

सत्यमेव जयते

REGIONAL CENTRE FOR URBAN & ENVIRONMENTAL STUDIES, LUCKNOW

(MINISTRY OF HOUSING & URBAN AFFAIRS, GOVT. OF INDIA)

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Regional Centre for Urban & Environmental Studies (RCUES) Lucknow is one of the four centers in the country established by the Ministry of Housing and Urban Affairs, Government of India at Lucknow in the year 1968. The Regional Centre provides expertise, advisory services & consultancy services to urban local bodies and Parastatals. The Centre has completed its 50 glorious years and continues to perform its activity as Centre of Excellence.

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ONLINE TRAINING-FECAL SLUDGE AND SEPTAGE MANAGEMENT

BACKGROUND:

According to Census 2011, India's urban population is 377 million or 31% of the total population, which is expected to increase to 600 million by 2031. The Census 2011 also showed that in 4,041 statutory towns, 7.90 million households (HHs) do not have access to toilets and defecate in the open. As per Global level data only 5% of fecal sludge is properly treated. Nearly 500 million people in India, using non sewerred systems, do not have access to any treatment of fecal sludge. Untreated faecal sludge and septage management from towns and cities is one of the major causes of surface and ground water pollution in India. The Increase in access to sanitation under Swachh Bharat Mission brought about an evident need to address the emerging liquid waste management challenges. In India, a majority of the household depend on onsite sanitation facilities wherein, safe management of human waste, which includes its safe containment, transport, treatment and disposal is of utmost importance to make our cities healthy and liveable. Most on-site sanitation systems (OSS) are emptied manually in absence of suitable facilities. Ideally a septic tank system should be desludged

every 2-5 years.

In this context RCUES Lucknow organized an online training programme on 4th May 2020. The program covered engineering and technology aspects of Septage and Liquid Waste Management. Examples and experience of various projects in the form of case studies are used to help participants engage with the technical/ practical aspects of the plan, implementation and monitoring of elements of full range of Urban Sanitation.

PARTICIPANTS:

The participants of the Training Program on Septage and Liquid Waste Management included Engineers working in the Office of ULB, Jal Nigam, Parastatal Agencies responsible for execution and implementation of projects. In total 107 participants attended the online training.

OBJECTIVES:

- To create awareness on the policies/guidelines and practices about Septage and Liquid Waste Management.
- To develop an understanding of different technological options (along the value

The screenshot shows a presentation slide with the following content:

- Logos:** RCUES Lucknow, Government of India, and Ministry of Urban Affairs.
- Title:** ONLINE TRAINING PROGRAMME
- Subtitle:** SEPTAGE & LIQUID WASTE MANAGEMENT INTRODUCTION
- Presenter:** Ajeet Mishra, Assistant Director, RCUES
- Image:** A photograph of a multi-story building, likely the RCUES Lucknow campus.
- Video Feed:** A small inset in the top right corner shows the presenter, Ajeet Mishra.
- Browser Bar:** The top of the slide shows a browser window with the file path: file:///C:/Users/AJIT%20MISHRA/Desktop/Online%20Course/Presentation/Final%20Presentation/Final%20Presentation%20of%20Septage%20and%20Liquid%20Waste%20Management.pdf
- Bottom Left:** A small box indicates "11:22 - Sharing Started".

Other parameters

Focus on life cycle cost of the project derived in terms of cost of treated water over the period of its designed life.

Sewage Treatment Plants – 15 Years



- When you pay too much- you may lose a little money
- If you pay too little- you may lose everything

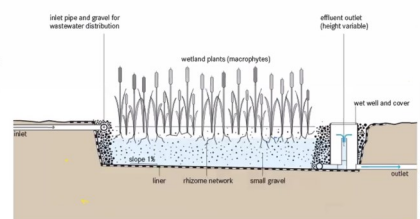
Spend a bit more money up front to reduce the operating and maintenance costs

Regional Centre for Urban and Environmental Studies Lucknow

Constructed Wetland

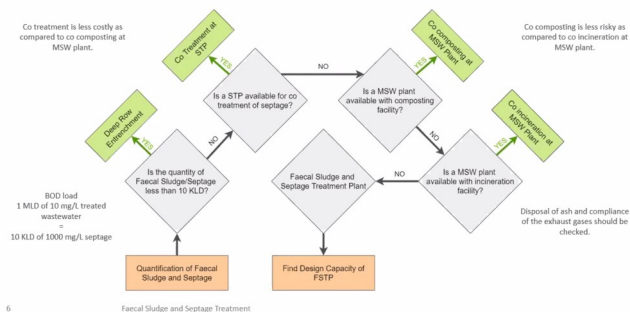
ATTACHED GROWTH HYBRID BIOLOGICAL PROCESS

- Filtration, degradation
- Microbiological attachment, growths and transfer of oxygen.
- BOD = 80 to 90 %
- TSS = 80 to 95 %
- TN & TP = 15 to 45 %
- FC \leq 2 to 3 log



Regional Centre for Urban and Environmental Studies Lucknow

Approach for FSSM



WHAT IS FECAL SLUDGE MANAGEMENT ?

Faecal sludge Management includes

➤ Containment

➤ Emptying,

➤ Transportation,

➤ Treatment, and

➤ Re-use or disposal of faecal sludge from an on-site sanitation technology (like a pit latrine or septic tank). It addresses the entire sanitation value chain.



chain, but focusing on treatment)

- To understand the decision making criteria for technological selection.

The workshop included Introduction to Septage and Liquid Waste Management along with Centralized and Decentralized wastewater management key components and aspects. The workshop also introduced the participants to the Technology Options and their principles: Faecal Sludge and Septage Treatment, Treatment objectives, Treatment stages, Treatment units, FSTPs in India, Wastewater Treatment Technologies, Non mechanized treatment systems, Mechanized treatment systems, Selection criteria.

COURSE COORDINATORS

The workshop was jointly coordinated by Dr Alka Singh, Deputy Director, RCUES, Lucknow and Mr. Ajit Kumar Mishra, Assistant Director, RCUES, Lucknow

ONLINE WORKSHOP ON URBAN GOVERNANCE AND POVERTY ALLEVIATION WITH SPECIAL REFERENCE TO COVID-19

BACKGROUND:

The pace and growth of urbanization in India poses enormous challenges to urban governance. Indian cities are not empowered within the Indian federal framework to take on the challenges of urbanization with rapid growth. The Constitution of India originally placed the responsibility for urban governance on state governments. In 1992, the 74th Constitutional Amendment formally recognized urban local bodies as the third tier of government and mandated that state governments transfer to local governments a set of specified functions under the 12th Schedule, assigning to them the responsibility for functions such as urban planning, including town planning; regulation of land use and construction of buildings, roads, and bridges; the provision of water; public health; and sanitation and solid waste management. The outbreak of global pandemic COVID- 19 has led to massive devastation in India too. In the context of COVID- 19 pandemic, the role of local governments has enormously increased for prevention from the spread of infection, prompt response to pandemic situation, and rehabilitation of affected persons. The training programme will impart handful knowledge on urban governance; develop skills required for development management and self-management for city managers.

Against this view point RCUES Lucknow organised three Online Workshop on Urban Governance and Poverty Alleviation: with Special Reference to COVID-19 for the

LIST OF TRAININGS

Date	No. of Participants
18-May-20	49
29-May-20	57
19-Jun-20	39

Municipal Officials of urban local governments.

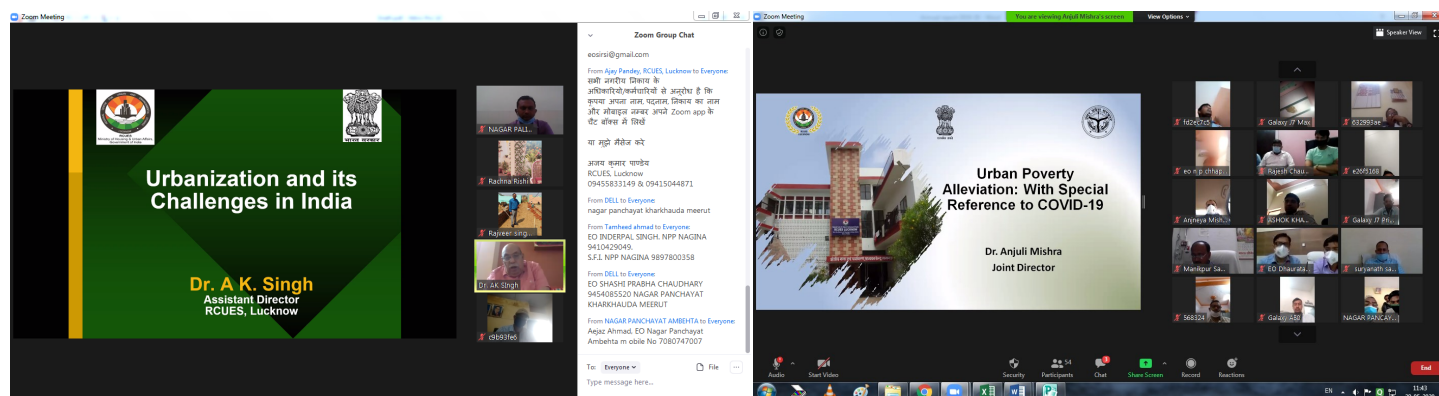
PARTICIPANTS:

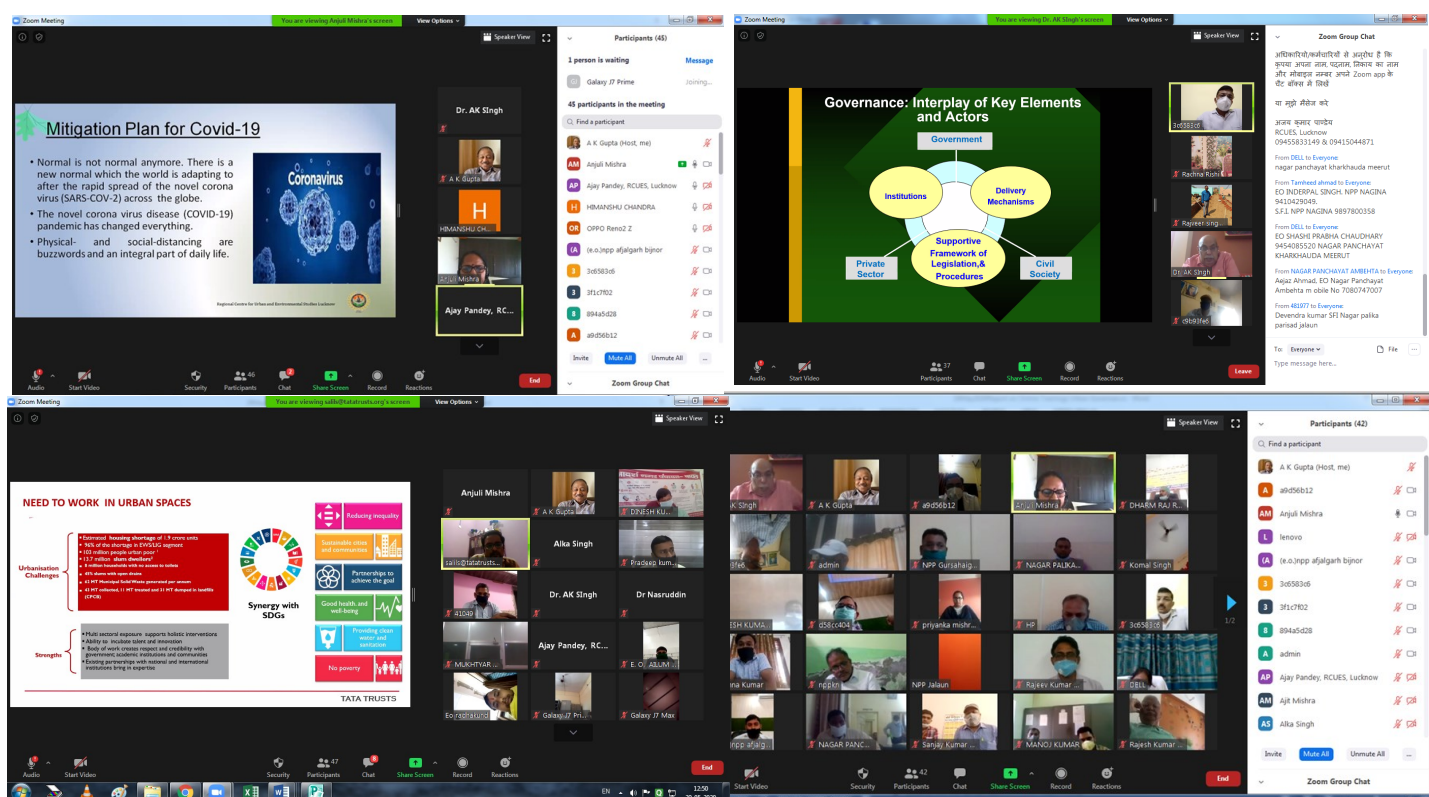
Online Workshop on Urban Governance and poverty Alleviation with special reference to COVID-19 was organised for the Municipal officials and Elected Representatives of the Urban Local Bodies. In total 49 participants attended the Online workshop.

OBJECTIVES:

- To discuss the emerging challenges of urbanization and urban governance;
- To highlight decentralized urban Governance framework and also to explain various policy and legal provisions;
- To highlight the status of urban poverty and approaches for its alleviation;
- To highlight the problems and challenges emerged in protection of urban poor due to COVID -19
- To discuss mitigation plan for protection of urban poor during COVID- 19
- To discuss the best practices during COVID -19

SESSIONS





The workshop included introduction to Urbanization, Its Challenges and Decentralized Governance. The sessions focused on approaches and Strategies of Urban Poverty Alleviation in View of COVID -19.

COURSE COORDINATORS

The workshops were jointly coordinated by Dr Anjali Mishra, Joint Director, RCUES, Lucknow and Dr. A. K. Singh, Assistant Director, RCUES, Lucknow

ONLINE WORKSHOP ON FAECAL SLUDGE AND SEPTAGE MANAGEMENT: (IN TIMES OF COVID 19)

BACKGROUND:

Faecal sludge and septage management (FSSM) refers to the management of all stages of the sanitation value chain such as collection, emptying, transport, treatment, disposal and reuse of faecal sludge from pit latrines, septic tanks or other onsite sanitation systems. Sanitation Workers are important frontline workers who are vulnerable during this COVID-19 crisis. Sanitation workers would include staff engaged in municipal solid waste management, faecal sludge and septage management, street sweeping, operating solid waste management facilities or wastewater treatment facilities or faecal sludge treatment plants. Ministry of Social Justice and Empowerment (Government of India) recommends cities to develop standard operating procedure for health and safety of sanitation workers during COVID-19. There is a requirement of mandatory orientation of all sanitation workers on information and good practices related to prevention from COVID-19. There is a need for proper training of all sanitation workers on such aspects.

Against this view point, Regional Centre for

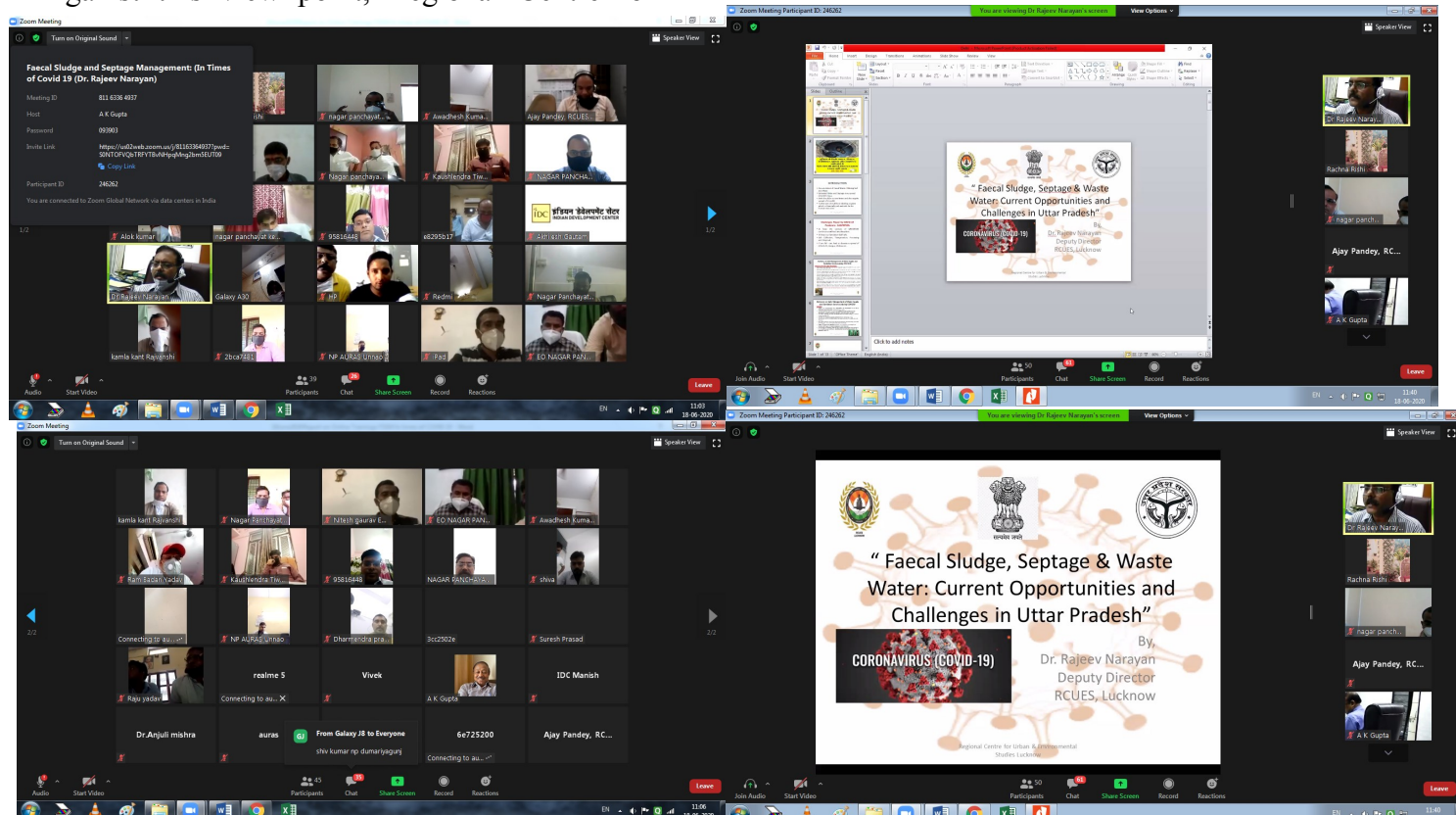
LIST OF ONLINE WORKSHOPS

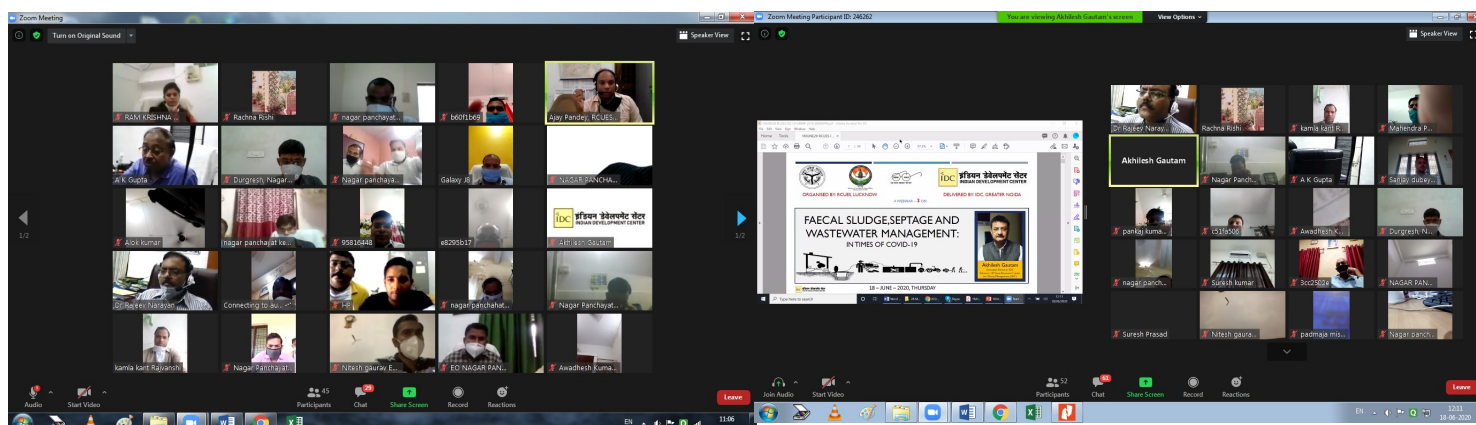
Date	No. of Participants
28-May-20	59
08-Jun-20	61
18-Jun-20	50
20-Jun-20	23
23-Jun-20	25

Urban and Environmental Studies (RCUES), Lucknow in collaboration with Indian Development Centre (IDC) organized five online workshops on “Faecal Sludge and Septage Management in times of COVID 19” for the Municipal Officials involved in SWM of Urban Local Bodies of Uttar Pradesh. It is hoped that the workshop will prepare the municipal bodies to build their capacity in dealing with sanitation during COVID 19 impact.

PARTICIPANTS:

Online Workshop on “Faecal Sludge and Septage Management in times of COVID 19” was attended by the Municipal Officials involved in SWM of Urban Local Bodies of





Uttar Pradesh. In total 218 participants attended the online workshops.

OBJECTIVES:

- To acquaint the participants with the importance of FSSM during Pandemics: COVID19 and its relation to the FSSM VALUE CHAIN.
- To educate the participants about FSSM and its applicability beyond ODF.
- To apprise the participants with the various provisions of the UP Septage Policy 2019 and its relevance in the times of a pandemic.
- To educate the participants about the role & responsibility of the ULBs in creating an aware base of sanitation workers who are the frontline workers.

SESSIONS

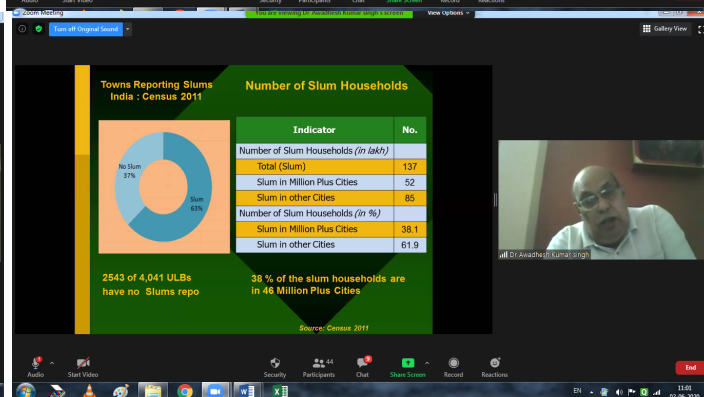
- Introductory session on FSSM in times of COVID 19
- Importance of FSSM during pandemics: COVID 19 and its relation to the FSSM value chain
- Faecal Sludge and Septage Management (FSSM): Beyond ODF
- FSSM value chain: Through the lens of UP State Septage Policy.
- IEC for FSSM with special reference to COVID19

COURSE COORDINATOR

Dr Rajeev Narayan, Deputy Director, RCUES Lucknow and Dr Nasruddin, Assistant Director, RCUES Lucknow.

BACKGROUND

global crises, Government of India declared a complete lock down in the country which has left a deep impact on the labourers, migrant workers and all those marginalized communities who struggle hard for their survival. These people are unable to do something for their livelihood due to the complete lock down and a constant fear from the uncertainties. It is expected that even after the lock down period is over, the venerable population such as migrant workers and laborers will be in extreme crisis and jobless. There will be a deep impact on their livelihood which may lead to hunger and starvation. Moreover, the social distancing norms and proper sanitization of wards and working spaces with safety of frontline workers will be daunting challenge specially among the vulnerable population and urban poor. The role of ULBs in sanitization, collection and transportation of waste, cleaning of toilets etc. in quarantine and isolation centres as well as areas in hotspots, relief distribution, and humanitarian assistance has massively increased in the recent times. As prevention from COVID-19 has been the national priority which demands for disaster management strategies to cope up with the emerging situation, rehabilitation of affected people and



reconstruction of the affected areas is essential. The training programme will impart handful knowledge on urban governance; develop skills required for development management and self-management for city managers. The course is designed with the combination of theoretical basics and examples/ cases/ reflective learning from current day practices to enable the urban professionals to get a comprehensive experience. The working professionals, public representatives working at the urban sectors will be benefitted from this training programme.

Against this view point RCUES Lucknow organised an Online Workshop on Urban Governance and Poverty Alleviation: with Special Reference to Aatma Nirbhar Bharat for the Municipal Officials of urban local governments on 2nd June 2020.

PARTICIPANTS:

The participants of the online workshop included Municipal Commissioners/ Additional Municipal Commissioners/ Deputy Municipal Commissioners/ Assistant Municipal Commissioners Executive Officers, Elected Mayors/ Chairpersons/ Members of Municipalities, Tax Superintendents/ Tax Assessment Officers/ Chief Municipal Auditors and Tax Assessment Officers/ Revenue Inspectors.

In total 48 participants attended the Online workshop.

OBJECTIVES:

- To discuss the emerging challenges of urbanization and urban governance;

- To highlight decentralized urban Governance framework and also to explain various policy and legal provisions;
- To highlight the status of urban poverty and approaches for its alleviation;
- To highlight the problems and challenges emerged in protection of urban poor due to COVID -19
- To discuss mitigation plan for protection of urban poor during COVID- 19
- To discuss the best practices during COVID -19

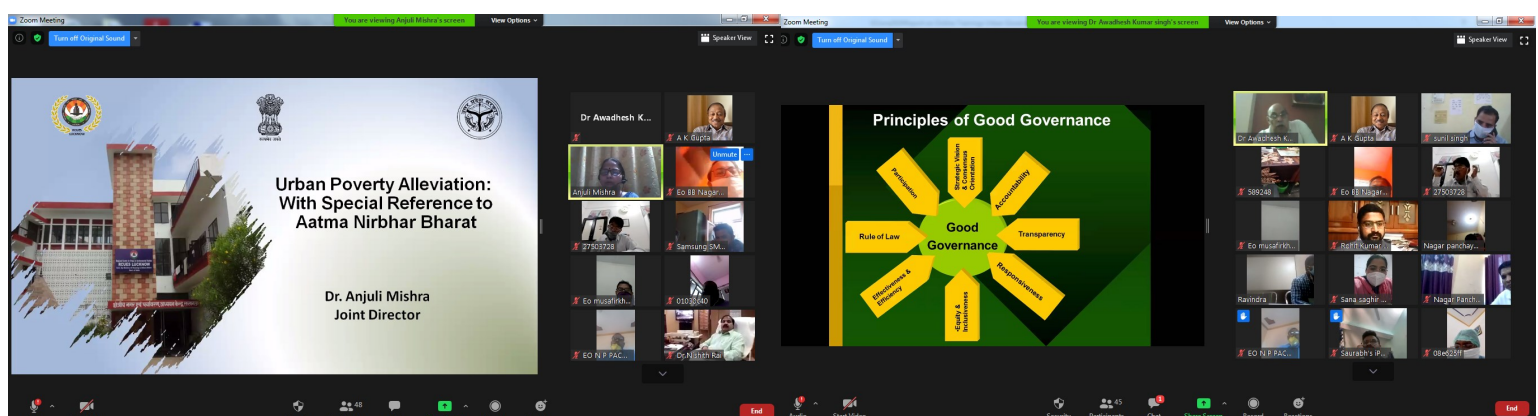
SESSIONS

The sessions of the workshop included the following topics:

Urbanization, Its Challenges and Decentralized Governance

- Urbanization
- Challenges of Urbanization
- Governance Framework
- Good Urban Governance
- Decentralized Governance
- New Trends in Urban administration
- Policy Initiatives
- Challenges of Governance
- Issues Pertaining to Urban Governances in Context of COVID -19

Approaches and Strategies of Urban Poverty



Alleviation in View of COVID -19

- Status of Urban Poverty Alleviation
- Policy Initiatives
- Changing Approaches and Strategies for Poverty Alleviation
- Mitigation Plan for Urban Poor under Covid-19
- National Urban Livelihood Mission: New Approaches in View of COVID -19
- Prime Minister Housing for All Mission : New Approaches in View of COVID -19
- Best Practice in View of COVID -19

Convergence of Programmes and Schemes for Urban Poor

- Policy Perspective
- Legal Provisions and Acts
- Schemes and Programmes
- Recent Initiatives
- Migration Support

COURSE COORDINATORS

The online workshops were coordinated by Dr Anjali Mishra, Joint Director, RCUES, Lucknow and Dr. A. K. Singh, Assistant Director, RCUES, Lucknow

WEBINAR ON WASTEWATER REUSE-TAMILNADU PERSPECTIVE

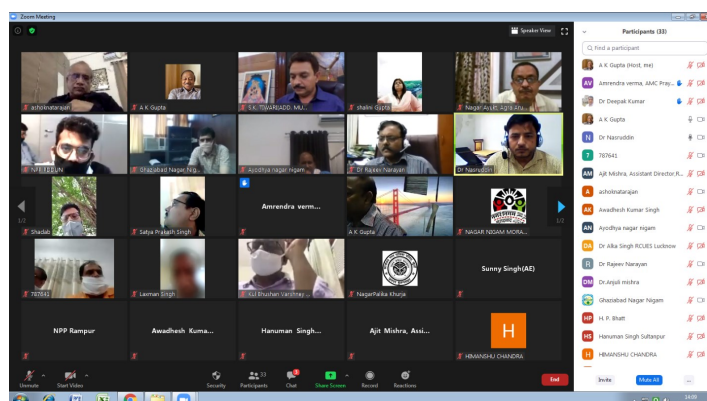
BACKGROUND:

Urban India faces significant challenges in terms of availability of adequate water supply and sanitation infrastructure. Water supply in most cities and towns is often insufficient to meet the growing demand for water by all economic sectors. Wastewater generated in urban India is often discharged in the open leading to unhygienic conditions and environmental pollution. Wastewater treatment and management, whether on site, decentralized or off site, are part of the full sanitation cycle and influence public health and the environment; it is very important to recognize that both central government and state governments must work together to tackle this issue. Recycling and reuse of treated wastewater are an important part of the sanitation cycle and critical in an environment of decreasing freshwater availability and increasing costs for delivering acceptable quality water supply to cities for multiple uses. Recycling and reuse of treated wastewater reinforce the economic benefits arising from the public good of achieving the total sanitation cycle.

Against this view point, Regional Centre for Urban and Environmental Studies (RCUES), Lucknow under the auspices of Ministry of Housing and Urban Affairs, Government of India, organized a webinar on 'WASTE WATER REUSE-TAMILNADU PERSPECTIVE' on 24th June 2020.

PARTICIPANTS:

Webinar on 'WASTE WATER REUSE-TAMILNADU PERSPECTIVE' was attended by the Municipal Commissioners, Deputy



Municipal Commissioners, Assistant Municipal Commissioners, EOs, General Manager of Jal Sansthan, Engineers and other officials of Uttar Pradesh. In total 55 participants attended the Webinar.

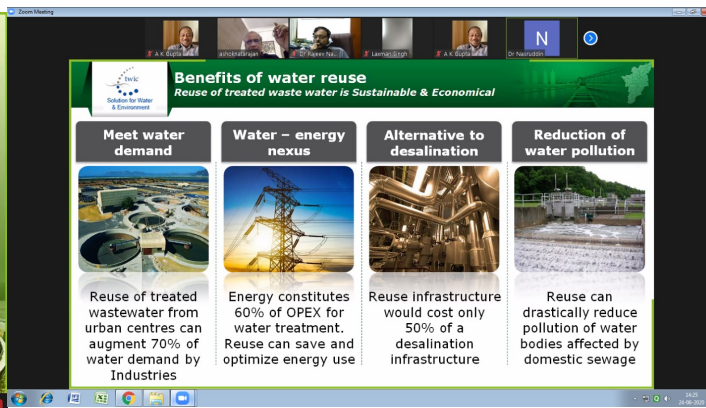
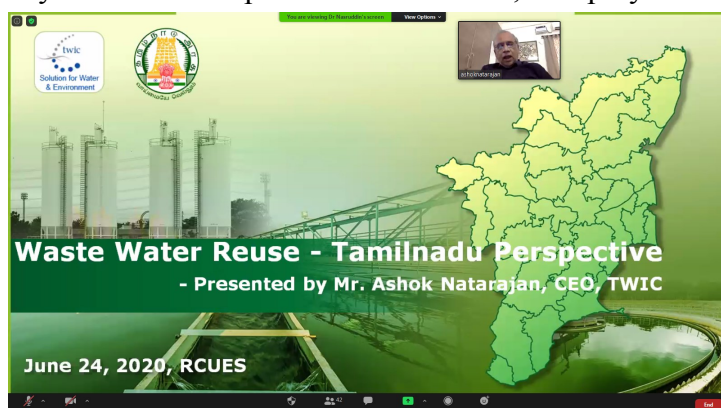
OBJECTIVES:

- To develop an effective understanding of wastewater and its management approaches
- To highlight the case study of Tamil Nadu on Waste Water Treatment and its Reuse

The webinar developed an effective understanding of wastewater and its management approaches and to highlight the case study of Tamil Nadu on Waste Water Treatment and its Reuse. The key speaker of the webinar was **Mr. K. Ashok Natarajan**, Chief Executive Officer in Tamil Nadu Water Investment Company Ltd (TWIC).

COORDINATOR

The webinar was coordinated by Dr Nasruddin, Assistant Director, RCUES Lucknow.



ONLINE WORKSHOP ON FUNDAMENTALS OF URBAN AND TRANSPORT PLANNING FOR INCLUSIVE DEVELOPMENT

BACKGROUND

India has been experiencing a steady rate of urbanization, albeit not at the pace and levels of some other developed and developing countries. The process of urbanization is primarily geared up towards concentration of economic activities in the cities and the creation of livelihoods therein. Migration of population, an important phenomenon associated with urbanization, is not only confined to skilled but also unskilled or semi-skilled population. Planning processes tend to do not become inclusive in their approach in terms of planning for housing and built spaces for such population. It becomes therefore imperative to make an effort to meet with the living space requirements of this population. This approach is also sometimes called as 'inclusive development' or 'inclusive planning' so that the people who's built space requirements are hitherto not taken into account would find some reflectance through such effort.

Against this view point, Regional Centre for Urban and Environmental Studies (RCUES), Lucknow, under the auspices of Ministry of Housing and Urban Affairs, Government of India organized two **Online Training**

LIST OF ONLINE WORKSHOPS

Date	No. of Participants
09-May-20	96
12-Jun-20	67

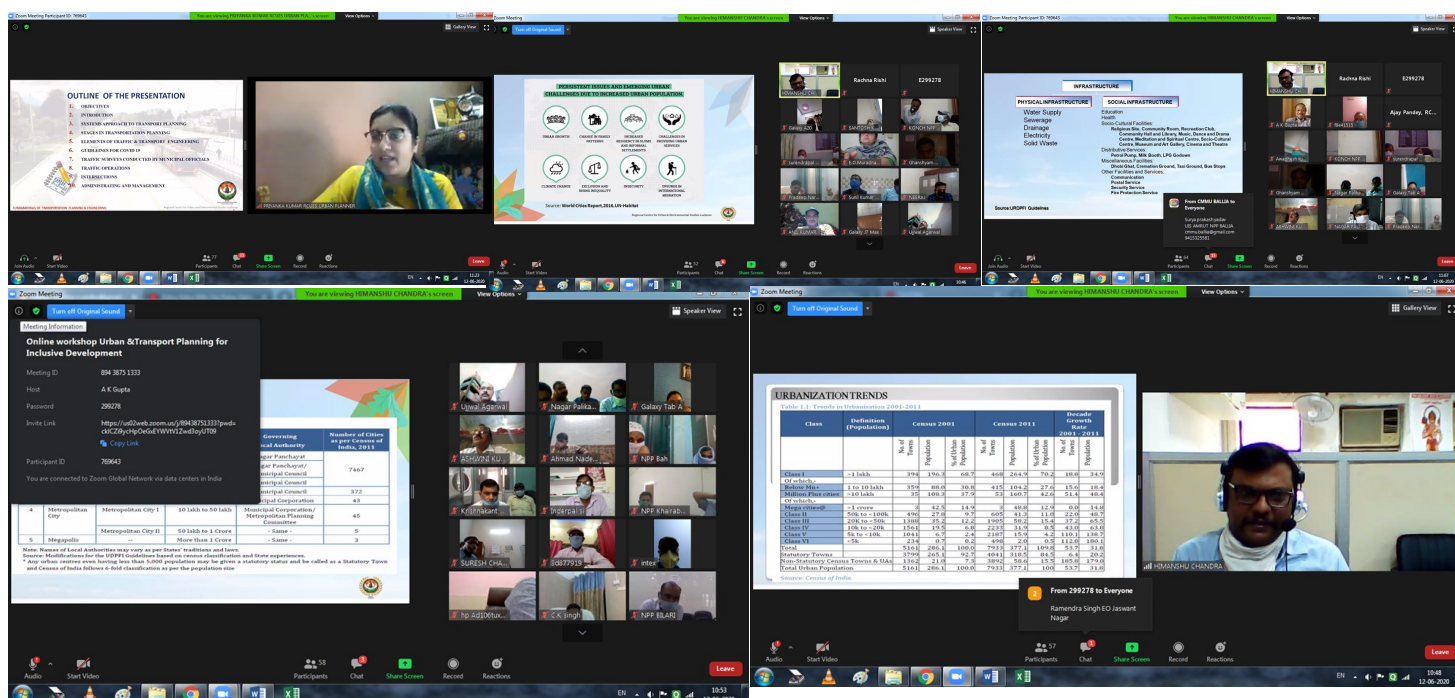
Programme on 'Urban & Transport Planning for Inclusive Development' for the Municipal Officials, Urban Planner and Traffic Engineers of urban local governments.

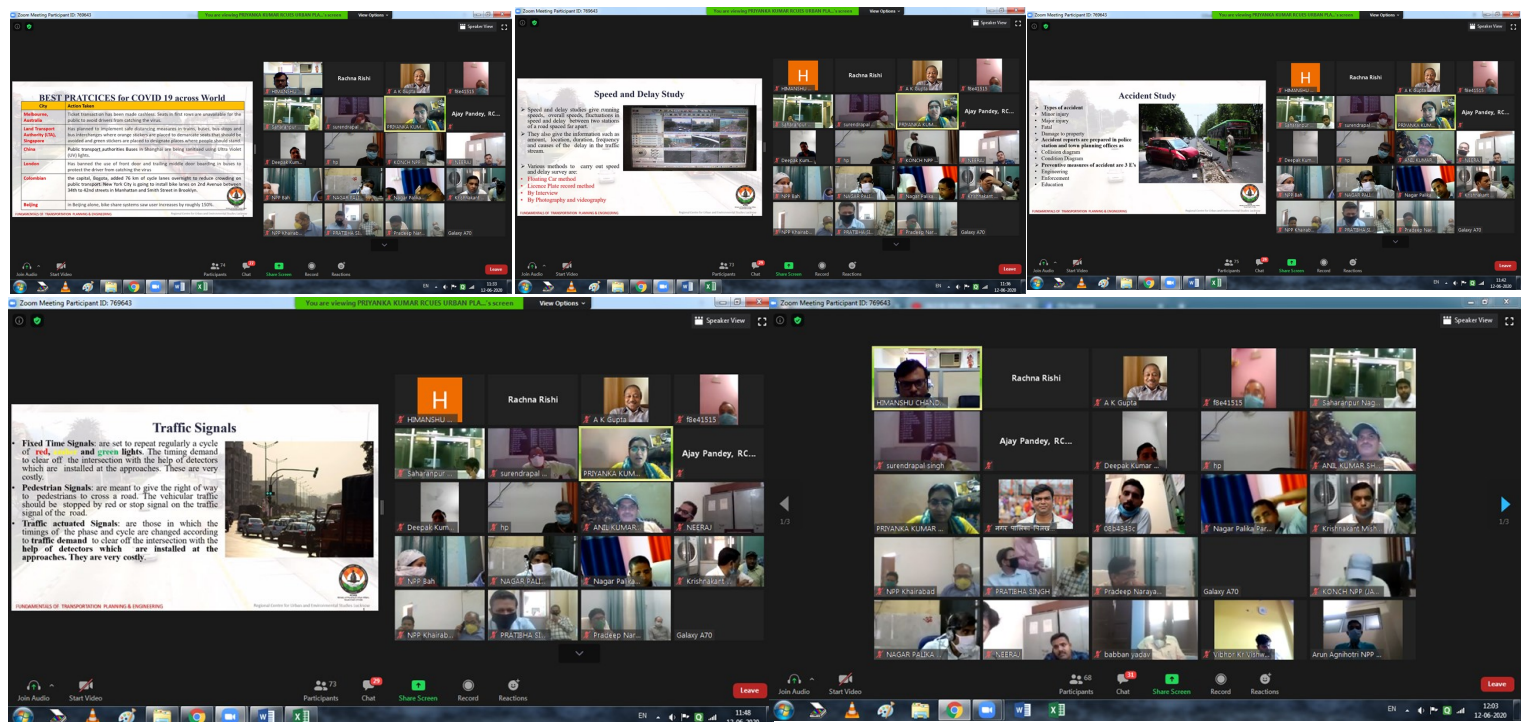
PARTICIPANTS:

The participation in the online workshop included Executive Officials and Municipal Engineers of Urban Local Governments. In total 163 participants attended the workshop.

OBJECTIVES:

- To develop an understanding on aspects of Urban & Transport Planning
- To highlight the best practices in urban planning and sustainable development;
- To suggest suitable policy measures for urban planning and sustainable development.





SESSIONS

The sessions of the workshop included Urban Planning, Transport Planning and Engineering

COORDINATOR

The online workshop was coordinated by Mr Himanshu Chandra, Assistant Director and Ar. Priyanka Kumar, Urban Planner, RCUES Lucknow.

ONLINE WORKSHOP ON URBAN TRANSPORT DESIGN FOR INCLUSIVE DEVELOPMENT

BACKGROUND

India has been experiencing a steady rate of urbanization, albeit not at the pace and levels of some other developed and developing countries. The process of urbanization is primarily geared up towards concentration of economic activities in the cities and the creation of livelihoods therein. Migration of population, an important phenomenon associated with urbanization, is not only confined to skilled but also unskilled or semi-skilled population. Planning processes tend to do not become inclusive in their approach in terms of planning for housing and built spaces for such population. It becomes therefore imperative to make an effort to meet with the living space requirements of this population. This approach is also sometimes called as ‘inclusive development’ or ‘inclusive planning’ so that the people who’s built space requirements are hitherto not taken into account would find some reflectance through such effort.

Against this view point, Regional Centre for Urban and Environmental Studies (RCUES), Lucknow, under the auspices of Ministry of

LIST OF ONLINE WORKSHOPS

Date	No. of Participants
06-Jun-20	88
24-Jun-20	38

Housing and Urban Affairs, Government of India, New Delhi organized two Online workshops on “Urban Transport Planning for Inclusive Development for the Municipal Officials, Urban Planner and Traffic Engineers of Urban Local Governments.

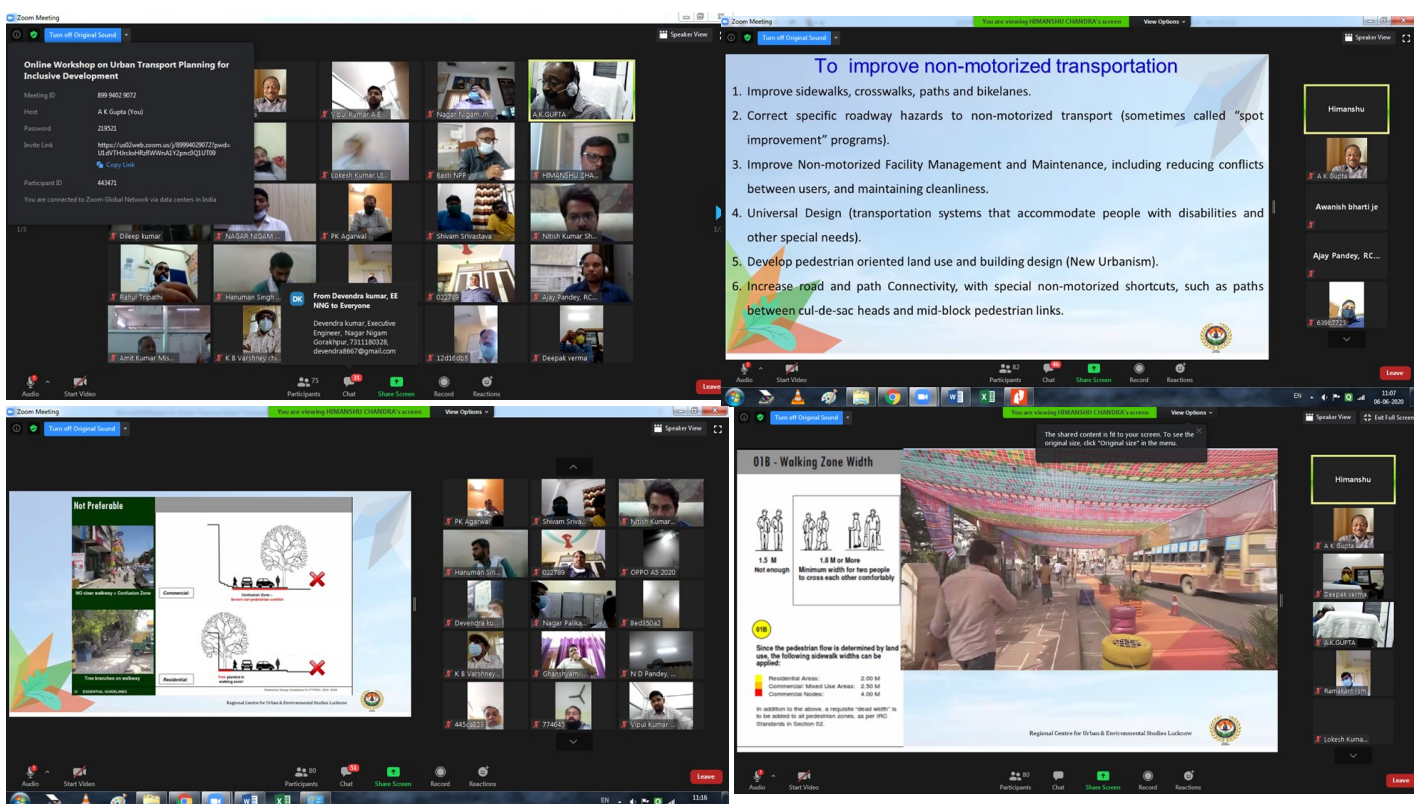
PARTICIPANTS:

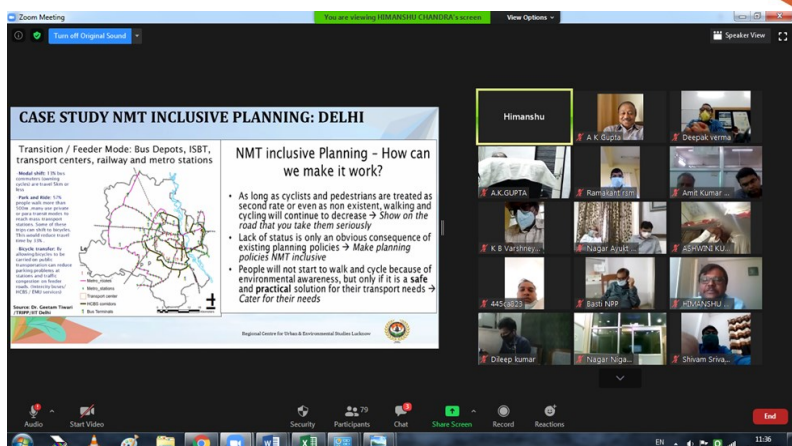
The online workshop was attended by Municipal Officials, Urban Planner and Traffic Engineers of Urban Local Governments.

In total 126 participants attended the Online workshop.

OBJECTIVES:

- To develop an understanding on aspects of Non Motorized Transport.





- To develop an understanding on aspects of Street Design Guidelines
- To understand the design aspects of Urban Transport Planning
- To suggest suitable policy measures for urban transport planning and sustainable inclusive development.

SESSIONS

The sessions of the online workshop included NMT Inclusive Planning and Design and Street Design Guidelines

COORDINATOR

The online workshop was coordinated by Mr Himanshu Chandra, Assistant Director and Ar. Priyanka Kumar, Urban Planner, RCUES Lucknow.

ONLINE WORKSHOP ON COVID-19 GUIDELINES FOR SAFE SANITATION PRACTICES IN CITIES

BACKGROUND:

The COVID 19 requires an emergency response from Urban Local Bodies and States on several fronts. Several cities in India initiated massive drives for sanitization of public spaces, particularly in the hot spots of COVID infected areas and ensured a massive deployment of sanitation workers to address this crisis. Hygiene and cleanliness are the strongest weapons in any public health crisis. Door to door waste collection, emptying septic tanks, addressing safe disposal of bio medical waste and household waste generated from COVID infected people remains a top priority for all cities. In number of people getting infected with corona virus is continuously rising, and includes many frontline workers due to the nature of their work. Basic preventive measures are being promoted, such as regularly washing hands and using sanitizers and face masks, but these precautions aren't sufficient for sanitation workers.

In India, a sanitation worker is involved in many tasks, such as cleaning toilets, collecting household refuse, medical wastes and garbage, emptying pits and septic tanks, cleaning sewers and manholes, among others. These tasks become all the more dangerous in a health crisis due to the risk of infection. It is during these circumstances that one needs to invest time and energy in ingraining and re-enforcing hygiene related behavior change and build the capacity of the sanitation workers. This task can be holistically implemented with the help of

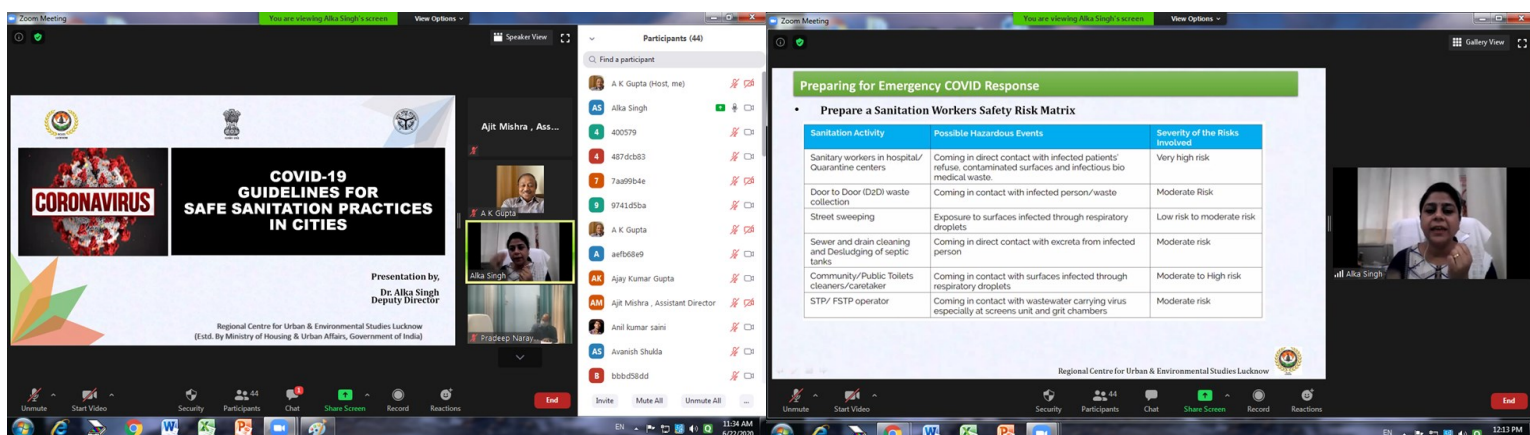
LIST OF ONLINE WORKSHOPS	
Date	No. of Participants
11-May-20	96
16-May-20	57
26-May-20	97
10-Jun-20	45
22-Jun-20	30

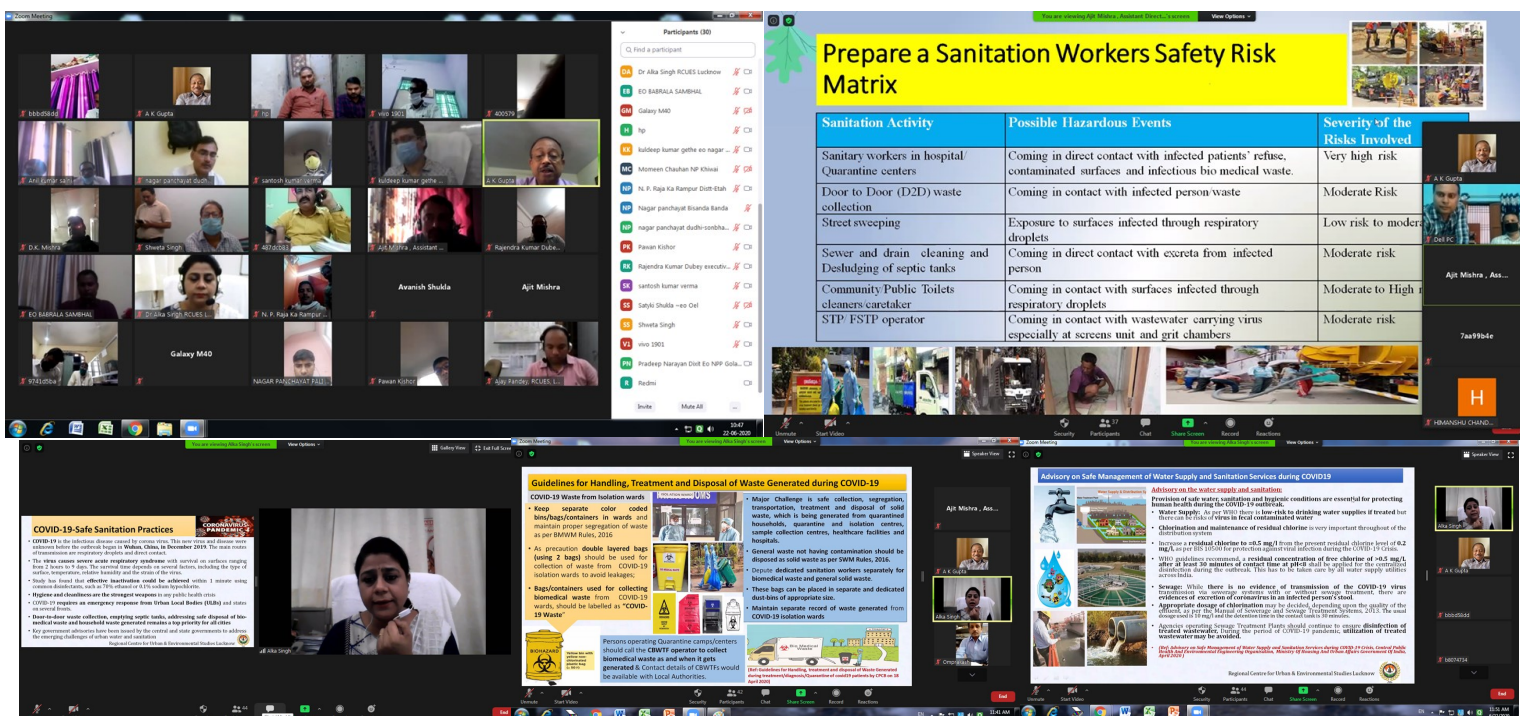
municipal bodies who are entrusted with the critical job of providing safe sanitation to its citizens. Several guidelines and advisories have been issued by the government of India for ensuring safe sanitation practices in cities during COVID-19 pandemic.

Against this view point, Regional Centre for Urban and Environmental Studies (RCUES), Lucknow, under the auspices of Ministry of Housing and Urban Affairs, Government of India, New Delhi organized five Online workshops on Online Workshop On COVID-19 Guidelines For Safe Sanitation Practices In Cities.

PARTICIPANTS:

Online Workshop on COVID 19 Guidelines for Safe Sanitation Practices in Cities was designed for all municipal functionaries including senior officials, Executive officers, commissioners, engineers, sanitary inspectors, health officers, planners, other technical staff and elected representatives of the urban local bodies. In total 325 participants attended the online





workshop.

OBJECTIVES:

- To aware the municipal functionaries about various guidelines and advisories issued by the government for safe sanitation practices in cities
- To understand safe measures for management of solid & liquid waste
- To understand health and safety measures for health workers
- To understand safe sanitation practices for public places
- To understand the measures to be taken by cities to mitigate the impact of Covid-19
- To help cities prepare safe and effective strategies to address COVID 19 pandemic.

SESSIONS

The sessions of the workshop included:

- Guidelines for Handling, Treatment and Disposal of Waste in cities
- Guidelines for safe disposal of waste from quarantined households
- Advisory on Safe Management of Water

Supply and Sanitation services during COVID19

- Advisory for ensuring Health and Safety of Sanitation workers during COVID19
- Guidelines on disinfection of common public places including offices
- Personal Protective Equipment (PPE) for sanitation workers
- Guidelines for Sanitation Workers (CT/PT)
- Preparing for emergency COVID Response

COURSE COORDINATORS

The workshops were coordinate by Dr Alka Singh, Deputy Director, RCUES Lucknow and Mr Ajit Kumar Mishra, Assistant Director, RCUES Lucknow.

ONLINE WORKSHOP ON COVID-19: SOLID WASTE MANAGEMENT

BACKGROUND:

Waste management is an essential public service in response to combat with the novel coronavirus disease (COVID-19). The pandemic is continuing to spread and its impact upon human health and the economy is intensifying day-by-day, Urban Local Bodies (ULBs) are urged to treat and manage the waste, including of medical, household and other hazardous waste, as an urgent and essential public service in order to minimize possible secondary impacts upon health and the environment. Ensuring safe water supply, solid waste management, safe sanitation and hygiene practices in communities, residential, schools, market places, and health care facilities are important. When it comes to risking their lives for the protection of others, in the present times, sanitation workers are at par with doctors, healthcare workers and policemen. Sanitation workers- 'Safai Yodhas' are standing in front line of the battle against this global pandemic and we need to support them with all means including protective gear, to fight this crisis. This workshop provides guidance to Urban

LIST OF ONLINE WORKSHOPS

Date	No. of Participants
14-May-20	88
21-May-20	49
30-May-20	59
15-Jun-20	67

Local Bodies for funding for protective gear and materials for addressing COVID 19 risks.

Against this view point, Regional Centre for Urban and Environmental Studies (RCUES), Lucknow organized four online workshop on COVID 19: Solid Waste Management for the Municipal Officials involved in SWM of Urban Local Bodies of Uttar Pradesh.

PARTICIPANTS:

Online Workshop on COVID 19: Solid Waste Management for the Municipal Officials involved in SWM of Urban Local Bodies of Uttar Pradesh. In total 263 participants attended the online workshop.

How to do IEC ??

Public Education: The communication material developed should be utilised in public awareness programmes through variety of approaches as under:

- Door to Door Campaign**
- Group Education:** This may be done through:
 - Child to Parents learnings-Targeting Schools
 - Group Meetings in the community
 - Workshops
 - Exhibitions
 - Lecture series
 - Panel Discussions, etc.
- Audio-Visual and Road Shows
- Newspaper Advertising

Mass Education

- Use of Print Media
- Use of Cable TV / Radio/Web Site, Cinema Halls, Theatre Show
- Street Plays, Puppet Shows, etc.
- Posters, Pamphlets, Display of Hoardings, Printed Banner
- Use of Public Transport System
- Primary School Curriculum to cover the subject

Involvement of National Cadet Corps (NCC), National Social Service (NSS) and Scouts

- Involvement of Religious Leaders
- Involvement of Medical Practitioners
- Involvement of Mahila Mandals/Women Associations
- Resident Associations
- Voluntary Organizations/NGO involvement
- Sanitation Groups under UPA
- Highlighting Linkage to Public Health
- Swachhata Doot

Ultimate circularity — Circular economy goes beyond recycling

The diagram illustrates the circular economy process, showing the flow from 'USE OF GOODS' to 'USE OF NEW RESOURCES' and back to 'USE OF GOODS'. It includes stages like REFUSE, REDUCE, REUSE, REPAIR, RECYCLE, and RECOVER, with associated actions and goals.

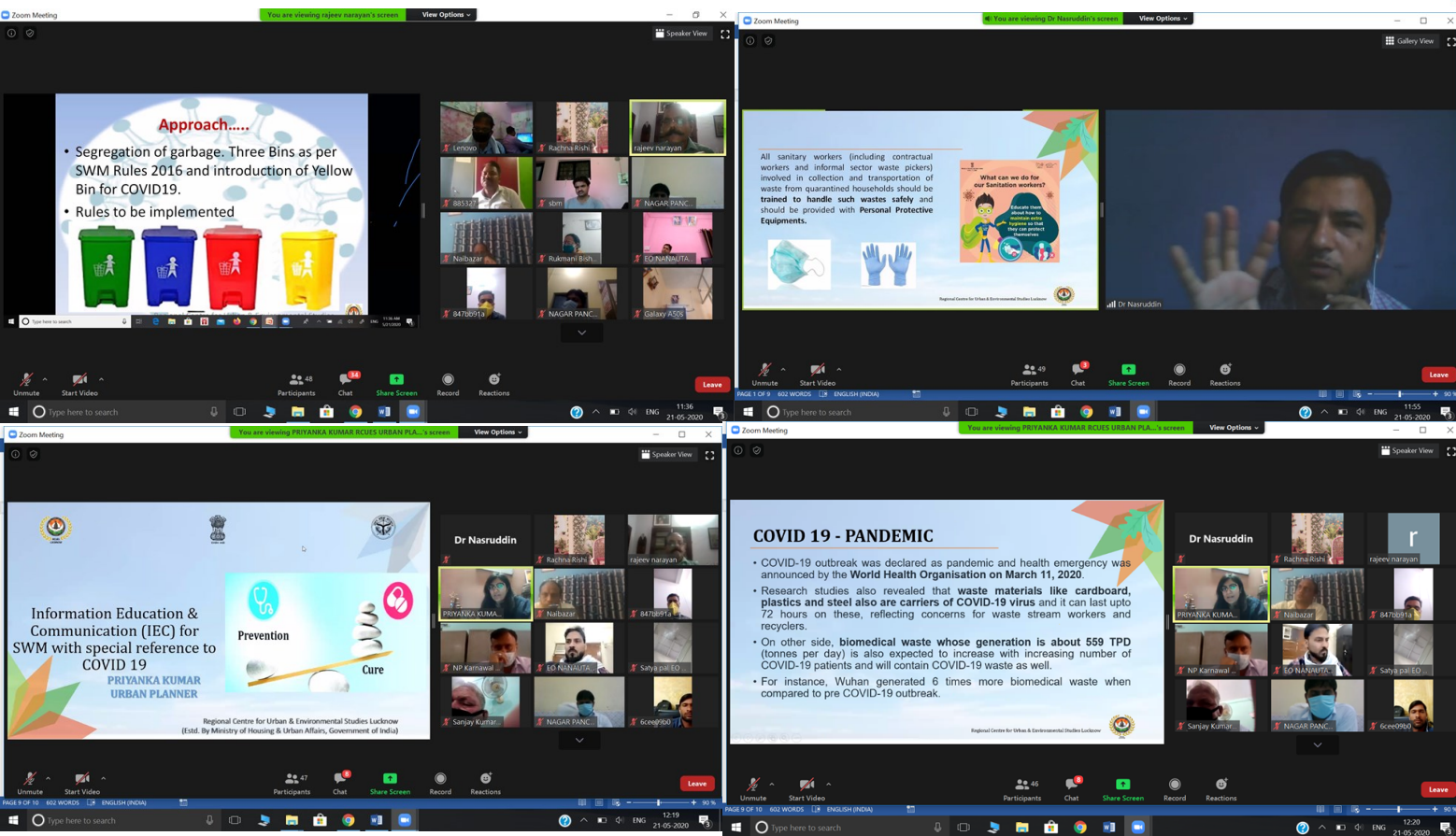
THE CONTROL HIERARCHY IN COVID 19

Hierarchy of Controls

- Elimination:** Physically remove the hazard
- Substitution:** Replace the hazard
- Engineering Controls:** Isolate people from the hazard
- Administrative Controls:** Change the way people work
- PPE:** Protect the worker with Personal Protective Equipment

Changes and new features compared to Previous Rules

- Rules applicable beyond Municipal areas and include urban agglomerations, industrial estates, areas of rapid Railway's growth, special economic zones etc.
- Source segregation mandatory
- Responsibility of Generators to segregate into 3 streams (wet-dry-domestic hazardous waste)
- Integration of integral sector into formal systems
- Separate collection and disposal of domestic hazardous waste in designated collection points
- Secure storage and collection of sanitary waste like diapers and its collection in the dry waste
- Bulk generator's directly responsible for segregation
- Processing of bio-degradable waste within premises as far as possible
- Waste owners should bring back non-biodegradable packaging waste
- Requirements for co-processing of HMs
- Avoid sanitary landfills on the hills



OBJECTIVES:

- To acquaint the participants with the need, importance of SWM during pandemic like COVID 19
- To familiarize the participants with various safety measures to be adopted for effective SWM in light of COVID 19
- To educate the participants about various techniques & methods for creating awareness among the citizens about their roles & responsibilities.

SESSIONS

The sessions of the workshop included:

SWM Process during COVID 19: Introduction, Collection, Transportation & Way Forward

Safe Solid Waste Management during COVID 19: Advisories

Infection Prevention Control (IPC) & IEC in light of COVID 19: SWM

COURSE COORDINATORS

The workshops were coordinated by Dr. Rajeev

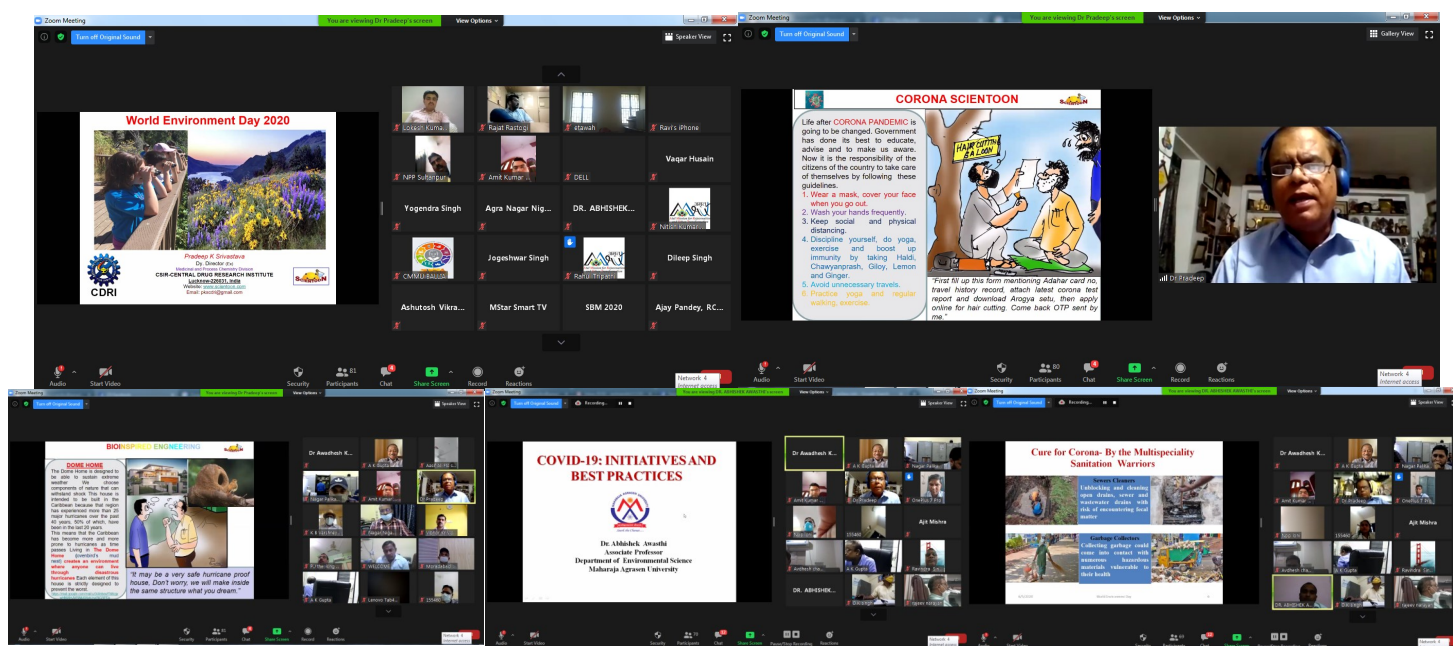
Narayan, Deputy Director, Dr. Nasruddin, Assistant Director, and Ar. Priyanka Kumar, Urban Planner, RCUES Lucknow.

BACKGROUND

Growing urbanization is posing serious environmental concerns in India in terms of changing land use pattern, increasing carbon emissions, solid waste generation and disposal, air and water pollution and poor sanitation amenities. A large segment of urban population in India resides in slums, squatters and informal settlement. These settlements are often located in low laying areas prone to direct and indirect risks due to environmental degradation including changes in the climate and lack of basic urban services. An urban environment is complex primarily because of rapidly changing variables such as socio- economic and demographic indicators, land-use patterns, resource demand and utilization patterns, lifestyle changes etc. In the light of climate

change, a new layer of uncertainty is added in terms of changes in precipitation, temperature and occurrence of extreme event. Major challenge for cities in the face of rapid population growth is to maintain sustainability within the social, economic and environmental dimensions. Urban systems are at risk to different kind of hazards. Several factors contribute to the urban risk profile. In the context of COVID 19 pandemic, the role of local governments has enormously increased as prevention and mitigation strategies for spread of virus infection among the community are globally accepted. The role of local governments in quarantine, isolation, sanitation of built up environment and surroundings, regular cleaning of wastes, relief distribution and so on has massively increased in the recent times. The prevention from COVID 19 has been





the national priority which demands for disaster management strategies to cope up with the emerging situation. Also policies and developmental initiatives in cities should enable urban systems to adjust to changes as and when they happen and accordingly respond in a way that maintains their original structure and function.

Against this view point RCUES Lucknow organised an Online Workshop on World Environment Day: On Covid-19: Urban Environment, Cultural Heritage and Disaster Mitigation was organized on **5th June 2020**.

PARTICIPANTS:

The participants of the workshop included Municipal Commissioners/ Additional Municipal Commissioners/ Deputy Municipal Commissioners/ Assistant Municipal Commissioners, Executive Officers, Engineers, Urban Planners, Specialists of Environment, Sanitation and Pollution Control

In total 100 participants attended the Online workshop.

OBJECTIVES:

- To discuss the approaches and strategies of prevention and mitigation of the spread and impact of COVID- 19 ;
- To highlight the cultural heritage, changing life style and health seeking behavior ;

- To examine the emerging situation, crisis, and challenges in management of urban environment;
- To highlight the initiatives and best practices in response and mitigation the impact of COVID-19;
- To highlight the importance of urban environmental planning and urban resilience in the context of COVID 19, climate change, disasters, and environmental sustainability

SESSIONS

The sessions of the workshop included:

- COVID -19, Prevention and Mitigation of Biological Disaster
- COVID- 19 and its Impact on Urban Environment
- Environment and Indian Cultural Values: Presentation through Scientoons
- COVID-19 : Initiatives and Best Practices

COURSE COORDINATORS

The workshops were coordinated by Dr. Anjali Mishra, Joint Director and Dr A K Singh, Assistant Director, RCUES Lucknow.

WEBINAR ON SMART CITIES OF UTTAR PRADESH- COVID 19 RESPONSE

BACKGROUND:

The 100 Smart Cities Mission program, initiated by the Government of India, envisioned the participating cities adopting smart solutions to improve citizen service delivery and consequently their quality of living. As part of their smart city plans, many cities have focused on leveraging technology in the areas of citizen engagement, traffic management, safety & security, emergency response, healthcare management, etc. For ensuring a coordinated management of these various components, the cities have set up integrated command and control centres (ICCC). Presently, around 45 cities have operational ICCCs which has been set up under the 100 smart cities mission.

Against this view point, Regional Centre for Urban and Environmental Studies (RCUES), Lucknow, under the auspices of Ministry of Urban Development, Government of India, New Delhi is organizing a webinar on '*Smart cities of Uttar Pradesh- Covid 19 Response*' for the Municipal Commissioner/ CEO Smart City,

SPV, PMC and Nagar Nigam officials of Uttar Pradesh on 23rd May 2020.

PARTICIPANTS:

Online Webinar on '*Smart cities of Uttar Pradesh- Covid 19 Response*' was organized for Municipal Commissioner / CEO Smart City, SPV, PMC and Nagar Nigam officials of Uttar Pradesh. In total 22 participants attended the online workshop.

OBJECTIVES:

- To understand the initiatives from across Indian Smart Cities in response to the challenges posed by the COVID19 outbreak
- To highlight the best practices that have emerged so far along with select impactful practices/ solutions.

SESSIONS

The sessions of the workshop included:

- Background of Smart Cities
- Agra Smart City –COVID19 Response

Initiatives through Smart Cities Mission for supporting COVID 19 response

State have converted the smart city command control centre into 'war room' for CCTV Surveillance of public places, geographic information system (GIS) mapping of coronavirus positive cases, GPS tracking of healthcare workers

The cities like Kanpur, Aligarh & Varanasi are tracking health services through ICCC. Telemedicine is offered through video conferencing facilities launched by the city administrations. Doctors are deployed at Smart City Integrated Command and Control Center (ICCC) during 11- 8 pm to enable telemedicine and video conferencing facility through a dedicated Whatsapp number.

Agra is coordinating the efforts of frontline workers through smart city ICCC. CCTV Surveillance cameras are detecting gatherings in any part of the city which is sent to the local police teams to disperse them. Food & medical supplies were mapped to set up a distribution chain for home delivery services. A drone monitoring system in a containment, sealed zone for tracking people movement. The containment zone was demarcated by AGRH/Agarwal workers after door-to-door screening in Agra. A citizen self-registry platform is linked to the Agra smart city website.

Varanasi Command Control Centre

Agra Command Control Centre

Agra Smart City Ltd (ASCL) launched e-Doctor Seva

Urbanism Post COVID-19

Architecture & ID / GIS
Ethnography & Anthropology
Information & Telecommunication Technology

Living and Working Patterns
Work & Life Balance
Urban Space / Urban Life
Urban Dynamics
Density & Cluster Spread
Global / Local Services
Travel & Transport
Urban and Human Geography
Urban Design & Planning
Transporation Engineering
Architecture
Environmental & Disaster
Psychology / Public Health
Planning & Governance
Home Zone / Home Range
Place Attachment & Presence
Distancing Measures

Sustainable Development goals
Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable.

"Leaving no one behind"
"Empowering people and ensuring inclusiveness and equality"

To Achieve Inclusiveness the following objectives have to be achieved

Addressing Exclusion and poverty → guaranteeing food and nutrition security ensuring access to quality and equitable education and lifelong learning → universal health coverage → fighting climate change by protecting the environment, its goods and resources → empowering people

International Framework for inclusive Planning SDG 11

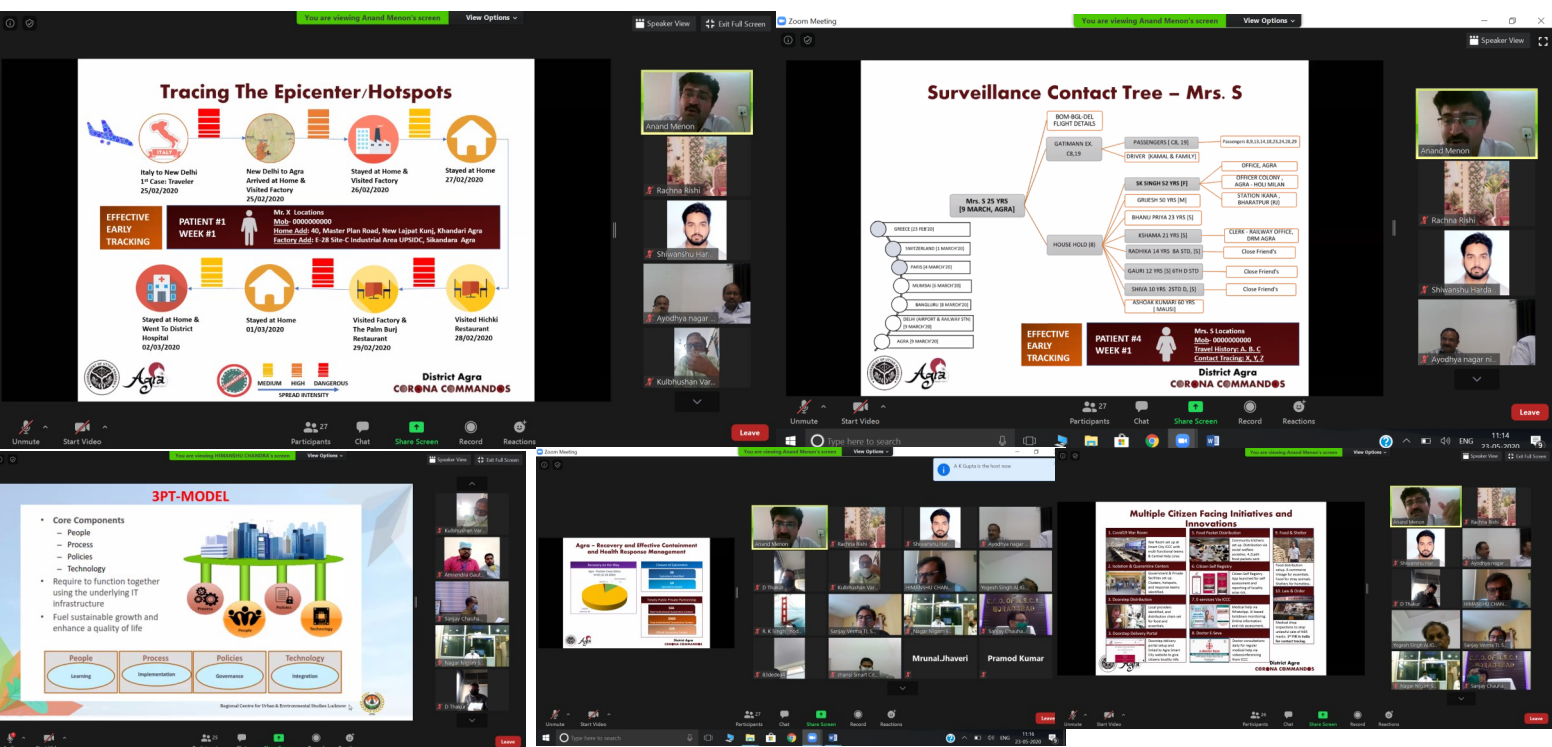
Smart Cities COVID19 Response

Rajkot has been putting ICT to its optimum use to fight against COVID 19 pandemic. The Smart City ICCC has been enhanced with video analytics and AI to monitor the lockdown situation.

The team developed a COVID 19 dashboard for better visualization and decision making and a mobile application to record and track all people who had been put under quarantine.

Indian Institute of Technology (IIT) Kanpur developed night vision drones that are being used for monitoring and surveillance of COVID hotspots in Kanpur City.

GIS mapping for the detection of cases and for studying the spread. RMC started penalizing the people by issuing E-Memo through the city ICCC.



- Discussion with Municipal commissioners /Smart City SPV: CEO of Uttar Pradesh – COVID 19 response

COURSE COORDINATORS

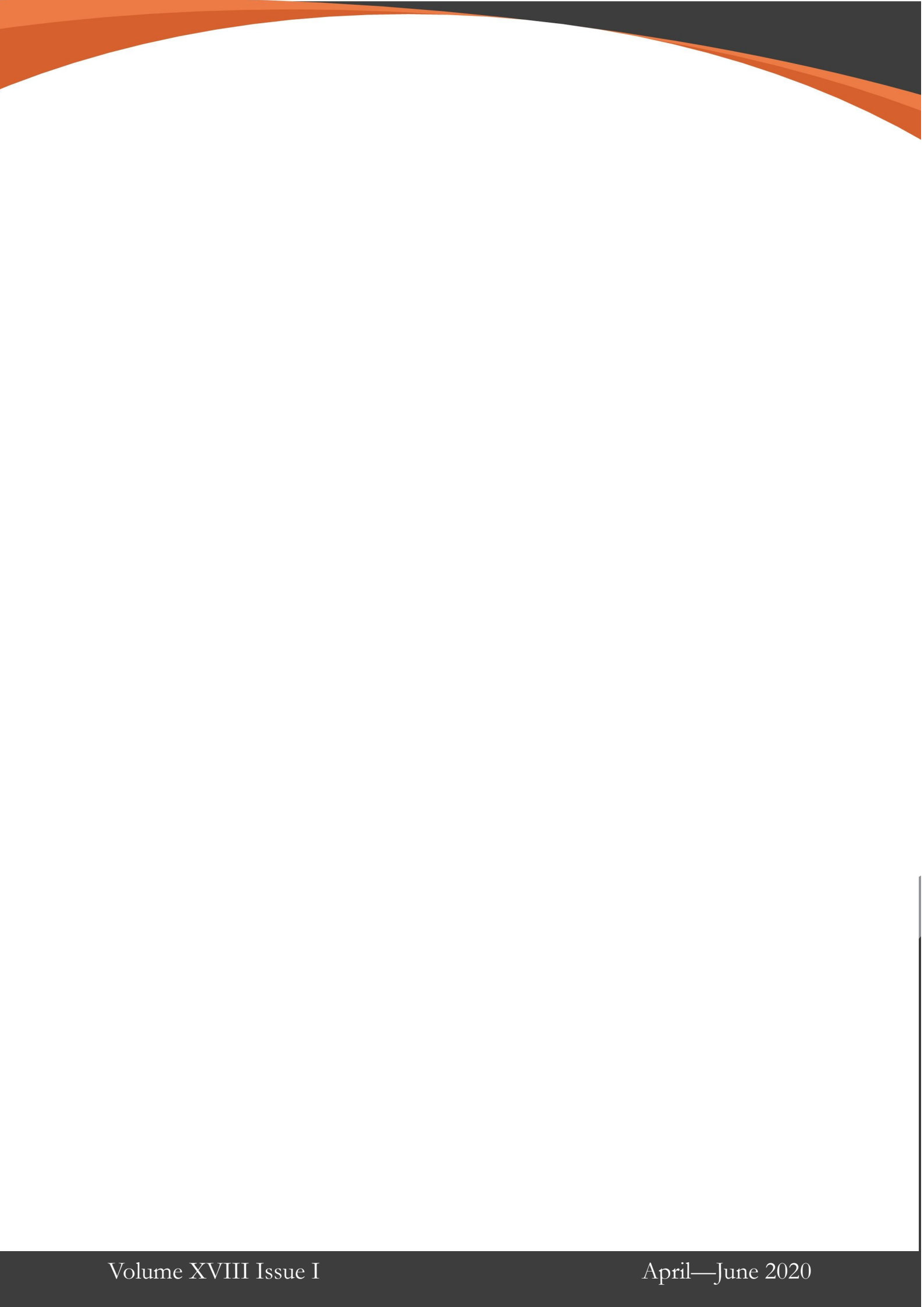
The workshops were coordinated by Mr. Himanshu Chandra, Assistant Director, RCUES Lucknow.

INITIATIVES

- Proposal submitted for organizing State Level Training Development on “Engendering Budgets and Gender Inclusive Urban Development during the FY 2020-21 for the states of Chandigarh, Madhya Pradesh, Jharkhand, Sikkim and Uttarakhand to Ministry of Women and Child Development, Govt. of India.
- Proposal submitted on Sustaining SBM (Rural) in Uttar Pradesh through Rapid Action Learning Unit (RALU) to Principal Secretary, Department of Panchayati Raj, Government of Uttar Pradesh, Lucknow.
- Proposal submitted to State Govt. of UP for making State Policy on Solid Waste Management (RURAL).
- Proposal submitted to Govt. of India for allocation of Funds for Training on Solid Waste Management.

ACHIEVEMENTS

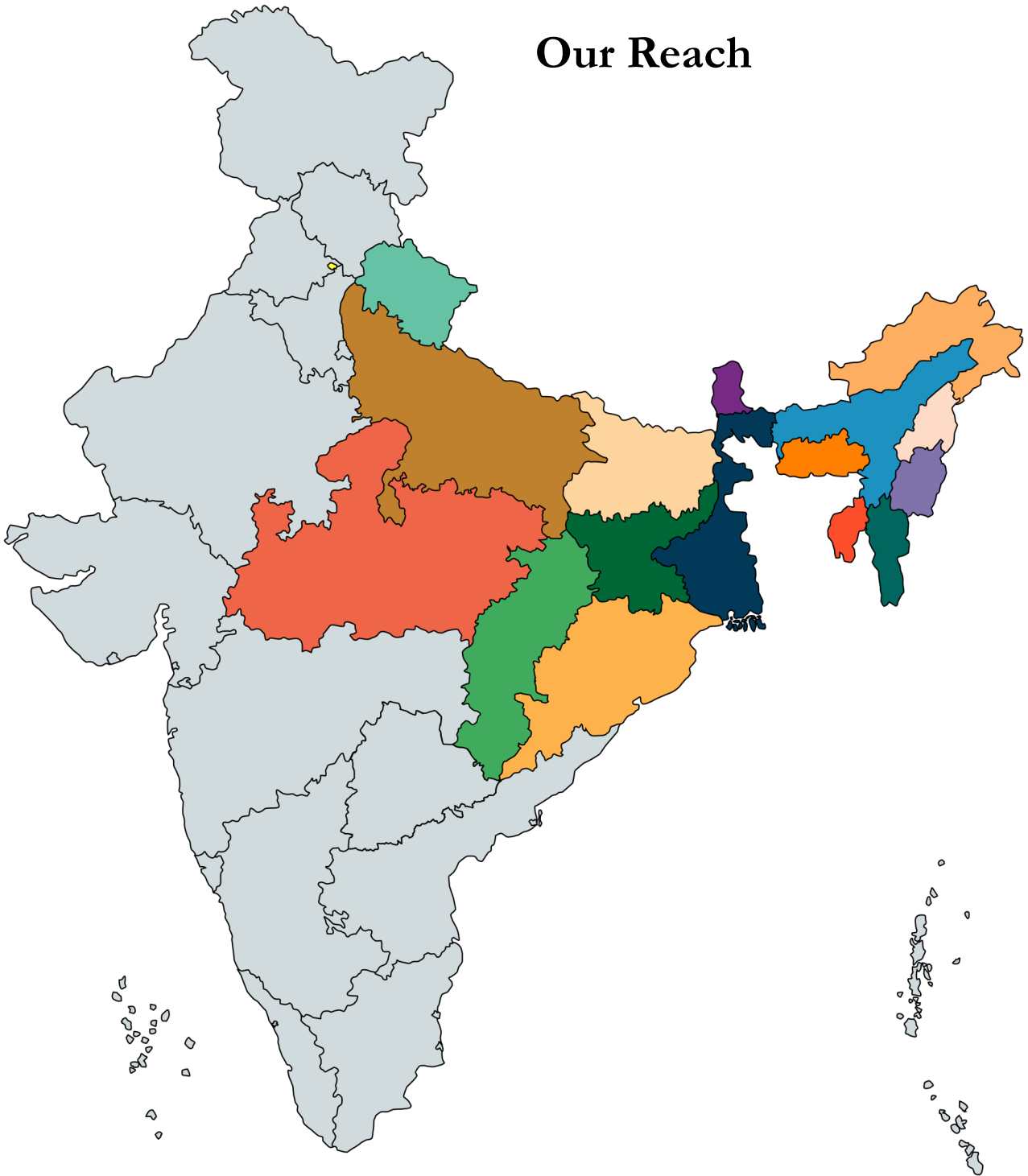
- **Jammu Municipal Corporation (JMC) has appointed RCUES, Lucknow as Consultant for establishing a Project Management Unit (PMU) for Municipal Solid and Liquid Waste Management under Swachh Bharat Mission and other sanitation activities in JMC area of jurisdiction.**
- **RCUES Lucknow has been appointed as Resource Centre by the Panchayati Raj Department, Government of Uttar Pradesh.**



Upcoming Campus of RCUES at Indira Nagar, Lucknow



Our Reach



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(आवासन एवं शहरी कार्य मंत्रालय, भारत सरकार)

लखनऊ विश्वविद्यालय परिसर, कुलसचिव कार्यालय के
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