TIL touch

touching lives , making a difference

A Special Booklet on the occasion of World Environment Day

Save Our Climate, Our Earth, Our Future.

TIL Tractors India

FAST FACTS about GLOBAL WARMING

Global warming or climate change, is a subject that shows no sign of cooling down….
and Yes, Earth is already showing many signs of worldwide climate change

Here are some Fast Facts for you:.

• Average temperatures have climbed 1.4 degrees Fahrenheit (0.8 degree Celsius) around the world since 1880, much of this in recent decades, according to NASA's Goddard Institute for Space Studies.

• The rate of warming is increasing. The 20th century's last two decades were the hottest in 400 years and possibly the warmest for several millennia, according to a number of climate studies.

• The Arctic is feeling the effects the most. Average temperatures in Alaska, western Canada, and eastern Russia have risen at twice the global average.

• Arctic ice is rapidly disappearing, and the region may have its first completely ice -free summer by 2040. Polar Bears are already suffering from the sea-ice loss.

• Glaciers and mountain snows are rapidly melting—for example, Montana's Glacier National Park now has only 27 glaciers, versus 150 in 1910. In the Northern Hemisphere, thaws also come a week earlier in spring and freezes begin a week later.

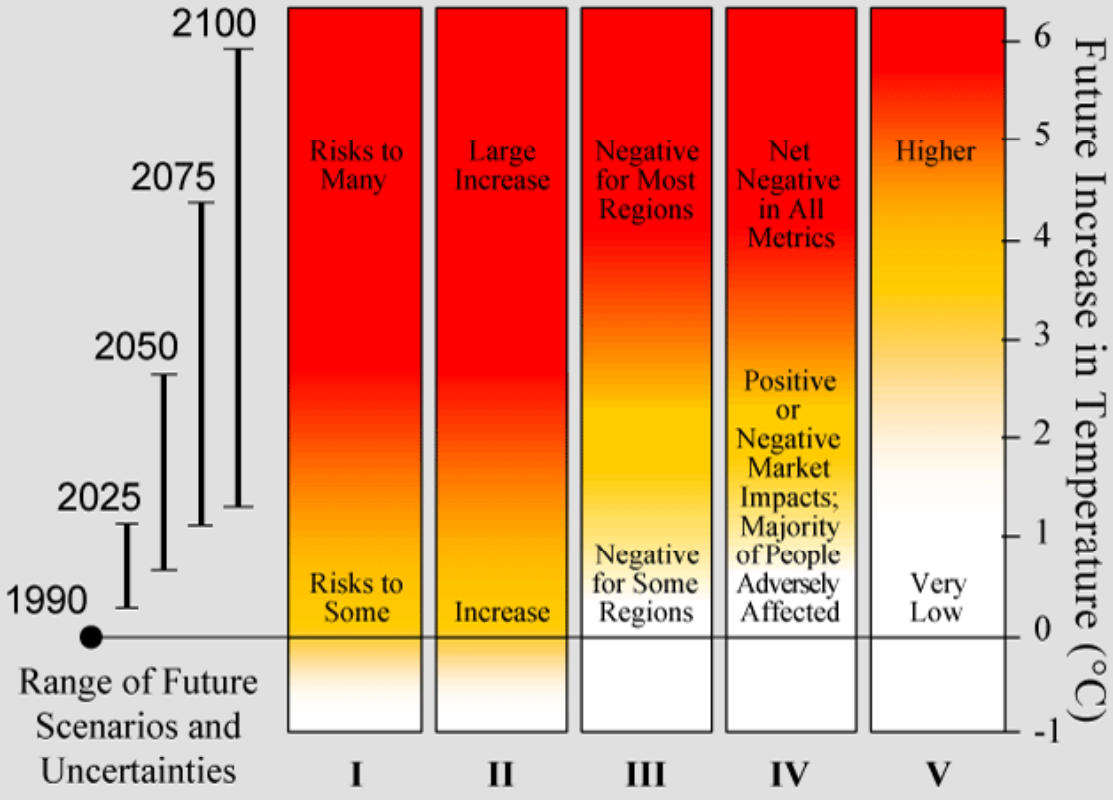
• An upsurge in the amount of extreme weather events, such as wildfires, heat waves, and strong tropical storms, is also attributed in part to climate change by some experts.

•Sea level could rise between 7 and 23 inches (18 to 59 centimeters) by century's end, the IPCC's February 2007 report projects. Rises of just 4 inches (10 centimeters) could flood many South Seas islands and swamp large parts of Southeast Asia. Some hundred million people live within 3 feet (1 meter) of mean sea level, and much of the world's population is concentrated in vulnerable coastal cities.

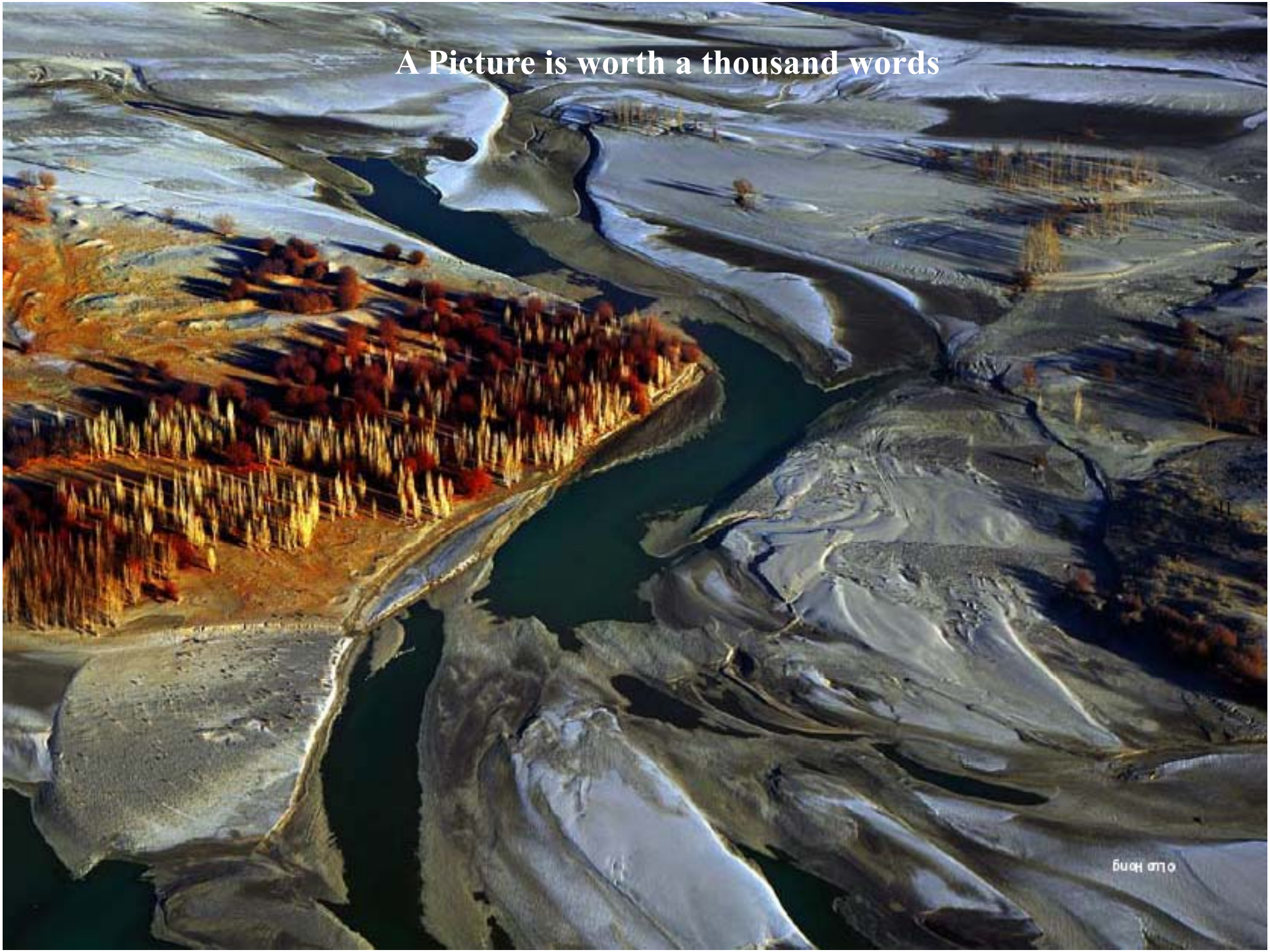
•A report, based on the work of some 2,500 scientists in more than 130 countries, concluded that humans have caused all or most of the current planetary warming. Human-caused global warming is often called anthropogenic climate change.

•Global warming will expose millions of people to new health risks. Infectious diseases are emerging, resurging and undergoing redistribution on a global scale.

Risks and Impacts of Global Warming



I	Risks to Unique and Threatened Systems
II	Frequency and Severity of Extreme Climate Events
III	Global Distribution and Balance of Impacts
IV	Total Economic and Ecological Impact
V	Risk of Irreversible Large-Scale and Abrupt Transitions


A Picture is worth a thousand words

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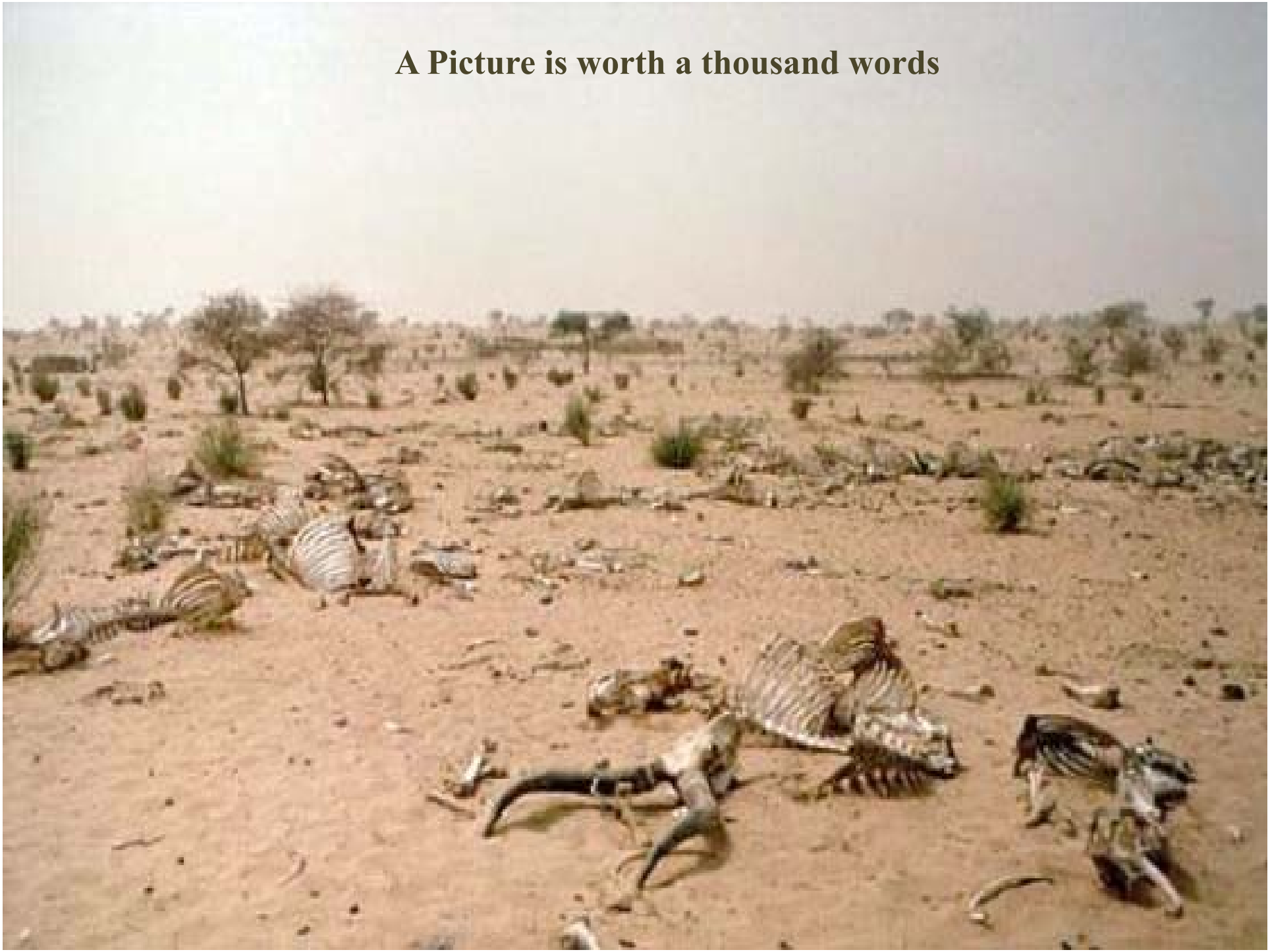


Tree Facts

•One person causes about 10 tonnes of carbon dioxide to be emitted a year. One tree removes about a tonne of CO_2 over its lifetime.

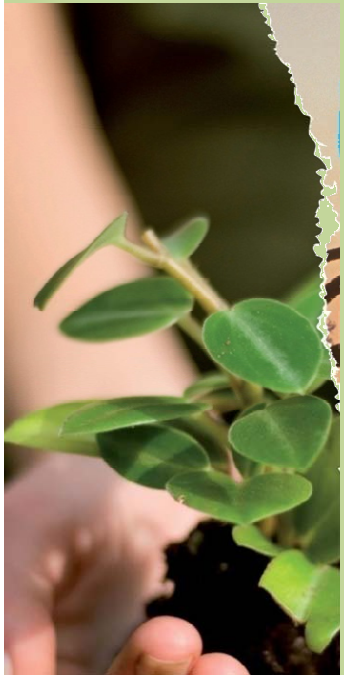
•By cooling the air and ground around them, the shade from trees helps cool the Earth's temperature.

•A single mature beech tree can produce enough oxygen for 10 people in a year.

•Trees renew our air supply by absorbing carbon dioxide and producing oxygen.

•Trees lower air temperature by evaporating water in their leaves.

•Tree roots stabilize soil and prevent erosion.

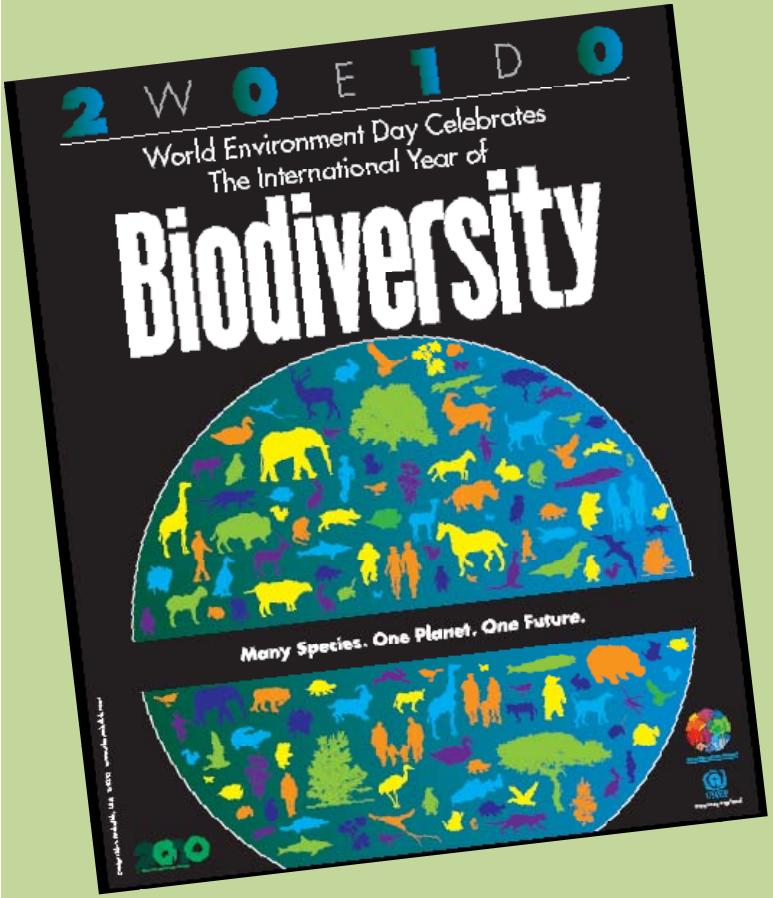


•Trees improve water quality by slowing and filtering rain water, as well as protecting aquifers and watersheds.

•Over one given year; one hectare of mature woodland will absorb the carbon emissions of 100 average family cars.

•In one year, an acre of trees can absorb as much carbon as is produced by a car driven up to 8700 miles.

What is **Biodiversity?**



Biodiversity is the variety of life on Earth, it includes all organisms, species, and populations; the genetic variation among these; and their complex assemblages of communities and ecosystems. It also refers to the interrelatedness of genes, species, and ecosystems and in turn , their interactions with the environment.

Three levels of biodiversity are commonly discussed — genetic, species and ecosystem diversity.

1. Genetic diversity is all the different genes contained in all the living species, including individual plants, animals, fungi, and microorganisms.
2. Species diversity is all the different species, as well as the differences within and between different species.
3. Ecosystem diversity is all the different habitats, biological communities and ecological processes, as well as variation within individual ecosystems.

What are the main causes of biodiversity loss?

There are many threats to our natural world, which include:

HABITAT LOSS AND DESTRUCTION

This is one of the greatest threats to biodiversity. Habitat loss is directly linked to human induced pressures on land.

ALTERATIONS IN ECOSYSTEM COMPOSITION

Assemblages of species and their interactions with their ecosystems is critical for not only saving the species, but also for their successful future evolution. In the event of alterations, either within species groups, or within the environment, entire ecosystems can begin to change. Alterations to ecosystems are a critical factor contributing to species and habitat loss.

INVASIVE ALIEN SPECIES

The introduction of exotic species that replace local and native species is cited as the second largest cause of biodiversity loss. Alien invasive species replace, and often result in the extinction of native species. The annual economic damage caused by invasive plant and animal species is estimated to be in the region of US$ 1.4 trillion.

OVER-EXPLOITATION

Over-hunting, over-fishing or over-collecting of a species can quickly lead to its decline. Changing consumption patterns of humans is often cited as the key reason for this unsustainable exploitation of natural resources.

POLLUTION AND CONTAMINATION

Biological systems respond slowly to changes in their surrounding environment. Pollution and contamination cause irreversible damage to species.

GLOBAL CLIMATE CHANGE

Both climate variability and climate change cause biodiversity loss. Species and populations may be lost permanently, if they are not provided with enough time to adapt to changing climatic conditions.

Why does it matter?

Biodiversity conservation provides substantial benefits to meet immediate human needs, such as **clean, consistent water flows,** protection from floods and storms and a stable climate.

The loss of biodiversity is dangerous and its consequences are immediate:

Fewer opportunities for livelihoods, for better health, education, and a better life

Fewer fish in the sea, means Less food for our survival

A lack of clean water

A lack of forest resources such as food, or plants for medicine

In the long term, it also means less income for communities, which are often already amongst the poorest on Earth

Cultural diversity and biodiversity are intimately related to each other. If we lose one, we risk losing the other.

The **diversity of societies, cultures and languages** that has developed throughout human history is intimately related to biodiversity and its use.

Are you Global Warming Wise? Find out from this Quiz

A. Which of the following light bulb types uses the least energy, and therefore results in fewer greenhouse gas emissions?

•Incandescent • Compact Fluorescent • Halogen

B. How many human deaths per year does the World Health organization attribute to climate change?

• 150,000 • 1,500 • 15,00,000 • 10,500

C. How long does it take for Carbon Dioxide in the atmosphere to disperse?

• I yr • 10 yr • 50 yr • 100 yr

D. What percentage of world's water is fresh water?

• 3 percent • 7 percent • 11 percent • 20 percent

E. Which of the following household materials is considered hazardous waste?

• plastic packaging • glass • batteries • spoiled food

F. Every ton of paper recycled conserves how many trees?

• 5 trees • 12 trees • 17 trees 2 • 2 trees

G. The major threats to biodiversity worldwide can be categorized using the HIPPO dilemma. HIPPO stands for:

• Hippopotamuses • Habitat Loss, Introduced Species, Pollution, Population, Over-consumption
• Hunting, Isolation, People, Propaganda Opulence
• Harmful ultraviolet rays, International trade, Politics, Power production, Oxygen deprivation

Answers- page 12

Are you Global Warming Wise?
Find out from this Quiz

H. CFCs (chloro-fluoro-carbons) are greenhouse gases that have caused a rise of 0.3 ºC in the global temperatures in the past century. Name the CFC that is used in refrigerators.

●Methane ● Freon ● Carbon dioxide ● Ammonia

I. A device is fitted to motor vehicles to chemically reduce some gases produced by internal combustion engines like NOx, CO, and HC into less harmful products. Name this device.

● 2-stroke engines ● Carburetor ● Catalytic converter ● Tail pipe

J. What are greenhouse gases?

● Other words for inert gases ● Fuel used by farmers ● rising off greenhouses ● Heat-trapping atmospheric gas

Answers to the Quiz:

A. Compact Fluorescent
B. 150,000
C. 100 yr
D. 3 percent
E. Batteries
F. 17 Trees
G. Habitat Loss, Introduced Species, Pollution, Population, Over-consumption
H. Freon
I. Catalytic converter
J. Heat-trapping atmospheric gas

PHOTO SHARE:

Tree Planting Activity done today….

Taratolla, Sahibabad, Agucha, Asansol, Guwahati, SEB, Lucknow

Tractors India

'Only when the last tree has died and the last river been poisoned and the last fish been caught will we realize we cannot eat money. '

~Cree Indian Proverb

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