Keyword: global-warming

Headline: Can trees stop global warming?

Byline: Rodel D. Lasco

Published Date: 05:12 AM March 30, 2019

Section: opinion

Word Count: 645

Content:

The short answer is yes and no. Trees can help slow down climate change, but they can never solve planetary warming on their own.

The most important greenhouse gas in terms of total effect on atmospheric warming is carbon dioxide (CO2). This gas is a by-product mainly of the use of fossil fuels, and is responsible for more than half of the planet's warming to date. Part of the problem is that CO2 molecules persist in the atmosphere for decades, even centuries. So far, no one has invented a cost-effective way to remove these gas molecules from the air.

The good news is that there is a natural way to siphon off carbon from the atmosphere. Trees and forests absorb CO2 in order to produce their "food." We call this process photosynthesis, where plants convert water and CO2 to produce carbohydrates and oxygen with the aid of sunlight. In trees, part of the carbon absorbed eventually becomes "sequestered" (stored) in its woody biomass.

Theoretically, the more trees are planted, the greater the amount of carbon removed from the atmosphere. However, just like any natural systems, there are limits to how much trees can absorb carbon. There is also a finite land area, so we cannot plant trees ad infinitum. But even if we manage to cover the entire planet with trees, that will not be enough to absorb all the carbon we are emitting.

When we destroy trees and forests, the flip side happens—carbon is released to the atmosphere. Indeed, one of the major sources of greenhouse emissions in the planet today is deforestation, especially in the tropics.

As a practical implication, one effective way to fight global warming is to conserve our existing forests and the vast carbon that have accumulated in their biomass. This is easily said than done, given the myriad of often competing uses of our forest lands. Not to mention that trees themselves are at risk by the very same climatic changes taking place. Around 1.8 million hectares of Philippine forests, for instance, are likely already experiencing the adverse effects of strong winds and tropical cyclones.

Planting and growing trees are another way by which each of us can contribute to mitigating climate change. The country has embarked on a massive tree establishment campaign through the National Greening Program. To supplement this, we can all plant and protect trees in our local communities.

Perhaps more than their role in mitigating climate change, trees and forests are vital to our people because they promote the resilience of natural and human systems. For instance, trees provide income and livelihoods to smallholder farmers. Forests also help regulate waterflows in our river basins. With the new climate normal, ecosystems-based adaptation (e.g., mangrove conservation and restoration to reduce coastal flooding or to minimize the impacts of storm surge) is increasingly being seen as an effective way to promote local climate action.

Mitigating climate change and building resilience are but a few of the many values that trees and forests offer to mankind. It is home to many other living forms, a source of remedies and medicinal cures, and a place of meaning, identity and culture. If only because they give off oxygen, trees are the reason we, carbon-based humans, exist in the world.

More than a hundred years ago, the poet Joyce Kilmer expressed it best: “I think that I shall never see, a poem lovely as a tree.” In the age of global warning, nothing is more apropos.

Dr. Rodel D. Lasco is an author of several Intergovernmental Panel on Climate Change reports including the forthcoming sixth assessment report. He is the executive director of The OML Center, a foundation devoted to discovering climate change adaptation solutions (https://www.omlopezcenter.org/).