# Introduction of Forest of Afghanistan

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# introduction

- Afghanistan has a land area of 65.22 million hectares.
- It is a rough mountainous country
  - **located between 29 30′ and 38 3′ North latitude and 60 30′ and 75 50′ East longitude.**
- The great mountain ranges of Pamir and Hindu Kush divide the country with high area of planes in the north, a mountainous central area, mountains and foot hills in the east and south east and lowland to the south and west.

# Introduction Con't

- It thus combines the sharp contrasts of high mountains with more protected valleys.

# ECOLOGICAL HISTORY OF AFGHANISTAN

- At the peak of the last glacial advance of the Pleistocene (20,000 B.C) much of Afghanistan North of the main ranges of the Hindu Kush was covered with ice, The rest of the country experienced a very cold climate and was more arid than it has been during the post glacial period. (Van Zeist).

- It is likely that the absence of extensive glaciations in the central highlands and plateau are due to inadequate precipitation rather than to temperature. At this time tundra conditions would have existed over most of the country.

- One could speculate that woodlands might have persisted in the extreme south and east of the country where the effects of monsoon rainfall from the Indian ocean might have been felt.

# ECOLOGICAL HISTORY OF AFGHANISTAN

- The present day vegetation would have evolved since the glacial recession (10,000 B.C) in the absence of human influence.
- This influence has never been entirely absent and it is questionable whether a true climax vegetation has ever existed in Afghanistan outside of these very arid or high alpine zones where people rarely venture.
- The exact extent of human influence in the early post-glacial is not known, there appear to be no studies of the historical demography of Afghanistan.
- Work in Iran ( Flannery 1968) suggested that in similar environment in that country the pre agricultural population of that country would have been between 0-1 and 0.5 persons per square kilometer.

# ECOLOGICAL HISTORY OF AFGHANISTAN

- These hunter- gatherer people, aggregated into rather small communities, would have had very little impact on the development of post- glacial plant communities.
- Dry farming began to be practiced about (9000 B.C) and during the next 2000 - 3000 years the human population might have grown to 1 or 2 per square kilo meters in suitable areas.
- Larger communities would have existed and increased the use of wood for fuel.
- It is still unlikely that these people would have drastically affected the vegetation cover outside the immediate vicinity of their villages.

# ECOLOGICAL HISTORY OF AFGHANISTAN

- We have historical accounts of extensive forest in Afghanistan.
- Our conclusion is therefore that most of north, central and eastern Afghanistan was wooded until early in the last century.
- Certain areas where dense concentrations of people have lived for a very long period may have been stripped off their forest in the prehistoric time or may never have developed wooded vegetation in post glacial times.
- Of these areas the most notable are the very old and elaborate irrigated areas of the Farah Rud and Helmand and the areas around Balkh.
- The vast areas of forest that existed have been destroyed by overgrazing and cutting in the recent past.

# Introduction to the Biological Pattern

# Vegetation

- The Afghan biosphere is varied ranging from deserts to high mountains and monsoon forests.
- It has a great variety of valuable interesting ecosystems and species.
- The vegetation throughout Afghanistan has been severely influenced by man.
- Only a few high mountains and extreme deserts areas retain a natural vegetation cover.

# Deserts vegetation

- the deserts of northern and southern Afghanistan contain active sand dune areas and dune fixed by an open xerophytes plant invaders.
- In lower laying salty areas of Seistan plans, the very hardy open vegetation thrived but scarcely modified by man

# Steppes vegetation

- Steppes are the most important grazing areas of the nomads in the country.
- The low laying steppes in the west and south and along the dry river beds covered by a thorny vegetation belt of xerophytic plants.
- The floral composition depend upon the humidity, length of winter, sand composition, wind force and grazing pressure.
- More humid sites have denser vegetation with richer species composition.

- The northern loses zone supports a grass steppe.
- During the spring 30 to 90% of the ground is covered but most of the plants die back due to the lack of water in the summer.
- In the high mountains there are areas of semi deserts around Bamyan.
- High level steppes benefits of higher precipitation as well as lower evaporation.
- Over grazing is very common in these areas, which generally favours the less palatable Artemisia shrubs and other annuals at the cost of palatable perennials.
- In dry years when annual plants do not germinate, the heavy mortality of domestic animals occurs.

# River beds vegetation:

- The original forests of the major river valleys have been replaced by irrigated crops.
- On well drained areas with deep soil of the wild ancestors of cultivated fruit trees such as:
  - **Apple,**
  - **Pear,**
  - **Almond**

# Subtropicitum siecum planes vegetation:

These planes hold a semi deserted and dry subtropical climate.

The ligneous vegetation of such terrain has affinity with semi deserted  subtropical vegetation .

This area is situated in Nangarhar and Kunar provinces.

Large number of bushy plant thrived there which are usually used for fuel.

# Scrub lands

- They are intermediate bioms between the steppes of  the south and west and the woodland of the Hinukhush.
- This area is important for the winter pasture.

# Hindu kush higher slopes vegetation

- In the higher slopes of Hindukush open pistachio forest replaced the wild almond community.
- These forests are heavily used for fuel and badly degraded.

# Hindukush northern lower planes vegetation

- Between 600-1600 m forest of  pistachio and almond and in the north east red bud is thriving.
- The upper part of the forest belt on the northern slopes of the Hindukush is formed by the open mixed woodland dominated by junipers.
- These forest have been heavily exploited for charcoal.

# Perennial thorny large shrubs and small trees

- Predominated in the east and southern parts of the country such as Kunar, Nangarhar, Laghman , Paktia and Paktika, which experiences hot summers and moderate winters.
- This area is heavily utilised for fuel, charcoal and grazing

# Himalayan deciduous forest:

- Between 1200 - 2000 m the oak forest dominates wild almond, which is largely destroyed because over exploited for fodder, fruits and fuel wood.

# Temperate coniferous forest:

- The forest belt between 2200-2500m is a chilghoza pine, blue pine woodland after the pine have been felled.
- Between 2500 3100m cedar forest was common. Unfortunately large part of this forest have been illegally clear cut and the area subjected to erosion.
- In the upper zone spruce, fir and the dry areas Juniper forests were existing but drastically cut for timber smuggling across the border by traders.

# Subalpine vegetation:

- In the east with summer rain a dense vegetation of junipers thrived well.
- In the Hindu Kush a Junipers community with many thorny dwarf shrubs occur between 3000 - 4000 in the central and northern Hindu Kush a scrub land of many bushy plants grow.

# Forested total area of Afghanistan

- The statistics presented here are questionable due to the lack of any satisfactory systematic terrestrial survey or delineation of the forest areas on the ground.
- Based on the historical data approximately 2.9% of the total land, i.e., 1.9 million hectares were under forest cover.

# Problems

Natural Forestry:

- Cutting and smuggling of forests
- To specify the ownership of forestry areas
- Not observing the principles of cutting the forests
- Absence of laws for the protection of forests
- Absence of cooperation from government responsible authorities for safeguarding the forests

# Problems

- Lack of information on value and importance of forests
- Absence of any alternatives for fuel wood
- Absence of plans for forest utilization and management
- Absence of plans and protection measures
- Lack of cooperation from people living at the site
- Lack of correct data on forests areas
- Lack of vehicles for the protection, utilization and management
- Lack of professional personnel

# Problems

- Lack of professional and technical personnel in many provinces
- In some provinces the forest land is in the hands of irresponsible individuals and persons
- Lack of cooperation from provincial authorities on the restoration of the above mentioned forest land
- Lack of attention by the agricultural departments at the provincial level in the extension of artificial forests

# Problems

- Transfer of forest areas into agricultural land on lease to individuals
- Handing over the authority to the directors of forestry regarding extension of nursery and development of artificial forestry
- Lack of policy for the extension of artificial forests in order to check the extension of the deserts and to determine the moving of sand dune