

# Beyond lockdown: Will Philippines be able to sustain low air-pollution levels?

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MANILA — On some rainy days, thick haze would blanket the sprawling metropolis of the Philippine's national capital region, leaving the city skyline barely visible.

Unfortunately, Filipinos have become used to Metro Manila's visible air pollution. So much so that when air quality improved during the COVID-19 lockdown in March, many were surprised to learn that the majestic mountain range of Sierra Madre was visible from the heart of the metropolis.

Photos of clear skies, breathtaking sunsets and Sierra Madre as a backdrop of the sprawling metropolis went viral just a week after the government suspended public transportation and non-essential businesses in an effort to curb the spread of the virus. By following in the footsteps of other nations battling the COVID-19 pandemic, the Philippine government inadvertently helped reduce air pollution in Metro Manila.

Just two weeks after the government's so-called enhanced community quarantine, or ECQ, was imposed on March 16, various groups released data showing just how drastic the improvement in air quality was.

## CANCER-CAUSING POLLUTION

Dr. Mylene Cayetano of the University of the Philippines' Institute of Environmental Science and Meteorology (IESM) said that during the first 6 weeks of the ECQ, fine particulate matter or PM2.5 levels decreased by 40% to 66% compared to the month of January, based on Airtoday.ph's monitoring station in Quezon City in the northern part of Metro Manila.

PM2.5 and PM10, particulate matter that have a diameter of less than 2.5 micrometers and 10 micrometers, respectively, are two kinds of pollutants that are measured by air monitors. Both have negative health impacts but PM2.5 is more dangerous, according to Cayetano, because its size allows it to reach the lungs.

PM2.5 has been linked to cardiovascular and respiratory diseases. "The International Agency for Research on Cancer considers PM2.5 a major cause of lung cancer worldwide," Cayetano said.

Compared to February, the average PM2.5 levels during the first 6 weeks of the ECQ saw a 19% to 54% decrease, explained Cayetano, who is also the technical adviser of Airtoday.ph, an air monitoring project of the Rotary Club of Makati and the Lung Center of the Philippines.

Data from Airtoday.ph showed PM2.5 levels fell to 7.1 ug/m<sup>3</sup> during the first week of the lockdown, much lower than the 20 ug/m<sup>3</sup> recorded two weeks earlier and below the World Health Organization's long-term safety guideline of 10 ug/m<sup>3</sup>.

Similar outcomes were monitored by the Department of Environment and Natural Resources (DENR), which recorded a decline of PM2.5 levels in the southern part of Metro Manila from 28.75 ug/m<sup>3</sup> (Muntinlupa) and 27.23 ug/m<sup>3</sup> (Parañaque) on March 10 to only 10.78 ug/m<sup>3</sup> (Muntinlupa) and 14.29 ug/m<sup>3</sup> (Parañaque) on March 22.

Clean Air Asia, which started monitoring air pollution in the capital city this year, also monitored a 51% to 71% decrease in PM2.5 levels in three areas of Manila for the last week of April when compared to the period before the lockdown.

## MORE THAN CARS

All monitoring groups attributed most of the improvement in air quality to the decrease in motor vehicles plying the roads.

According to the DENR in 2016, 80 percent of the country's air pollution came from motor vehicles while 20 percent came from stationary sources, such as factories and open burning.

But UP IESM professors Cayetano and Dr. Gerry Bagtasa both pointed out that there are other factors causing and affecting pollution: one is weather and the other is open burning.

Bagtasa, who monitors pollution in the Philippines through aerosol optical depth (AOD) recorded by the Himawari satellite, observed a "significant drop" in the pollution in the National Capital Region and its neighboring province of Bulacan for the second half of March or the start of the enhanced community quarantine in Luzon compared to the same period in previous years.

"However, parts of Pampanga, Tarlac, and Cagayan Valley actually had higher pollution due to burning," he said.

AOD measures how much sunlight is reflected or is able to reach the ground due to aerosol particles such as dust, smoke and pollution. Bagtasa said that while instruments used by Airtoday and DENR are more accurate, satellite AOD measurements are able to capture a much bigger area - in this case, the whole Philippines - and not just a specific location.

Comparing the current AOD measurements and satellite images with the same period in previous years, Bagtasa said the improvement in air quality is evident. He said comparing the data with previous years is more accurate because the seasons also affect air pollution. Dry periods like summer bring about better air quality, he said.

"During the first week of March, we were actually in a different season," he said, adding that the summer season arrived the same time that the lockdown was enacted in the latter half of March.

During the first half of April, higher pollution was detected because of the haze coming from biomass burning in the Indochina region but the second half of April showed "overall lower pollution in most of Luzon."

“So obviously may pagbabago (sa air pollution) especially in Metro Manila. And the reason for that is because ang estimated na contribution ng automobiles sa pollution ng Metro Manila is around 60 to 80 percent,” Bagtasa told ABS-CBN News.

(So definitely there was a change especially in Metro Manila. And the reason for that is because the estimated contribution of automobiles in the pollution of Metro Manila is around 60 to 80 percent.)

However, Bagtasa said that there might be more occurrences of biomass burning outside Metro Manila during the lockdown.

“It looks like there’s more burning in parts of Central Luzon and Cagayan Valley,” he said. While motor vehicle pollution dominates cities, in rural areas his previous studies showed that open burning causes a third of the pollution.

Bagtasa said this is something that the DENR should look into.

## NO LASTING CHANGE?

The atmospheric physicist said that people should not rejoice because of the temporary lowering of air pollution around the world.

“Kasi essentially wala tayong ginawa to reduce the pollution (Because we essentially did nothing to reduce the pollution). It’s just an unintended consequence of a totally different problem (COVID-19),” Bagtasa said.

“Pero tandaan natin, yung emission ng carbon dioxide, once we emit carbon dioxide it stays there for a century. In the grand scheme of things, itong few months of reduced emission, wala syang contribution in the mitigation of climate change,” he said.

(We should remember that when it comes to carbon dioxide emissions, once we emit carbon dioxide it stays there for a century. In the grand scheme of things, these few months of reduced emission, it still won’t have any contribution in the mitigation of climate change.)

Air pollution also includes other harmful gases that accumulate in excessive quantities in the atmosphere such as carbon monoxide, sulfur dioxide, nitrogen oxides, methane and chlorofluorocarbons.

Khevin Yu, Greenpeace Southeast Asia’s climate and energy campaigner, said it is alarming that people think that the environment is really recovering because of the lockdown of cities all over the world.

“What’s happening right now, it’s like an old engine na pag pinatay mo sya so ngayon wala syang usok (What’s happening right now is that it’s like an old engine that when you shut it down it won’t create any smoke). But eventually, when everything goes back and you turn on the engine again, you’re still using the same dirty old engine that will still pollute the earth,” he said.

“Yung nakikita natin ngayon is just temporary (What we’re seeing now is just temporary). It’s just an illusion, a glimpse of what a better society that we can have,” he added.

Yu said it's important for people to remember the state of air quality that the Philippines will go back to after the lockdown is lifted unless changes are made at the national and local levels.

Air pollution has long been a problem for the Philippines. In 2018, a study by the World Health Organization said there were 45.3 air pollution-related deaths for every 100,000 people in the Philippines. It was the third highest in the world, after China's 81.5 pollution-related deaths and Mongolia's 48.8 deaths per 100,000 people.

And it appeared to be worsening. Before the lockdown, the Philippines ranked 57th out of 98 countries in IQAir's "World most polluted countries" as PM2.5 was recorded at an average of 17.6 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) in 2019, an increase from 14.6  $\mu\text{g}/\text{m}^3$  in 2018.

Despite this, Yu said Filipinos tend to dismiss the problem of air pollution.

"It's an issue that is usually ignored," he said, because Filipinos don't see its immediate impact.

"Sa mga jeepney nagtatakip na lang ng bibig. Exposed ang mga bata (sa usok). Tinitii lang," Yu said, pointing out that the health impact is often long term and is not directly related to air pollution. "That's why we say it's a silent killer."

(In jeepneys we just cover our mouths and faces. Children are exposed. But we just bear it.)

In February, Greenpeace came out with a **report** estimating air pollution-related premature deaths in the Philippines reaching 11,000 to 27,000 in 2018 alone. These so-called premature deaths are attributed to cardiovascular diseases, respiratory diseases and lung cancer through exposure to PM2.5 air pollution from fossil fuels and other sources.

Atty. Glynda Bathan-Baterina, Deputy Executive Director of Clean Air Asia, cited the State of Global Air report where the Philippines ranked 10th among countries with the highest mortality burden linked to air pollution.

"They estimated that in 2017, close to 70,000 died prematurely due to ambient air pollution," Bathan-Baterina said.

Yu said air pollution also has a big impact on the Philippines' gross domestic product (GDP).

"In terms of economic loss, ang laki din ng impact. So 0.8 percent to 1.9 percent of GDP loss is due to air pollution. Dahil yan sa mga health cost and dun sa impact sa workers. If you get sick, of course you don't go to work," he explained.

(In terms of economic loss, the impact is huge. So 0.8 percent to 1.9 percent of GDP loss is due to air pollution. That's because of the health cost and the impact on workers. If you get sick, of course you don't go to work.)

## WAKE-UP CALL

But experts say, the Philippines can use the lockdown as an opportunity to assess the problem of pollution in Metro Manila and other places.

“Hopefully, makita ng tao yung very good air quality today na maisip natin somehow na importante ito,” Bagtasa said.

(Hopefully, people notice the very good air quality we have now and they realize that it is important.)

Bagtasa believes that it is still possible to turn the situation around over the long-term but it will require a lot of investment on the part of the government.

He said cities like Tokyo and Taipei had similar problems before but were able to improve the situation with the help of research and technology.

“I think it’s the role of the environmental groups like us and the government to really change the course of the discussion,” Yu said.

He said Greenpeace has been pushing for the Philippine government to declare air pollution as a national issue and to strengthen the DENR.

“Right now they (DENR) are the only agency addressing the air pollution problem,” Yu said. “The LGUs (local government units) should be empowered to monitor air pollution in their cities.

“We have to really think about our choices, our policies and our programs that have a direct or indirect impact to clean air,” Cayetano said.

She said the Philippines should phase out the use of dirty fuel and use only Euro 4 or even Euro 6 emission standards. Euro emission standards are meant to regulate carbon monoxide and other toxic gases being emitted by vehicles. Euro level 6, the highest level, allows emissions of 0.5 gram of carbon dioxide per kilometer of diesel.

“The DOTr (Department of Transportation) wanted to promote non-motorized transport systems like bike. But we need to prepare the infrastructure,” she said, explaining the need to ensure the safety of cyclists on roads.

Cayetano said the government should designate green spaces and allocate areas for businesses that generate more emissions such as grill restaurants and crematoriums, making sure they are far from residential areas.

“My last suggestion would be the strict implementation of the Clean Air Act and the Solid Waste Management Act and their provisions against open burning,” she said.

She claimed that open burning is rooted in Filipino tradition as agricultural areas are cleared for the next planting season.

“It’s not just localized pollution, it can travel from one place to another,” she pointed out.

“Hopefully, we’ll have a next generation (of Filipinos) who are more aware of their harmful impacts.”

Bathan-Baterina said Clean Air Asia will be working closely with the Manila City government as part of their current project. After collecting data from their air sensors around the city, they will craft recommendations to address air pollution.

“Moving forward, we hope that we do not go back to our polluted past,” she said, adding that there are already solutions available that would allow the country to shift towards low-emitting vehicles.

“It is not hard to imagine if there is strong political will in the face of crisis,” she said.

## NEW NORMAL

While there is much talk in the Philippines about the “new normal” — from wearing face masks to physical distancing — as people around the world adjust to the COVID-19 pandemic, the experts said countries should also take this opportunity to promote more environment-friendly practices.

Matthias Gelber, an environmental sustainability consultant, said businesses should seriously consider telecommuting or allowing their employees to work from home now that physical distancing is a must to slow down the spread of the COVID-19 disease.

“We need large companies in the Philippines to change their mindset,” said Gelber, who is based in Laguna, a province south of Metro Manila. “You don’t need your employees in your office all the time and keep an eye on them. You need to keep an eye on their output.”

He said employees coming from their province spend 4 to 5 hours a day to travel to their offices in Metro Manila, leaving them little time to spend with their families. By allowing remote work, companies can save their employees from the long commute, help lessen the vehicles on the road, and at the same time prevent the spread of COVID-19 in the workplace.

“The Philippines is the capital of outsourced resource. So we need large Filipino companies to start outsourcing more of the work that is currently being done in offices in Manila to remote working,” he said.

He suggested more flexible or staggered work shifts can also help reduce traffic and carbon emissions.

Gelber, who was once voted “Greenest Person on the Planet,” said he has been using public transportation for the last 20 years to reduce his carbon footprint. But because of the lockdown and the suspension of mass transportation vehicles, he realized that he needed a car to get to the nearest supermarket. His family has also asked him to stop riding the bus for fears of being infected by the virus. He said other people may have the same realization and it will result in more vehicles on the road.

“If we are not able to continue the remote working and after lockdown force people to come into the office again, we will have a disaster scenario,” he said.

“We have taken this drastic action to protect people from getting infected with the coronavirus,” Gelber said. “We’ve got to take drastic action to prevent so many people from losing their health (from air pollution).”

**This story is supported by Internews Earth Journalism Network.**

- *Photos of Sierra Madre range by Johair Siscar Addang*

- *Photos of Metro Manila skies, then and now, by Jonathan Cellona and Mark Demayo, ABS-CBN News*

<https://news.abs-cbn.com/spotlight/multimedia/slideshow/05/19/20/beyond-lockdown-will-philippines-be-able-to-sustain-low-air-pollution-levels>