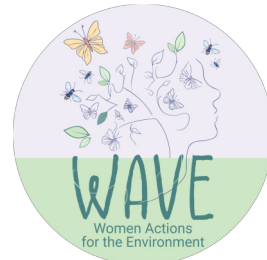


The silent work of plants

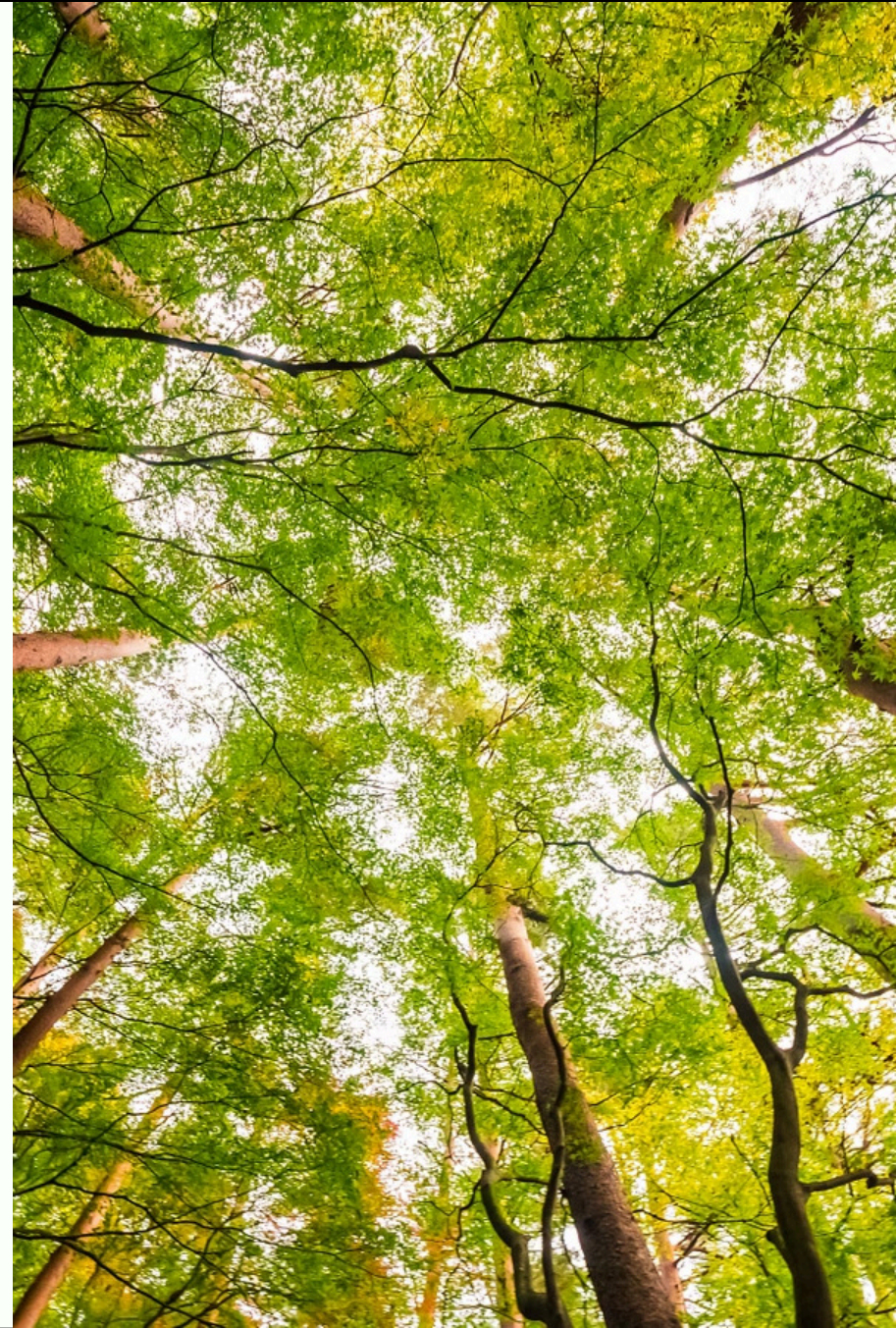
Nicola Palmieri



Introduction

Everything around us comes from plants

Good morning everyone, I am Nicola Palmieri from the association Il Pianeta Naturale, partner of the European project WAVE approved by the Erasmus+ KA 210 program. Today I want to talk about something we all take for granted, but which is extraordinary when we stop to reflect: everything around us, literally everything we use in our daily lives, derives from the silent and tireless work of plants.



Direct Products: Construction & Living

Our Homes

Direct Products: Construction and Living

Let's look around for a moment. The house we live in? The wood for beams, floors, walls, stairs, doors, windows - everything comes from plants. The furniture we sit on, the tables where we eat, the furnishings that decorate our spaces.

The books we read, the paper we write on, even the frames on the walls. And our clothes? Cotton, linen, hemp, jute - still plants.



Our Food

Direct products: nutrition

And food, of course. Cereals, fresh and dried fruit, seeds, vegetables, legumes, oils, spices.

The sugar in coffee, the cocoa in chocolate, the tea we drink - every single element comes directly from plants.



Animal products

Indirect dependence through animals

But it doesn't end there. Even when we think we are consuming animal products, we are actually indirectly dependent on plants.

The meat we eat - cattle, sheep, pigs, chickens - comes from animals that feed on plants.

Fish, crustaceans, mollusks depend on food chains that always start with photosynthetic organisms.



Animal Products

Indirect Dependence through Animals

Milk, cream, butter, all cheeses - ricotta, mozzarella, parmesan - come from herbivorous animals.

The eggs we cook come from poultry fed with grains.

Even materials like wool, silk, leather, and hide, or products like honey and pollen, exist only thanks to the link between animals and plants.





The Energy?

Almost all energy originates from plants

And energy? Almost all the energy that powers our modern civilization originates from plants. The oil that fuels our cars comes from prehistoric algae and plants decomposed over millions of years. Coal comes from prehistoric forests buried and transformed. Even modern biofuels - ethanol from corn and sugar cane, biodiesel - are nothing more than solar energy captured and transformed by plants.

Derived Products

A Vast World

And if we were to list all the materials produced starting from petroleum, an even vaster world would open up. Plastics of all kinds, synthetic fabrics, chemical fertilizers, medicines, cosmetics, detergents, the asphalt of the roads we travel every day. The list would be endless.

But at the base of all this, what do we find? Always them: prehistoric plants decomposed and transformed over geological eras.



Other Materials

Essential Materials We Use Every Day

And then there are all those other essential materials we use every day without thinking about them: natural rubber, resins, essential oils, inks, natural dyes, paints, natural chemical substances.

Everything, absolutely everything, originates from the plant kingdom.



Ecological Functions

Beyond what we use

But plants are not just the source of what we use.

They perform fundamental ecological functions for the survival of the planet and our species.



Through photosynthesis, they continuously transform



Through photosynthesis, they continuously transform CO₂ and water into glucose and oxygen - the oxygen we breathe.

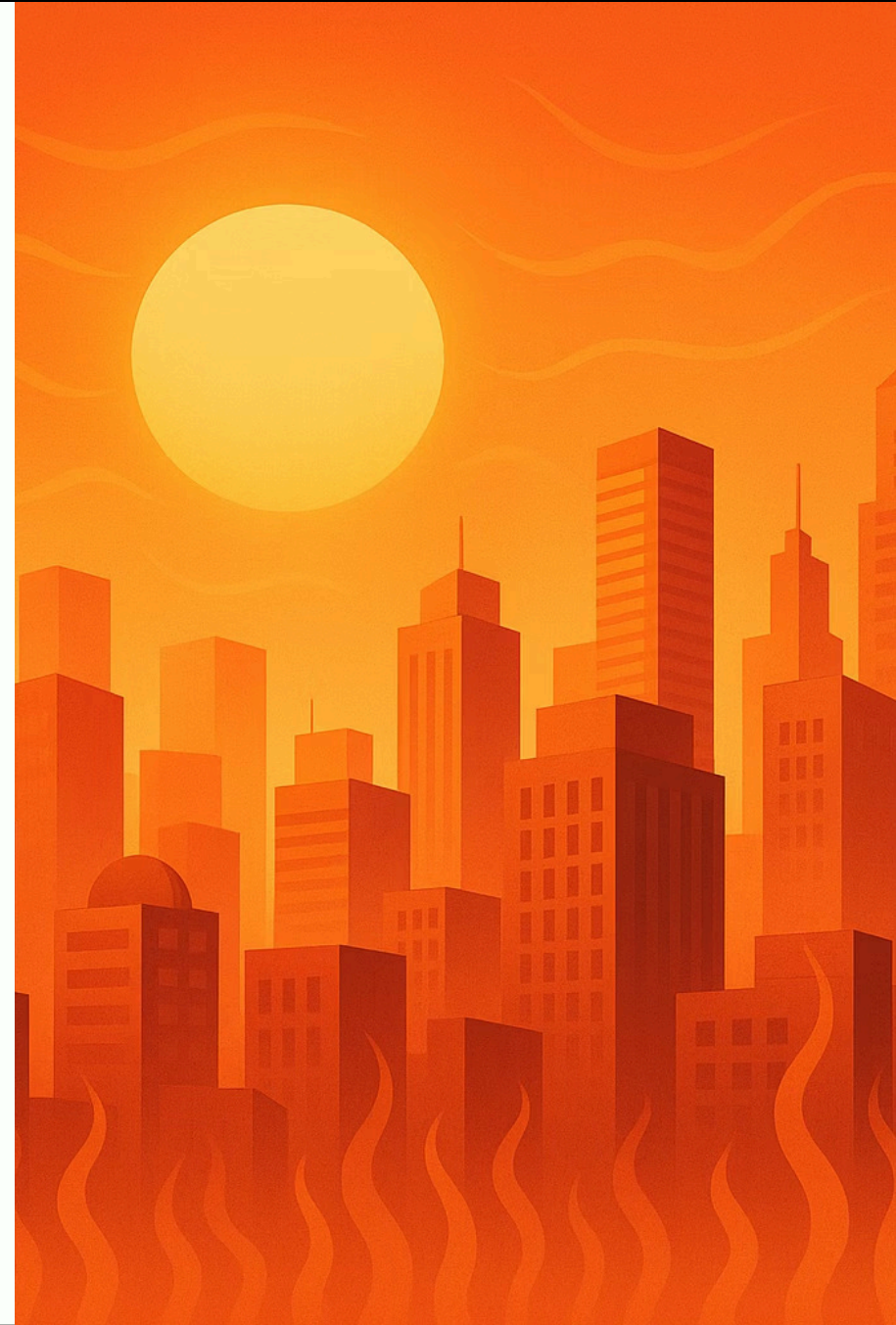
They act as enormous "carbon sinks," absorbing greenhouse gases from the atmosphere. Their biomass - roots, trunks, branches - accumulates and stores carbon for long periods, preventing it from contributing to global warming.

Climate Regulation

Local and Global Impact

Plants regulate the climate at local and global levels. They lower temperatures through shading and evapotranspiration, create cooler and more humid microclimates, mitigate the "heat island" effect in cities, reducing urban overheating by as much as ten degrees.

And through evapotranspiration, they release humidity into the atmosphere, promoting the formation of clouds and precipitation - think of rainforests, true rain factories.



SOIL PROTECTION

Multiple protection mechanisms

They protect the soil in ways we often underestimate. Roots anchor the soil, preventing erosion, landslides, and mudslides. Fallen leaves and plant residues decompose, enriching the soil and improving its fertility. Vegetal cover - even so-called "weeds" - protects the soil by maintaining humidity and reducing evaporation. Some plants, like legumes, fix atmospheric nitrogen, naturally fertilizing the soil. And they limit erosion caused by winds.

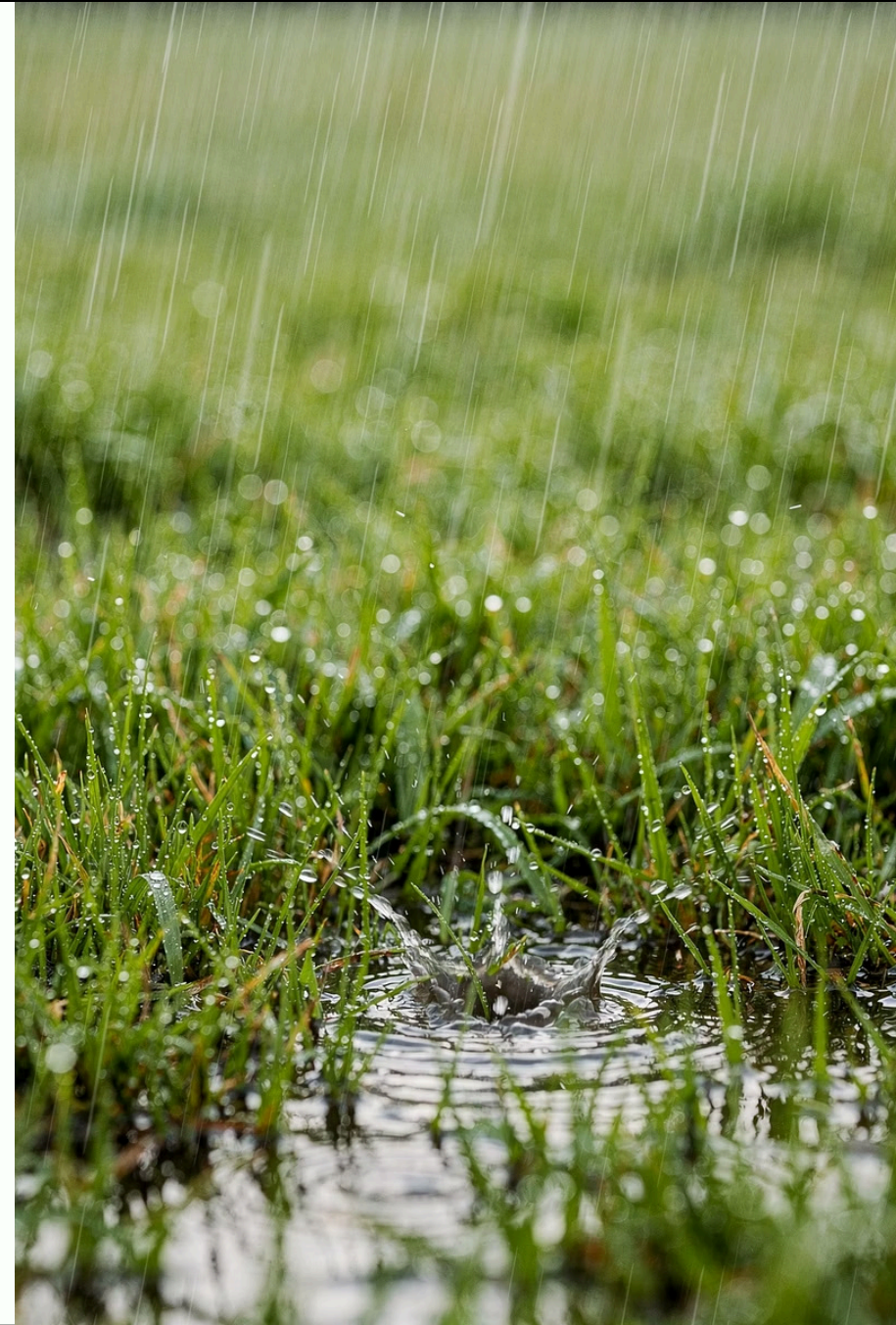


Water and Nutrient Cycle

Essential Ecological Services

Plants are fundamental in the water and nutrient cycle. Through transpiration, they control humidity in the air and contribute to cloud formation.

Roots and grassy coverings retain water, allowing rain to penetrate the soil and recharge aquifers instead of running off superficially.

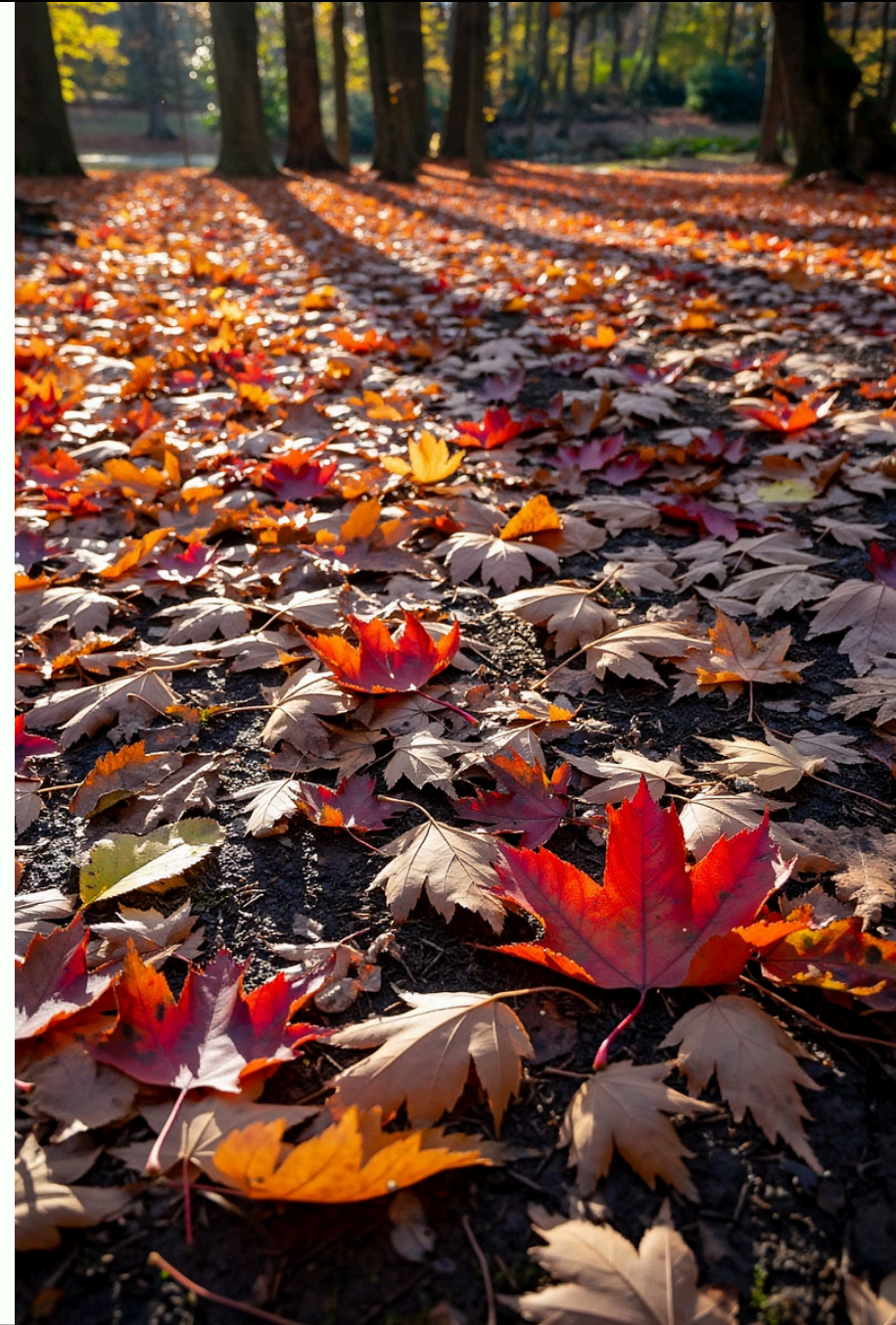


Water and Nutrient Cycle

Essential Ecological Services

They maintain soil fertility through complex biogeochemical cycles. Roots filter pollutants from water - this is what we call phytoremediation.

And they purify the air: through their stomata, they absorb toxic gases and particulate matter, which are then detoxified and metabolized within the plant itself.



Biodiversity & Ecosystems

Foundation of All Life Forms

Plants are the base of every ecosystem and biodiversity. They are the first link in the food chain, providing nourishment to herbivores, insects, and microorganisms. Forests and grasslands host an incredible variety of animal species.

They create ecological corridors that allow movement and genetic exchange among animal populations. They provide nests and shelters, safe breeding grounds for countless species.



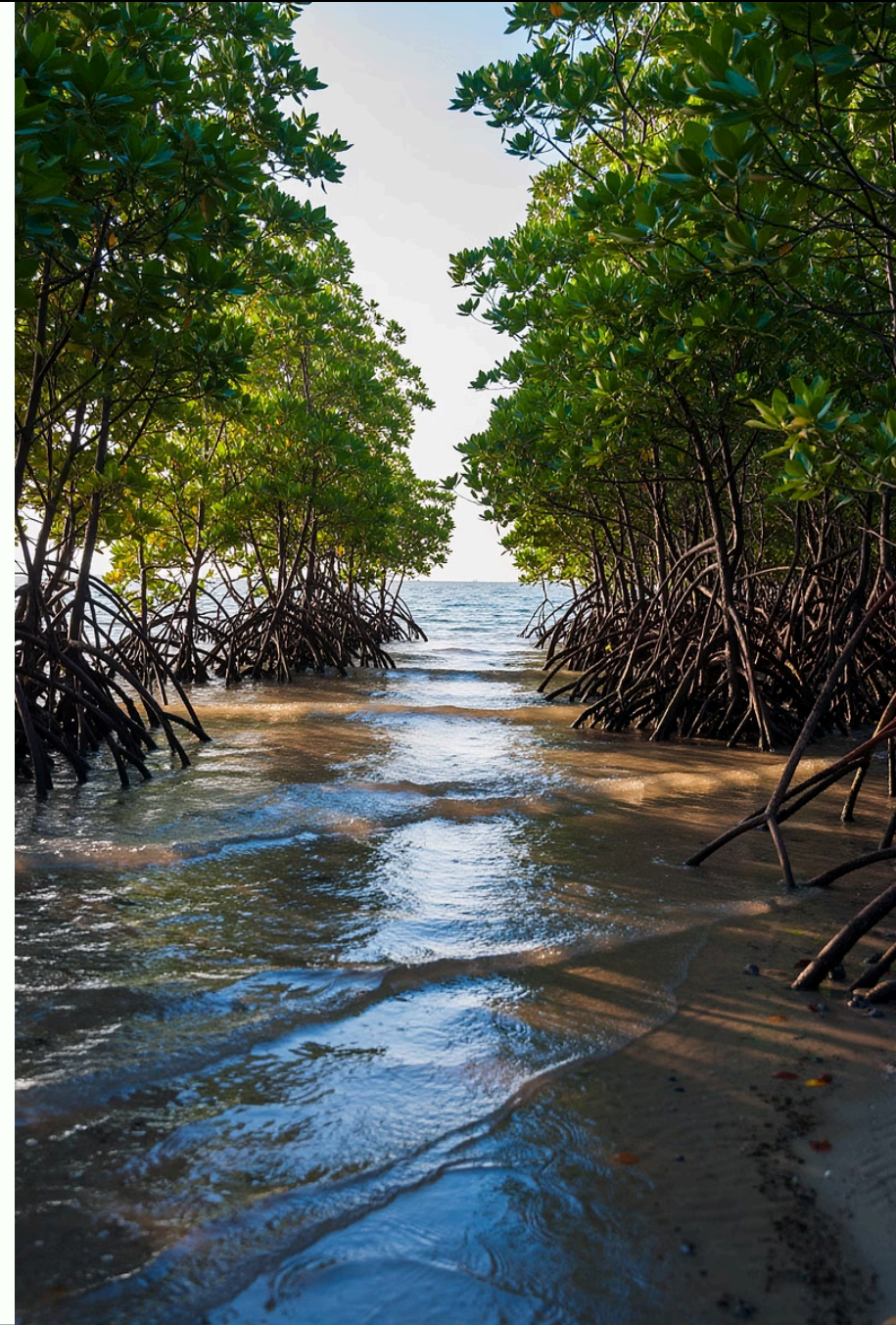
Protection from natural disasters

Plants as natural barriers

And finally, plants protect us from natural disasters. They stabilize the soil and reduce floods and overflows.

Forests act as natural barriers against extreme winds and hurricanes.

They prevent desertification by maintaining soil moisture and protecting it from erosion.



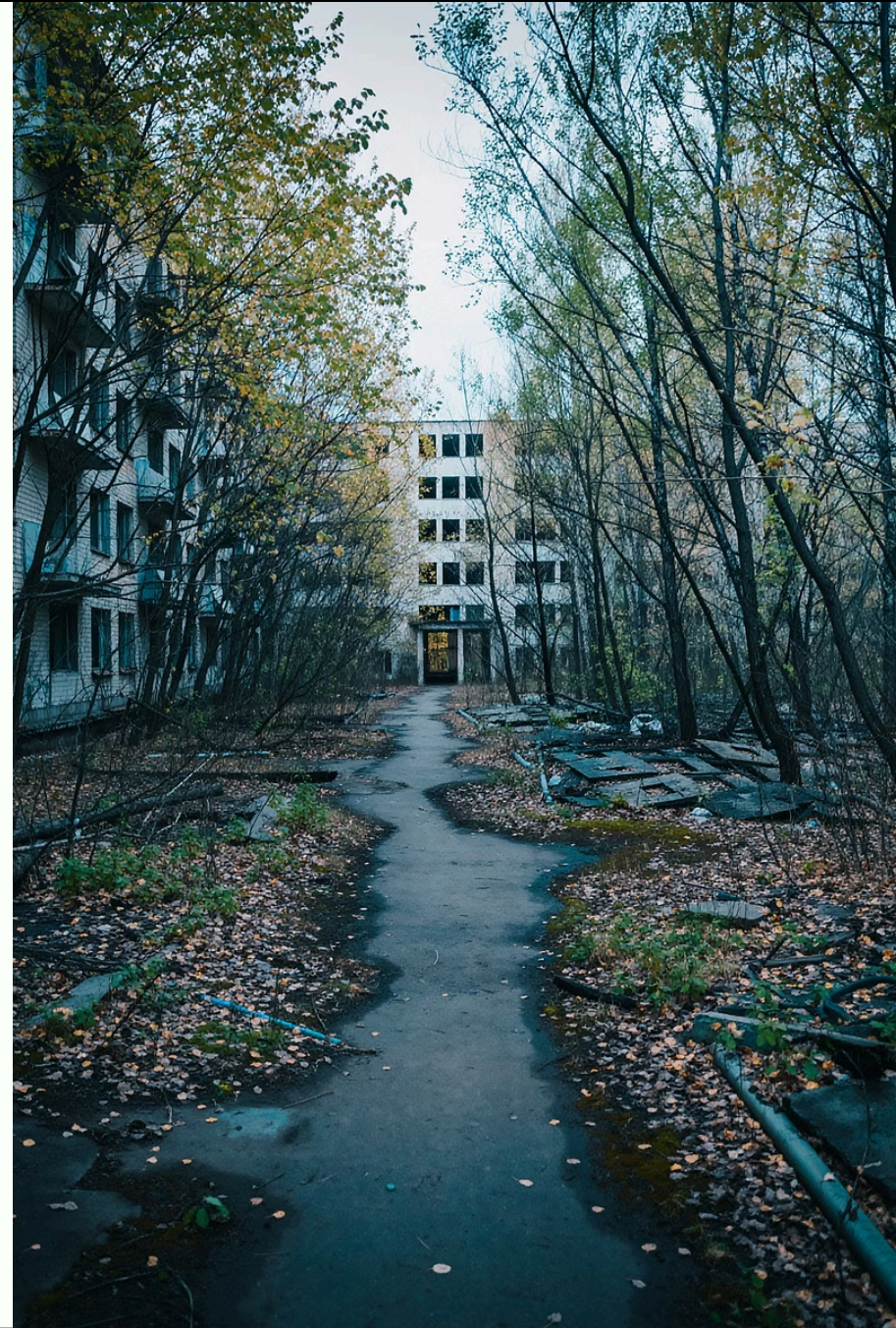
The Paradox

Silent work vs. human destruction

All this work happens in silence, continuously, without stopping.

Plants ask for nothing, they don't protest, they never stop.

Yet we, as a species, continue to destroy them, burn them, cement over land, and fragment ecosystems.



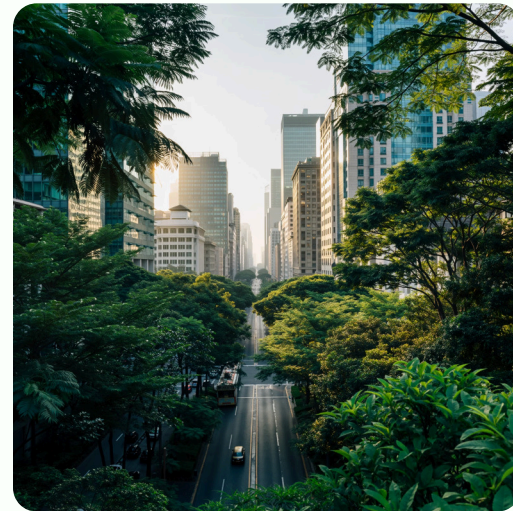
The Truth

No plants = no life on Earth

The truth is simple and powerful: without plants, there would be no life on Earth.

There would be no oxygen, no food, no energy, there would be no planet as we know it.

Every breath we take, every meal we eat, every object we touch - everything exists thanks to the silent work of plants.



Call to Action

It's time to act

It is time to recognize this fundamental debt and act accordingly.

Protecting plants is not an environmentalist option, it is a matter of survival.

Of our survival.

