COVID-19 and Waste Management

A report published by the World Health Organization states that over 150 million confirmed novel coronavirus disease (COVID-19) cases causing 3 million deaths. The pandemic not only rang alarm bells over health emergency, but It also exposed several lapses and limitation on the socio-economic and environmental sector across countries. The COVID-19 is attacking societies at the core, India, one of the emerging economies also witnessed a back foot and unprecedented challenges on the human, social and economy.

To control the spread of the virus and to abate the death rate, administrative authorities imposed stringent measures such as restricting the movement of people, suspending educational institutions and office premises, border closures, etc. The World Economic Forum denoted that approximately 3 billion people are under some form of COVID-19 lockdown worldwide. Furthermore, the authorities also emphasised the use of personal protective equipment like hand gloves, face shields, masks, medical gowns etc. to protect against the transmission of the virus.

Repercussions of Health Care on Environment

The measures undertaken to curb the spread of COVID-19 have engendered negative and positive environmental repercussions. Due to the imposition of lockdown air, water and noise pollution ameliorated. Reports have emerged denoting that blue skies were visible due to a significant decline in NO2 and CO2 levels across countries. India observed the amelioration of Ganga water at Haridwar and Rishikesh and a remarkable reduction in air pollution in big cities, Bengaluru noted an average of 28% reduction in air pollution, furthermore, the noise level in Delhi was reduced drastically by 40-50%, as well as

Bengaluru too noted a significant improvement in the noise level. However, since the outbreak of COVID-19, medical waste generation surged globally, consequently posing a detrimental impact on public health and the environment.
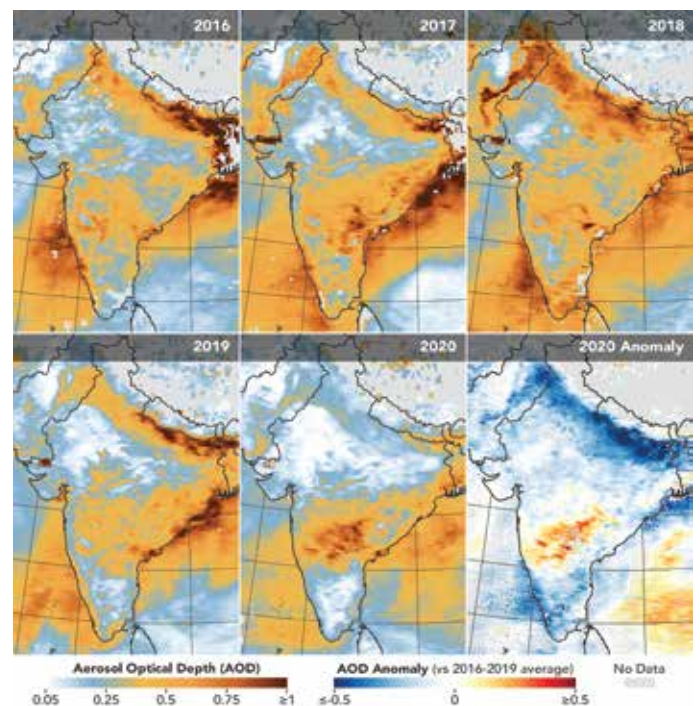
*Source: **Figure 1***

From sample collection of suspected COVID-19 patients, diagnosis, treatment has largely contributed to the biomedical waste. Furthermore, the upsurge of single-use products like disposable masks and gloves have thwarted the efforts to decline plastic pollution. While it is noted that from June 2020 to January 2021 India generated around 33,000 tons of COVID-19 related biomedical waste. Karnataka is among the top 5 states in generating huge amounts of biomedical waste accounting for 2,026 tons. This figure highlights as a major cause of concern to the

people and environment as improper waste management has the potential to expose patients, health workers, waste managers to injuries, infections, toxic consequences and land, air and water quality degradation.

Management of Health Care Waste

The Indian Council of Medical Research (ICMR) has put forth a scientific regulatory framework for handling, treating and safe disposal of the COVID-19 waste generated during the treatment, diagnosis and quarantine of confirmed patients or suspected to have COVID-19.

There are separate and dedicated bins solely for the discharge of COVID-19 waste in the health care facilities, quarantine camps, laboratories and sample collection centres. All waste storing container, bins, bags and trolleys are labelled as COVID-19 and are disinfected regularly to enable safe handling of the COVID-19 waste prior to handing over the same to Common Bio-Medical Waste Treatment Facility (CBWTF). Moreover, the guidelines issued also implies to the home quarantine facilities where the used equipment (eg: masks, gloves, tissues, or swabs) by the COVID-19 patients should be treated as biomedical waste.

Source: Figure 2

Due to the overwhelming tons of health care waste generated in times of health emergency like COVID-19, the local bodies should take charge in mitigating the shortfall in waste management and disseminate awareness among the people with regard to the importance of waster segregation as it primarily poses health risks on waste mangers if not well disposed of. Local municipal bodies should urgently develop good health care waste management in order to improve the mechanism of waste management. Public Affairs Centre (PAC) has been working with the Government of Karnataka to analyse the COVID-19 population-level data and provide data back evidence for navigating through the pandemic.