GREEN PARTICAPATION, GREEN EUROPE

A4: Assessment of Previous Activities

PROJECT NUMBER : 2023-2-TR01-KA154-YOU-000168735







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GREEN PARTICIPATION

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A4

Assessment of Previous Activities

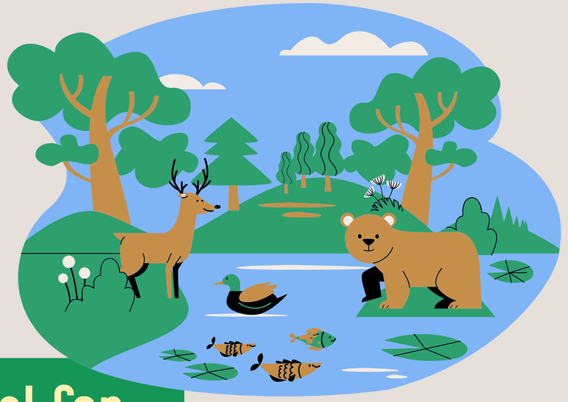
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WHAT IS THE BIODIVERSITY?



Biodiversity refers to the variety and variability of life on Earth, encompassing all living organisms, from plants and animals to microorganisms.



Biodiversity is essential for ecosystem services such as pollination, nutrient cycling, and maintaining clean air and water. It supports food production, medicine, and climate regulation, making it fundamental for human survival and well-being.



CLIMATE CHANGE

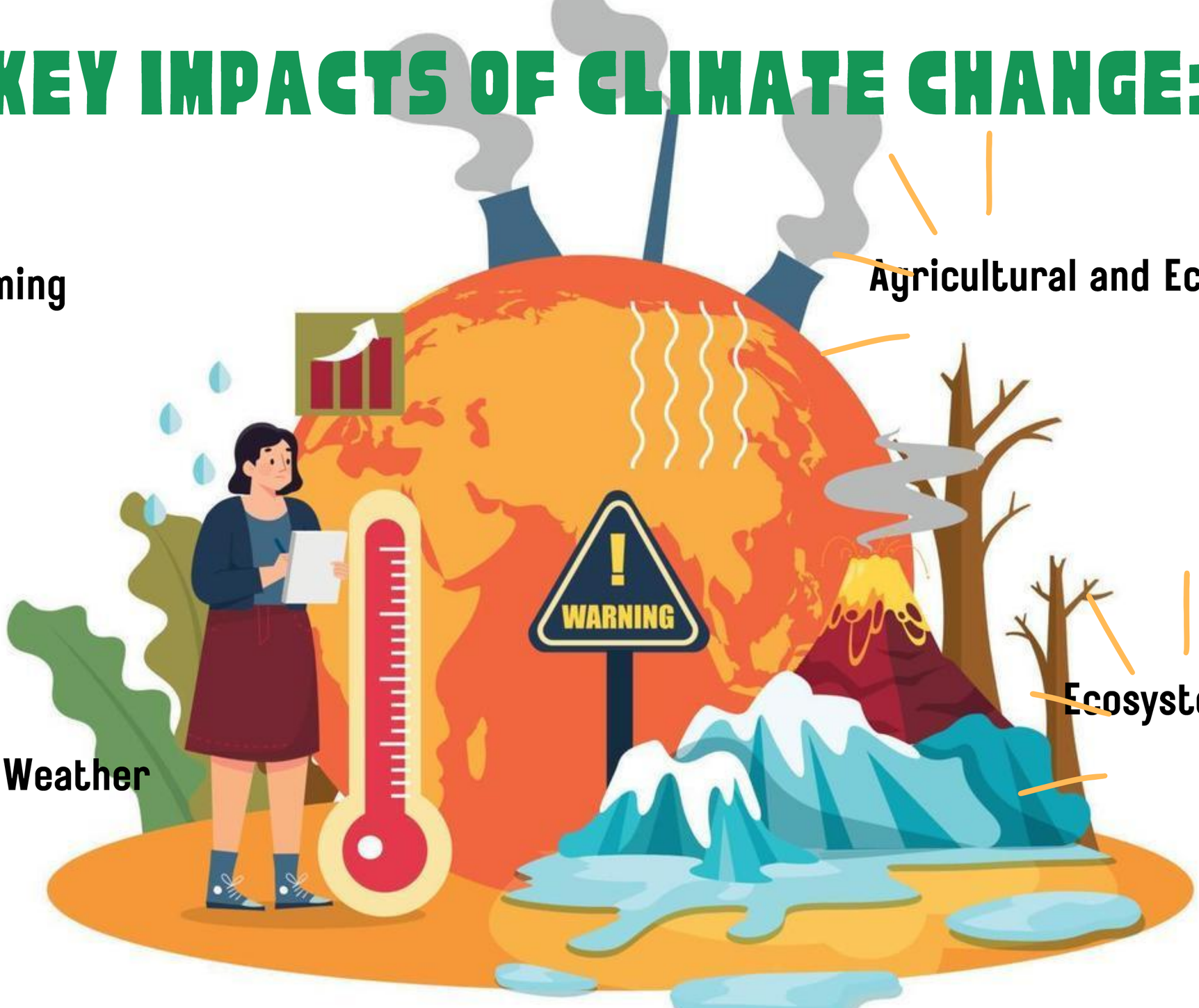
Climate change refers to long-term shifts and alterations in temperature, weather patterns, and atmospheric conditions on Earth. While these changes can occur naturally due to volcanic activity, solar radiation, and other natural processes, human activities—primarily the burning of fossil fuels such as coal, oil, and natural gas—have drastically accelerated the process.



KEY IMPACTS OF CLIMATE CHANGE:

Global Warming

Agricultural and Economic Impacts



Ecosystem Disruption

Extreme Weather



The Connection Between Biodiversity and Climate Change



There is a strong and complex relationship between biodiversity and climate change. They mutually affect each other, and this interaction has profound impacts on both the health of ecosystems and human well-being.

The Key Elements of this Relationship:





1. Ecosystem Resilience
2. Biodiversity Loss and Climate Change
3. Feedback Loop
4. Mitigating Climate Change

1. Ecosystem Resilience

Biodiversity enhances the resilience of ecosystems to climate change. Diverse plant and animal species help ecosystems become more resistant to the changes caused by climate shifts.



2. Biodiversity Loss and Climate Change

Climate change threatens biodiversity by disrupting the habitats of many species. Rising temperatures, sea level increases, droughts, and extreme weather events make it harder for many species to survive.



3. Feedback Loop

Biodiversity loss can further accelerate climate change.



4. Mitigating Climate Change

Mitigating climate change is critical for the preservation of biodiversity.



Declining Biodiversity in Europe



Declining biodiversity in Europe is a significant and ongoing issue that threatens the health of ecosystems, human well-being, and the services provided by nature.

Europe has experienced a substantial reduction in biodiversity due to several factors:

1. Habitat Loss and Fragmentation
2. Climate Change
3. Pollution
4. Overexploitation of Natural Resources
5. Invasive Species



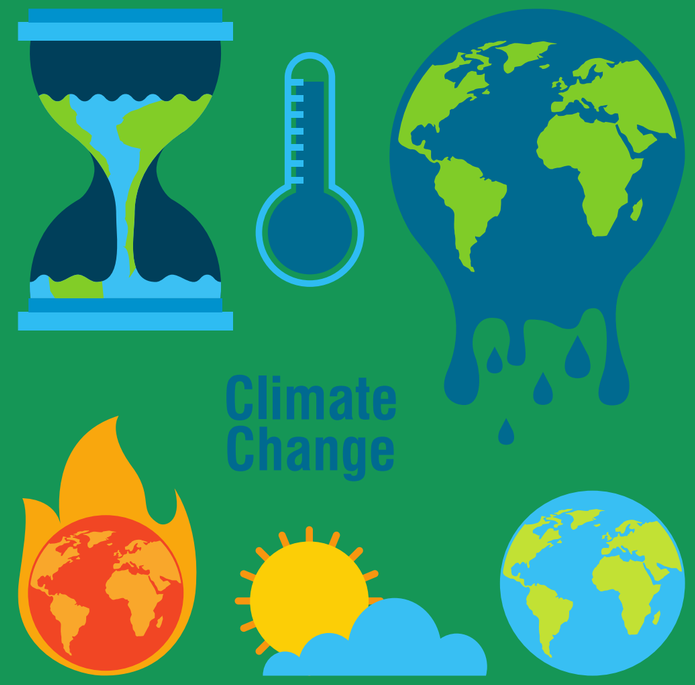
Habitat Loss and Fragmentation

Intensive agriculture, urbanization, and infrastructure development have led to the destruction and fragmentation of natural habitats.



Climate Change

Rapid changes in climate have altered habitats, making it difficult for species to adapt.



Pollution

Air, water, and soil pollution, especially from agricultural pesticides, industrial waste, and plastic, negatively impact species across ecosystems.



Overexploitation of Natural Resources

Unsustainable fishing, hunting, and forestry practices deplete species faster than they can reproduce.



Invasive Species

Non-native species introduced into ecosystems often outcompete local flora and fauna, reducing native biodiversity.



The EU Biodiversity Strategy for 2030



The EU Biodiversity Strategy for 2030 is a comprehensive plan that aims to reverse biodiversity loss and ensure the long-term sustainability of ecosystems in the European Union.

Objectives of this Strategy:

Protect 30% of EU Land and Sea Areas

Restore Degraded Ecosystems

Plant 3 Billion Trees

Reduce Pollution

Transition to Sustainable Farming

Combat Invasive Alien Species

Biodiversity Financing

Protect 30% of EU Land and Sea Areas



The strategy aims to legally protect 30% of the land and sea in the EU by 2030. This includes safeguarding areas with high biodiversity value and fragile ecosystems.

Restore Degraded Ecosystems

The EU plans to restore degraded ecosystems to enhance their resilience. This includes wetlands, forests, and peatlands, which are important for carbon sequestration, water purification, and biodiversity.





Plant 3 Billion Trees

Another goal is to plant at least 3 billion trees by 2030 to help absorb carbon dioxide, improve air quality, and restore ecosystems.



Reduce Pollution

The strategy seeks to reduce pollution, which is harmful to ecosystems and biodiversity, by addressing air and water quality, as well as controlling pesticide use in agriculture.



Transition to Sustainable Farming

The strategy promotes sustainable farming practices, including organic farming and agroecology, to reduce the environmental impact of food production and increase biodiversity on agricultural lands.



Combat Invasive Alien Species

It also aims to address the threat of invasive alien species, which disrupt native biodiversity and ecosystems in the EU.



Biodiversity Financing

The EU will ensure that at least €20 billion a year is unlocked for biodiversity protection, using a combination of public and private sources, including EU funds and green bonds.



Why It Matters

- Climate Mitigation and Adaptation
- Economic and Health Benefits



Climate Change

- Biodiversity-rich ecosystems, such as forests and wetlands, play a crucial role in mitigating climate change by absorbing carbon.

- Restoring these ecosystems also helps countries adapt to the impacts of climate change, such as flooding and extreme weather.

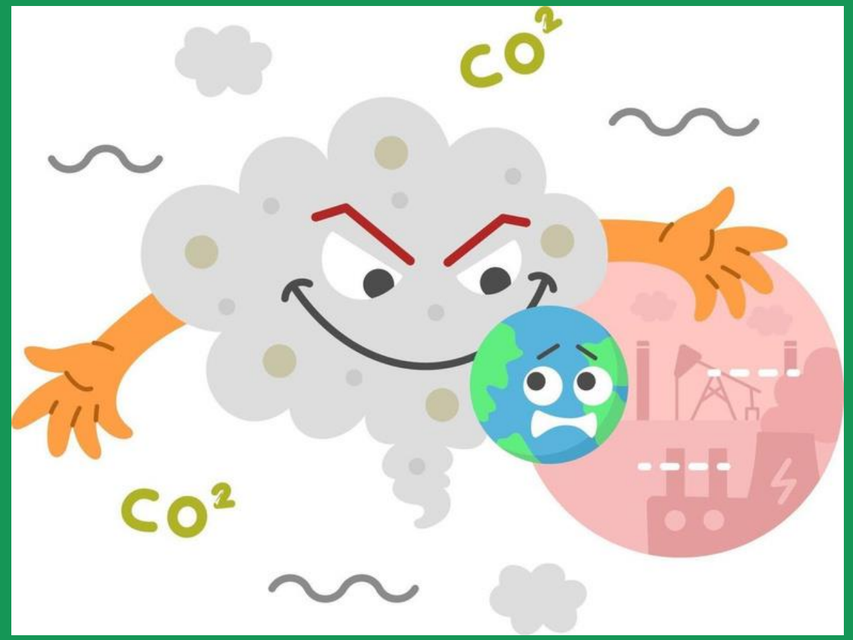


Economic and health benefits

- Protecting biodiversity also has direct benefits for human well-being, such as providing clean air, water, fertile soil, and pollination services that are essential for agriculture.

- In addition, it supports sectors like tourism and fisheries, which depend on healthy ecosystems.

What is the greenhouse gas emissions?



- Greenhouse gas emissions refer to the amount of gases released into the atmosphere that contribute to the greenhouse effect.

- Living organisms play a crucial role in reducing greenhouse gas emissions through various natural processes.

The role of living organisms in reducing greenhouse gas emissions

1. Carbon Sequestration by Plants and Trees

- Plants, especially trees, absorb carbon dioxide (CO_2) from the atmosphere during photosynthesis and store it as biomass (in trunks, leaves, and roots).

- Forests act as significant carbon sinks, with tropical and boreal forests absorbing large amounts of CO_2.

- Reforestation and afforestation (planting new forests) are essential for enhancing this carbon sequestration process.





2. Oceans and Marine Organisms

- Oceans absorb about 30% of the CO_2 released into the atmosphere.
- Marine plants like phytoplankton, seaweed, and seagrasses play a vital role in capturing carbon through photosynthesis.
- Phytoplankton, in particular, absorbs significant amounts of CO_2 and is a key player in the oceanic carbon cycle.
- The ocean‘s biological pump, which includes organisms like plankton and marine animals, helps move carbon from the surface to deeper layers where it can be stored for long periods.



3. Soil Microorganisms and Organic Matter

- Soil is a major carbon reservoir.
- Microorganisms in the soil help decompose organic matter, which can store carbon in the form of soil organic carbon (SOC).
- Healthy soils with high organic content can store carbon for long periods, reducing the amount of CO_2 in the atmosphere.
- Sustainable agricultural practices like crop rotation, cover cropping, and reduced tillage can enhance this process.



4. Wetlands and Peatlands

- Wetlands, including peatlands and mangroves, are highly efficient carbon sinks.

- Peatlands store more carbon than all other types of vegetation combined, as they prevent the decomposition of organic matter due to waterlogged conditions. Protecting and restoring wetlands is critical for maintaining their role in capturing and storing carbon.



5. Animal Contributions

- Certain animal species contribute to carbon cycling.
- For example, grazing animals can promote the growth of carbon-storing grasslands when managed sustainably.
- Additionally, marine animals like whales help promote the growth of phytoplankton by recycling nutrients in ocean ecosystems through their feeding and movement patterns.

By maintaining and restoring natural ecosystems, as well as adopting sustainable land and ocean management practices, the role of living organisms in mitigating greenhouse gas emissions can be strengthened. This natural process complements human efforts to reduce emissions through technological and policy measures.

Individual Actions in Protecting Biodiversity

1. Sustainable Consumption Habits

Responsible Product Choices:
Choosing organic and sustainably sourced products helps prevent the overuse of natural resources and protect ecosystems.

Growing Native Plants:
Cultivating native plant species in gardens supports local ecosystems and encourages biodiversity

2. Protecting and Restoring Natural Areas

Tree Planting and Habitat Restoration:

Participating in tree-planting projects and habitat restoration efforts helps revive ecosystems.

Creating Green Spaces:

Creating areas in homes or communities that provide shelter for local species like bees and butterflies can enhance biodiversity.

3. Energy and Water Conservation

Energy Efficiency

Reducing energy use decreases your carbon footprint, contributing to the fight against climate change, which indirectly supports biodiversity.

Water Conservation

Using water efficiently reduces the pressure on water sources, helping protect wetland ecosystems.

4. Waste Management and Recycling

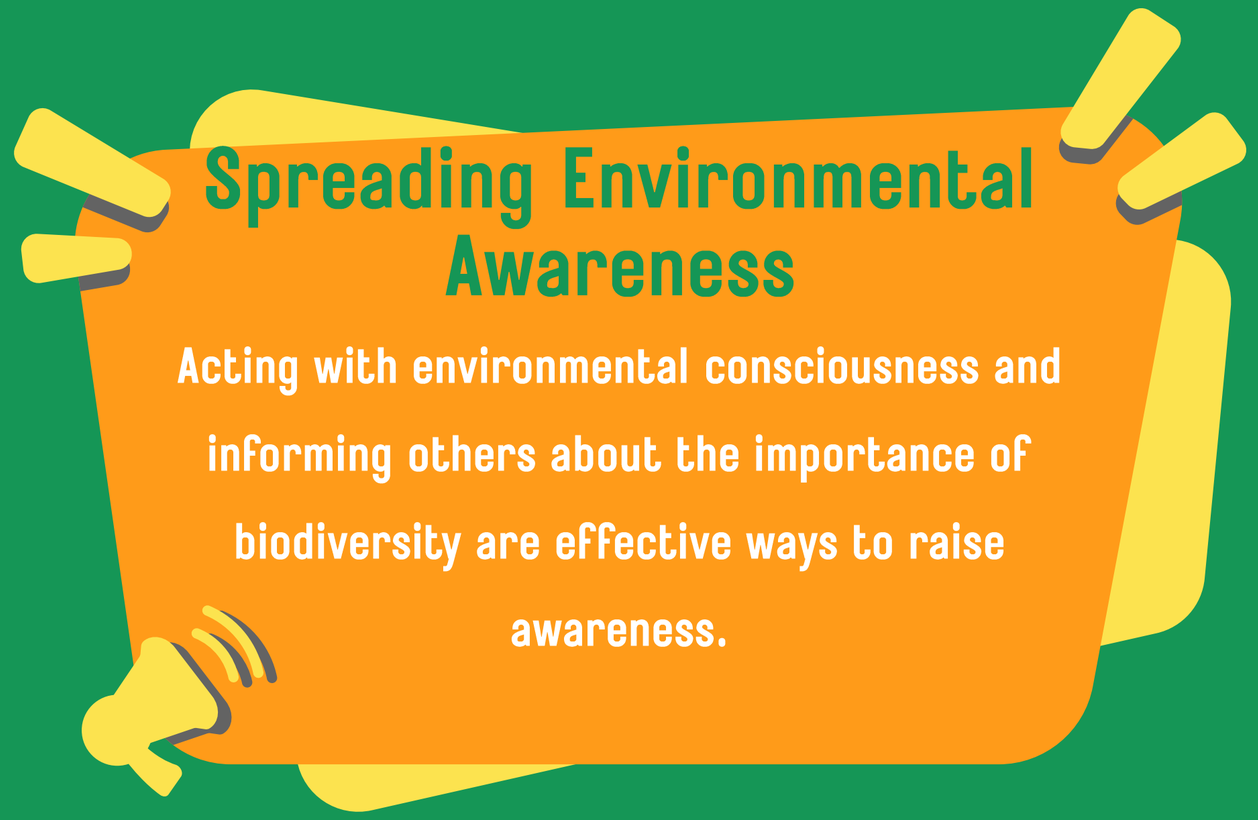
Reducing Plastic Use

Cutting down on plastic consumption and increasing recycling helps prevent harm to ecosystems, especially marine life.

Composting

Composting organic waste improves soil fertility and contributes to natural cycles.

5. Education and Raising Awareness



Thank you for listening and your time...