

Saving local ecological knowledge, saving ourselves

Although the term of biodiversity was coined only decades ago, humans have studied it since their appearance on earth. To survive on Earth, early humans had to be able to identify edible plants, where to find them and when to harvest them.

They also had to be able to identify poisonous plants, specifically, how to use them for hunting or how to get rid of the poison so that the plants could be eaten. Some people developed knowledge of medicinal plants. Others learned about animal ecology and behavior and used that knowledge to hunt and eventually tame animals. Through intensive interaction with nature for thousands of years, humans finally gained a sufficient knowledge of plants and animals to start the agricultural revolution 10,000 years ago.

As different traditional human communities lived in different environments, each community developed their own knowledge of local plants, animals and habitats. Local ecological knowledge is as diverse as ecosystems and the plants and animals living in those ecosystems. This knowledge, however, has been threatened by modernization, which alienates people from nature.

In general, technological societies have lost their practical knowledge of nature. In some developed countries there has been a fundamental and pervasive shift away from natural-based recreation to electronic recreation. Studies in the US showed that college students had little ability to identify the trees in their environment.

A loss of knowledge of nature has also occurred in developing countries. Rapid deforestation in Latin America and Asia has not reduced biodiversity as well as knowledge of plants and their uses. The vast conversion of natural forests into oil palm plantations in Sumatra and Kalimantan has driven many species of plants and animals out of sight and may have also caused the loss of local ecological knowledge.

I have conducted a study to see if my forestry students in Bengkulu were able to identify the trees found on our campus. The result was disappointing, indicating that my students had little concern for their environment.

I have also guided my students to do ethnobotanical researches on several tribes in Bengkulu province. They found that young subjects had less knowledge of tree names and uses than those in the older generation. A loss of local ecological knowledge may have also occurred in other parts of Indonesia. In South Sulawesi, one researcher has found that the knowledge of plant use has decreased as the income of local residents has increased.

To avoid a further loss of local ecological knowledge, we must bring back local biodiversity. Populations of local animals that have dwindled must be protected and allowed to grow again. Campaigns for animal conservation must be done intensively.

Boosting the declining population of native plants is easier than recovering disappeared local animals. For several decades, the government has conducted various tree-planting programs, although plant diversity is still suffering, since the government usually plants relatively the same exotic species nationwide.

The favorite species changes from time to time. Currently, rain trees are the favorite, as some experts have stated that it is effective in absorbing carbon. While those claims need further study, it is certainly not an ecologically sound practice to plant exotic species nationwide.

The Ecological Restoration Society recommends that degraded ecosystems be restored using indigenous species. We should follow this recommendation. Planting native species will conserve plant diversity, because every region will plant different species. Animal diversity will also be conserved, because each plant species may support certain animal species.

At the meantime, we also need to preserve local ecological knowledge by integrating it into the local curriculum. We should bring students closer to nature by taking them outdoors and introducing them to the plants and animals in their habitat.

We should also help them interact with traditional people who still use local plants and animals for a variety of purposes, such as food, medicine, handicrafts, construction and traditional ceremonies.

Traditional ecological knowledge was as essential for the survival of our ancestors as it is for us today. Should our agricultural crops suffer from pest or disease outbreaks, for example, we will need a knowledge of local wild plants to create new crop varieties resistant to the attacking diseases and pests. Our pharmaceutical industries will also benefit from local knowledge of medicinal plants to create new drugs.

We must make every effort to preserve our local ecological knowledge. Otherwise, our survival on Earth will be jeopardized.

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