

I CARE FOR CLEAN AIR

2018

Proceedings of

Workshop on Open Data for Effective Policy Formulation,  
Decision Making and Citizen-Government Partnership to  
Improve Air Quality

June 12, 2018

Dining Park, Mid-Baneshwor, Kathmandu

Clean Energy Nepal

June, 2018



## 1. Background

Air pollution is established as a major threat to human health. According to the State of Global Air 2018 report, 95 percent of the world's population is breathing unhealthy air. Air pollution has become the fourth-highest cause of death worldwide with the majority of deaths recorded in poorer nations. In 2016, long-term exposure to air pollution contributed to the deaths of 6.1 million people from stroke, heart attack, lung diseases and lung cancer. In Nepal, 215.6 in every 100,000 people die due to air pollution as of 2016. The global Environmental Performance Index (EPI) 2018 has also ranked the quality of air in Nepal among the lowest in the world.

These data present an undeniable fact that air pollution has high public health cost and is a serious environmental concern. In order to counteract the alarming statistic, it is very important to conduct a comprehensive air monitoring of where the pollution is most concentrated, how it occurs, what factors are involved and how we can neutralize it. While data in relation to air pollution is being generated from governmental and non-governmental organizations, research institutions and informal groups, data sharing is still not practiced widely.

In this regard, Clean Energy Nepal conducted a workshop on 'Open Data for Policy Formulation, Decision Making and Citizen-Government Partnership to Improve Air Quality' under I Care for Clean Air Campaign on June 12, 2018 in Kathmandu. The workshop was conducted in collaboration with US Embassy in Nepal to discuss on the importance of partnership and data based decisions when developing policies related to clean air.

## 2. Objective

The main objective of the program was to sensitize the multiple stakeholders including newly elected local government officials, local NGOs, media, academia and youths on air pollution and the importance of open data standards for the effective policy formulation and implementation.

- Understand the plans and policies of local government to address air pollution issues
- Enhance knowledge on importance of open data and air quality management system

## 3. Program Participants

Around 60 participants from governmental bodies, civil society organizations, educational institutions, informal networks, youths, media and other concerned stakeholders participated in the program.



**Figure 1: Participants of the Workshop**

#### 4. Proceedings

The program commenced with the chairing of the chief guest Mr. Bidhya Sundar Shakya, Mayor of Kathmandu Metropolitan City, Mr. Ganesh Shah, Former Minister of Environment, Ms. Sara Litke, Regional Environment Officer for South Asia from US Embassy in Nepal, Mr. Shankar Prasad Sharma, Senior Divisional Chemist, Department of Environment. Opening and program overview was shared followed by three presentations and panel discussion. The presenters focused on the status of air pollution in Nepal, policy response and use of open data for air quality management. The panel discussion was focused on the need of air quality data and the importance of data to formulate effective policies for air quality management.

#### Opening Remarks

The program commenced with the opening remarks and program overview from Ms. Rashmi Maharjan, Program Officer, CEN. In her remarks she said, “ In this crucial stage of policy formulation in the new three

tiered federal system in Nepal, there is challenge of utilizing the data from monitoring stations to effective policy formulation for air quality management’.

### Remarks from US Embassy

Ms. Sara Litke, Regional Environment Officer for South Asia from US Embassy in Nepal remarked that the United States has been doing several works in various nations including Nepal for Air Quality Monitoring and is expanding to Open Data. She spoke on the need of investing in Clean Air and work in collaboration and information sharing for effective air quality management.

### Presentation 1: Policy Response for Air Quality Management in Nepal

During the presentation, Mr. Rajan Thapa, Program Manager, Clean Energy Nepal presented on the overview of Policies in Nepal. He spoke of the trend of pollution level in Nepal and how data has been aiding in the analysis of air quality. He highlighted the national policies formulated in response to the degrading level of pollution. He said, “To achieve Clean Air, high priority should be given toward the development and compliance with environmental standards, as well as the strengthening of institutional capacity”.

### Presentation 2: Air Pollution Monitoring and Reporting in Nepal

Mr. Shankar Prasad Sharma, Senior Divisional Chemist, Department of Environment presented on the status of air pollution in Nepal. His presentation comprised of the history of air quality management in Nepal, initiatives from Government and the brief analysis of data from existing monitoring stations. He concluded that data are the evidence that the level of air pollution in Kathmandu is very high and urgent attention is required to maintain the level within the National Standards from all individuals and sectors along with the governmental bodies.

### Remarks from Chief Guest

The Chief Guest of the program, Mr. Bidhya Sundar Shakya, Mayor of Kathmandu Metropolitan City urged everyone to fulfill their individual responsibilities to make the air and the environment clean. Shakya said, ‘We are planning to introduce Electric mass transit – Mono rail which will aid in reducing the traffic congestion and also significantly reduce air pollution level in Kathmandu Valley’. He also mentioned that with the collaborative effort from all, Kathmandu will be able to retain its original name.



**Figure 2: Mr. Bidhya Sunda Shakya, Mayor, KMC delivering his remarks**

### Outcome sharing of Youth Workshop

A youth workshop on Importance of Open Data for Air Quality Management was conducted on June 11, 2018 at Innovation Hub, Kathmandu. Youths from several educational institutions, youth networks, youth councils and informal groups participated did a detail analysis of the major pollution causing sectors in Nepal (Transport, Industry, Agriculture and Solid Waste) from various perspective and drew a set of demands they sought from the government and the stakeholders. The demands was shared with the stakeholders where youths demanded that the data should be easily accessible from all sectors so that youths can be engaged in research and explore possible solutions to the problem. They also demanded youth involvement in policy dialogues to ensure for sustainable environmental management. Along with the demands, youths also asserted commitment to actively perform their roles and responsibility towards air quality management.

### Presentation 3: Global Scenario of Open Data Standards and its use in Policy Making for Air Quality Management

The special speaker from United States, Christa Hasenkopf, Phd, CEO/Cofounder of OpenAQ presented on open air quality data and how to access information and also connect community and people to offer solutions. She introduced the concept of fully open data and how to use open data in air quality management from Government perspective, Policy perspective and Community Members perspective. She presented many examples of the work the global community was doing in open data and concluded with an open invitation to share any government or research grade data to the global community. 'We believe that the data generated has such a tremendous impact both locally and on an international community so that everyone can have better air quality', said Christa in her concluding remark.



**Figure 3: Youth representative Mr. Sulav Baral sharing the youth demands**

### Panel Discussion

The panel discussion on Open Data for Air Quality Policy-Engaging Citizen and Government was facilitated by Mr. Bhushan Tuladhar, Board Member, CEN. The panelist were Mr. Ram Chandra Poudel, Office Chief, Vehicle Fitness Testing Centre, Mr. Shankar Prasad Sharma, Senior Divisional Chemist, Department of

Environment, Mr. Sudarshan Mishra, Ward Chair, Lalitpur Metropolitan City, Ward-15, Dr. Megnath Dhimal, Senior Research Officer, National Health Research Council, Mr. Satish Joshi, Dristi Kathmandu, Mr. Ashesh Sharma, Kantipur Television, Mr. Pravin Raj Joshi, Rooster Logic, and Dr. Christa Hasenkopf, Co-founder/CEO OpenAQ.

Mr. Ram Chandra Poudel briefed about the vehicle emission data being generated and the status of compliance to the standards. He mentioned that huge amount of data from regular testing and random roadside tests are being generated and available from the office recognizing the constitutional right to information but open publication and sharing of the data is yet to be practiced. 'The data can be useful for the government to formulate policies regarding vehicle import, management and regulation because the trend emission level can be correlated to various factors such as age and brands', he added.

Dr. Megnath Dhimal stated that health is a major aspect affected by air pollution and we must focus on the solution part now. Mr. Satish Joshi informed about the air quality data being generated from consumer grade low quality sensors Dristi has installed and the work Dristi has been doing beyond raising awareness towards advocacy, activism and driving citizen and government to action. Mr. Ashesh Sharma highlighted the role of media to present the primary set of data in a simplified and user understandable form that generates reaction and impact on the audience. Mr. Pravin Joshi stated that with time there is an increasing access to good quality and profiled data from many sectors and we need to utilize such data as a tool with consideration of privacy and security. Mr. Sudarshan Mishra expressed his commitment as a local representative to enhance greenery in the city and also work towards air quality management. Sushil Sharma from Central Bureau of Statistics said, "Data are being generated from many sectors and the bureau has a key role in quality assurance, public accessibility and reliability of the data.

The discussion brought forwards various queries, suggestion and recommendation from the panelist and the general participants. The following outcomes were generated from the panel discussion.

- Data should be accessible, fully open, organized in a predictable format and connectable to other datasets to ensure proper utility of the data.
- There is a dire need of evidence based policy and thus we must prioritize research to generate data and gather evidence.
- Detailed analysis and modelling of data to analyze several processes and control measure and hence use data as information and translate to regulatory decisions.

- Data from air quality monitoring stations, vehicles, fuels should be openly accessible but we also need ensure the privacy and security and put data into effective outcome generation.
- Media has a role to convert available data into information in a publicly understandable form so that public awareness can be enhanced.
- Collaboration and information sharing with national and international agencies to share data to a common platform.
- In the new three tiered federal system, horizontal working mechanism should be implemented so that responsibilities are shared everyone has a role in policy formulation and decision making and implementation process.
- Intergovernmental collaboration among the ministries- finance, industry, transport, environment to work towards a common goal i.e. Clean Air.
- Promote and initiate work at grassroots level through local government like promoting greenery, cycle lane for air quality management



**Figure 4: Panelists of the workshop; from left: Mr. Pravin Raj Joshi, Mr. Satish Joshi, Mr. Ashesh Sharma, Mr. Bhushan Tuladhar(Moderator), Mr. Ram Chandra Poudel, Dr. Christa Hasenkopf, Mr. Shankar Prasad Sharma, Dr. Megnath Dhimal and Mr. Sudarshan Mishra**

## 5. Conclusion and Way forward

The workshop drew a common conclusion that the data should be available in a common platform and be utilized towards achieving a common goal i.e. clean air. Data are being generated from various sectors but the data are not fully open and the reliability of the data is not ensured. Local Government has a huge responsibility of working at grass root level and play an active role towards air quality management. The workshop expects to initiate data based decisions when developing policies related to clean air and Clean Energy Nepal takes this workshop as a beginning of this process and commits to continue its work in the future as well.

Enhancing knowledge about air pollution from grassroots level initiated from local government and youth could be effective in Air Quality Management. The practice data sharing from various sectors and inter coordination among the sectors and stakeholders could be the way forward for effective policy formulation and air quality management.

### Annex 1: Program Agenda

S.N.	Program	Time
1.	<b>Registration/ Tea and Coffee</b>	8:00 – 9:00
2.	<b>Opening Session</b>	
	Opening Remarks and Objective Sharing - CEN	9:00 - 9:10
	Chief Guest Remarks - Kathmandu Metropolitan City	9:10 – 9:30
	Special Remarks - Representative from U.S. Embassy in Nepal	9:30 - 9:40
3.	<b>Technical Session</b>	
	Policy Response for Air Quality Management in Nepal - Rajan Thapa, CEN	9:40 - 10:00
	Air Pollution Monitoring and Reporting in Nepal - Mr. Shankar Paudel, Department of Environment (DoE)	10:00 - 10:20
	Global Scenario of open data standards and their use in policy-making for air quality management - Christa Hasenkopf, PhD, CEO/Co-founder, OpenAQ	10:20 - 11:00
	Outcomes sharing of Youth Workshop - Youth Representative	10:00 - 11:10
4.	<b>Panel Discussion</b> 11:10-11:40 Remarks by panelists	11:10-12:30

	<p>11:40-12:30 Discussion among panelists and audience Open data for air quality policy - engaging citizens and government</p> <p>- Bhushan Tuladhar</p> <p><b>Guiding Questions</b></p> <ul style="list-style-type: none"> <li>• How can the public and government work together at local, provincial, and national levels to improve air quality? What forums and mechanisms for engagement and action exist? What new forums and mechanisms could be created?</li> <li>• What additional data would help improve understanding of air pollution?</li> <li>• How can technological tools be used to improve understanding of air quality?</li> <li>• What kind of input from the public would help government design its policies and actions?</li> <li>• How can technology be used to improve citizen-government partnership to improve air quality?</li> </ul> <p><b>Tentative Panelist</b> National Planning Commission (NPC), DoE, KMC/LMC, Department of Transport Management (DoTM), Nepal Health Research Council (NHRC), ICIMOD</p>	
5.	<b>Closing</b>	12:30-13:00
6.	<b>Lunch</b>	13:00

## Annex 2: Presentations

Please find the presentations in the link below:

[https://drive.google.com/drive/folders/1VCHTs-eGXcMV0eQQd3L4k\\_RG11Hq4pNo?ogsrc=32](https://drive.google.com/drive/folders/1VCHTs-eGXcMV0eQQd3L4k_RG11Hq4pNo?ogsrc=32)

## Annex 3: List of Participants

SN.	Name	Organization	Contact No.	Email
1	Bijaya Man Sherchan	Pashupati Energy	9851023922	
2	Sharada Jnawali	Development consultant	9818538188	<a href="mailto:sharada.jnawali@gmail.com">sharada.jnawali@gmail.com</a>
3	Shankalpa Bhattarai	LEADERS Nepal	9860675255	<a href="mailto:sankalpabhattarai88@gmail.com">sankalpabhattarai88@gmail.com</a>
4	Sanjay Adhikari	Pro Public	9849441734	<a href="mailto:sanjayadhikari2052@gmail.com">sanjayadhikari2052@gmail.com</a>

5	Pawan Rai	NYCA	9860087899	<a href="mailto:rai97pawan@gmail.com">rai97pawan@gmail.com</a>
6	Praveen Kumar Regmi	Tri Chandra	9849296810	<a href="mailto:praveenkumarregmi@gmail.com">praveenkumarregmi@gmail.com</a>
7	Sarita Ghale	Youth Alliance for Environment	9840055412	<a href="mailto:saritaghale357@gmail.com">saritaghale357@gmail.com</a>
8	Ram Chandra Poudel	Department of Transport Management	9802149794	<a href="mailto:rachpoudel@yahoo.com">rachpoudel@yahoo.com</a>
9	Suchita Shrestha	SIAS	9841716403	<a href="mailto:suchita.sen23@gmail.com">suchita.sen23@gmail.com</a>
10	Dipak Thapa	RII Aid Int'l	9851143344	<a href="mailto:dipak.autonepal@gmail.com">dipak.autonepal@gmail.com</a>
11	Christa Hasenkopf	Open AQ	5072462047	<a href="mailto:christa@openaq.org">christa@openaq.org</a>
12	Jay Pal Shrestha	US Embassy	9801032319	<a href="mailto:jaypalshrestha@gmail.com">jaypalshrestha@gmail.com</a>
13	Roshan Kumar Shrestha	Auto Nepal	9851067767	<a href="mailto:mkt.autonepal@gmail.com">mkt.autonepal@gmail.com</a>
14	Shudarshan Mishra	LMC, Word is Word	9851089260	<a href="mailto:sudarshan.mishra2066@gmail.com">sudarshan.mishra2066@gmail.com</a>
15	Hemu Kafle	KIAS	9851168762	<a href="mailto:hemukafle@gmail.com">hemukafle@gmail.com</a>
16	Ramesh Sapkota	TU	9841297295	<a href="mailto:rsapkota@cdes.edu.np">rsapkota@cdes.edu.np</a>
17	Satish Joshi	Dristi Ktm	9801014400	<a href="mailto:satishnjoshi1@gmail.com">satishnjoshi1@gmail.com</a>
18	Meera Prajapati	Khwopa	9841718728	<a href="mailto:meeprajapati@gmail.com">meeprajapati@gmail.com</a>
19	Hishila Sujakhu	Khwopa college	9849304223	<a href="mailto:hishila21@gmail.com">hishila21@gmail.com</a>
20	Deepak Shrestha	KVDA, DCO	9851055275	<a href="mailto:deepak440616@gmail.com">deepak440616@gmail.com</a>
21	Ramesh Ratna Sthapit	Mechanical Energy	9841731547	<a href="mailto:ramesh_sthapit@hotmail.com">ramesh_sthapit@hotmail.com</a>
22	Pradip Bhattarai	Prakriti Resource Centre	9841897727	<a href="mailto:pradip@prc.org.np">pradip@prc.org.np</a>
23	Basanta Acharya	Kathmandu Metropolitan City	9851087938	<a href="mailto:basantakmc@gmail.com">basantakmc@gmail.com</a>
24	Ashesh Kumar Sharma	Kantipur tv	9802077876	<a href="mailto:asheshksharma@gmail.com">asheshksharma@gmail.com</a>
25	Pravin Raj Joshi	Rooster Logic	9851007980	<a href="mailto:pravenj@gmail.com">pravenj@gmail.com</a>
26	Rowan Fraser	GGIC	19092546294	<a href="mailto:rowan.fraser@ggic.org">rowan.fraser@ggic.org</a>
27	Shailendra Dangol	CCNN	9851229251	<a href="mailto:sailendra.dangol@gmail.com">sailendra.dangol@gmail.com</a>
28	Amod Karmacharya	Cleanup Nepal	9803097591	<a href="mailto:amodkarmacharya@gmail.com">amodkarmacharya@gmail.com</a>
29	Karuna Thapa	Cleanup Nepal	9843488597	<a href="mailto:karunathapa@cleanupnepal.com">karunathapa@cleanupnepal.com</a>
30	Bidhya Sundar Shakya	Mayor	9851274400	

31	Rajeshwor Man Sthapit	Kathmandu	9851142136	<a href="mailto:rajeshorgymnast@gmail.com">rajeshorgymnast@gmail.com</a>
32	Krishna Adhikari	RSS	9851197400	<a href="mailto:krishnarss72@gmail.com">krishnarss72@gmail.com</a>
33	Azain Nathaniel	Cleanup Nepal		<a href="mailto:azan.nathaniel@cleanup.org.np">azan.nathaniel@cleanup.org.np</a>
34	Pallab Regmi	CAID	9802066994	<a href="mailto:pregmi@christian-aid.org">pregmi@christian-aid.org</a>
35	Sarita Gurung	NPC	9849639499	<a href="mailto:sgurung@npc.gov.np">sgurung@npc.gov.np</a>
36	Ramesh Singh Pradhan		9841337618	<a href="mailto:singh_pradhanramesh@hotmail.com">singh_pradhanramesh@hotmail.com</a>
37	Kamal Pande	consultant	9851055999	<a href="mailto:erkrpande@gmail.com">erkrpande@gmail.com</a>
38	Bharat Poudel	EVMIAN	9851036347	<a href="mailto:6psharma.7@gmail.com">6psharma.7@gmail.com</a>
39	Hitendra Bdr Shakya	NEA Eng Co	9851083448	<a href="mailto:hitendradur@hotmail.com">hitendradur@hotmail.com</a>
40	Sushil Sharma	CBS	9841320637	<a href="mailto:sushil.cbs@gmail.com">sushil.cbs@gmail.com</a>
41	Nisha Koirala	KMC CMD		
42	Ganesh Shah		9851079522	
43	Karuna Bajracharya	Global Alliance for Clean	9851054981	<a href="mailto:kbajracharya@cleancookstoves.org">kbajracharya@cleancookstoves.org</a>
44	Apar Poudel	US Embassy	9801027964	<a href="mailto:poudela1@state.gov">poudela1@state.gov</a>
45	Hikmat Khadka	US Embassy	9801083209	<a href="mailto:khadkah@state.gov">khadkah@state.gov</a>
46	Jiban Basnet	Naya Patrika Daily	9841290439	<a href="mailto:jbasnetji@gmail.com">jbasnetji@gmail.com</a>
47	Dr. Meghnath Dhimal	NHRC	9851167198	<a href="mailto:meghdhimal@gmail.com">meghdhimal@gmail.com</a>
48	Utsav Shree Rajbhandari	MEC research institute	9803225481	<a href="mailto:utsavshree@hotmail.com">utsavshree@hotmail.com</a>
49	Umesh Raj Shrestha	EVAN	9849405853	<a href="mailto:umeshsev@yahoo.com">umeshsev@yahoo.com</a>
50	Nausad Ansari	SSTN/NCE	9845395617	<a href="mailto:ansarinausad@gmail.com">ansarinausad@gmail.com</a>
51	Louisa Dennison	development initiatives	9823785549	<a href="mailto:louisadennison@devinit.org">louisadennison@devinit.org</a>
52	Bipin Shrestha	Radio Nagarik	9847755760	<a href="mailto:sirisbipin1996@gmail.com">sirisbipin1996@gmail.com</a>
53	Brijendra Rochan Joshi	Rooster losic	9851164335	<a href="mailto:brijendra@roosterlogic.com">brijendra@roosterlogic.com</a>
54	Shankar Prasad Poudel	Do Environment	9841583743	<a href="mailto:shankar_prasad_paudel@yahoo.com">shankar_prasad_paudel@yahoo.com</a>
55	Sulav Raj Baral	SXC	9842763588	<a href="mailto:damakhero@gmail.com">damakhero@gmail.com</a>
56	Anantaa Pandey	GGGI	9851236195	<a href="mailto:anantaa.pandey@gggi.org">anantaa.pandey@gggi.org</a>
57	Sukriti Suvedi	WHO	9841235206	<a href="mailto:suvedis@who.int">suvedis@who.int</a>
58	Suman Sthapit	Ward no. 24	9849187426	<a href="mailto:ward24@kathmandu.gov.np">ward24@kathmandu.gov.np</a>
59	Renu Twanabusu	Nagarik	9860662029	<a href="mailto:twarenu@gmail.com">twarenu@gmail.com</a>

60	Krishna Kis	Nagarik	9841354387	<a href="mailto:krishnakishee@gmail.com">krishnakishee@gmail.com</a>
61	Rashmi Maharjan	CEN	9841732351	<a href="mailto:rashmi@cen.org.np">rashmi@cen.org.np</a>
62	Hari Kunwar	KMC EMD	9851077486	<a href="mailto:kunwarharibahadur@yahoo.com">kunwarharibahadur@yahoo.com</a>
63	Bhupendra Das	CDES/NEEDS	9840090897	<a href="mailto:bhupenids@gmail.com">bhupenids@gmail.com</a>