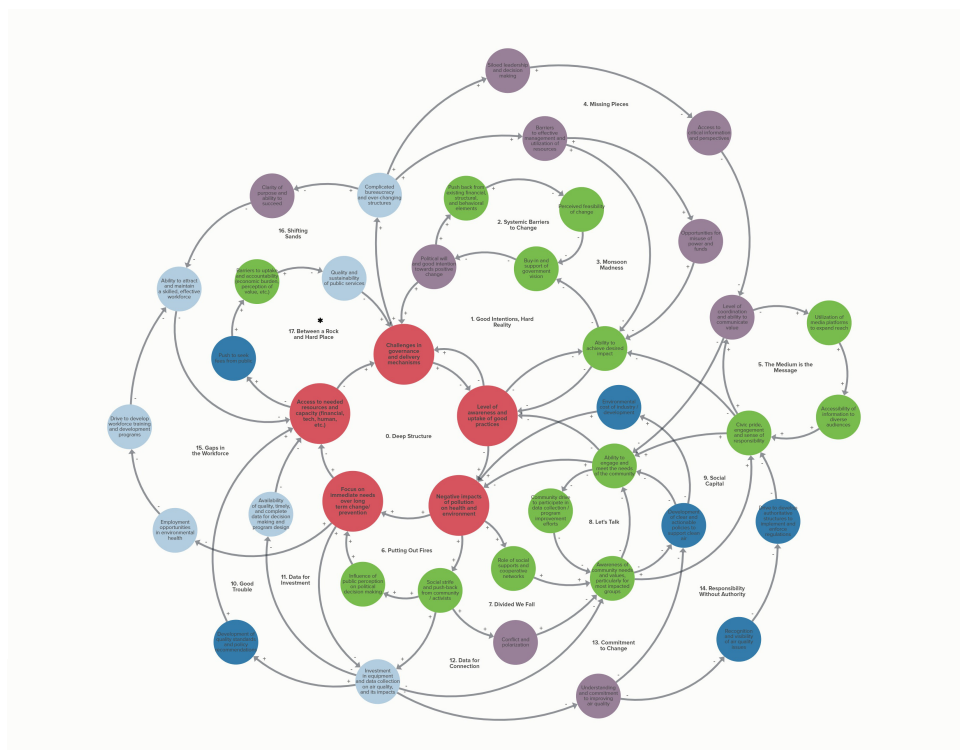


Kathmandu Workshop Report: Systems Mapping Approach



April – September 2021

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ACRONYMS

BHC	Building Healthy Cities
CANN	Clean Air Network Nepal
CEN	Clean Energy Nepal
CDES	Central Department of Environmental Science
DoE	Department of Environment
HERD	Health Research and Social Development Forum
ICIMOD	International Centre for Integrated Mountain Development
JSI	JSI Research & Training Institute, Inc.
KVAP	Kathmandu Valley Air Pollution Management Action Plan
USAID	United States Agency for International Development

Building Healthy Cities

Building Healthy Cities is a five-year cooperative agreement funded by the United States Agency for International Development (USAID) under Agreement No. AID-OAA-A-17-00028, beginning September 30, 2017. Building Healthy Cities is implemented by JSI Research & Training Institute, Inc. (JSI) with partners International Organization for Migration (IOM), Thrive Networks Global, and Urban Institute, and with support from Engaging Inquiry, LLC.

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INTRODUCTION

The United States Agency for International Development (USAID)-funded Building Healthy Cities (BHC) project aims to refocus city policies, planning, and services with a health equity lens while improving data-driven decision making for Smart Cities in India, Indonesia, Nepal, and Vietnam. Planning for a Smart City is intrinsically linked to health: transportation, the environment, sanitation, education, recreation, technology, and the built environment all influence the health of an urban population. When decision-making across these areas is harmonized, people will benefit from improved access to health services, decreased environmental and lifestyle risk factors for chronic diseases, a lower burden of infectious diseases, and an increased availability of useful data for decision-making.

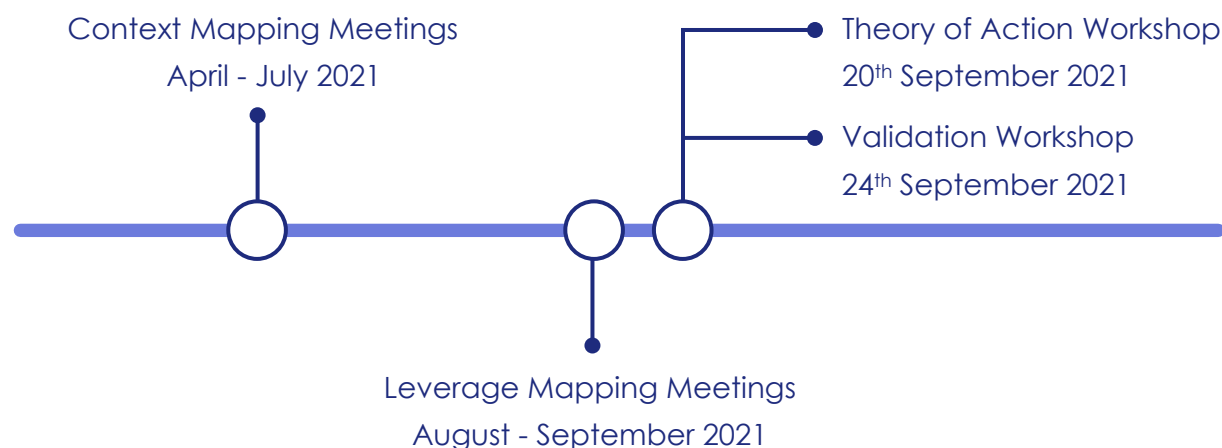
BHC engages with sectors that contribute, directly or indirectly, to citizens' health (particularly women's and children's health) and quality of life. This multisector engagement, the first core value of BHC, aims to provide all municipal sectors a common understanding of how they contribute to health. The second BHC core value is to strengthen community engagement in municipal decision-making, especially for those most vulnerable to health shocks. BHC's third core value is supporting use of data for planning and decision-making. Informed by these three core values, the project is working to improve healthy urban planning.

Kathmandu is a multicultural metropolitan city and the political, cultural, and financial center of Nepal. Currently, the city is administratively organized into 18 urban municipalities. The Kathmandu Valley has experienced rapid urbanization, which has led to extremely rapid population growth, and a corresponding boom in housing and urban infrastructure construction. This includes development of schools, hospitals, brick kilns, boilers, and industries. In addition, the growth of vehicular traffic has led to a necessary development of roads, but unfinished roads, unpaved sidewalks, and haphazard dumping of construction materials have all contributed to poor air quality in Kathmandu Valley.

To address these and other air quality issues, BHC worked with the Department of Environment (DoE) and the 18 municipalities to roll out the cabinet-approved Kathmandu Valley Air Pollution Management Action Plan (KVAP). The BHC Nepal team reviewed the KVAP and identified positive and comprehensive actions to reduce air pollution and its effects on peoples' health.

BHC used a systems mapping approach to work with the 18 municipalities through a series of meetings, focus group discussions, key informant interviews, and workshops. BHC also engaged with federal and local government officials, civil society, the private sector, academia, and other relevant stakeholders. This approach allowed BHC to contextualize the KVAP according to the local context of each municipality and create an implementation plan to roll out the KVAP at the municipal level. This report summarizes those events, held in April-September 2021.

Figure 1. Systems Mapping Timeline, April-September 2021



WORKSHOP SUMMARIES

Context Mapping Meetings

BHC completed a series of meetings, focus group discussions, and key informant interviews with federal and local government officials, civil society, the private sector, academia and other relevant stakeholders to understand the existing situation in Kathmandu city and identify barriers and supports for becoming a healthier city. BHC hosted several meetings between April and July 2021 and engaged with 56 stakeholders. In each of these meetings BHC used a semi-structured questionnaire to stimulate discussion to assess the participants' understanding of air pollution.

Table 1: Context Mapping Meetings, Discussions, and Interviews

Date	Meeting
6 th April 2021	Meeting with Mayor and Deputy Mayor of Kirtipur Municipality
12 th April 2021	Focus group discussion with Laliguras Women's Group and Pragatishil Women's Group
15 th April 2021	Meeting with DoE
16 th April 2021	Focus group discussion with elected ward representatives of Ward -19, Lalitpur
16 th April 2021	Focus group discussion with students of Times College
18 th April 2021	Focus group discussion with Young Farmers Group
20 th April 2021	Focus group discussion with Independent Living Center (advocacy group for people with disabilities)
22 nd April 2021	Meeting with DoE

23 rd April 2021	Focus group discussion with Blue Diamond Society (advocacy group for LGBTQ+ people)
26 th April 2021	Focus group discussion with Nahuda Community Health Workers Group
26 th April 2021	Key informant interview with Sarita Lama, independent expert
25 th May 2021	Key informant interview with Arnico Pandey, advisor for National Planning Commission
9 th June 2021	Focus group discussion with Central Department of Environmental Science (CDES), Tribhuvan University
29 th June 2021	Focus group discussion with Health Research and Social Development Forum (HERD)
2 nd July 2021	Key informant interview with Bidhya Banmali Pradhan, International Centre for Integrated Mountain Development (ICIMOD)



During these discussions the participants brought up several issues to be examined including challenges in governance, lack of policy, lack of implementation of rules and regulations, private sector engagement, lack of awareness, media engagement, human and capital resources, complicated bureaucratic structure, "monsoon development", data and technology, sharing of resources, and more. The findings were organized into an interactive [Context Systems Map](#) that identifies patterns, causal loops, and key themes.

Leverage Mapping Meetings

BHC next held a series of meetings, focus group discussions, and key informant interviews with relevant stakeholders to find leverage points within the systems map where the municipalities could take concrete action to create an outsized impact on the whole system. These discussions were held in August-September 2021.

Table 2: Leverage Mapping Meetings, Discussions, and Interviews

Date	Meeting
3 rd August 2021	Focus group discussion with officials of Chandragiri Municipality
4 th August 2021	Key informant interview with Pradeep Amatya, Lalitpur Metropolitan City
4 th August 2021	Key informant interview with Indu Bikram Joshi, Deputy Director General of DoE
8 th August 2021	Focus group discussion with Women's Group and elected ward representatives of Chandragiri Municipality
9 th August 2021	Focus group discussion with officials of Kathmandu Metropolitan City
12 th August 2021	Focus group discussion with officials of DoE
19 th August 2021	Focus group discussion with Rikishi Composting
19 th August 2021	Focus group discussion with officials of Kathmandu Metropolitan City
3 rd September 2021	Focus group discussion with the Mayor and officials of Chandragiri Municipality
7 th September 2021	Focus group discussion with Clean Energy Nepal
9 th September 2021	Focus group discussion with locals of Sunakothi village



Through these meetings, the following leverage points were identified and illustrated through an interactive [Leverage Systems Map](#):

1. Participatory leadership and decision-making.
2. Partnerships for shifting waste to resource.
3. Clear policies that support strong implementation.
4. Cross-collaborative structures for learning.
5. Workforce training and capacity building.

Through the various interactions and discussions held with key stakeholders, and analysis of the KVAP document, BHC Nepal extracted a list of action points specific to the local municipalities within the KVAP and categorized them into eight strategic areas. Local municipalities will collaborate with other government, private, and non-government sectors in order to implement the plan. The eight areas are:

1. Vehicular emissions and traffic management.
2. Infrastructure development.
3. Greenery promotion.
4. Brick kilns.
5. Household, hospital, factory, and agricultural pollution.
6. Policy and legal structures.
7. Public awareness.
8. Data and research.

Theory of Action Workshop

BHC then organized a Theory of Action workshop on September 20, 2021 with key officials from Kirtipur Municipality, Chandragiri Municipality, Lalitpur Metropolitan City, and Kathmandu Metropolitan City as well as members of academia and civil society. During the workshop BHC shared the final Context and Leverage Systems Maps connecting sectors that impact air pollution in Kathmandu Valley. The participants then discussed the systems mapping findings with respect to the KVAP in order to create an implementation plan for the municipalities to follow.

Table 3: Theory of Action Workshop Agenda

Time	Discussion Topic
9:00–10:30	Session 1: Introduction to BHC, KVAP, and Systems Mapping Deepak Tamang, Senior Project Officer, BHC/JSI Shreesha Nankhwa, Project Associate, BHC/JSI
10:30–13:00	Session 2: Group Discussions to Prioritize KVAP (Draft Implementation Plan for Chandragiri and Kirtipur Municipalities) Deepak Tamang, Senior Project Officer, BHC/JSI Shreesha Nankhwa, Project Associate, BHC/JSI Kushal Acharya, Finance and Administration Officer, BHC/JSI
14:00–15:30	Session 3: Plenary Presentation by Small Groups Towards the Draft Implementation Plan for Chandragiri and Kirtipur Municipalities, and Synthesis Deepak Tamang, Senior Project Officer, BHC/JSI



Through the workshop, the participants broke down the KVAP while considering the leverage points identified by the systems mapping process. They identified immediate steps that could be taken in the eight key focus sectors by the municipalities in order to tackle air pollution.

Validation Workshop

Next, BHC organized a Validation Workshop on September 24, 2021 with key officials from the government and civil society to share and discuss the outcomes of the Theory of Action Workshop and get feedback on the implementation plan and action points identified.

Table 3: Validation Workshop Agenda

Time	Discussion Topic
15:00–15:10	Opening Remarks on KVAP and Role of Municipalities Plan Deepak Tamang, Senior Project Officer, BHC/JSI
15:10–15:20	Background of BHC Nepal in Relation to KVAP Rollout Plan Deepak Tamang, Senior Project Officer, BHC/JSI
15:20–15:30	Major Activities: BHC Nepal Deepak Tamang, Senior Project Officer, BHC/JSI
15:30–15:40	Planning Process Systems Mapping Shreesha Nankhwa, Project Associate, BHC/JSI
15:40–15:50	Communication for Behavior Change Kushal Acharya, Finance and Administration Officer, BHC/JSI
15:50–16:10	Outcome of the Chandragiri Planning Workshop Deepak Tamang, Senior Project Officer, BHC/JSI
16:10–16:45	Inputs, Questions and Answers from Participants Floor
16:45–16:55	Pathways Ahead Deepak Tamang, Senior Project Officer, BHC/JSI
16:55–17:00	Summing Up and Vote of Thanks Deepak Tamang, Senior Project Officer, BHC/JSI



Through the workshop, the participants from different governmental and non-governmental sectors gave their feedback on the systems map process, findings, implementation plan, and action points, and provided their suggestions and recommendations.

PARTICIPANTS

	Name	Organization	Context Mapping Meetings	Leverage Mapping Meetings	Theory of Action Workshop	Validation Workshop
1	Prakash Lamsal	Ministry of Forests and Environment	X			
2	Gyanendra Mishra	Ministry of Forests and Environment	X			
3	Mukunda Niraula	DoE	X	X		
4	Indu Bikram Joshi	DoE	X	X		
5	Shankar Poudel	DoE	X	X		
6	Deepak Gyawali	DoE				X
7	Bishnu Pandey	DoE				X
8	Nabina Maharjan	DoE				X
9	Govinda Lamichhane	DoE				X
10	Ramesh Maharjan	Kirtipur Municipality	X			
11	Saraswoti Khadka	Kirtipur Municipality	X		X	
12	Krishna Prasad Sapkota	Kirtipur Municipality			X	
13	Gyan Bazra Maharjan	Kirtipur Municipality	X	X	X	
14	Anuj Pradhan	Kirtipur Municipality			X	
15	Santaman Manandhar	Kirtipur Municipality			X	
16	Aman Maharjan	Kirtipur Municipality Ward 10		X		
17	Ghanashyam Giri	Chandragiri Municipality	X	X		
18	Lisa Nakarmi	Chandragiri Municipality			X	
19	Niraj Paudel	Chandragiri Municipality			X	
20	Bhadra Aryal	Chandragiri Municipality		X	X	
21	Ram Mani Ghimire	Chandragiri Municipality			X	

22	Damodar Rijal	Chandragiri Municipality			X	
23	Gopal Krishna Maharjan	Chandragiri Municipality Ward 10	X			
24	Sabina Raut	Chandragiri Municipality Ward 8		X		
25	Saroj Basnet	Kathmandu Metropolitan City Planning Commission		X		
26	Mana Raja Ranjit	Kathmandu Metropolitan City Planning Commission		X		
27	Kirti Kusum Joshi	Kathmandu Metropolitan City Planning Commission		X		
28	Jayshree Rajbhandari	Kathmandu Metropolitan City Planning Commission		X	X	
29	Nilima Shrestha	Kathmandu Metropolitan City Planning Commission		X		X
30	Sandhya Bajracharya	Kathmandu Metropolitan City Planning Commission			X	
31	Pradeep Amatya	Lalitpur Metropolitan City		X	X	
32	Binod Tamrakar	Lalitpur Metropolitan City Ward 19	X			
33	Bulal Maharjan	Lalitpur Metropolitan City Ward 19	X			
34	Nhuchhe Khadgi	Lalitpur Metropolitan City Ward 19	X			
35	Anjana Madhikarmi	Madhyapur Thimi Municipality	X			
36	Rajani Joshi	Bhaktapur Municipality	X			
37	Bidhya Banmali Pradhan	ICIMOD	X			
38	Swoyambhu Man Amatya	Government of Nepal		X		
39	Sarita Lama	Independent Expert	X			
40	Raja Ram Pote	WHO	X			
41	Arnico Pandey	ICIMOD (previously), National Planning Commission	X			
42	Rejina Maskey	CDES, Tribhuvan University	X			X

43	Ramesh Sapkota	CDES	X			
44	Enna Mool	CDES			X	
45	Narayan Babu Dhital	CDES; Patan Multiple Campus			X	
46	Kosmos Bishwokarma	Nepal Forum of Environmental Journalist; Clean Air Network Nepal (CANN)				X
47	Malin Alhback	UNICEF				X
48	Hemu Kafle	Kathmandu Institute of Applied Sciences; CANN	X			
49	Sushil Baral	HERD	X			
50	Shophika Regmi	HERD	X			
51	Abriti Aryal	HERD	X			
52	Deepak Joshi	HERD	X			
53	Sampurna Kakchapati	HERD	X			
54	Indira Shrestha	Stri Shakti; National Planning Commission				X
55	Ramesh Karki	Stri Shakti	X			X
56	Mahika Shrestha	Stri Shakti; Times College	X			X
57	Prashansha Sharma	Times College	X			
58	Lalmani Wagle	Clean Energy Nepal (CEN); CANN		X		
59	Kriti Shrestha	CEN		X		
60	Anju Koirala	CEN		X		
61	Nabina Tiwari	CEN		X		
62	Usha Giri	Rikishi Compost		X		
63	Bhoj Raj Shrestha	Independent Living Center	X			
64	Krishna Gautam	Independent Living Center	X			
65	Gita Tumbahamphe	Independent Living Center	X			

66	Sadan Pandit	Independent Living Center	X			
67	Anupam Bhattarai	Independent Living Center	X			
68	Rajendra Maharjan	Young Farmers Group	X			
69	Jeetendra Shrestha	Young Farmers Group	X			
70	Mahalaxmi Maharjan	Young Farmers Group	X			
71	Radhika Maharjan	Nahuda Health Group	X			
72	Ramila Shrestha	Nahuda Health Group	X			
73	Narayan Devi Shrestha	Nahuda Health Group	X			
74	Rita Maharjan	Nahuda Health Group	X			
75	Sarita Shrestha	Nahuda Health Group	X			
76	Sarita Nakarmi	Nahuda Health Group	X			
77	Anmol Rai	Blue Diamond Society			X	
78	Manisha Dhakal	Blue Diamond Society	X			
79	Pinky Gurung	Blue Diamond Society	X			
80	Simran Sherchan	Blue Diamond Society	X			
81	Artisha Magar	Blue Diamond Society	X			
82	Anuj Petter Rai	Blue Diamond Society	X			
83	Nita Giri	Laliguras Women's Group	X	X	X	
84	Sumitra KC	Pragatisheel Women's Group	X			
85	Gayatri Sangroula	Laliguras Women's Group	X			
86	Uma Pudasaini	Laliguras Women's Group	X			
87	Shanta Chettri	Laliguras Women's Group	X			
88	Tara Gurung	Pragatisheel Women's Group	X			
89	Rama Maya Tamang	Laliguras Women's Group	X			

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