

Saving the planet for our future generations

T. Nugroho Angkasa,

Dr. Cahyono Agus, a lecturer at Gadjah Mada University's Faculty of Forestry, revealed an amazing fact that every day people received Rp 170 million (US\$18,900) each from Mother Nature. In his calculation, a person needs 2,880 liters of oxygen (O₂) and 11,376 liters of nitrogen (N) per day. If 1 liter of O₂ in the hospital costs Rp 25,000/liter and nitrogen Rp 9,950/liter, the total amount spent on oxygen and nitrogen needs would be about Rp 170 million. However, the concentration of carbon dioxide (CO₂) in our atmosphere is changing rapidly, potentially reaching 389.6 parts per million (ppm). Data from the Global Carbon Project (GCP) says this is the highest levels recorded in the last 800,000 years. The five largest CO₂ producers are China with 2.2 petagram of carbon (pgc), the United States (1 pgc), India (0.5 pgc), Russia (0.4 pgc) and Japan (0.3 pgc).

As a note, 1 pgc equals 1 giga ton. In fact, the total accumulation of CO₂ from five countries accounts for more than a half of the world's CO₂ emissions in 2010. Indonesia had been ranked 21st, but is rapidly on its way to third place thanks to the opening of 1 million hectares of peat land in Sumatra and Kalimantan for oil palm plantations. Below the marshland lies carbon dioxide, so when the peat areas are opened, CO₂ is automatically released into the air. Other sources of CO₂ emissions are forest fires, deforestation, agricultural waste and industries and vehicles that run on fossil fuels. The overall impact is a degradation of air quality. It also leads to instability of the hydrological cycle, causing shifts seasonal patterns. According to Richard Spilsbury, CO₂ emissions can also trigger catastrophic tornadoes (Ask an Expert: Climate Change, 2009).

Because of stark differences in the temperature of air and water temperatures, hurricanes and other storm systems are created. Carbon emissions prompt the melting of the polar ice caps, resulting in a rise of sea levels by as much as 1 meter. Eleven of 15 major cities in the world are located near the beach, and could be flooded if the sea levels rise further. The average global temperature has increased by 3 degrees Celsius due to global warming. The global warming also threatens animals, including polar bears, which have found it difficult to find food as fish and seals have migrated due to the melting ice. Natural-style house, like the one built by female singer Oppie Andaresta, is perhaps a real solution to global warming.

She even taught her daughter how to brush her teeth in an environmentally friendly way, which includes turning off the tap water and wasting only a cup of water. Instead of using air conditioning, her two-story house was designed to have high ceilings and many windows to allow the air to circulate naturally. She has never cut down any tree that has already grown in her garden. According to spiritual activist Anand Krishna, our ancestors never slashed any tree without a proper cause. Furniture made of wood would be passed down from generation to generation (Tri Hita Karana, 2008).

To fertilize her plants, Oppie processed kitchen garbage into compost, a type of organic fertilizer. In every corner of her house, she provides two garbage bins – one for organic waste and the other for inorganic trash. In the realm of education, Istoto Suharyoto, has lent a helping hand by founding the Center for Community Learning (PKBM) Angon in the Yogyakarta suburb of Maguwoharjo. Green rice fields, which have slowly disappeared from the city, the breeze of wind, the sound of flowing water and the flocks of duck are the main attractions there. Environmental messages have always taught to visiting children, juveniles and adults. Through a simple program, elementary school students are invited to appreciate life and the process of growing plants from very early age.

Another way to improve the quality of the Earth's atmosphere is to use of alternative energy sources, and reducing the demand for energy produced by power plants fired by fuel and coal. As a tropical country, Indonesia has an abundance of sunshine, which can be converted into solar power. There is a brilliant invention from Minto, 44, a primary school teacher in Madiun, East Java. He crafted a solar panel stove that also functions as a satellite dish. He can watch a live football match on TV while waiting for his sweet cassava to boil.

The father of two children says his idols Thomas Alva Edison and James Watt inspired him to invent equipment that runs on alternative energy. It took him three years to complete his solar panel cooker/TV antenna. Interestingly, Minto, who earns less than Rp 400,000 per month, has no desire to patent his work, saying he is happy enough to see other people utilize his innovative products. Oppie, Istoto and Minto have provided real solutions to global warming. Indeed, saving the Earth is the responsibility of everybody living in the planet. The Earth is not our heritage but a deposit for the next generations.

The writer teaches English at PKBM Angon (Nature School) in Yogyakarta