CHAPTER THREE:

NORTHERN FOREST OF IRAN
3 Northern forest of Iran

Introduction

For forest valuation, delineation of the geographically and economical relevant area is important. The related costs and benefits only should be considered. The overall area of Iran's forests has considerably decreased over the past 50 years due to population increase and growing exploitation of forests throughout the country. A glance at Iran's natural scenery throws light on the place and position of forests and other renewable natural resources (Map 1.1).

Iran, located on the arid belt, has an area of 1,650,000 square kilometers comprising of the following:\(^{64}\):

- The area of good to poor pastures amounts to 90 million hectares, comprising 54.5 percent of the total area of the country.

- The area of deserts and sandy lands stands at 34.6 million hectares, making up 21 percent of the country's total area.

- The area of farm lands exposed to dry farming and irrigation as well as gardens and orchards stands at 23.6 million hectares, equal to 14.3 percent of the country's total area.

- The area of urban and rustic lands, as well as rivers and waters, is 4.4 million hectares, standing at 2.7 percent of the country's total area.

- The area of the forests in general is 12.4 million hectares, equal to 7.5 percent of the total area of Iran. Of this figure, Caspian forests make up only 1.9 million hectares, one third of which has turned into wastelands and non-commercial areas due to the erroneous past policies. Previously it had an area of 3.4 million hectare.

---

\(^{64}\) Mahmoudi (1994-95)
Forests in Iran are classified in six categories as below (Map 1.2):

1. Caspian forest
2. Arasbaranian forest
3. Zagrosian forest
4. Irano-Turanian vegetation
   4a. Montainous: Juniper forest
   4b. Planus
      4b1. Steppe and semi steppe:
         4b11. Cold steppe
         4b12. Temperate steppe
   4b2. Desert
5. khaliijo- Ommanian:
   5a. Khalijian: subtropical desert
      or sami- savanna-thorn forest
   5b. Ommanian: subtropical desert
      Or sami- savanna-thorn forest
6. Mangrove forest

3.1. Northern forest of Iran\(^{65}\)

Iran's Caspian forests grow, like a thin strip, in the northern slopes of Alborz mountains (Map: 3.1) at an altitude of 2,300 to 2,400 meters from sea level. This region has very appropriate

---

\(^{65}\)Mahmoodi, B. (1994-95) "Iran's Northern Forests", Forest and Pasture; Academic, Social & Economic (Quarterly), No. 25.
ecological conditions for the growth of forests. Annually, these forests have a period of growth amounting to 160 to 300 days at an altitude of 2,000 meters from sea level. The region is more humid in the west but its humidity becomes less and less in the eastern parts, and so annual forest growth also declines in these parts.

The Caspian forests are mainly comprised of the following species: Fagus. Orientalis, Carpinus. betulus, Quercus. castaneifolia, Acer.insigne, Alnus.subcordata, Ulmus.glabra, Fraxinus.excelsior, Parrotia.persica, Diospiros.lotus, Zelcova.carpinifolia, Cupressus.sempervirens, Juniperus.polycarpos, Taxus.baceeata. In the past, Iran's Caspian forests had an area of 3.4 million hectares. Due to inordinate exploitation, change of plain forests into agricultural lands, and grazing of animals, the area of these forests decreased. As mentioned previously, Iran's Caspian forests now have an area of 1.9 million hectares (1.3 million hectares are commercial and 0.6 million hectares are wastelands).

The Caspian forests are mainly old while young forests are scant there. In addition, the neighbouring forests have been turned into wastelands due to the rustic population's bent for uprooting many precious species, grazing animals, and breaking off the heads of branches of trees to serve as fodder for animals.

Studies conducted on the Caspian forests between the years 1984 to 1987 within the framework of the Preliminary Comprehensive Plan for Northern Forests indicated that there are 3,401 villages and hamlets in this area, housing 78,390 families with a population of 500,000. Such a large population not only faces social, economic, educational, and health problems but also serves as the main cause of the devastation of the region's forests. In addition, studies on animal husbandry indicate that there are 33,107 traditional animal husbandry units with around 5 million domesticated animals in these forests. These graze on the fodder on
the ground of the forests, as well as the saplings which insure the perpetuation of the forests. Moreover, whenever fodder is scant, those engaged in animal husbandry cut off the head branches of the trees to provide fodder for the animals. In different seasons, those engaged in animal husbandry use two or three sites for the transfer of their domesticated animals. The number of these sites amounts to 28,500 units, spanning over around 57,000 hectares of these forests.

Due to inordinate population growth, the people's bent for animal husbandry rather than other production sectors, the increased number of units for animal husbandry and the growing number of domesticated animals, the region's sites for animal husbandry are constantly increasing in number and area, leading to a reduction in the area of commercial forests.

Each year, the rural community residing in the forests and those engaged in animal husbandry use up around 2,800,000 cubic meters of logs and firewood and 170,000 cubic meters of industrial wood from the forests. These are used for warming up residential units and offices and for constructing or repairing housing units and buildings. Together with the rustic community's propensity to turn forests into agricultural lands, these factors have widely and extensively caused the devastation and demolition of the forests up to the present.

Of course, the State Organization for Forests and Pastures has undertaken measures from 1980 to move the domesticated animals out of the forests. These measures should be broadened in scope. Caspian forests have undeniable infrastructure values, which can be cited as below:

• Protective aspects in terms of protecting the soil, feeding the aquifers, and regulating the course of ground waters.
• Environmental aspects in terms of insuring healthy weather, providing sound living milieu, and maintaining ecological balance.
• Economic aspects in terms of producing raw material for the majority of the country's wood industries.

3.2. Policies, organization and executive methods of Caspian forest:

A short reference will be made below to the exploitation of Caspian forests in regard to the objectives, policies, organization, and executive methods so far adopted. While Europe and some industrial states have for two centuries enjoyed academic forest management, the Iranian government up to the year 1918 paid no attention to running the affairs of the forests. Up to this year, forest exploitation was confined to cutting down some forest trees such as acorn, box trees, and walnut trees. By paying small sums as customs duties, the contractors exported these trees to foreign countries in the form of wood powder or boards and planks. Some 7 years later, i.e. in 1924, the cabinet approved a plan to the effect that so long as the judicial branch did not pass a law on the forests, no one was allowed to cut down industrial trees for domestic use without the permission of the Ministry of Agriculture. At the time, the forests were mainly under private ownership. But cutting down non-industrial trees in private forests for public use did not require a permit and the Ministry of Agriculture only had to be informed. Up to this period, there were no comprehensive organizations for forest utilization. Trees were cut down and wood and tree trunks were traditionally pulled down with the aid of manual devices and beasts of burden. In 1924, a group of merchants embarked upon setting up a utilization firm in view of the ample profits associated with forest utilization. The most famous of these firms worked in Tamishan forests in Mazandaran. This firm laid rails in the forests and
established a wood-cutting plant close to Kenareh Road (Tamishan is a part of Nur township in Mazandaran). In addition, the firm shipped the woods to Russia. This firm continued its operations until 1956 when its machinery was no longer functioning appropriately and when the regional forests no longer had industrial trees.

Until 1931, forest protection was meaningless. In 1931, the government held a short training course for 40 people who then served as forest protectors and guards. From this year on, forest utilization was allowed only after reception of permits. After receiving permits, those utilizing state-owned forests had to draw up a contract and buy wood from the Finance Ministry. Cutting down trees, processing and transporting the wood had to be done under the supervision of the forest guards. In private forests, the owner's agreement was requisite.

In 1938, the Forests Bureau was set up in Tehran's Administration for Agricultural Affairs. In 1939, late engineer Karim Saeed was vested with the responsibility of running the affairs of this Bureau. Through the efforts made by late Saeed, the said Bureau was turned into the Administration for Forestry and later in 1942 to the Head Office of Forests.

Despite the existence of the Administration for Forestry in Tehran, no independent organizations for administering forests' affairs existed in Mazandaran and Gorgan until the year 1941. Protection and supervision of forest utilization was shouldered by the agents of the Pahlavi properties.

In order to carry out the affairs related to the forests based on legal standards, the first Law of the Forests was ratified by the National Consultative Assembly in 1942. This Law had 18 articles. Based on the executive directive of this law, trees that could be cut down were to be marked with special hammers.
The Head Office of Forests was turned to the Forests Agency in 1948 and to Iran's Forest Protection Organization in 1959. Based on Article 4 of the above-mentioned law, utilization of forests was dependent on formulation and regulation of forestry plans. Prior to the year 1953, no operations were carried out to choose trees and utilize the forests. The type, number, and volume of required trees were determined on the basis of the demands made. But from 1953 to 1956, a forest management technique which was prevalent in Europe and which was called Blue Cartier was employed. In this method, the volume of the forest should be more than 100 cubic meters and the ratio of old trees to middle-age trees should be 5 to 3 in terms of age. This method allowed the utilization of 4 cubic meters of trees for every hectare of forests.

From 1956 to 1962, utilization of forests was based on the method employed by Mr. Janti, the U.N. specialist in Iran. In this method, the forest area should not be less than 200 hectares and each hectare should not have less than 300 cubic meters of greenery. After making sure that these two conditions were met, one fifth of the best part of the forest was chosen and divided into five parts. Each year, one fifth of these parts was utilized in accordance with principles of forestry.

In the methods mentioned, forest utilization was conducted traditionally. The transfer of the tree trunks and woods was conducted by beasts of burden after a list was made of all the items. In 1959, the Law for Forests and Pastures was ratified. This law stipulated that utilization of forests required forestry plans, which was compatible with all academic and technical principles. The plans had to be approved by the Organization. Forestry plans located the forests, listed the number of trees, provided maps of the forests, determined the volume of utilization, specified the time and place and mode of utilization (traditional or mechanized), and restoration and development operations. In addition, these plans determined the
routes and roads for transfer of woods out of the forests. These plans stipulated that five years were needed to construct the required roads and routes. In this period, those engaged in enforcing the plans were allowed to turn tree trunks into wooden products in the forest.

As briefly mentioned, up to the year 1959 when forestry plans became compulsory, forest management was very limited and deficient, given the absence of facilities and needed specialties, absence of infrastructural investment for making roads and routes to gain access to the forests, lack of familiarity with mechanized utilization methods, and absence of machinery for utilization. The only available material were some leaflets which included certain technical points about forestry and forest protection.

Now with the lapse of around 40 years after the forestry plans and after nationalization of forests in 1962, facilities have been provided in the field of forestry due to the efforts undertaken by the Organization for Forests and Pastures and investments made on infrastructural matters related to Caspian forests. These will be briefly mentioned in Table 3.1:
Table 3.1. Infrastructural activity has been done for the forest in north of Iran by Organization for Forests and Pastures.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Afforestation (hectare)</td>
<td>42,707</td>
<td>61,084.8</td>
<td>75,854</td>
<td>179,645.8</td>
</tr>
<tr>
<td>Provision of Sapling (million)</td>
<td>222.9</td>
<td>183.2</td>
<td>286.87</td>
<td>692.97</td>
</tr>
<tr>
<td>Revision in provision of forestry plans (hectare)</td>
<td>615,549</td>
<td>597,797</td>
<td>366,557</td>
<td>**</td>
</tr>
<tr>
<td>*construction of enclosures(sq.m)</td>
<td></td>
<td></td>
<td></td>
<td>546,049</td>
</tr>
<tr>
<td>*construction of building(sq.m)</td>
<td></td>
<td></td>
<td></td>
<td>46,866</td>
</tr>
<tr>
<td>*provision of fodder (hectare)</td>
<td></td>
<td></td>
<td></td>
<td>1,270</td>
</tr>
<tr>
<td>construction of forest routes &amp; roads(km)</td>
<td>1,849.14</td>
<td>1,594.61</td>
<td>1,810.68</td>
<td>5,254.43</td>
</tr>
</tbody>
</table>

*plans for transfer of domesticated animals from the forests.

**Overall area subject to forestry plans at present 1,100,000 hectares

A. Formulation and revision of forestry plans and forest growth 565000 hectares.

B. Afforestation and restoration of 198,342 hectares.

C. Transfer of domesticated animals from the forests 1,539,000 animals

D. Completion and construction of roads and routes 1,785 kilometres

E. Forest utilization 12,500,000 cubic meters.

Based on the statistics derived from the Preliminary Comprehensive Plan for northern forests in 103 zones and estimation of the available commercial forests, the country has an overall area of commercial forests amounting to 1.3 million hectares. The available commercial forests stand at 405 million cubic meters.

So far, forestry plans have been devised for around 1.1 million hectares of the country’s total commercial forests.

Of this figure, around 900,000 hectares are under the umbrella of utilization plans. Annual utilization of plans underway stands at around 2 million cubic meters. The major part of these operations are carried out in mechanized form while the rest is done traditionally. This amount of utilization can be increased to 4 to 5 million cubic meters in case all potentials of production in the forests
and all facilities are used and in case relevant industries are promoted in the country.

Utilization of Iran's northern forests is subject to three types of management:

1 State-owned firms using government investment within the framework of the constitution of state-owned firms.

2 Private firms using private sector investment and management and aiming at absorbing capital in the field of forests.

3 Cooperative firms which have been set up not only for utilization of forests but also for protection and restoration of the forests and afforestation of devastated forests. The share of this sector in utilization of Iran's northern forests stands at 14 percent. With the lapse of time and acquisition of more experience in specialized affairs, these cooperative firms can play a more salient role in relation to forestry.
Map 3.1 Forestry regions in northern forest of Iran

Source: GIS Section of northern forest of Iran