Finding Solutions to Air Pollution through a Socio-Economic Lens: Insights from Kathmandu, Nepal

Shreesha Nankhwa[1], Bhushan Tuladhar[2]

BACKGROUND

In 2019, air pollution related illnesses led to 5,080 deaths in Kathmandu, where particulate matter 2.5 (PM2.5) levels in the city were 10 times the World Health Organization Guidelines—a major environmental and public health issue. Yet, if Nepal's air pollution levels were to be reduced to below WHO Guidelines, the country could increase life expectancy by 4.1 years.

Listening tours conducted by USAID Clean Air suggest that while current technical and scientific solutions are necessary, they are not sufficient to mitigate air pollution or reduce exposure. Promising solutions lie in re-examining the socio-economic systems in which air pollution plays out and then effecting change to address systemic problems. This includes the structural and functional governance mechanisms responsible for managing air quality, the presence of a strong civil society that advocates for clean air, and a private sector that invests in innovative solutions for cleaner air.

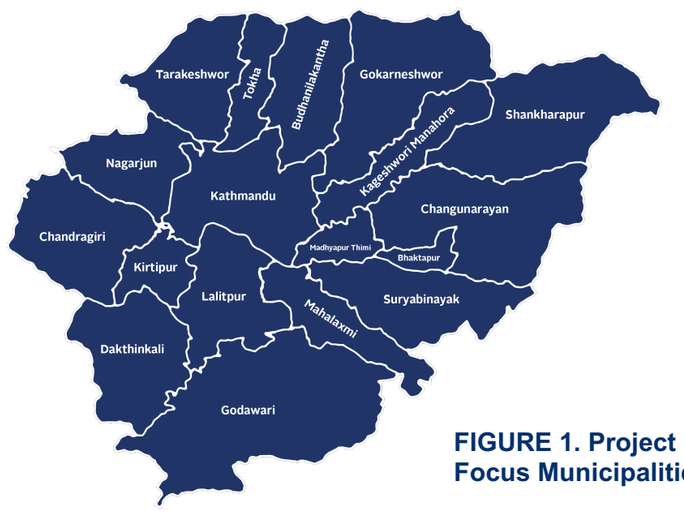

FIGURE 1. Project Focus Municipalities

USAID CLEAN AIR OBJECTIVES

- Collaborate with the Government of Nepal (GON) to build capacity and formulate, implement and enforce evidence-based policy
- Improve citizen engagement and knowledge to advance public interest and government and private sector accountability
- Enhance private sector involvement and investment in addressing air pollution

METHODS

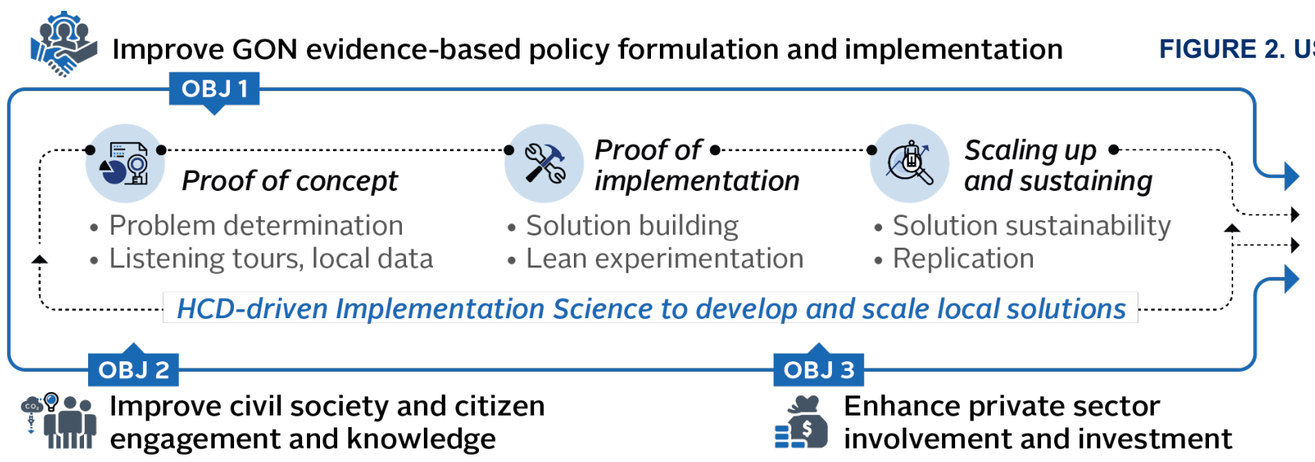

FIGURE 2. USAID Clean Air Framework

Using a human-centered design approach and an implementation science framework, USAID Clean Air is developing and scaling local solutions to air pollution in the 18 municipalities of Kathmandu Valley **(Figure 1)**. These solutions will influence social and cultural norms, harness political will to adopt bold regulations, and align stakeholders' economic interests.

This approach involves three phases:

1. Identifying evidence-based, relevant, and feasible interventions via listening tours
2. Lean experimentation and solution building; and
3. Scaling up and sustaining effective solutions. **(Figure 2)**.

INTERVENTIONS FOR EFFECTING CHANGE

WORK WITH LOCAL GOVERNMENTS, WHERE POLICY MEETS THE PEOPLE

Local governing bodies have the greatest engagement with citizens and thus tend to have higher accountability. Having listened to their citizens' perspectives gathered during the listening tours, local officials have demonstrated willingness to collaboratively address local sources to air pollution and have taken major steps to do so, such as:

- Ban open waste burning in two municipalities
- Incorporate air pollution in annual plans and budget
- Collaborate with USAID Clean Air to codesign a municipality-specific Air Quality Management Action Plan
- Orient municipal staff on air quality

BREAK SILOS TO BRING TOGETHER LOCAL GOVERNMENT AND BUSINESSES

Although the private sector can provide innovative solutions to pollution, businesses and local governments tend to be siloed and often have conflicting goals. Convening members of both the transport and the brick sectors with the government has demonstrated that it is possible to collaborate on mutual and effective win-win solutions. Through joint discourse with transport entrepreneurs and government, the following areas of collaboration were identified: developing human resources, exploring funding and investing in EV infrastructure and electric public transport.

GREEN JOBS FOR WOMEN AND FOR CLEAN AIR

USAID Clean Air is transforming the lives of women by empowering them to be financially independent while championing clean air. We are training new drivers, primarily women from underprivileged backgrounds, to drive Safa Tempos (electric three-wheelers) while guaranteeing jobs for them. We have also created a revolving fund for drivers and small entrepreneurs to provide access to financial support for vehicle maintenance in order to revive almost 200 grounded Safa Tempos.

LISTEN TO CITIZENS AND ENGAGE THEM IN SOLUTION BUILDING

Air quality data and studies provide a bird's eye view of air pollution, but citizen perspectives offer a worm's eye view of air pollution's impact and possible solutions. Based on a deeper understanding of citizens perspectives and needs gained through listening tours and knowledge, attitude, and practices (KAP) surveys, USAID Clean Air is engaging with civil society stakeholders for solution building through joint interventions like the "Stop Open Burning" campaigns and citizen science initiatives. By utilizing the experiential knowledge of grassroot activists and harnessing existing networks of citizen groups, we are increasing the reach and impact of the intervention while ensuring ownership of the community.

CONCLUSION

Effective action on clean air requires bold leadership from local governments, coordinated partnership among stakeholders, and strong ownership among local communities, which in turn necessitates an effective communication and coordination mechanism between the government, citizens, and private sector. It also requires identifying the structural barriers in the socio-economic system that hampers the state's ability to effectively manage air pollution and then zooming in to address them at the local level. In this context, a human centered design approach in an implementation science framework and processes, such as listening tours, can be useful to understanding local perspectives and leveraging locally-led solution building for effective and sustained solutions for clean air.

AUTHOR AFFILIATIONS

[1]Social and Behavior Change Communication Officer, USAID Clean Air, FHI 360 Nepal / snankhwa@fhi360.org

[2]Chief of Party, USAID Clean Air, FHI 360 Nepal / bhushantuladhar@fhi360.org

ACKNOWLEDGEMENTS

USAID/Nepal, USAID Clean Air team, ENPHO