

Appreciating forests for carbon, health, and sustainability

Goh Chun Sheng

Forests and carbon

FOREST carbon has captured a great deal of attention recently in Malaysia. As countries and companies are rushing to reduce and offset their greenhouse gas emissions to achieve the goals of the Paris Climate Agreement, the demand for nature-based carbon credits has been growing.

Various plans and initiatives have been introduced across Malaysia, with Sarawak just recently becoming the first state that regulates forest carbon projects by issuing licenses for 'Forest Carbon Activity'.

It is great news. It shows the determination of the government to protect and restore our precious forests.

It reminds us to rethink the role of forests and how important they are. Creative financing mechanisms to conserve forest are a key part of the transformation of Borneo from land exploitation to a more sustainable form of development.

What we may want to do is also to remind ourselves that it is beyond carbon.

Forests offer a wide range of ecosystem services to us. Forests cool down the area. Forests prevent floods. Forests provide food. Forests are directly or indirectly linked to all Sustainable Development Goals (SDGs).

Many of these linkages are often overlooked for a simple reason – it is not that we don't care, but we were not sufficiently



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informed.

Forests and health

The linkage to SDG 3, good health and well-being, is an interesting example.

The recent surprise outbreak of monkeypox outside Africa has reminded many about Covid. Similar to Covid, monkeypox is a virus transmitted to humans from animals.

While there has been much discussion about the emergence and origins of such diseases, the most prevailing explanation is probably hunting and deforestation, which increase unexpected contact between humans and animals.

Previously, the nexus between human disturbance of forests and disease outbreaks have not gained enough attention. And now, the Covid pandemic has become one of the lasting and iconic examples that vividly remind us about it – no event has ever destroyed and disrupted so much.

Outbreaks caused by human disturbance are not something new to Malaysia.

For instance, the Nipah virus outbreak in 1998 in Perak,

Selangor, and Negeri Sembilan was found to be linked to deforestation. It is a bat-borne virus that originated from a native fruit bat species. The shrinkage of habitats due to human disturbance forced the bats to encroach on human farms and settlements in search of food. The virus first infected pigs on the farms and later human beings.

Borneo, the third-largest island on our planet which has experienced decades of land-use change, may be regarded as a frontier.

For example, deforestation in Sabah has created conditions for recurrent malaria outbreaks in the past decades. There are also records of surging cases of dengue fever, a mosquito-borne viral infection near oil palm plantations. However, efforts to understand and map the potential health risk caused by land-use changes across Borneo are still rare.

Losing forests also implies losing a comfortable and healthy living environment. There is increasing evidence showing the health impacts of heat exposure and drought caused by

deforestation.

Together with climate change, if things really go wrong – we may have to prepare for a potentially +4 degree Celsius by the end of the 21st century. This could have serious impacts on human health, creating heatwaves that may put vulnerable groups in great danger. Fire risks may also be further increased with the temperature rise.

For indigenous and local communities, forests provide nutritious food and traditional medicines. With new technologies and tools, useful bioactive compounds from Borneo's forests and biodiversity may be potentially extracted for various pharmaceutical applications.

In Sarawak, R&D efforts have been made through the Sarawak Biodiversity Centre to tap into the rich biological resources in the state. Indeed, Borneo is a unique place for science to meet with traditional knowledge.

Seeing the big picture and connecting the dots

The aforementioned forest-health linkages show that the conservation efforts driven by carbon and climate concerns should be further expanded to cover the other ecosystem services provided by forests, such as health in this example, as well as biodiversity, water, food, etc.

It is important not to overlook other ecosystem services but focus on carbon alone. Forest carbon projects could be design in a way, while optimising profits from carbon stock accumulation,

to be complementary to a wide range of co-benefits, such as biodiversity conservation.

Studies have shown that implementing measures to conserve and restore other ecosystem services, such as preventing biodiversity losses, could be much more expensive than restoring carbon stock. We may have to consider more holistic schemes that may effectively ensure the overall sustainability of forests beyond carbon.

To this end, other policy instruments such as regulations and certification may be employed complementarily to carbon credits.

Achieving sustainable development requires all of us to see the connections between seemingly unrelated issues, such as forest carbon and public health in this example. We should not wait until another incident on a scale like the Covid pandemic to remind us that all these issues and risks are interlinked and people from different sectors should work together in resolving the various issues.

The authorities should be proactive in getting and motivating foresters, ecologists, and conservationists to work closely not only with economists and financial experts but also with other specialists to reduce the risk associated with the human disturbance of natural systems.

All of this to say, claiming that "it is too complex to involve so many aspects", "this is out of my

field", or "nothing much I can do" may no longer be excuses for us to escape from recognising the scale and complexity of the problems we are facing.

Certainly, not everyone has the privilege to learn about the multiple aspects of issues associated with forest and land use, whether across sectors from forest to energy or across levels from individual health to planetary health. However, for those who have been given the knowledge, we share the duty to spread the information to our peers.

The good news is that land-use change analyses have demonstrated that the deforestation rate in Borneo has been substantially reduced in the last few years. It seems that we are moving in the right direction. There are many reasons for us to protect and restore forests. Let's try our best.

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