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FORESTS OF IRAQ

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LOCATION

Natural Forest area of Iraq occupies a wide crescent lying along the north and north-east, boundaries Turkey and Iran within approximately the range of latitude 35.0° and 37° 20' N and longitude 42° 20' and 46° 20' E. Their southern and western limit could be delineated roughly by a line from Zakho district in the northern plain passing through Dohuk district, Agra, Arbil plain and the point where the mountain ranges cross the Iranian border near Horin shaikhan, this great crescent carries approximately 1,8 million ha., of forest excluding Ahrāsh forest which lies on the banks of two great historical rivers Tigris and Euphrates. The forest area constitutes about 4 % of the total area of Iraq which is about 438 sq. Kms.

ENVIRONMENTAL DATA

The elevation of the forest area varies between 500 - 2000 metres above sea level. The climate is intermediate between the mediterranean and continental types; it has along, dry summer season (about five months) without rain (precipitation) and cold winter with precipitation in the form of rain and snow. These conditions are further modified by variation latitude and altitude. The winter being longer and cooler with more rain in the north, the mean annual rainfall for the whole region ranges between 381 to 1200 mm. Mostly, the rain fall occurs during the winter and spring months between December and April, the highest percentage of rain falling in January and the lowest during the period July to August (Zero). Mean average Temperature of the area is 19 - 21°C with the max temperature occurring in the month July 40°C and the min in January. Humidity percentage on the average ranges between 21 to 85,0 max humidity encountered in the month of January and min in July - The north-westerly wind is predominant, the prevailing rain bearing wind direction being from the south and south-west - the soil conditions of mountain region consist of pure rock either without any soil or with a very thin soil layer. The parent rock is mostly lime stone or gypsum with the deepbrown and chestnut soils occurring in rainfall zone and are non saline.

FOREST TYPES IN IRAQ

The two categories of forest identified in Iraq are: 1) Mountain forests which are called Ghabat. 2) Ahrash the scrubby woods growing intermittently along the banks of the two major river Tigris and Euphrates through the plain.

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The Mountain Forest

The wealth of Iraq lies in the great major area of the mountainous region is under native oak forests which dominate the vegetative cover of the mountains and valleys of the north. Their important role is to conserve water and soil apart from supplying wood and forest produce.

In the oak forest three different zones could be seen, a lower, dry zone, a middle zone and an upper moister zone each representing a different physical type. The lower one is characterized by *Quercus aegilops* and *Pistacia Khinjuk* species, the middle by *Quercus aegilops* and *Q. infectoria*, while the upper one by *Q. libani* and *Q. infectoria*. The upper limit of the oak forest varies from 1.800 to 2.000 metres above which *Astragalus* begins to emerge as a dominant species. In addition to the oak forests there are two main forest subtypes the Juniper (*Juniperus oxycedrus*) pine (*Pinus brutia Ten.*) - oak (*Quercus spp*) subtype and riverine subtype which is confined to the banks of rivers and streams and characterized by water living species such as (*Salix acmophylla*) *Populus nigra*, *platanus orientalis* and *Fraxinus rotundifolia*.

The Juniper subtype is fairly widely spread in the northern forests of Dohuk district at an altitude zone ranging between 500 to 1300 metres. The pine forest is distributed in the areas of Atrush and Zawita (Dohuk district), occupying an area of 200 sq. kms, and associated by *Juniperus oxycedrus*, *crataegus azarolus*, *Pistacia khinjuk*, *Rhus coriaria* and *Quercus aegilops* and *Q. infectoria*.

The riverine type subtype is wide spread throughout the mountain forests along perennial water sources and eventually merge with the Ahrash scrub forest of the main rivers as they flow in to the plains. Willows (*Salix acmophylla*, *S. alba*, *S. purpurea*, *S. triandra*) from the most representative genus of this type and occur from the highest mountain peaks to plains of the river delta. *Populus euphratica* is common in the Ahrash forests and rarely found along the mountain streams. *Platanus orientalis* and *Fraxinus rotundifolia* are more characteristic species of the middle altitudinal zone of the mountain regions. *Juglans regia*, *Morus alba* and *Celtis tournfortii* may be seen also with the subtype of mountain forest. However the native oak forests have been classified into three categories according to their density. The first category includes areas of moderate to dense stocking which the second contains forest with a density equivalent to the first but cut over in the past and now represent a forest in the stage of coppice vegetation. The third category comprise areas of open forest or degraded scrub. The total area of first class is approximately 645.270 ha which is equivalent to 36,3 % of total area. Second class being 288,440 ha. (16,2 % of total area) and third are 844.110 ha. 47,5 % of total area).

The area occupied by Ahrash forest is about 43.851 ha. In addition to the natural forest area there is about 25.000 ha of artificial reforestation in the mountain forest. Also, there are many irrigated plantations which are established all along the two great rivers. They are distributed from the north to the south depending upon their nearness to factories and intensity of recreational demand. The main species used in the artificial plantations are *Eucalyptus camaldulensis*, *Eu. microthica*, *Eu. gomphosifala*, *platanus orientalis*, *Robinia pseudoacacia*, *Fraxinus spp.*, *Melia azedarach* and *Dalbergia sisso*, *Tamerix articulata*, *Casuarina equisetifolia*, and *Pinus brutia*, *P. pinea* etc.

NURSERIES

For producing seedlings and transplants 18 nurseries of different sizes were established in the northern, central and southern regions of Iraq. The total nursery stocks produced in the year 1980 reached to (11.000.000) million. Seedlings and transplants are mostly of *Eucalyptus camaldulensis*, *Pinus brutia*, *Casuarina equisetifolia* *Cupressus sempervirens*. These are planted in plain and mountainous area in road side planting, sand dune fixation and reforestation works besides establishing new plantations.

FORMS OF DAMAGE TO WHICH

THE FORESTS ARE LIABLE

All forms of injury to which our forest are exposed can be classified into the following categories :

- 1) Injury caused by elements,
- 2) Injury due to the activities of man.

Injury caused by elements

Injuries caused by natural elements includes damage resulting from accidents or extremes of climate, diseases caused by parasites like (*Loranthus europaeus L.*) has been observed growing on all three oak species but only rarely causes death. Insects, pests, various species of aphid forming galls on *Quercus infectoria (Cynips gallaetinctae)* and (*Cynips insana*) and other producing the common oak - apple locally called AFAS and Gazkal or Kerwan which produced by *Cynips insana*.

Brown Squirrels and other rodents which are common in the middle altitudinal zone of the oak forest cause damage by destroying the acorns and cones and as a consequence reduce to some extent the rate of natural regeneration.

Man made forms of injury

This sort of injury may be grouped into four categories namely :

- i) Shifting cultivation
- ii) Forest fire
- iii) Excessive cutting
- iv) Grazing of domestic animals.

Shifting cultivation :

In the forest regions the villagers clear small patches of forest for the cultivations of cereals or legumes crops or tobacco, rice or vegetable along the banks of streams. After harvesting two or three crops, they abandon these fields and move to new sites where they repeat the some process. Meanwhile, in the abandon fields, erosion starts with rapid denudation of soils taking place in steep slopes until the Under ground rocks are left completely exposed evidence of forest destructing by temporary cultivation can be seen everywhere in the forest area.

Forest fire :

Forest fire is the most serious form of injury after shifting cultivation. Forest

fires are started usually through some act of carelessness. The most common causes are from burning brush wood to clear areas for shifting cultivation and fires left when they are gathering gill nuts frequently, a fire may be started by the carelessness of the charcoal burners or wood cutters. Deliberate incendiarism sometimes smess of the charcoal burners or wood cutters. Deliberate incendiarism sometimes sets the forest a light when one village burns the grazing lands of its neighbour and retaliatory fire follow.

Excessive exploitation :

The cutting of Forest Trees or the harvesting of any form of Forest product only becomes a form of injury when carried to excessive limits. This means that the rate of cutting is in excess of the quantities permissible under the principle of sustained yields.

Excessive cutting is certainly going on in all the mountain forests and the Ahrash forests to meet their domestic demands of wood, while others are done for making money to satisfy other needs.

Forest grazing :

The grazing of domestic animals in the forest cause injury under certain circumstances or when the head of animals grazed become excessive of all the animals, goats especially of the primitive mountain breeds, do the most harm to the forest trees since by nature they are browsers, preferring the leaves of trees shrubs and bushes over grass and other herbaceous fodder, sheep will brouse on the foliage of trees at certain times of the year only when the leaves are still fresh or when other sources of fodder are not plentifuly.

All animals tend to accelerate erosion either by trampling the soil or by reducing the vegetation.

SUGGESTIONS TO IMPROVE FOREST OF IRAQ

- 1) Delineating the forest area,
- 2) Protection of the forests by using the following methods,
 - I) Setting up especial laws for punishing those destroying the forest.
 - II) Fencing the forest area near the villages.
 - III) Finding work possibility for the people living near the forest.
 - IV) Establishing pastures for grazing the domestic animal.
 - V) Controlling the diseases and insects etc attacks the forest.
 - VI) Publicizing the important of the forest by using Radio, TV and others.
- 3) Improving the forests by using different silvicultural methods, opening roads in forests area and introduction of proper management in the well stocked forests.

LITERATURE

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Ö Z E T

Irak'ta doğal ormanın kapsadığı alan 1,8 milyon hektardır. Bu ormanlık arazi hıllal şeklinde Irak'ın kuzey ve kuzeydoğusunda Türkiye ve İran'la olan sınırında yer almaktadır.

Ormanlık bölgenin denizden yüksekliği 500 - 2000 m. arasında değişmektedir. İklimi ise Akdeniz iklimi ile kara iklimlerinin özelliklerini yansıtır. Yazları sıcak (yağmursuz beş ay) kışları soğuk ve yağışlıdır. Isı ekstremleri -10 ile +40 derece arasında değişir.

Irak ormanları iki kategoriye ayrılır :

- 1) Dağ ormanları,
- 2) Nehir kıyılarında bulunan ağaçlık ve çalılardır.

Dağlık ormanlarının başlıca ağaç türü Meşedir (*Quercus aegilops*, *Q. infectoria*, *Q. libanidir*). Ayrıca ibrelil ağaç türlerinden Kızılçam (*Pinus brutia Ten*) ve Ardıç (*Juniperus oxycedrus*) bulunmaktadır.

Nehir kıyılarındaki ağaçlıklara gelince başlıcaları Fırat Kavağı (*Populus euphratica*) ile Tamarix'tir (*Tamarix pentandra*).

Irak ormanları çok tahrip edilmiştir. Bunun başlıca sebepleri : 1) Açmacılık, 2) Gelişmiş güzel ağaç kesmek, 3) Otlatma, 4) Yangındır.

Irak ormanlarını korumak ve iyi bir seviyeye ulaştırmak için aşağıdaki önerileri tavsiye edebiliriz :

- 1/ Orman sınırlarını tesbit etmek,
- 2/ Ormanları korumak için bir orman kanunu çıkarmak,
- 3/ Köy yakınlarında bulunan orman sahalarını tel örgü içine almak,
- 4/ Orman kenarında yaşayanlara iş sahası terim etmek,
- 5/ Hayvanlara otlatma sahası ayırmak ve mera ıslahı cihetine gitmek,
- 6/ Orman ağaçlarına arız olan böcek ve hastalıklarla mücadele etmek,
- 7/ Radyo ve TV ve diğer imkanlardan yararlanarak halka ormanın önemini ve faydalarını anlatmak,
- 8/ Mevcut ormanları modern silvikültür metodları kullanarak ıslah etmek,
- 9/ Ormanlara ulaşımı sağlamak,
- 10/ İyi durumda olan orman sahalarını yararlanmaya uygun amenaşman planları ile düzenlemek.