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Lester Sam Geroy, Philippines

THE TREES HAVE GROWN AGAIN

“There are no more trees,” Ignacio gravely said. He was driving us to the mountain district to conduct our weekly medical dental check-up at the outpost clinic.

“When we were children, there were monkeys playing on the streets,” Ignacio, our guide and driver, recalled. He was born and grew up in Malaybalay, a thriving agricultural city in the centre of Mindanao Island, Philippines. Ignacio remembered his childhood scenes very well. Malaybalay used to be a very cold place; it became the southern summer capital of the country for the Americans. It was a small town then, the capital of Bukidnon Province. On the mountains outside the elevated town were verdant forests and tropical jungles.

“Yes, monkeys were playing on the roads and we gave them biscuits. There were many birds, deer, lots of eagles, and even the tarsier, the smallest monkey,” Ignacio continued. “All these mountains were filled with pine trees cooling the air. We travelled on horseback beside the river because there were no roads. My grandfather’s ranch was big then and there were no other ranches. The people were few and the mountains have [*sic*] not been converted into rice and corn plantations.”

His description of the area just amazed me, a Manila-trained doctor who grew up in Cebu, another metropolis. It was quite difficult to imagine how these mountains were indeed jungles. He showed me where they rode on horses, where they spent hours shooting birds and deer, and even where their grandparents hid during World War II.

These memories were not of the distant past. In fact, Ignacio was a middle-aged adult. Everything changed in the 1980s and 90s when the logging industry flourished. In a few years, the trees were gone, roads were created connecting all hills and mountains to carry the pine logs that were cut, and more people settled because of the new job opportunities offered by burgeoning industries. Ignacio became a company driver. He knew how roads were built, how trees were felled, and how they were transported, processed and finally turned into plywood. The logging industry turned the town into a bustling city, bringing brains and more skills. It also made the area warmer and converted acres of forest into bare mountains.

Being their doctor, I regularly examined patients. Bronchial asthma cases were common in the area. I believe they were more common than in Manila. We always blamed the cold. “We must be thankful it is warmer now so exacerbations are less,” I would tell my patients and their families. But such a conclusion was not evidence-based. We cannot really prove in numbers that there have been fewer exacerbations because of the warmer climate for indeed we have not considered the effect of increasing pollution on these patients.

This turn of events was significant to me because of the cough complaints that I handled every day. The majority of these were common viral and bacterial illnesses. Many were allergic, chronic obstructive pulmonary disease (COPD) or pulmonary tuberculosis. They kept coming back and it was difficult and expensive to treat them. It was not a simple “Take this drug and you will be OK in five days”, but a complicated regime of educating patients in diet therapy, lifestyle change and good compliance. I even searched for alternative solutions, especially for poor families who could not afford inhalers that cost up to 30 dollars.

Effects of climate change to health have been varied. Studies confirm that pollution increases exacerbations in bronchial asthma and COPD.^{1,2} The frequent use of pesticides in surrounding agricultural zones has also increased respiratory and skin allergies.³ It was expected because pollution causes biochemical changes in air, water and soil causing reactions in our bodies during contact.

As trees have been cut, malaria cases have decreased. This was another major effect because of the disappearance of niches where mosquitoes thrive. The conversion of forest land into agricultural land and the establishment of irrigation systems introduced schistosomiasis, requiring a complete dose of environmental control, public education, prevention and treatment. Pesticides as a probable cause of cancers are not exempted from this discussion, as well as developmental delays, genetic abnormalities, malnutrition, rheumatic diseases, Parkinson’s disease⁴ and degenerative conditions. More evidence is needed to prove these.

Was the logging industry a main contributor to these diseases? Modernization, urbanization and industrialization have indeed brought changes in my country, as well as in many other parts of the world. These dramatic changes provided jobs to people, raised families and brought in better education and medical services. The economy improved along with increasing food production, better roads and reduced unemployment and poverty. On the other hand, development also introduced a new brood of diseases that are difficult to manage. Then we ask again why? And we develop new programmes to control them, but only after the families and governments have spent much to treat affected members.

It is an important lesson for those in the public health and social development field: “For every action, there is always an equal and opposite reaction,” said Newton. The development strategies of the recent past in middle-income countries were implemented without much thought to the environment and public health. All we considered was economic growth and the money that development could bring.

Will changes benefit the poor? Will development be good for the children, the elderly, the immune compromised and the chronically ill? Will minority groups have an equal share in progress? How we wish we had thought of these aspects before cutting down the trees and converting forests into agricultural land. How we wish we had been wiser before our families were forced to use steroids for the treatment of allergies and respiratory conditions. How we wish we had implemented sustainable, pro-health and pro-environment strategies before more members of our families were diagnosed with cancer.

Unfortunately, citizens and governments of low- and middle-income countries are still concerned with economic growth. Yes, the issue of climate change and being green is

part of daily discourse in high-income countries. Soon, you people of the “developed world” will be way ahead with your solar panel roofs, bio-automobiles, low-energy aeroplanes and wind farms. Then, you will look at the major indicators of the UN Millennium Development Goals and will be surprised why they are not being met. You will look back and say, “What happened? Why didn’t the low- and middle-income countries achieve it?” Then you will raise more funds and develop new programmes and strategies to aid the laggards. Back to square one! Poverty will still cripple the minorities and new diseases will emerge because growth is not sustainable. We are simply not ready to face the health consequences of climate change.

Yes, the challenge of climate change among low- and middle-income countries is different. We are still at the stage of educating people and helping our leaders make new policies geared towards environmental protection and energy efficiency. We certainly cannot afford bulk amounts of green gadgets. We need to develop strategies that will contribute to our much-needed growth but preserve our natural resources, our environment and the health of our people.

“The trees are growing healthy again,” Ignacio commented as he drove me this month. We passed by a small hill near the city where new pine trees have been replanted. They were healthy young pines about two metres tall. They looked beautiful, green and healthy. The city has made it a priority to bring back its reputation as a summer capital, a city in the forest, a cool place for relaxation along with stable economic growth and an efficient health-care system. It was a difficult task for the local government and its leaders, but they have made their first step.

It was a statement of hope. After all, we live on this planet. We played a part when things went wrong and we can share a hand to correct them. Before we formulate policies or implement strategies, we should study well, inquire and search for answers, and project long-term effects on the economy, environment and human health before it is too late.

From a public health perspective, climate change is yet another complex issue. It is more than building greenhouses, eating green foods and walking to work. It is more than green elevators, biofuel and efficient energy sources. The issue of climate change should generate policies that embrace sociocultural understanding, behaviour change, economic growth, health and environment education, alleviate poverty, increase employment, build strong transparent governments, finance an efficient health-care system, and much more. Researchers, scientists, and global, national and local leaders have a lot to tackle.⁵ We have learned many lessons and there is hope. The trees have grown again.

1 MacNee W, Donaldson K. Exacerbations of COPD: environmental mechanisms. *Chest*, 2000,117:390–397.

2 Co-operative studies on priority air quality and health-related issues. Asthma research – a background paper. Environment Protection and Heritage Council (<http://www.ephc.gov.au/pdf/EPHC/AsthmaBackgroundPaper.pdf>, accessed 21 August 2008).

3 Hoppin J. Pesticides and atopic and nonatopic asthma among farm women in the Agricultural Health Study. *American Journal of Respiratory and Critical Care*, 2008, 177:11–18.

4 Link between pesticides and Parkinson’s strengthened with family study. *Science Daily*. 29 March 2008 (<http://www.sciencedaily.com/releases/2008/03/080328070136.htm>, accessed 21 April 2008).

5 American Public Health Association. Blueprint for Climate Change (www.nphw.org).

Lester Sam Geroy graduated from the University of the Philippines College of Medicine. He worked in Bukidnon, Mindanao in the southern Philippines as a City Health Physician for two-and-a-half years in the areas of outpatient care, sexually transmitted infections and HIV. He also focused on traditional and complimentary medicine, youth health, forensics and health-care systems. Lester became interested in environmental issues through his background in biology and membership of an undergraduate ecological society. A concert pianist, Lester has organized piano festivals for community development projects and the environment. Lester also completed international health-related studies at the University of Tampere, Finland.