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EARTH HERO

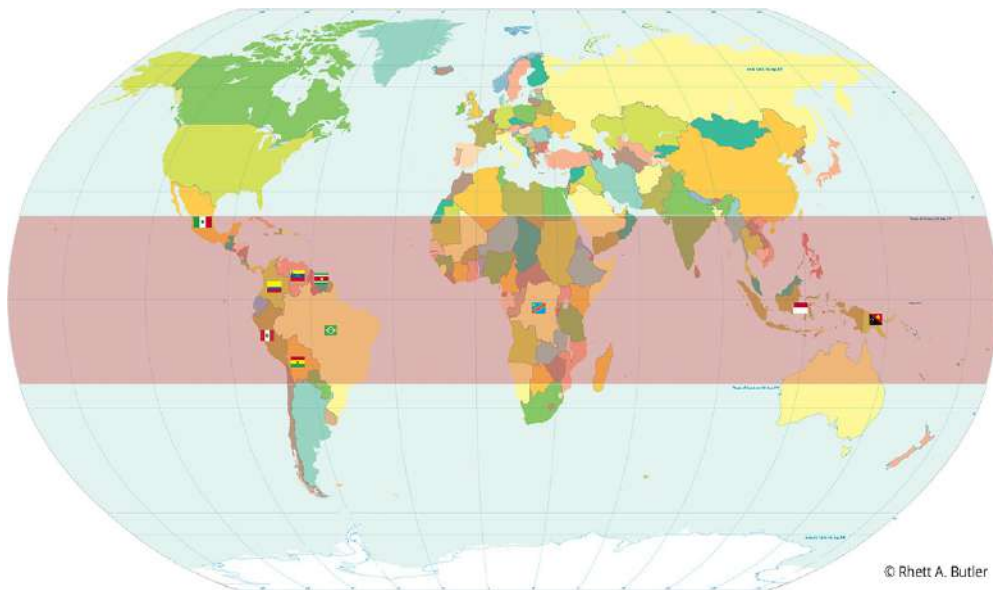


• Ecosystem • Forest • Animal • Environmental Issue • Actions



RAINFOREST FUNCTIONS

Rainforests are often known as the “lungs of the planet” because of their capacity to absorb carbon dioxide (a greenhouse gas) and increase the local humidity. A rainforest receives a high rainfall every year is the reason why it is called a “rain” forest. Rainforests can be found in the Tropics (the region between the Tropic of Cancer and the Tropic of Capricorn).



The Tropics receives the same amount of sun energy all year round, which helps to keep the climate stable. The abundance of rainforests is important for all living and non-living components on our planet. It covers around 8% of the world’s land surface, an area of approximately 1.2 billion hectares and contains over half of the earth’s species of animals and plants. How amazing!

Rainforests are important to our planet. They provide us with many resources, from the oxygen we breathe to homes for the animals. Without rainforests, the earth could run into major problems. For example, deforestation of the rainforests can threaten some animal species including humans. We will lose our wildlife, habitat as well as resources and negatively alter the forest ecosystem.

Forests have ecological importance and economical importance. These may broadly be classified into three categories, which are protective function, productive function, and accessory function. All these functions refer to the services that the forests provided for the earth.

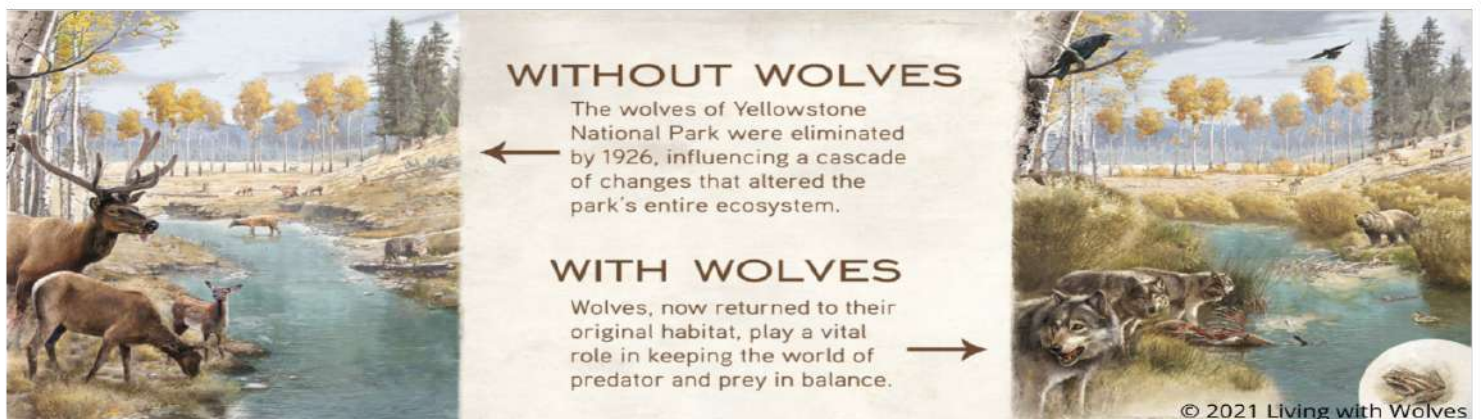


Protective function of forests refer to the ability of the forest in stabilising the impact on the natural environment. This includes providing protection and preventing soil erosion, droughts, floods, noise, radiations as well as providing home for the animals. Another important ability is the influence of forests on the climate. They play a very crucial role in the world carbon cycle that affects the global climate change. As we all know, forests are an area of land that is dominated by trees.

Forests affect our climate. Trees absorb heat and produce a cooling effect to their surroundings. Another interesting fact is that trees are also an effective air filter. Trees filter out not only gasses that are harmful to humans but also harmful to the earth's ecosystems as a whole. For example, carbon dioxide (CO₂) is a harmful greenhouse gas that traps the heat in the atmosphere. Excessive CO₂ will create a cover that traps the sun's heat energy in the atmosphere, warming the planet and the oceans. The changes in the weather patterns disrupt the growth of plants, marine lives and impact human health. Therefore, the earth needs trees to stabilize the temperature. A tree pulls carbon dioxide out from the air and turns it into sugar through photosynthesis. It releases oxygen that we need in the process.

The productive function of forest resources indicates the economic and social utility of forest resources to world's economies and forest-dependent local communities. Many products are extracted from the forests, ranging from food to wood for timber. Timber is a major forest produce and is used extensively for various purposes. It is a basic raw material that is taken out of the forest and should be sourced carefully to not threaten its existence. Currently, timber has more than 30,000 applications worldwide. It serves directly as a material used in construction, paper manufacturing, wood products such as furniture amongst many. However, this needs to be done sustainably to prevent destruction and to give enough time for the forest to regenerate.

Forests help to maintain a balance in the ecosystem between human beings, plants, and animals. All of these components are interdependent for survival. The balance falls apart when any one of the species is taken out from the ecosystem. A study conducted at the Yellowstone National Park, an American national park located in the western United States, is a good example showing how the population of wolves can alter the forest landscape. In 1995, the wolves were reintroduced to the American West. The research has shown that in many places the wolves have helped to revitalize and restore ecosystems. They improve habitat and increase populations of many species from birds of prey to pronghorn, and even trout.



The presence of wolves influences the population and behavior of their prey animals and how they move around the land. This impacted the plant and animal communities, often altering the landscape itself. For this reason, the wolf is the keystone species which is vital in maintaining the health, structure and balance of the ecosystem.

Meanwhile, the forest also provides us with food. This includes forest fruits, leafy vegetables, nuts, seeds and edible oils. Forests are also the source of a wider range of edible plants, fungi, bushmeat, fish and insects. Other than food, forests have a rich reserve of compounds that can be used as pharmaceuticals and nutraceuticals. For instance, quinine and quinidine, which is derived from Andean forest trees in the genus *Cinchona*. They have been the world's main defense against malaria for decades, saving countless lives. In addition, the Madagascar periwinkle (*Catharanthus roseus*) is used in the treatment of leukaemia and Hodgkin's disease. Some animals such as venomous snakes, spiders and scorpions are gathered from the forest for medicinal purposes.



Apart from providing wood and other products, the accessory function of forests shows the importance of the forest to all creatures on the earth. Accessory functions include the role of forests in recreation, aesthetics and as the habitat to various floras and faunas. What are the aesthetic values of forest? Trees add beauty and peace to our surroundings. They look good and change with the seasons thus softening the hard urban landscape. The irregular shapes of the trees and their canopies enrich our urban and farm landscapes. In addition, trees provide a natural-looking screen and privacy around homes, schools, and hospitals. This aesthetic value also indirectly adds value in recreation.

Many people enjoy hiking, bird watching, hunting, camping, picnicking, and just being in the great outdoors. Thus, some of the forest areas are used as a recreational place for the public. In Malaysia, recreational forests are used as the conservation of appropriate forest areas for recreation, education and the protection of the country's unique flora and fauna. The purposes are to conserve enough area as places for recreation, ecotourism and to enhance the public's awareness on forestry. Thus, recreational forests are not only areas designated for picnicking and outdoor activities but also for conservation of local flora and fauna. Also, they can be areas to conduct environmental education.

It is undeniable that forests provide various services to humans and play a crucial role in maintaining the well-being of our planet. The products from the forest have helped humans to survive. Together, we are responsible for our rainforest. By protecting it, not only are we safeguarding the sustainability of the natural resources and creatures, but also ensuring our survival. Let us start paying more attention to take care of the environment so that the lives on earth can be sustainable.