**Forest Conservation**

**Forest conservation:** is a general term describing methods purported to preserve or improve a forest threatened or affected by abuse.

**The types of abuse and damages that forest conservation seeks to prevent, include:**

* Aggressive or unsustainable farming and logging.
* Expanding city development; caused by population explosion, and the resulting urban sprawl.
* Biotic and abiotic factor.

**Functions and Purposes of Forest Conservation: -**

**The Functions:**

1. The study site and its properties that related to climatic factors and soil, as well as the external consequences and benefits of this location for standing establishment.
2. Identifying damage factors in seedlings, shrubs, and trees, and determining the sources of injuries.
3. Identify damage kinds and tree stages.
4. Identify techniques to preserve seedlings from injury in forests, stands, and nurseries.
5. Provide advice and extensions to warn from all damages by enlightenment and advertising.

* **The purposes:**

1. The aims of forest involved the benefit of basic balance to all biotic community (trees, shrubs, seedlings, microorganisms and others).
2. To get materialistic benefit from the forest in the best way.

**Forest Health**

Forest health or (forest ecosystem health) are terms that are now commonly used in relation to the management; implies that land is not managed for a single species, and that involves:

1. Ecosystem complexity
2. Biological legacies (include structure such as green trees, logs and snags) that are important in re-establishing ecosystem after major disturbances.
3. A landscape perspective (i.e., large space and time scales).
4. Emulation of natural disturbances.

There are many definitions of forest ecosystem health ranging from utilitarian to ecological as the following:

* A condition where biotic and abiotic influences on forest (e.g. pests, pollution, thinning, fertilization, harvesting) do not threaten management objectives now and in the future
* A fully functioning community, of plants and animals and their physical environment.
* An ecosystem in balance.
* A condition of forest ecosystems that sustain their complexity while providing for human needs.
* Resilience to changes.
* The ability of a forest to recover from natural and human stressors.
* Maintenance and sustainability of ecosystem functions and processes.
* Fee from (distrees) characterized by reduced primary production, loss of nutrient capital, loss of biodiversity, increased fluctuations in key populations, retrogressions in biotic structure, and widespread incidence and severity of diseases and insects.

**Characteristics of a healthy forest**

A healthy forest involves more than the health of individual trees, and dead trees occur in natural ecosystem.

to evaluate forest health, we need good indicators, and the following list may indicate healthy conditions:

1. Tree and understory plants should be vigorous and healthy in appearance. Species, age class distributions, and stand densities should be within historical ranges for the site, and growth and mortality should be consistent with the ecosystem type and the age of dominant trees.
2. The diversity of vegetation should be balanced with the availability and demand of nutrients, water, light, and growing space.
3. The forest should be capable of tolerating and recovering from known disturbance (such as fire and wind).
4. Soil erosion should be minimal.
5. Clean water should flow from stream expect during extraordinary runoff events, and stream banks need to be stable and riparian vegetation ample.
6. Aquatic species should be diverse, and aquatic indicator species should be present in expected numbers.
7. Wildlife diversity and presence need to be appropriate for the ecosystem, especially in riparian zones.
8. Insect, disease and fire frequencies should be within the normal ranges for the ecosystem.
9. Ecological processes are operating within a natural range of variability.