

## COMMENTARY

## Building back better: Resilient environmental and occupational health systems for the next global crisis

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### ABSTRACT

Even after two years, the COVID-19 pandemic still disrupts public activities and services as it exposes vulnerabilities among the population and negatively impacts environmental conditions. The crisis also impeded global progress toward achieving Sustainable Development Goals (SDG). The Fourth Environmental and Occupational Health (EOH) Forum held virtually on November 25 to 26, 2021 provided a venue for learning about local and international COVID-19 responses to help prepare for the next global crisis. Through the systems thinking approach, the discussions prioritized analyses of leadership and governance, financing, human resource, technologies, information management, and service delivery. These analyses focused on community and/or workplace programs and services linked to air quality, waste management, psychosocial wellness, and COVID-19 vaccination. The forum amplified calls for climate actions and public health improvement and emphasized the significance of a collaborative, evidence-based, integrated public health response to a crisis underscoring the apparent interdependence of the SDGs.

**Keywords:** *Environmental Health, Occupational Health, Sustainable Development Goals, Covid-19, air quality, green initiatives, psychosocial wellness*

## Background of the Forum

The indirect health impacts of the lingering pandemic are anticipated to become apparent even after many years [1]. An adaptable and sustainable response to a crisis of this magnitude is thus required. In the Philippines, the challenge is ensuring a quick economic turnaround while addressing dynamic public health concerns [2].

The Fourth EOH Forum tackled three SDGs related to public health and their impact on environmental and occupational health. The EOH Forum is an annual event that brings together professionals and practitioners to improve environmental and occupational health conditions at the national, regional, and global levels [3]. The forum's theme, "Building Back Better: Resilient Environmental and Occupational Health Systems for the Next Global Crisis," emphasized the importance of sustainable interventions in preparing for future global crises. The EOH

Forum is an annual event that brings together professionals and practitioners to improve environmental and occupational health conditions at the national, regional, and global levels [3].

The discussion is based on a systems thinking approach that requires analyzing systems, predicting their behaviors, and devising relevant modifications to produce desired effects [4]. Specific Occupational Health and Safety programs relevant to air quality, waste management, psychosocial wellness, and COVID-19 vaccination were analyzed in view of the six building blocks of the public health system: leadership and governance, financing, human resources, technologies, information management, and service delivery.

The fourth EOH forum was held online due to pandemic restrictions and had more than 600 participants virtually

through Zoom and YouTube streaming. The forum included keynote lectures from the United Nations Environment Program and the Philippine Department of Health, as well as panel discussions on air quality improvement, climate change mitigation, psychosocial wellness, and COVID-19 vaccination as presented in Table 1.

## Highlights

### *Assessing Environmental and Occupational Health Systems*

The opening lectures of the EOH Forum featured local and global perspectives on environmental and occupational health systems before and during the pandemic. Dr. Mushtaq Ahmed Memon delivered a lecture on plastic pollution and marine plastics abatement, emphasizing that the Asia-Pacific region is lagging behind the SDG targets related to life below water and on land. He called for bigger and more meaningful solutions to address the problem of plastic waste, including innovation, financing, planning, monitoring, and evaluation and promoting new consumer habits. The pandemic has exacerbated the problem with an increase in waste plastics and a decrease in recycling, adversely affecting public health and marine animals.

Dr. Maria Rosario Singh-Vergeire, then-OIC-Undersecretary for the Public Health Services Team of the DOH, discussed how the pandemic worsened existing EOH problems and posed new challenges for the department. She emphasized the need to capacitate the health sector to combat climate change and implement evidence-based public health measures. She stressed the importance of implementing EOH-related policies and standards, ensuring the readiness of local systems to face disasters and emergencies, applying hazard control principles in the workplace, and recognizing the heroism of healthcare workers. Strengthening reportorial requirements stipulated in the Universal Health Care Law could help address the challenges in database management. She concluded with the hope that the government could build back better with a more resilient healthcare system.

### *Ensuring Good Air Quality in Communities*

Atty. Glynda Bathan-Baterina discussed the high levels of air pollution in the Asian region, which pose significant health risks to individuals. Air pollution is particularly harmful to children, resulting in stunted lung growth, impaired mental and motor development, childhood cancer, and increased risk of heart disease, diabetes, and stroke in adulthood. Both

**Table 1.** Summary of topics and resource speakers, Fourth Environmental and Occupational Health Forum, held virtually via Zoom, November 25 and 26, 2021.

Speakers	Designation and Affiliation	Topic Presented
Opening Lectures		
Environmental and Occupational Health Systems Before and During the Pandemic: Local and International Perspectives		
Dr. Mushtaq Ahmed Memon	Regional Coordinator for Resource Efficiency and SWITCH-Asia RPAC Project Manager United Nations Environment Programme, Regional Office for Asia and the Pacific	EOH Systems Before and During the Pandemic: Experiences of Countries
Dr. Maria Rosario Singh-Vergeire	OIC-Undersecretary for the Public Health Services Team, Department of Health	EOH Systems Before and During the Pandemic: The Philippine Scenario
Panel Discussion 1: Championing Air Quality Improvement and Climate Change Mitigation		
Atty. Glynda Bathan-Baterina	Deputy Executive Director of Clean Air Asia	Ensuring Good Air Quality in Communities
Mr. Ramon San Pascual	Executive Director, Healthcare Without Harm Southeast Asia	Promoting Green Initiatives for the Healthcare Sector
Panel Discussion 2: Advocating for Psychosocial Wellness and COVID-19 Vaccination in Workplaces and Communities		
Dr. Jason D. Ligot	Health Promotion and Communications Consultant, World Health Organization	Creating Supportive Environments for Psychosocial Wellness
Dr. Razel Nikka Hao	OIC-Director III, Disease Prevention and Control Bureau, Department of Health	Realizing Herd Immunity for COVID-19
Ms. Girlie Grace J. Casimiro-Igtiben	OIC-Director, Social Development Staff, National Economic Development Authority	Achieving SDGs in the post-COVID era

outdoor and household air pollution contribute to these risks [5], with almost 500,000 deaths attributed to air pollution in Southeast Asian countries in 2019. She presented practical ways for cities to improve air quality, emphasizing the importance of collaboration and a science-based approach.

She cited the example of the Hinga Maynila Pollution Control Program in Manila, Philippines which used cheaper micro-air sensors instead of expensive monitors for air pollution. They also used proxy data, such as respiratory-related insurance claims, to identify pollution sources and set up an institution to advocate for clean air. Atty. Bateria stressed the need for policymakers to take actions that promote public health, and presented the Long-range Energy Alternatives Planning - Integrated Benefits Calculator (LEAP-IBC) model as a tool for assessing the benefits of clean air actions. She urged immediate action toward achieving the 2021 goals of clean air, a safe climate, improved health, and productivity.

#### *Promoting Green Initiatives for the Healthcare Sector*

The healthcare industry is the fifth largest polluter globally, with its emissions equivalent to those of 514 coal-fired power plants. Mr. Ramon San Pascual presented the Global Roadmap for Healthcare Decarbonization to help mitigate climate change, as decarbonization is the largest challenge to be addressed by all sectors. The roadmap outlines three pathways for creating zero-emissions and seven high-impact actions, which include transitioning to 100% renewable energy, investing in zero-emissions infrastructure, and sustainable transportation. If these measures are implemented, the reduction of 44.8 gigatons of emissions is possible. Green initiatives such as reducing, treating, and safely disposing of healthcare waste, using renewable energy, green hospital design, and water management were also presented as best practices. Healthcare Without Harm Asia continues to raise awareness and build capacity for hospitals to implement these green initiatives.

#### *Creating Supportive Environments for Psychosocial Wellness*

Dr. Jason Triton Ligot, identified potential, resilience, community, and productivity as crucial domains for understanding mental health. The United Nations (UN) acknowledged that mental health is critical for society's function during the pandemic [6], and Dr. Ligot emphasized that it should be viewed as an integral part of the pandemic discourse. Dr. Ligot discussed the mental health challenges faced by various age groups during the pandemic and highlighted the disruptions to mental health services and the

increased use of telemedicine. He proposed the Green, Active, Pro-social, and Safe Places (GAPS) urban design framework to promote mental health. This framework allows people to gain access to natural settings, integrate exercise and social interactions, achieve a sense of community, and enjoy people-centric designs. He also suggested that workplaces may need to be hybrid and flexible in the future, and public spaces should be functional and social to create a healthier and safer environment for everyone.

#### *Realizing Herd Immunity for COVID-19*

Dr. Razel Nikka Hao reported that their institution adopted a national alert level system and expanded public health standards to include various controls to ensure safe and sustainable living during the pandemic. Safe reopening depends on vaccination and cocoon strategies, which offer protection to people who are ineligible for vaccination. The DOH considers several factors, including controlling transmission and risks, minimizing outbreak risks, involving stakeholders, and implementing public health standards in deciding to reopen institutions. The achievement of herd immunity is the goal but it is difficult to set a threshold for vaccination targets due to the evolving nature of evidence about COVID-19.

#### *Achieving SDGs in the Post-COVID Era*

Ms. Girlie Grace Casimiro-Igtiben discussed the country's progress towards the SDGs. The government monitors 155 SDG indicators and reports to the UN every three years. The pandemic has slowed progress and even reversed gains due to various factors. Ms. Igtiben emphasized the interdependence of the SDGs and highlighted five important government stances: synergy, priority, monitoring, cooperation, and Science, Technology, Policy, and Practice (STPP) promotion. For SDG 3, she stressed the importance of guaranteeing care for all life stages, ensuring a responsive and resilient health system, and accelerating digital transformations. Despite the challenges, the government is expediting the vaccination program and easing restrictions to recover from the health crisis.

## **Conclusion**

The pandemic disrupted public health services and also highlighted the need for climate action. The resource persons stressed the significance of adopting evidence-based public health measures. These included the use of innovative technologies and well-tested modeling tools to address specific public health issues.

The interdependence of the Sustainable Development Goals, emphasized during the pandemic, highlighted the need to engage all stakeholders in collaborative strategies to build a more resilient environmental and occupational health system. These realizations were made possible with the help of a systematic discussion of how the factors of leadership and governance, financing, human resource, technologies, information management, and service delivery were utilized to effectively respond to public health challenges.

This two-day forum called for environmental and occupational health professionals to take the lead in addressing public health issues through employing evidence-based interventions and igniting multi-sectoral collaborations in their respective institutions and communities. These will contribute to the development of resilient environmental and occupational health systems allowing a better response to future global crises.

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