

Unit A: Introduction to Forestry

Lesson 3: Recognizing the Importance of Forests

Terms

- ◆ Forest
- ◆ Forest canopy
- ◆ Piling
- ◆ Pulpwood
- ◆ Reserved forest land
- ◆ Timberland
- ◆ Total forest land
- ◆ Urban forestry
- ◆ Veneer

What is the importance of forests?

- ◆ Trees have had an influence on human progress and welfare.
- ◆ Trees provide food, medicines, fuel, shelter, protection, shade, tools and other needs.

- ◆ 60% of the earth once covered with forest. With the development of civilization, large areas have been cleared to make way for farms, mines, towns and roads.
- ◆ Today about 30% of earth is still forested.

What is the importance of forests?

- ◆ Forests are very important to our world.
- ◆ Wood is the raw material from which forest industries manufacture countless products for home, factory and office.

What is the importance of forests?

- ◆ A forest is a living, complexly interrelated community of trees and associated plants and animals.
- ◆ Timberland is forest land capable of producing wood in excess of 0.5 cubic meters per 0.4 hectares per year and not restricted from being harvested.

What is the importance of forests?

- ◆ Afghanistan has 1,351,000 ha and is dependent on wood imports.
- ◆ Reserved forest land is defined as forest land restricted from harvesting.
- ◆ Other forest land has trees but does not meet the minimal required stocking level of timberland.

What is the importance of forests?

- ◆ Total forest land is the sum of timberland, reserved forest land, and other forest land.
- ◆ It will take quite a bit of time, but through improvement of forest management practices, Afghanistan can become less dependent on other nations for its wood sources.

What is the importance of forests?

- ◆ The social values of forests are the benefits they provide for outdoor recreation activities such as: hunting, fishing, bird watching, nature study, camping, picnicking, hiking and scenic or aesthetic value.

What are the beneficial influences of trees?

- ◆ Besides the direct benefits forests provide in the way of products, other values are derived from trees.



- ◆ A view of Forest in Nuristan

What are the beneficial influences of trees?

- ◆ Over an extended area, forests do not affect climate. However, in a localized area, they do have an effect on climate conditions.
 - Forests influence temperature, humidity, and wind velocity.
 - The forest canopy is a barrier to direct sunlight and shades the forest floor, influencing the air temperature, soil temperature and soil moisture.

What are the beneficial influences of trees?

- ◆ The leaves and branches of trees break the impact of rain, causing it to drip rather than to reach the earth with force.
- ◆ Upon reaching the forest floor, rain is absorbed by the ground litter and humus, reducing surface runoff.



What are the beneficial influences of trees?

- ◆ The litter and humus keep the soil mellow, porous and permeable, which allows seepage of water into the substratum, where it is stored.

What are the beneficial influences of trees?

- ◆ The forest soil tends to not freeze as deep, as it absorbs more water from melting snow.
- ◆ By delaying the melting of the snow and by the absorption of snow water into the soil, forests prolong the period of runoff, which helps to reduce flooding and to equalize stream flow in the streams and rivers.

What are the beneficial influences of trees?

- ◆ Forest vegetation shades water courses from the full heat of the sun preventing excessive stream temperatures and producing clear streams that are ideal for fish life.

What are the beneficial influences of trees?

- ◆ In forested watersheds, where management is carefully practiced, extremes of water flow in winter and summer are avoided, aiding in flood control.
- ◆ Forest streams usually have a minimum amount of sediment, even during periods of high stream flow.



What are the beneficial influences of trees?

- ◆ Many kinds of wildlife are found in the forest, where they obtain food and shelter.
- ◆ Forests help to reduce wind erosion. The harmful effects of the wind drying out and blowing the soil, protection against drifting snows and shelter crops, livestock, homes and barns from hot or cold winds.

Forest Cover – Forests Retard Snow Melt



What is the economic importance of forests?

- ◆ Forest resources are managed for both economic and social values.
- ◆ Forest resources have economic value when they yield an income.



A view of Forest in Nangarhar, Afghanistan

What is the economic importance of forests?

- ◆ Timber, grazing, recreation, water, minerals, fish, and wildlife are all examples of income-producing values of forests.
- ◆ The greatest economic contribution of forests is the products derived from trees.

What is the economic importance of forests?

- ◆ Wood is an important part of houses, apartment buildings, many commercial and industrial structures, newspapers, cereal boxes, furniture and sports equipment.



What is the economic importance of forests?

- ◆ Worldwide about half the timber cut each year is used as fuel for heating and cooking. Some of this fuel is burned directly as firewood and some is converted into charcoal, which is widely used by urban inhabitants and some industries.
- ◆ 95% of people in Afghanistan use wood for cooking, heating and other purposes



Truck full of firewood and going to the main cities

- ◆ One-third of the world's annual timber harvest consists of logs to be converted into building materials, such as lumber, plywood, hardboard, particleboard and chipboard.
- ◆ One-sixth is converted into pulp used in a variety of paper products.

- ◆ Trees from forests are made into lumber, pulpwood, veneer, poles, railroad ties, and piling.
- ◆ Lumber is further used to produce furniture and other manufactured items.
- ◆ In Afghanistan, wood is used for ceilings, doors, windows and furniture.

- ◆ 90 % of ceilings are made of wood.
- ◆ 99% of doors and windows are made of wood.



What is the economic importance of forests?

- ◆ Pulpwood is wood cut or prepared for manufacture into pulp, which can be made into paper products.
- ◆ Veneer is a thin sheet of wood.
- ◆ Piling is a round timber driven into the ground to support other structures.

What is the economic importance of forests?

- ◆ The same income producing resources have certain social values that may not be income producing but still have worth in terms of public good or interest.
 - Social values are generally values related to aesthetic considerations, such as scenic qualities of a forest area.

What is the economic importance of forests?

- ◆ Other social values are concerned with biological aspects, such as the uniqueness of the plants and animals found in the forest.
- ◆ Forests with high social values are being reserved for future public and private parks and monuments.

What is the economic importance of forests?

- ◆ Some of these areas may have other concurrent uses, such as recreation or establishment of biological preserves.

Timberland areas with suitable topography for water reservoirs are being inundated for water storage.

What is the economic importance of forests?

- ◆ Conflict of interests often arise between economic and social uses of forest land.
- ◆ An example involves areas that are flooded for water reservoirs or set aside in preserve and can no longer supply timber for wood-using industries.

What is the importance of urban forestry?

- ◆ Urban forestry is a specialized branch of forestry.
- ◆ Urban forestry is similar to traditional forestry, in that it is the cultivation and management of trees for its benefit to society.

What is the importance of urban forestry?

- ◆ Urban forestry also considers the present and potential contribution of the trees to the physiological, sociological, and economic well-being of an urban society.



What is the importance of urban forestry?

- ◆ Trees are established along streets and avenues.
- ◆ They are landscaped around homes, businesses, shopping centers, and parking lots.
- ◆ Trees are interspersed naturally or by design throughout cemeteries, greenbelts, and parks.

Examples of urban forestry in Herat, Afghanistan.



What is the importance of urban forestry?

- ◆ There are many benefits derived from urban trees and urban forests.
- ◆ These benefits include economic, environmental, wildlife, and aesthetic and social values.
 - Trees in urban environments can have a direct economic impact by reducing associated operating costs.

What is the importance of urban forestry?

- ◆ A major benefit of trees is their shade, which lowers temperatures.



What is the importance of urban forestry?

- ◆ Lowering air and surface temperatures around homes, schools, and office buildings by shading will reduce energy consumed for air conditioning during the summer.
- ◆ Not only is it cooler in the shade of the trees, but the heat absorbed in the transpiration process also cools the air in the immediate vicinity.

What is the importance of urban forestry?

- ◆ Deciduous trees lose their leaves in the autumn, which allows more sunlight in the winter.
- ◆ Sunlight on a structure in the winter will reduce heating costs.

What is the importance of urban forestry?

- ◆ Urban trees may also function as windbreaks that reduce the force of winter winds, thereby lowering heating costs.
- ◆ Windbreaks keep snow from drifting onto driveways, streets, and parking lots.

What is the importance of urban forestry?

- ◆ Trees influence the urban environment in many ways.
- ◆ Because trees shade the ground, soil temperature is cooler during the summer, resulting in a better retention of soil moisture.
- ◆ This benefits lawn grasses and flower or vegetable gardens.

What is the importance of urban forestry?

- ◆ Urban forests provide watershed protection.
- ◆ This influence on the watershed can benefit clean water resources for drinking water or water-based recreation.

What is the importance of urban forestry?

- ◆ Another benefit is storm water management to reduce flooding.
- ◆ Water diverted from streets is directed into storage zones, which affect the quality and quantity of runoff.

What is the importance of urban forestry?

- ◆ Urban trees and forests produce oxygen and utilize carbon dioxide.
- ◆ This contributes to the air quality in urban areas.

What is the importance of urban forestry?

- ◆ Around the world, city parks and forests provide habitat for many wildlife species within urban areas.
- ◆ Maintaining a diversity of trees, shrubs, and understory plants stimulates a diversity of wildlife species.

What is the importance of urban forestry?

- ◆ One of the most important benefits provided by trees in urban settings is simply their beauty.
- ◆ The beauty of trees and shrubs softens the rigid lines of man-made structures and enhances pleasing environments.

What is the importance of urban forestry?

- ◆ Aesthetic and social values can be enhanced through proper planning and establishment of trees in urban environments.
- ◆ A tree species can be matched to a urban condition to provide a desired visual effect as well as a functional use.

What is the importance of urban forestry?

- ◆ The beauty of the season is another important aesthetic value when establishing trees in the urban landscape.
- ◆ Trees such as magnolia, buckeye, and dogwood have showy flowers in the spring, while the foliage of maple, gum and birch provide brilliant colors in the autumn.

What is the importance of urban forestry?

- ◆ When properly considered, established and cared for, trees can greatly improve living conditions in urban environments.
- ◆ However, without proper planning, trees can have a negative impact.

Summary / Review

- ◆ 1. Explain the importance of forests.
- ◆ 2. Identify the beneficial influences of trees.
- ◆ 3. Describe the economic importance of forests.
- ◆ 4. Explain the importance of urban forestry.