

Report On Virtual Meeting Discussion on WASH and COVID-19



Smart WASH Solutions

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Kathmandu, Nepal

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1. Background

Corona Virus disease 2019 (COVID-19), first identified in Wuhan, China, in December 2019, was declared to be a Public Health Emergency of International Concern on 30th January 2020, and was recognized as a pandemic by the World Health Organization on 11th March 2020. As of 16th April 2020, more than 2.09 million cases of COVID-19 have been reported in 210 countries and territories, resulting in more than 135,000 deaths. More than 516,000 people have recovered, although there may be a possibility of relapse or reinfection.

Due to the new type of virus and although different scientists and researchers are working to identify the characteristics of Corona virus. As we WASH expert and we all know that there is strong relation with COVID-19 and WASH.

One of the effective preventive measures for COVID-19 recommended by WHO are hand washing, sanitation, hand hygiene and respiratory hygiene. Hand washing becomes problematic when there is lack of access to water. This has shown that water, sanitation and hygiene (WASH) adequate facilities is very essential in the current pandemic situation.

Nepal government ordered country lockdown from 11th Chaitra 2076 (24th March 2020) and extended upto 20th Jestha 2076 (2nd June 2020).

During the lockdown situation there is no chances of communication through workshop, interaction and discussion forum physically possible, so taking the advantage of Virtual meeting facility, Smart WASH Solutions (SWS), organized different eight sessions (mentioned below in table) on the topic #WASH and COVID-19# online Zoom meeting which was participated by 180 numbers of experts and shared their valuable views, suggestions and potential measures for fighting against COVID-19 pandemic.

Program Schedule

SN	Session	Date	Remarks
1	First Session	2076/12/19	
2	Second Session	2076/12/20	
3	Third Session	2076/12/22	
4	Fourth Session	2076/12/26	
5	Fifth Session	2076/12/29	
6	Sixth Session	2077/01/03	
7	Seventh Session	2077/01/07	
8	Eighth Session	2077/01/10	

The main objective for regular Zoom meeting was to collect right information, status about WASH facilities services, Issues related to WASH services during this pandemic and possible solution to resolve the current issues from government organizations, water service providers, WASH experts, public health experts, academic institutions, and lawmakers, members of local government, NGOs / INGOs, MUAN and civil society.

The main recommendation from the discussion of experts is highlighted in this report, which can be used for response and recovery by the WASH sector institutions and local government in fighting against COVID-19. The detail list of participants is attached in Annex.

2. Discussed Areas and Speakers

The virtual zoom meeting was organized in the chairmanship of Er. Ramdeep Sah (Chairman, Smart WASH Solutions) and was moderated by Er. Ganesh Shah (Former Minister, Science, Technology & Environment). During different eight session following topics were covered:

1. WASH, COVID-19 and Surveillance System
2. The missing W (i.e. Water) in WASH in light of the Corona disaster
3. Academic Institutions Role, Scientific & operational concerns
4. Role of WASH Institutions and WASH Clusters interventions
5. Water Leadership in Post COVID-19
6. COVID-19 and Technology Innovation
7. WASH Professional's role during COVID-19 pandemic
8. Safe Hygiene, Disinfection
9. Service Providers issues and intervention
10. WHO guidance note

The speakers of the discussion were:

1. Dr. Bindu Nath Lohani (Advisor, Asia Water Council)
2. Mr. Mangesh Lal Shrestha (Managing Director, Frost and Sullivan Nepal)
3. Dr. Dinesh Manandhar (Independent WASH Expert)
4. Er. Sunil Kumar Das (Director General, Department of Water Supply and Sewerage Management (DWSSM))
5. Er. Ramdeep Sah (Chariman, Smart WASH Solutions)
6. Prof. Dr. Subodh Sharma (Kathmandu University)
7. Er. Dipak Gyawali (Former Water Resources Minister & Former Chairman of Nepal Water Conservation Foundation (NWCF))
8. Er. Suman Prasad Sharma (Former Secretary of Nepal)
9. Dr. Sunil Kumar Joshi (Head, Department of Community Medicine)
10. Mr. Shailesh Shrestha (GIS Expert)
11. Dr. Rajit Ojha (SDE, Ministry of Water Supply)
12. Dr. Sudan Raj Panthi (National Professional Officer, WHO Nepal)
13. Dr. Tista Prasai Joshi (Faculty Member, Nepal Academy of Science & Technology)
14. Dr. Bhupendra Prasad (General Manager, Nepal Water Supply Corporation)

3. Discussed Points and Issues

3.1 Water

1. Tanker water's demand is increasing day by day in Kathmandu Valley as we are experiencing dry season. But water tanker vehicles running in the roads are not levelled with green stickers which is a symbol of safety. This water seems to be impure, unhygienic and may be contaminated.
2. Tanker Water's quality must be tested and this issue has to be coordinated with Kathmandu Valley Water Supply Management Board.
3. Nepal faces flood in 4 months and drought in rest 8 months. So, there is always problem of water crisis in Nepal. In context of current situation of Corona disaster, hand washing is the most important where water is compulsory to be used. But there is no sufficient availability of water.
4. There is a need to re-think the W (i.e. water) in WASH, especially in the context of growing water scarcity. It is not just with Corona but with health and sanitation in general that water scarcity issues need be well addressed. Disasters are unfinished business of development, and the current pandemic forces us to ask if we are giving sufficient attention to resilient water supply systems, to reviving traditional water management technologies that have co-evolved suited to our hydro-ecology. There is also great promise in modern systems other than conventional piped systems tapping existing spring's ground water recharge, water conservation, solar/hydrum pumping etc. that should be made part of policy in WASH sector.
5. Since water supply by concerned authority is not being supplied 24*7, quantity of safe water for hand washing purpose should be increased through additional supply hour by concerned authority.
6. Water service providers like Kathmandu Valley Water Supply Management Board, KUKL, National Water Supply Corporation, Water Users' Committee should understand this issue of water crisis & its need in current situation so should be more pro-active and in supplying adequate quantity of treated water.
7. DWSSM is trying to activate/mobilize WASH cadres/volunteers after building their capacity through proper training (online training in today's context). DWSSM is trying to disseminate information and create awareness through FM radio.
8. DWSSM is willing to coordinate with private sectors to solve the problem of WASH.
9. The quarantine contains stored water. The people in quarantine may be infected by corona virus and may have decreased immunity power. Study has found that stored water contains *E. coli* which is unsafe for drinking purpose. Such unsafe water may cause additional secondary diseases like diarrhea, cholera etc. in the person living in quarantine.
10. It is very essential to monitor the water quality stored in quarantine along with monitoring of sanitation, toilet condition, water facilities and personal hygiene to prevent from suffering any kind of disease.

11. Hand washing is the most important in this pandemic. So emphasis should be given on quantity and quality of water. Leadership on water sector is required (i.e. 24/7 availability of water, safe & clean water).
12. It is time to implement orientation program on water quality, quantity, its monitoring, sanitation and disinfection like chlorination.
13. Understanding the necessity of water supply for hygiene during COVID-19, Ministry of Water Supply has requested concerned authorities like Water Users Committee, KUKL, and NWSC to make the availability of water. Ministry has prepared guidance note, updated contingency plan and dispatched the letter including these things to provincial government.
14. For effective safety and preparedness, DWSSM should take strong leadership and get inter-connected with WASH sectors, wash cluster and other related organizations for making use of water safety plan tool and to maintain 0.5mg/lit chlorine in distribution system by the all water service providers.

3.2 Sanitation and Hygiene

1. The temporary quarantines made must be monitored as this may lack proper hygienic toilets, soap, hand sanitizers, disinfectants and other necessary requirement.
2. SARS-CoV-2 is very sensitive to temperature, resistance to pH, resistance to disinfectants so proper use of disinfectant, hand washing with soap and water (minimum 20-30 seconds) kills corona virus as till that time fats/lipid of virus gets destroyed & virus becomes idle.
3. Hand sanitizer containing greater than 60% alcohol or 70% alcohol is good to use where water is lacking otherwise hand washing with soap water is more effective than hand sanitizer to prevent from corona virus as explained by experts and literature. Locally used alcohol contains less than 40% so it is not good for preparing hand sanitizer.
4. Transmission route of corona virus are contact and aerosol. The pathway of transmission of virus can be prevented through cleanliness, sanitation & proper hand hygiene.
5. Study has shown that using soap water for hand washing is more effective than hand sanitizer.
6. Test kits to test corona virus should be standardized.
7. Safety measures in quarantine should also be monitored by skilled manpower.
8. With the support of Water-Aid, private sector has introduced contactless hand washing. This can decrease the chance of infection from corona virus.
9. Environmental cleaning in isolation rooms/areas is also very essential including the waste which is considered contaminated should be separately disposed.
10. Linen and fabrics should be washed by machine with warm water (60-90°C) with laundry detergent, followed by soaking in 0.05% chlorine for approximately 30 minutes and dried according to routine procedures. If machine washing is not possible, linens can be soaked in hot water and soap in a large drum, using a stick to stir, avoiding splashing. The drum should then be emptied and linen soaked in 0.05% chlorine for approximately 30 minutes. Finally, it should be rinse with clean water and let linens dry fully in the sunlight.

11. Depending upon the nature of surfaces, corona virus may live from 4 hours to 5 days. To prevent from the virus, 1% sodium hypochlorite or phenolic can be used as disinfectants, 70% alcohol can be used to wipe down surfaces eg. Metal and hand sanitizing stations should be installed in office premises.

3.3 Sanitation workers (Health care workers & waste management workers)

1. Sanitation workers working in the field of waste management and health workers should be provided with necessary protective materials like masks, gloves, hand sanitizers, disinfectants etc. so that they can work safely. Sanitation workers should be strengthened with health package facility.
2. The size of corona virus ranges from 30 nanometer-200 to 300 nanometer. So, effective masks include N95 & surgical mask.
3. Health care workers, caring corona virus infected patients, can also get infected by this virus through inhalation of aerosol containing virus sustained in the air due to less distance between patients & health care workers and lack of air flow. In addition to this, micro-droplets released by infected patients while coughing & sneezing can also infect health care workers.
4. Health care centers should be assessed in terms of WASH facilities. For that, hygiene & sanitation officers should monitor health care centers'
5. Wash facilities in school should be assessed and adequate facilities to be provided.

3.4 Surveillance and Technology

1. Nepal COVID-19 Surveillance (Mobile App) has been developed which helps in self-assessment of COVID-19 and provides necessary advice. This app can be downloaded from <https://www.nren.net.np/>.
2. Person using this app for the first time has to register from their residence so that the related sector of this app can locate the person's geographical coordinate.
3. People can enter their symptoms in this app and if required, doctors will provide necessary advice.
4. Digital world or technology like robot, drone has been assisting in COVID-19 like in contact tracing, fulfilling man power, identifying health situation/condition. Technology has helped in taking immediate action, efficient classification & implementation. Its use has been exponentially increased in socio-economic sector like online teaching, online meeting, food delivery, money transaction/banking/digital payment. This has helped significantly in economy moving & managed even in this pandemic. The use of drone is feasible even in Nepal.
5. Technology can be used for short term as well as for long term. In short term, technology can be used for contact tracing through drone. While in long term, technology can be useful for health care, food supply, industrial ecosystem, monitoring & ensuring safety.
6. With many benefits of technology, there are many challenges & vulnerability too. There is big issue of data accuracy, privacy and security.

4. Recommendations

1. Academic and Health care institutions should be aware of WASH in current situation. Youths can be encouraged to disseminate awareness especially wash cadres/cadets should be mobilized.
2. WASH cluster should be activated in government leadership and coordinate with related stakeholders & make provision for WASH facilities to health care institutions, schools, quarantine, isolation and in communities.
3. Scientific activist should raise their voice on this issue by writing articles on newspaper.
4. People should also use water wisely and adapt the ways to conserve and recharge it.
5. Independent critical voice on water policy in Nepal is also required.
6. Wastewater that comes out after hand washing can be treated. This treated wastewater can be disposed.
7. It was suggested to provide different but short messages related to COVID-19 as ring tone in the phones.
8. WASH financing (at the moment less than 3% annual budget of the government of Nepal) should be increased.
9. Moving WASH from engineering approach/perspective to holistic approach requires at all level: policy, research and development. We need to promote to see water issues not only from infrastructure perspective but also from social, economic, institutional, environmental, political, health dimension.
10. Water is the key which has not received attention to the policy and development discourse in Nepal.
11. Gender and social equity dimension of WASH is key that WASH sector should emphasize.
12. Political economy and governance of water resources management is the key for water sector's intervention in the federal context. So, research, knowledge formation and policy dialogue should focus on the political economy perspective as well.
13. It would be good if we also attempt to bring women experts/professionals and professionals who are doing research on WASH from social and governance aspects in this kind of platform so that we can learn from multiple perspective.
14. One of the reason for the death of doctors in many COVID-19 affected countries is lack of knowledge on handling PPE and carelessness in hand hygiene. So, doctors should take guidance and supervision of a trained observer while handling PPE.
15. It is necessary to set and apply standard precautions like hand hygiene, respiratory hygiene, PPE according to the risk, environmental cleanliness, safe handling and cleaning of soiled linen, waste management etc.
16. The objects which are commonly touched or used should be decontaminated by cleaning, and disinfecting, or by sterilization. Spraying of disinfectants is not recommended by WHO.

17. Water Safety Plan (WSP) is a procedure of assuring quality of drinking water from catchment to consumer by any water supply provider be it government authority, board, private tankers, bottle water suppliers. WSP has to be made mandatory for water quality monitoring and surveillance in the future.
18. The existing water supply, wastewater design guidelines, manuals and effluent standards have to be revised in order to accommodate impacts of Novel Corona Virus on WASH system.
19. More research and development and scientific evidences would be necessary in future, so GoN has to invest in research and development in the coming days.

Annexes

Annex-1: Media Links

<http://aashanes.com/archives/29120>

<http://aashanews.com/archives/29277>

<http://aashanews.com/archives/29445>

<http://aashanews.com/archives/29550>

<http://aashanews.com/archives/29680>

Annex-2: Participants

1	Er. Ganesh Shah ((Former Minister, Science, Technology & Environment)
2	Er. Ramdeep Sah (Chairman, Smart WASH solutions)
3	Er. Hari Prasad Sharma (CEO, Smart WASH Solutions)
4	Mr. Harka Bahadur Chhetri (Director, Smart WASH Solutions)
5	Ar. Girija Dahal (Director, Smart WASH Solutions)
6	Er. Krishna Ram Yendyo (Member, Smart WASH Solutions)
7	Er. Suman Prasad Sharma (Former Government Secretary)
8	Er. Kabindra Pudasaini (Senior Water Resource Engineer, WaterAid)
9	Ms. Sandila Shrestha (Office Manager, Smart WASH Solutions)
10	Dr. Manish Pokharel (Assistant Professor & Head, Department of Computer Science & Engineering, KU)
11	Prof. Dr. Subodh Sharma (KU)
12	Mr. Suman Dhun Shrestha (Research Associate, School of Engineering-KU)
13	Mr. Kushal Gurung (CEO, Wind Power Nepal)
14	Mr. Prakash Amatya (Technical Advisor, Guthi)
15	Mr. Iswar Man Amatya (Assoc. Professor, Institute of Engineering, Pulchowk)
16	Ms. Kribina Pathak (Knowledge Management & Research Officer , NWCF)
17	Mr. Kailash Sharma (Market Development Advisor, WASH, SNV Nepal)
18	Mr. Hari Kumar Shrestha (Chief, Environment Department, KMC)
19	Dr. Nawa Raj Khatiwada (Chairman, Nepal Development Research Institute)
20	Dr. Sunil Kumar Joshi (Head, Department of Community Medicine)
21	Er. Dipak Gyawali (Former Water Resources Minister & Former Chairman of Nepal Water Conservation Foundation (NWCF)
22	Mr. Sachin Ghimire (Medical Anthropologist)
23	Mr. Bipin Dangol (Executive Director, ENPHO)
24	Mr. Shailesh Shrestha (GIS Expert)
25	Mr. Sanjaya Adhikary
26	Mr. Chandra Mani Bhattarai (Journalist, KMC)
27	Mrs. Rima Lamichhane (Director, Green Building Technologies P. Ltd.)
28	Mr. Bhupendra Prasad (General Manager, Nepal Water Supply Corporation)
29	Mrs. Kalyanee Shah (President, SEWA Nepal)

30	Mr. Shakil Regmi
31	Mr. Shanker Ghimire
32	Ms. Shreeja Lopchan
33	Mr. Pabitra Gurung
34	Dr. Tista Prasai Joshi (Faculty Member, NAST)
35	Mr. Prakash Adhikari (Editor in Chief, Aasha News)
36	Er. Sunil Kumar Das Director General, DWSSM)
37	Mr. Anil Thaman (Captain Outdoors Pvt. Ltd.)
38	Ms. Rajani Maharjan (Small Earth Nepal)
39	Ms. Sunwi Maskey (CREEW)
40	Mr. Rabin Malla (CREEW)
41	Ms. Utpala Shrestha
42	Mr. Bijay Thapa
43	Ms. Manohara Khadka (Country Representative, IWMI)
44	Dr. Bindu Nath Lohani (Advisor, Asia Water Council)
45	Dr. Dinesh Manandhar (Independent WASH Expert)
46	Mr. Mangesh Lal Shrestha (Managing Director, Frost and Sullivan Nepal)
47	Mr. Sailesh Bania
48	Mr. Sonu Kumar Shah (WaterAid Nepal)
49	Dr. Udhav Raj Kahdka (Assoc. Professor, Central Department of Environmental Science)
50	Mr. Yogesh Rana Magar
51	Dr. Laxmi Devkota (NAST)
52	Dr. Bishnu Upreti (Executive Chairperson, Policy Research Institute)
53	Mr. Raja Ram Pote Shrestha (National Professional Officer, WHO)
54	Mr. Nitesh Shrestha (Sanitary Engineer, Eco Concern P. Ltd.)
55	Mr. Kishore Thapa
56	Ms. Eva Manandhar
57	Mr. Purna N. Ranjitkar (RECON)
58	Mr. Deepak Acharya (Journalist)
59	Mr. Phurba Moktan
60	Ms. Prasuna Maskey
61	Mr. Bijay Paudel
62	Ms. Shreesha Nankhawa (Research and Outreach Associate, Guthi)
63	Mr. Binesh Roy (WaterAid)
64	Mr. Ramesh Paudyal (MP, Bagmati Pradesh)
65	Ms. Pramita Maharjan
66	Mr. Shiv Chandra Choudhary (MP, Province 2)
67	Mr. Yagya Aryal (Campaign for Change-Nepal)
68	Mr. Jib Raj Pokharel (Former Vice-Chancellor, NAST)
69	Dr. Indira Parajuli (Central Department of Environmental Science)
70	Dr. Sudan Raj Panthi (National Professional Officer, WHO Nepal)
71	Mr. Govind Subedi
72	Mr. Binod Sah (UN Habitat)
73	Mr. Madan Malla (UN Habitat)
74	Mr. Uma Simkhada (UN Habitat)

75	Dr. Rajit Ojha (Senior Division Engineer, Ministry of Water Supply)
76	Mr. Raj Babu Shrestha (WATSAN)
77	Ms. Parwati Dangal Devkota
78	Er. Hari Ram Koirala
79	Mr. Binod Sharma
80	Mr. Hari Budhathoki
81	Ms. Siddhi Shrestha
82	Mr. Durga Prasad Puri
83	Mr. Suraj Karki (Soorya Trade)
84	Mr. Biraj Acharya
85	Dr. Anish Ghimire (KU)
86	Mr. Tikaram Lamichhane
87	Mr. Amrit Acharya (Microbiologist)
88	Ms. Anusha

Annex-3: Photographs of Zoom Meeting



