest-based industries or supply the forest produce through the cooperatives of entrepreneurs or other agencies at subsidized prices.

• The Government should encourage the formation of producers marketing cooperative societies which enable the members to procure raw materials in large quantity, undertake production and marketing on large scale thereby they enjoy the benefits of large scale business.

• It is necessary to avoid or eliminate some of the erstwhile practices in procurement and distribution of raw materials by middlemen and contractors which lead to depletion of natural resources.

• A comprehensive and well-articulated forest policy is necessary for the development of non-wood forest produce. It needs to provide a new legal and ethical framework to protect and regulate the different uses of non-wood forest produce. Also, strategies for translating policy objectives should allow resources to be sustainably used.

• A more rational and disciplined use of timber is the need of the hour. Towards this, the Government has to give support for the promotion of secondary timber species.
• The various financing agencies like commercial banks, cooperative banks, Regional Rural Banks, KSFC, KSIIDC, Khadi and Village Industries Board should come forward to extend financial and non-financial support to forest-based industries with liberal terms to meet the needs of fixed capital and working capital of them.

• Keeping in view the schemes of National Bank for Agriculture and Rural Development (NABARD), it would be proper to make viable projects for areas where there is demand for timber or softwood due to the existence of some wood based industries. NABARD may provide funding for these projects and forest industries may ensure the market such linkages should be worked out as they are beneficial for all parties involved.

• The Government of Karnataka should set up a separate financial institution to provide both long-term as well as short-term finance to forest-based industries in the State.

• The State Government has to direct the local governments or concerned authority to clear the formalities at the time of issue of license within a fortnight in order to enable the entrepreneur to hasten up his time bound programmes.

• Any attempt to reduce the tax burden and adopt a liberal policy in giving tax concessions will improve the financial viability of many forest based industries in the State.
• The State Government should supply improved tools and equipments at free of cost to the artisans who engage in craftwork which is based on forest produce. This arrangement helps to maximize their productivity.

• Appropriate research facilities and deserved or motivated researchers are essential requirement to bring out solutions to the complex array of problems, linkages and networking arrangements need to be established with inter-related institutions such as botanical, phyto-chemical and pharmaceutical research organizations to facilitate exchange of information and transfer of technology.

• The Government of Karnataka has to incorporate a strategy to provide a special support directly to enhance infrastructural facilities rather than giving subsidies to individual units in the State.

• The Government has to take up constructing the roads for working in hilly areas and far off inaccessible regions so that the tribal and other local people are benefited besides, serving as the export roads of forest products. Further, provide trucks on hire to carry raw materials to industrial premises.

• Regular and sufficient power supply to small scale forest based industries to be ensured at least for one shift through out the
year. Further, encourage forest industries to arrange themselves sources of energy for their industrial activities.

- The State Government should undertake the training camps to the artisans, their family members and workers in modern techniques of production, marketing and management. With their improved skill and ability, they can minimise wastages and produce more and good quality products economically.

- Forest based industries can also follow aggressive marketing strategy as other industries follow for identifying customers in advance and gearing up production through advance supply orders.

- There is enough provision of publicity and frequent advertisements can be made by any forest-based industry. There is an imperative need for suitable media for advertising and publicity for which some budget should be set apart from the financial budget of each forest based industry.

- The State Government should construct proper storage and warehouses where timber and other forest products may be stored for the purpose of preventing physical damages from direct sun or rain and any fire danger. Similar arrangements also to be made for the finished goods of the forest-based industries.
• The small scale forest-based industries need to be assisted by suitably selected and trained salesmen in sale of their goods and services.

• For a healthy development of the forest-based industries, proper planning is needed to ensure availability of cellulosic raw material on a sustained basis and at reasonable prices.

• The mechanism for entry of large firms into the small scale forest industries sector by investing in equity shares would strengthen the latter. This may lead to weeding out the inefficient units operating under the protection of reservation and make the sector more competitive.

• Insurance companies should extend their helping hand to cover insurance on the property and products as well as the men working in forest based industries in the State.

• The Government of Karnataka would also consider holding trade promotion exhibitions in India as well as abroad to show case the items as produced by the small and cottage forest industries.

• Both the State Government and the Central Government have to take up a comprehensive schemes for rehabilitation of sick forest-based industries particularly small scale units. This will help to meet a long felt need in this important sector of industrial activity.
• There is need of coordination between the forest produce collecting agencies, forest authorities and users of the forest produce for industries and trade.