

Getting to the root of environmental problems

Environmental problems are not new. Ever since there have been high concentrations of people, areas near crowded human settlements have begun to deteriorate.

The rise of cities in ancient Mesopotamia thousands of years ago caused the salinization of the soil. In the 4th and 3rd centuries BC, Plato wrote detailed descriptions of soil degradation and deforestation in the hills surrounding Greek cities.

Traffic congestion was so bad in ancient Rome that Julius Caesar (100 BC – 44 BC) issued a decree forbidding wheeled vehicles from entering Rome from sunrise until two hours before sunset.

Exceptions were made for vehicles providing essential public services. In the 13th century, the burning of coal in London caused such severe air pollution that the parliament passed a law prohibiting coal burning downtown.

The differences between our current environmental problems and ancient ones are of magnitude and the rate of destruction and, consequently, their scale of impact on nature. We are now destroying natural ecosystems at a much larger scale and at a faster rate than our ancestors did, and are having much more of an impact.

When forests were cleared in the ancient Mediterranean, people in other parts of the world did not feel the impact.

But now, when we clear a million hectares of forest in Kalimantan or Sumatra and burn the peat, we contribute significantly to global warming worldwide.

The increase in magnitude, rate and impact of our environmental problems are caused by population growth and increases in living standards.

More people need more natural resources for food, wood, fiber and minerals, and modern people with higher standards of living need more resources than ancient people.

Our species, *Homo sapiens*, has been living on earth for a few hundred thousand years. But, in 1000 AD, the human population was only 310 million. By 1800, when the industrial revolution was underway in Europe and North America, the human population reached 978 million.

Now, our population is almost 7 billion! The increase in natural resource consumption shows similar patterns with human population growth.

Another factor influencing natural resource consumption rates is lifestyle. More luxurious lifestyles demand more resources.

Although the United States has less than 5 percent of the world's population, it consumes 30 percent of the world's resources.

The majority of environmental scientists agree that the wasteful lifestyle practiced by Americans is not sustainable. Neither is the population growth in most developing countries.

Therefore, population growth must be severely controlled and wasteful lifestyles must be replaced by resource-efficient lifestyles. Economics should not emphasize growth, but sustainability. But many people remain unconvinced about the danger of population growth and economic growth. They believe that mankind's unlimited creativity will find ways to overcome the problems set by resource scarcity and environmental pollution.

Despite warnings from environmentalists that our population has exceeded the earth's capacity, data shows the current human life expectancy is higher and the child mortality rate is lower than several decades ago. Hawken et al in 2010, however, wrote that we may have a longer life expectancy while at the same time exceeding the earth's carrying capacity.

They deployed a useful analogy: "The ability to accelerate a car that is low in gasoline does not prove the tank is full".

While populations of other living things are regulated by nature, we as humans have the capacity to control our population. But, if we do not deliberately control our population, nature will do it the hard way. When there are too many people on earth, many of us will die from disease and starvation.

FAO estimates that in 2010 as many as 925 million people face chronic hunger, and FAO Director-General Jacques Diouf said a child dies every six seconds because of problems related to undernourishment. Other people will die due to wars among parties fighting for resources.

How many people can the earth support? It all depends on what kind of lifestyle we lead. But instead of asking that question, a better question would be: Why should we allow our population to grow? What are the benefits of population growth? Isn't it better that we keep our population small so our cities are not crowded, our air and water are not polluted and our landscapes are moderately modified?

With a smaller population we could have more time and energy to improve our quality of life rather than struggle just to feed people and provide other basic needs. We also have to develop management practices and technologies to use natural resources more efficiently. Wasting natural resources does not automatically improve our quality of life or our comfort as individuals or as a society.

For example, many people in Jakarta like driving cars to and from their offices, consuming tons of fossil fuel and polluting the air. But, they do not receive any comfort. Instead, they are trapped in traffic for hours and become exhausted physically and mentally. Many Singaporeans prefer to use public transportation rather than drive their own cars. Better traffic management in Singapore saves resources, reduces pollution and at the same time provides comfort and, therefore, a better quality of life.

Technology is also useful for this purpose. In temperate climates, designers of green buildings use sunlight to provide passive heating and install good insulation to prevent heat loss during winter. Sunlight is also used to provide lighting. Good air ventilation and trees planted around buildings lowers the temperature during summer. So, green buildings are not only ecologically sound, but they are also economically beneficial because they provide comfort with a much lower usage of electricity.

Halting population growth and developing management practices and technologies for the efficient use of natural resources is a must. If we continue to expand and continue with business as usual then we are certainly quite selfish.

We may all have died before a global environmental catastrophe occurs, but our children and grandchildren will suffer tremendously. So, let's tackle the root of environmental problems and leave the earth in good condition for our descendents.

Wiryono-*The writer is a lecturer at the University of Bengkulu's school of forestry.*