International Day for Biological Diversity Conservation
May 22, 2018

Abebayehu A.
Introduction of the day
Why we celebrate International Day for Biodiversity on 22 May?
1) To aware people of the world about the aims and achievements of conservation

2) To get peoples support on conserving the Earth's biodiversity.
BASIC CONCEPTS OF BIODIVERSITY
What is Biodiversity?

Biodiversity = biological diversity

➔ In short biodiversity is variety of animal & plants (starting from microorganism to very big animals and plants) living on earth (in water boy, land etc.)

>>> both domesticated & wild plant/animals

➔ 3 kinds of biodiversity:
• *genetic diversity*: diversity of individuals within a species

• *species diversity*: diversity of species within an ecosystem or habitat

• *habitat diversity*: diversity of ecosystems and habitats

https://www.youtube.com/watch?v=aqtdaIkxnQo
Cont....

• about 9 million unique living organisms that inhabit the earth & only 1.7 million are named
Importance of biodiversity?

- At least 40% of the world’s economy and 80% of the needs of poor are derived from biological resources.
- Biodiversity is the basis of our existence “Our life support system” because it provide us:
  - clean air & water,
  - food - animal or plant source
  - medicine - that protect and cure
  - textiles – cotton
  - wood - construction pole, shelter
• When we have rich biodiversity, there is greater opportunity for medical discoveries, economic development, and adaptive responses to such new challenges as climate change

• The Living Planet Index (LPI) shows a decline of 52% between 1970 and 2010.
Who is this

Whatever Happened To HIM??
Cont...

• Extinct – global level
  – means vanished/ disappeared globally

• Extinction can be also local- if one species is disappeared local
  e.g., An species disappeared from Ethiopia & found in other countries
Cont…

• The IUCN founded in October 1948 categorize species in to 7 groups for conservation purpose/priority

• EBC – local
Healthy biodiversity provides

1. Ecosystem services
   • According to IUCN, the monetary value of goods and services provided by ecosystems is estimated US$33 trillion per year.
   
   E.g., in 2008 the USA GPA was US$14.4 trillion & EU US$14.94 trillion
   • About 50,000-70,000 plant species are harvested for traditional and modern medicine worldwide annual
   • Annual, huge amounts of fish & plants harvested for food
Cont....

- Protection of water resources
- Soils formation and protection
- Nutrient storage and recycling
- Pollution breakdown and absorption
- Contribution to climate stability
- Maintenance of ecosystems
- Recovery from unpredictable events
Cont…

2. Biological resources, such as
   • Food
   • Medicinal resources and pharmaceutical drugs
   • Wood products
   • Ornamental plants
   • Breeding stocks, population reservoirs
Cont…

3. Social benefits, such as
   • Research, education and monitoring
   • Recreation and tourism
   • Cultural values
Biodiversity has declined
Population growth
Habitat loss and degradation

This refers to the modification of the environment where a species lives, by either complete removal, fragmentation or reduction in quality of key habitat characteristics. Common causes are unsustainable agriculture, logging, transportation, residential or commercial development, energy production and mining. For freshwater habitats, fragmentation of rivers and streams and abstraction of water are common threats.

Species overexploitation

There are both direct and indirect forms of overexploitation. Direct overexploitation refers to unsustainable hunting and poaching or harvesting, whether for subsistence or for trade. Indirect overexploitation occurs when non-target species are killed unintentionally, for example as bycatch in fisheries.

Pollution

Pollution can directly affect a species by making the environment unsuitable for its survival (this is what happens, for example, in the case of an oil spill). It can also affect a species indirectly, by affecting food availability or reproductive performance, thus reducing population numbers over time.

Invasive species and disease

Invasive species can compete with native species for space, food and other resources, can turn out to be a predator for native species, or spread diseases that were not previously present in the environment. Humans also transport new diseases from one area of the globe to another.

Climate change

As temperatures change, some species will need to adapt by shifting their range to track suitable climate. The effects of climate change on species are often indirect. Changes in temperature can confound the signals that trigger seasonal events such as migration and reproduction, causing these events to happen at the wrong time (for example misaligning reproduction and the period of greater food availability in a specific habitat).
Overexploitation is the use, by humans, of a natural resource to an extent that it is not sustainable.
Climate change & biodiversity

- species and natural systems are now faced with the need to adapt to new regimes of temperature, precipitation and other climatic extremes
Development can threaten biodiversity by:

Destroying animal’s habitats

Destroying some animals’ food sources (such as plants)

Bringing pollution to previously clean areas
Let us help every life on the earth to survive!