CHAPTER – IV
FOREST AS A SOURCE OF INCOME
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Introduction

Importance of forests was very much realized in ancient Karnataka and forest products were fully utilized even for commercial purposes. No doubt civilisation could spread only after man could tame the forest by felling trees and bringing more and more land under civilisation. It was only agriculture which had helped man to start a settled life (by making him bound to the soil) and give rise to the villages and towns, centers of civilisation. The taming of the forests was possible only after the discovery of the axe. Parashurama (Rama with axe), a representative of the class of the early explorer in West India, is worshipped on the coastal belt and in Malnad with Soundatti, Chandragutti and Hiremagalur being some such notable centres of his worship. Forests played a notable role in the life of the people. Medicinal values of various trees, plants, herbs were fully known, as testified by Kannada Lokopakara and other texts on the Ayurveda. Wild fauna like monkeys and peacocks, and forest products like ivory, honey, wax, cinnamon, myrobalon, soopnut, sandalwood, etc., have even a foreign market.

Social forestry practiced as planting of trees on road sides and near water sources was considered a meritorious act, which is mentioned in literary works and inscriptions. Fruit bearing trees
such as jack, tamarind, coconut, etc, were in use during the days of the Chalukyas of Kalyana. In the Vijayanagara times, trees used for tapping toddy were also subjected to tax. The Mysore rulers had made the sandalwood tree a state property, as noted by the British as early as in 1749. Kodagu ruler Lingarajendra II (1811-1820) had ordered all his subjects to sell some important forest products like sandalwood, honey, wax, pepper, cardamom, herbs, roots and barks with medicinal property only to the palace and made this kind of trading a state monopoly. The state maintained a list of sandalwood trees and verified the list every year, both in Mysore and Kodagu. Certain sections of the tribal people from forest tracts like the Kudiyas, Kadu Kurubas, Jenu Kurubas, Bedas, Soligas and Hasalars depended only on forests to earn their livelihood, and this continues to be in vogue even today, to some extent. Karnataka State is known for the rich heritage of a varied wealth of flora and fauna. It has almost all forest types except the Himalayan pine forests. Some parts of the state have a variety of rich forests as in Uttara Kannada, Dakshina Kannada, Shimoga, Chickmagalur and Kodagu districts. The districts of Gulbarga, Raichur, Bidar and Bellary which receive low rainfall have a very low area of forests and these are of a poor quality. The rich forests which play a key role in the economy of the State receive heavy rainfall and are mostly situated in the Western Ghats.
Forests play an important role in maintaining ecological balance, in the conservation of natural resources and in providing livelihood to the vulnerable sections like the tribals. Forests cause rain and storm, discipline the rivers and control the floods. They are rightly described as the natural defenders of dust storms. They prevent soil erosion and contribute sustainability to environmental conservation.

Forests are one of the most important renewable natural resources of the country. They have multiple uses, and as such, are considered to be of immense help to the human beings. Moderate climate maintains the soil and regulates water supplies. By their photosynthetic activity, the plants take in carbon dioxide from the atmosphere and release oxygen, thus purifying the air we breathe in. They also have the potential to convert solar energy into various forms of energy such as fuel, food and oil products which can be directly used by human beings. Forests offer protection to soil against erosion by wind and water.

Forests meet the recreational needs of the human beings. They are capable of absorbing noise, and thus help in noise abatement. They certainly provide relief from unplanned
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urbanisation. Forests also act as a home for the rich and varied wildlife and promote the aesthetic beauty of the nation.²

Forests provide raw materials for a number of industries such as paper and pulp, fibre board, chip board, silk-worm rearing, toy making, saw mills, match, plywood, stationary, agricultural implements, sports equipment and so on. They also provide major and minor forest products such as timber, round wood, pulp wood, charcoal, bamboos, canes, drugs, edible fruits and vegetables, non-edible oils, fibres and flosses, gums, resins, sandalwood, bidi leaves, fodder and grazing grass. Also the rural poor depend on forests for their firewood and building their huts, and bamboo for bamboo knitting work.

There is a vast scope for afforestation activities in Karnataka which has a large geographical area of semi-arid regions. Out of the total geographical area of 19050 thousand hectares, the state has only 20-28 percent of forest area, less than the area (33% of geographical area) suggested by the National Forest Policy, 1952. Even then, the area covered by the forests is a combine of different types of forests like 15.1 percent of evergreen, 15 percent of moist deciduous, 18.84 percent of dry deciduous, 21.16 percent shrubs and 30.06 percent of unforested area (statistical abstract 1988-89). These areas provide immense scope for taking up afforestation
projects. Alongside this, the demand for forest products and other minor forest products like fuel wood, fodder, small timber etc. has intensified the deforestation, depletion of resources and other environmental problems like soil erosion, decline in productivity, famines and floods, etc. In order to tackle the above problems, the Karnataka Government, with financial aid from the World Bank, began the social forestry programme in 1980.

The project developed different models of afforestation and implemented them to cover almost all types of degraded lands under trees. Different models were developed depending upon the location-specific features and they are:

1. Plantation of gomal lands;
2. Plantation of C and D class lands
3. Plantation on forest areas
4. Strip to plantation on road sides
5. Strip plantation on canal banks
6. Farm forestry\(^3\)

The Forest Department fixed the targets on these guidelines to plant trees and in many cases, achieved them.

Social forestry programme was launched with a view to producing rural requirements of fire wood, fodder and small timber etc. and thus, in turn, reducing the pressure on the existing forest,
and increasing the tree cover on the already degraded lands. The programme put to use various specific mix-based projects depending on their suitability to the prevailing agro-climatic conditions of the locality by involving local people. Most of the models were carried out by the government agency by planting and nurturing the plants. The farm forestry model was put into practice by farmers in co-operation with the forest department in the form of distribution of seedlings and guidelines on planting trees. The objective behind the farmers' participation was to earn income rather than just meet their fuelwood and fodder requirements. A majority of the rural people collecting the fuelwood free of cost find an alternative use of their land to earn income through such social forestry programmes. While different species were promoted under the afforestation programmes only a few tree-species having a high market value found favour with the farmers. No programme will be successful if it is not beneficial to the society and if its benefits are not roped in by the participants and the community. Social forestry is a programme of action envisaged to involve the common people in the preservation and regeneration of forest resources through its various models.

**Types of dependency on forest produce**

Uttara Kannada, Shimoga, Chickmagalur districts in Karnataka are highly forested districts of the Western Ghats. A large diversity
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of Non-Timber Forest Products (NTFPs) is available in the different types of forests. Labour contribution for collection of NTFPs, by women is significant.

Non-Timber Forest Products (NTFPs) are a vital and significant source of subsistence, employment and income especially during the non-cropping season for rural households with modest financial background living in areas adjoining forests. In addition to subsistence and income generating potential, NTFPs also provide food security to large low-income populations, particularly during droughts and famines (FAO 1989). Women are often closely associated with NTFPs, leading to a more equitable distribution of forestry benefits within rural communities and also within families. Until recently, the recognition of women’s involvement, both active and passive in the forestry crisis of developing countries has been incomplete and skewed (Molnar and Schrieber, 1989). Women deserve equal rights from the perspective of basic needs, development as well as human rights.

In India there are about 15,000 plant species out of which nearly 3000 species (20%) yield NTFP. However, only about 126 species (0.8%) have been commercially developed. NTFP activities hold prospects for integrated development that yield higher rural incomes and conserve biodiversity while not competing with
agriculture (Sharma, 1992). These products can provide employment during slack periods of the agricultural cycle, and provide a buffer against risk and household emergencies (FAO, 1995).

Unemployment has always been a concern for planners and policy makers in India. The forestry sector, with 23% of the country's geographic area, provides 2.3 million person years of employment. Of this total, 1.6 million person years is related to NTFPs (FAO, 1995). It is estimated that NTFPs are capable of generating 4 million person years of employment annually, if their full potential were exploited.

Women play a significant role in gathering of different NTFPs. The major work of cooking and other food processing for daily meals is carried out by women including collection of firewood for hearth, fodder for cattle, the collection of gum from bark of tree is rendered more energy and time consuming cooking of meals and rearing of children are exclusive responsibilities of women. Women contribute greater share of labour in collecting fuelwood and other NTFPs whereas men are involved in other income-gathering activities such as agricultural labour or collection of commercially important products. The studies with regard to gender role in forestry related activities by Molnar and Schrieber, 1989; Kainer
and Duryea, 1993; Wickramasinghe, 1995; have also reported similar patterns.

Contribution of women in the collection of Watehuli (Artocarpus lakoocha) in evergreen, semi evergreen and moist deciduous zones are 38%, 44% and 33% respectively. The labour contribution by women for bamboo collection is 53% in evergreen, 29% in moist deciduous and 60% in dry deciduous zone. However, collection of Murugaluli (Garcinia indica) women contribution is 37% and 44% in the evergreen and semi evergreen zones respectively.

Green leaf collection from trees and shrubs, that require lopping of tree branches before being transported is done by men while women are involved in dry leaf collection as it involves sweeping of the forest floors before being tied into typical bundles made of cotton ropes called "Kalli" for transportation.

The collection of gum from the bark of tree also involves combined efforts of both men and women. However, the processing of gum that is extracted is done only by women, before it is marketed. Among the different categories, the participation of women from areca land owning households is lesser than those from landless households.
As presented in table 4.1, a majority of 598 (99.67%) respondents out of the 600 said that they depended on forest for wood. Only 2 (0.33%) out of the 600 said that they do not depend on forest for wood. 420 (70%) out of the 600 have depended on forest for grass, while 180 (30%) and the remaining do not depend on this for this purpose.
As to the question of dependency on food products, 512 (85.33%) out of the 600 respondents positively responded. Only a small number of 88 (14.67%) responded negatively. A large number of 557 (92.83%) out of the 600 depend on forest for fruits and only 43 (7.17%) out of the total 600 said that they do not depend on forests for fruits.

As to the respondents' dependency on gum and dhupa (Vateria indica), only 194 (32.33%) depended on forest and 406 (67.67%) have not felt any need to depend on the forest for the same. 330 (55%) out of the 600 depend on the forest for honey. In other words, 270 (45%) have not found it necessary to depend on the forest for this purpose. 399 (65.5%) depend on forest for Antuala (Samindus emarginatus) and Seegekai (Acacia pinnata) and 201 (33.5%) have negatively responded to the question.

As shown in the table, as to the question of dependency on dry and green leaves manure for agriculture purposes, 203 (33.83%) out of the 600 have responded positively and a majority, i.e., 397 (66.17%) responded negatively. Dependents on bamboo number 474 (79%) out of the 600 and 126 (21%) do not depend on this for this purpose. 182 (30.33%) respondents out of the 600 have depended on forest for Rampatre (Myristica molabarica) and
418 (69.67%) seldom depended on this product. A very small number of 65 (10.83%) out of the 600 depend on forest for root fibre used in rope making.

As shown in table 4.1, a majority of the respondents mainly depend on wood, food products, honey and fruits for their survival and sustenance. This is because most of the respondents are from the lower income group. Next in number are those who depend on grass and manure (dry green leaves) because quite a large number of the respondents are from the agriculturist families and from among agricultural labourers. Dependence on Seegekai-soapnut-and bamboo is also large in number. Many people in the Malnad forests earn their day-to-day livelihood by making bamboo articles. Compared to these products, dependency on other products is quite less.

The above mentioned forest products and respondents' dependency on them show their dependency on different types of forest resources for their survival.
As table 4.2 demonstrates, a large number of the respondents, totally 598 (99.67%) out of the 600, have positively responded to the question whether they use wood from the forest as fire wood for cooking. In other words, only 2 (0.33%) out of the 600 have responded negatively to this question. Almost the same pattern is followed by the respondents in responding to the question of wood being used for hot water bathing. Here 584 out of the 600 (97.34%) have said ‘yes’ and a tiny minority of 16 (2.66%) have negatively responded.

To the question whether forest materials are used (as to the question of dependency) for construction purposes, almost a reverse trend is observed. Only 70 (11.67%) respondents out of the total 600 respondents said that they depend on forest for house
construction where as a large majority of 530 (88.33%) said that they do not depend on forest for this purpose. The 4th dimension of dependence on forest, i.e., dependence on forest for cattle feed and burning of such cattle feed, only 29 (4.84%) respondents out of the total of 600 said ‘yes’. The rest 571 (95.16%) have responded negatively to this question.

The table in general points out an important preference. The respondents, most of whom come from modest socio-economic background, depend more on forest for cooking purposes than on anything else. House construction, which represents a vital preoccupation with the middle and the elite classes of our society, does not occupy the same position of importance among the study respondents. Hence, the dependency on forest on this count is considered insignificant, as evidenced in this table.

**Table – 4.3**

**Types of use of grass**

<table>
<thead>
<tr>
<th>Use of grass</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Forage for livestock</td>
<td>Yes</td>
<td>256</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>71</td>
</tr>
<tr>
<td>Bhabbar grass for rope making</td>
<td>Yes</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>318</td>
</tr>
</tbody>
</table>
Table 4.3 demonstrates that a majority of the respondents, 256 (42.67%) out of the 600, use fodder grass from the forest as forage for livestock. Here, 71 (11.83%) have negatively responded to this question. An insignificant number of 9 (1.5%) respondents have depended on bhabbar grass for rope making while a majority of 318 (53%) have said that they do not depend on forest for this purpose. Only 35 (5.83%) respondents bring grass from the forest for sale whereas 292 (48.67%) respondents, out of the 600, have not found it fit to depend on forest for the same. 93 (15.5%) out of the 600 respondents said that they use grass for preparing broom stick while the remaining 234 (39%) have negatively answered to this question. A very small number of 25 (4.17%) out of the 600 respondents use bhabbar grass for preparing mats while the rest 302 (50.33%) respondents did not depend on forest for this purpose.
The table shows that a large number of the respondents of the study area have depended on grass for the forage of their livestock. A large number of 273 (45.5%) out of the 600 respondents said that they had not depended on forest for any of these purposes. Here, we notice the optimum use of grass.

Table – 4.4

Use of forest products

<table>
<thead>
<tr>
<th>Use of forest products</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home consumption</td>
<td>18</td>
<td>3.00</td>
</tr>
<tr>
<td>Sale</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Both</td>
<td>582</td>
<td>97.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>600</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Table 4.4 shows the extent the respondents use the forest products for home consumption and for sale and both.

Only a tiny number of 18 (3%) out of the 600 respondents use the forest product for home consumption while the rest, i.e., 582 (97%) use the forest products for both consumption and sale.

The above table represents that a large majority of the respondents use forest product for both sale and consumption. This
shows that the respondents’ dependency on forest is more. Forest products play a very important role in the life of the rural people.

Table - 4.5
Place and frequency of sale

<table>
<thead>
<tr>
<th>Place of sale</th>
<th>Yes</th>
<th>No</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shop</td>
<td>189</td>
<td>376</td>
<td>586</td>
</tr>
<tr>
<td>Market</td>
<td>31.5%</td>
<td>62.67%</td>
<td>97.67%</td>
</tr>
<tr>
<td>Market + Place to Place</td>
<td>3.5%</td>
<td></td>
<td>2.33%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Frequency of sale</th>
<th>Yes</th>
<th>No</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weekly</td>
<td>380</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weekly Twice</td>
<td>173</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monthly</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.5%</td>
<td>63.34%</td>
<td>1.00%</td>
</tr>
<tr>
<td></td>
<td>28.83%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.00%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As evident from the table 4.4, a very large number of the respondents, i.e., 586 (97.67%) out of the 600, sold their forest products and only a small number of 14 (2.33%) answered negatively to the question as to whether they sold their collected forest products or not.

To the question whether they sold their forest products, and where, 376 (62.67%) out of the 600 respondents said that they sold their forest products in the market; 189 (31.5%) admitted that
they sold their forest products that they collected, to the shop. 21 (3.5%) out of the 600 responded saying that they sold the forest products and the articles prepared out of the forest materials in the market or hawking them from place to place.

To the question on frequency of sale, a very small number of 27 (4.5%) out of the 600 said that they sold their product everyday. A majority of 380 (63.34%) responded saying that they sold their product once a week. 173 (28.83%) out of the 600 respondents said that they sold them twice a week and only a tiny minority of 6 (1%) said that they sold the forest products once in a month.

The analysis of data shows that the respondents, who come from the lower income category, depend on forest not only for their home consumption, but also for their sale. A majority of the respondent sold their forest products in the open market. The remaining smaller number of respondents sold their product to the shops or hawking them from place to place. This larger dependency on forest products shows that the respondents not only depend on forest for home consumption but also for their sale. Forest play a very important role in the economic activities of the life of the people. The life of the people without forests is literally impossible. Their life is interwoven with the forests.
Conclusion

Communities residing in forest zones of Uttara Kannada, Shimoga and Chickmagalur districts of Malnad area have maintained a strong relation with the forests. This relationship has socio-economic, cultural and even at times sentimental dimensions and therefore it yields deep impact on the lives of people. The respondents gather different types of minor forest products such as firewood, medicinal plants, food products, grass, bamboos, dry or green leaves manure, etc., for subsistence use and some households are also involved in the collection of commercially valuable products such as honey, shikakai, gum, certain fruits like mangoes, jack-fruits, etc.

There is a large number of 99.67% respondents are depended on forest for firewood. It is also used for cooking, bathing and burning of cattle feed. A small number of respondents use wood for erecting their house or huts.

Grass is also used for various purposes. We can notice optimum use of grass by the respondents. It is used for forage of livestock, rope making, preparing of broom stick, mats, etc.

A large majority of the respondents use forest products for both sale and consumption. The products are generally marketed locally or in a nearby shop and are free from competition from the
organised sector, but there is a keen competition among the poor for marketing their products. In some places local merchants act as middleman in marketing these indigenous products. A large number of people are found to be in the grip of such local merchants.

The respondents are women, who are from lower socio-economic status and their contribution in collection and processing of various Non-Timber Forest Products is significant. They tend to concentrate on subsistence related activities while men are involved in income generating activities, either agriculture or collection of commercially valuable products. The practice of group gathering with both male and female as in the case of honey and bamboo is related to specialization of tasks within the gathering group and security concerns within the forest.

This study has found that Non-Timber Forest Produce play a key role in the life and economy of communities living in and around forest. The present study represents that the life of the people without the forests is literally impossible. Their life is very much interwoven with the forests. Thus in communities where agricultural income is low, the better-off households may use forests to complement and increase their household incomes, while poorer households will continue to rely on forests as their primary means of survival or in crisis situations.
References


