Setting The Agenda For Tomorrow's Cities

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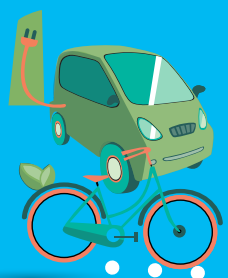







Urban Priorities

Cities prioritizing PEOPLE'S ASPIRATIONS

The scale and pace of urbanization are putting pressure on city governments in almost every developing economy as they are still in the process of understanding the needs of citizens, and accordingly, trying to equip themselves with skilled human resources and technological tools

LEADERSPEAK

Environment taking centre stage in urban management

The project is funded by the European Union.

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Urban Priorities – new approaches

Rajiv Agarwal | Editor-In-Chief | dg@aiilsg.org

"If you keep doing the same things, you will get the same results" goes a saying which sounds logical too. This saying can be applied to the responses of cities to the trend of rapid and relentless urbanisation. Needless to say, the response of our cities' administration to this phenomenon has produced mixed results in terms of creating livable and sustainable urban spaces. However it must be conceded that the influx of populations into cities also had been unprecedented. While there has certainly been visible progress in areas such as implementation of large numbers of metro projects in several cities, the situation with respect to road congestion, safety, and air quality has not changed much.

For some years now there has been realisation that in case we are to get better results, we must do things differently or do different things. There could be several possibilities.

Changing urban priorities must seek to harness the potential of Public-Private Partnerships among others. While on the one hand, this can bring in investments, innovation and enterprise of private sector players, the public bodies can ensure a sense of fair play and inclusivity in the operations of such PPP initiatives. These could be tried out in areas such as waste management and water supply in our cities. Several cities in India and elsewhere are using this model to improve outcomes.

Among other areas, local bodies have adopted citizen participation as a tool for city development. Our Smart Cities Mission lays strong emphasis on this while urging cities to seek and document citizens' views including their vision for their cities and their development priorities. While this has been done vigorously by many participants during the national contest, one hopes that authorities use the inputs in true spirit and the development plans are tailored in line with citizen expectations. Further, local bodies must institutionalize the mechanism to obtain, document, and act upon real-time citizen inputs. After all, cities are for citizens, and citizens make the city.

Another aspect which will be important in governance is the financial health and abilities of our local bodies. This has also been covered in the smart cities mission. There will be more emphasis on finances of city governments given their huge requirements for resources to meet burgeoning demands of service provision. While there will be need for greater devolution from higher levels in order to ensure a predictable and buoyant income streams, cities may need to price services closer to their true costs to enable long term viability. But in some areas, this is easier said than done. Public transport for example, a crying need if we are to build cleaner cities, must be affordable. Pricing of such a service may not be possible on cost-plus basis. Pricing of services such as water will call for judicious balance between reflecting the true value of a scarce resource and social equity.

Housing, mobility, the environment and sustainability are among various priorities which will occupy the minds of urbanists and city governments extensively. These will all call for fresh approaches and new thinking. ■

Ultimately, people have to change their habits and focus on environment-friendly actions. That is why we launched Green Good Deeds movement in the country (India) which has been recognized by the United Nations and talked about in BRICS

Dr Harsh Vardhan
Union Minister for Earth Sciences and Environment

It is clear that it is our duty to manage and regulate the use of biodiversity and ecosystem services in a more sustainable manner so that current needs, and the needs of future generations, can be assured

Mechtild Rössler
Director, UNESCO World Heritage Centre

PIN POINT

As India moves rapidly towards having an electricity system with high levels of solar and wind energy, it is extremely important for the country to start looking at mechanisms that can make the electricity system absorb these variable sources of energy

Ajay Mathur
DG, TERI

Humans can live on floating cities in harmony with aquatic life. It's not a question of one versus the other. The technology exists for us to live on water, without killing marine ecosystems. Our goal is to ensure affordable & sustainable floating cities for all in need

Marc Collins Chen
CEO, Oceanix

BUZZ

Narendra Modi
@narendramodi
Prime Minister of India

On #Earth day, we bow in reverence to Mother Earth. For years, this great planet has been home to phenomenal diversity. Today we also reiterate our commitment to work towards the well-being of our planet, focus on sustainable development and mitigating climate change

Durga Shankar Mishra
@Secretary_MoHUA
Secretary, MoHUA, India

Technology is playing a key role in the transformative change that is sweeping across the country. Several projects, particularly those under @SmartCities_HUA, are anchored in cutting edge innovative technologies, machines & artificial intelligence

Mami Mizutori
@HeadUNISDR
Head, UNISDR

India's 'zero casualty' approach to managing extreme weather events is a major contribution to the implementation of the #SendaiFramework and the reduction of loss of life from such events. I hope to hear more about #CycloneFani at the #GP2019Geneva

Peter Strachan
@ProfStrachan
Prof, Robert Gordon University, Scotland

#ClimateChange is a threat, but it could be an economic boon. "Replacing our old, dirty energy infrastructure with new, efficient & #cleanenergy infrastructure isn't a cost to be feared but an investment we should be eager to make"

Inside

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ONE ON ONE

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VELO-CITY

COVER STORY

LEADERSPEAK

CDF meet to achieve equitable delivery of municipal services

Equi-Cityteam and Nagpur Municipal Corporation (NMC) recently organized a City Development Forum meeting to inform the members of CDF on project-based activities, take their reviews, feedbacks and suggestions for furtherance of the main project objectives.The coordinated actions of the stakeholders and local authorities can help to achieve the goal of equitable delivery of municipal services

Team Equi-City

Equi-City Project aims to promote equity in delivery of municipal services and diversity in local authority organisations in India and engage in collaborative solutions through participatory forums such as City Development Forum (CDF). The CDF is an advisory forum which acts as a knowledge sharing and problem-solving sounding board between and among local authorities for diversity and efficiency in provision of civic services. The coordinated actions of the stakeholders and local authorities can help to achieve the goal of equitable delivery of municipal services. Hence, the Equi-City team along with Nagpur Municipal Corporation (NMC) organized a CDF meeting on April 23, 2019 to update the CDF members on the status of Equi-City project-based work activities in the past one year and take their review, feedback and suggestions for furtherance of the main project objectives.

The following project activities were carried out under Equi-City project in the year 2018-19:

Participatory Forum

- CDF meeting on disaster management plan of Nagpur city
- Launching of Inter City Forum at Maharashtra Mayor's Conclave in Nagpur

Organisational Diversity

- Development of human resource policy for NMC
- Development of equality & diversity f ramework

Capacity Building and Research

- Training workshop on slum development for elected representatives
- Training workshop on gender empowerment for elected representatives
- Training workshop on smart cities for elected representatives

Monitoring and Implementation

- Citizen feedback survey for municipal mervices
- Development of municipal rating system, citizen scorecard & community scorecard
- Focus group discussion and feedback meetings

Information Dissemination

- Sanitation awareness campaign at Futala lake, Naik lake and Lendi lake
- Sensitization campaign on preventing tobacco spitting at various localities in Nagpur
- Sensitization campaigns for waste segregation at various localities in Nagpur
- Sanitation awareness and quiz competitions in 10 schools of 10 zones in Nagpur

Highlights of CDF meeting

Girish Gandhi, CDF convener, said that the City Development Forum needs to be regularised after the term of Equi-City project is over. Abhijit Bangar, Municipal Commissioner of NMC gave assurance that the City Development Forum will be regularized and an action plan will be prepared for CDF members so that they can contribute in improving efficiency of service delivery by the NMC. The CDF if made a statutory body within the NMC, it will create a direct platform between the corporation and citizens.

Dr Neelima Deshmukh, Head of Department of Public Administration, Rashtrasant Tukadoji Maharaj Nagpur University (RTMNU) suggested that assessment of administrative efficiency of the trainees before and after the training should be done in order to understand the impact of trainings imparted. Abhijit Bangar said that the trainings will be organized more frequently if the there is need and also refresher courses/workshops will be organized regularly and Equi-City/ AIILSG can contribute in this regard. The impact of training thus can be judged if head of department evaluates the pre-training and post-training difference in the performance of officers who received training.

GS Saini, Director, National Civil Defence College suggested that the impact of studies carried out by the Equi-City should be reflected in the actions taken by the NMC in order to resolve the prevalent issues of the citizens as found in all the studies and

reports. He further suggested that a follow-up of the reports submitted to the Nagpur Municipal Corporation should be taken by the Equi-City team from time to time. Abhijit Bangar reaffirmed that the Equi-City team is already in process of making a mobile-based application which will act as important medium of getting direct assessment of services provided by the NMC from the citizens, and thereafter addressing those issues.

Vijay Limaye, Director, Ecofriendly Living Foundation, suggested that competitions for cleanliness should be arranged among slums in order to sensitize people for maintaining cleanliness. Sameer Deshkar, Professor, Visvesvaraya National Institute of Technology, suggested that instead of targeting only slums, neighbourhood level competitions should be organized and incentives should be given in order to inspire citizens for participation in the social and civic development toachieve complete sanitation; this can only be addressed by citizen awareness and sensitization. Thus, citizens also need to be more sensitized as behavioral change is the key in order to achieve the goal of complete cleanliness.

The meeting thus came to an end with various useful suggestions and recommendations. The documentation of citizen's feedback, identification of issues and reports generated by the Equi-City team regarding service delivery of the NMC will serve as a great input for the NMC in order to improve their services. Significant amount of sensitization of citizens can be achieved if all themembers take up the responsibility to spread awareness within their own groups.

Developing mobile based application as a solution for municipal services delivery

Equi-City Project under its objectives of developing a Monitoring & Evaluation Tool for Nagpur Municipal Corporation is launching a mobile based application as a feedback mechanism for Municipal Services mainly focusing on sanitation and water supply services. This activity will allow both, stakeholders (citizens, NGOs etc.) and local authorities to ensure transparent and accountable delivery of municipal services through real time feedback on current level of service status following with recommendations for effective control and intervention.

The feedback system based on mobile application not only integrates the services on one platform but also brings a level of accessibility for citizens to use those services. Along with making things simpler for citizens, the mobile application also gives a helping hand to the municipal employees. As all the data is available online and can be accessed digitally, officers can review and act swiftly upon any issue citizens are facing in any part of the city and the results can be posted online in the form of feedback. All this data can be stored and later be analyzed to conclude the performance and activity of a worker throughout the month or year. This improves the efficiency of the employees and the service delivery of the municipal corporation.

Currently municipal performance in most Indian cities is assessed primarily based on qualitative and quantitative information provided by the ULBs and service providers. Citizen feedback surveys can act as additional diagnostic tool that can measure the level of satisfaction of actual users of municipal services.

Citizen feedback can also allow ULBs to assess the level of awareness among citizens about their rights and responsibilities. Citizens feedback has become a major data collection tool for 'program evaluations' and 'performance-based budgeting systems' in many countries.

Equi-City chose to conduct feedback surveys using mobile technology as it offers the following advantages over traditional paper based surveys:

- Real time data sorting and its analysis: Traditional paper based surveys require time to collect, sort, correct and analyze data. Use of ICT eliminates these time lags.
- Accuracy and quality control: The ICT based surveys are designed to flag errors, anomalies and exceptions in the data collected.
- Enable replicability: Mobile applications developed for on-field surveys can easily be replicated/ used in other cities. This allows comparison between performance of various cities.
- Data analysis and visualization: Mobile based survey applications often have a dashboard interface that allows various stakeholders to analyze and visualize data based on different themes.
- Spatial analysis of data: Mobile based surveys also allow geographical tracking. Surveys can be conducted in different regions/areas of a city to analyze any geographical/ regional variations. ■

Team Equi-City in a CDF meeting with NMC

Rajiv Agarwal, IAS (Retd) Director General, AIILSG inaugurating AIILSG's Hyderabad Regional centre.

Meeting of governing council of Regional Centre for Urban & Environmental Studies in Lucknow headed by Principal Secretary, Uttar Pradesh. Ravi Ranjan Guru, DDG, AIILSG was also present.

AIILSG successfully conducted NSKDFC workshop in Nadiad, Gujarat.

Sureshbhai Dhandhaliya, GC member, Ravi Ranjan Guru, DDG AIILSG, along with others at Bhavnagar centre inaugurating SI June 2019, batch advertisement campaign.

CSOs to train school students in Kerala on SWM, cleanliness

'Pencil', a new project initiated to create awareness among school students for reducing the waste generated and to promote the habit of using eco-friendly materials. 'Pencil' is jointly organized by the Haritha Keralam Mission, Kudumbashree Mission, Suchitwa Mission, Health Department, Kerala Institute of Local Administration (KILA), and around 20 lakh students are going to be trained under the project during summer vacations. Students will be made aware of the need and importance of segregation of garbage, recycling, laws in connection with garbage dumping, and use of eco-friendly objects. The camps will begin from May 5.

'Pedestrian malls' to come up at 18 spots in Chennai

The Chennai Corporation has identified 18 locations across the city and its suburbs for development of pedestrian malls. 'Pedestrian malls' are open activity spaces for social, recreational and civic purposes. According to an official, "Such open spaces can be created beneath Metro stations and flyovers where large pedestrian volumes are reported throughout the day." The facility proposed for the Chennai Metropolitan Area (CMA) are expected to serve as one of the core elements of urban renewal.

ICMR launches 'Mission DELHI' to reduce heart-attack deaths

NEW DELHI: The Indian Council of Medical Research (ICMR) on April 25, 2019, launched 'Mission DELHI' (Delhi Emergency Life Heart-attack Initiative) to deliver good post-attack care at the door step with an aim to reduce number of deaths from heart attack. An assistance unit on a motorcycle can be quickly summoned for emergencies like heart attack or severe chest pain. The pilot project has been launched for a radius of three kilometres around the All India Institute of Medical Sciences (AIIMS).

There are four bike-ambulances and 12 trained nurses who would be the first responders to treat heart attack patients. Dr Randeep Guleria, AIIMS director, said that the pair would rush to the spot on motorcycles on getting a call, collect basic information about the patient's medical history, conduct a quick medical examination, take the ECG, and establish a virtual connect with the cardiologists at AIIMS and deliver expert medical advice and treatment.

While the emergency treatment is being provided, a CATS ambulance will arrive and take the patient for further treatment. A CATS ambulance will also be dispatched simultaneously. The first response vehicles will also be equipped with oxygen cylinders and defibrillators.

The project will cost ₹5 crore over three years and more, if expanded.

"Under the project, timely emergency treatment will reach patients before their condition worsen," said Dr Venugopal, ex-director AIIMS.

The idea is to reach with medical help much faster, given the high-density traffic situation in the city where movement of four-wheeler ambulances becomes difficult. Motorcycle ambulances can reach people in narrow lanes in congested areas," Dr Guleria said.

The awareness drives and dry runs for the project had started seven months ago. So far, the nurses on the field have already conducted 1,804 dry runs and done 1,040 ECGs.

Cutting use of household fuels can save 2.7 lakh lives

NEW DELHI: Indian Institute of Technology (IIT) Delhi conducted a study published in the journal proceedings of the National Academy of Sciences, revealed that India could make a major dent in air pollution and save about 270,000 lives a year by curbing emissions from dirty household fuels such as wood, dung, coal and kerosene. Eliminating emissions from these sources, without any changes to industrial or vehicle emissions, would bring the average outdoor air pollution levels below the country's air quality standard. Eliminating household fuels could also reduce air pollution-related deaths in the country by 13 per cent, which is equivalent to saving about 270,000 lives a year, said researchers, including Sagnik Dey from IIT Delhi. "Household fuels are the single biggest source of outdoor air pollution in India," said Kirk R Smith, a professor at the University of California.

The bulk of air pollution originates from burning biomass, such as wood, cow dung or crop residues to cook and heat the home, and from burning kerosene for lighting, especially in many rural areas of the world where electricity and gas lines are scarce. Electrification and distribution of clean-burning propane to rural areas would help in complete mitigation of biomass as fuel and would cut India's average annual air pollution to 38 micrograms per cubic meter, just below the country's National Ambient Air Quality Standard of 40 micrograms per cubic meter.

In 2016, India instituted a national programme to distribute clean burning stoves and propane to 80 million impoverished households, or about 500 million people, researchers said. The rationale behind this programme was to prevent illness due to cooking and heating smoke trapped within the home.

Amroha's village runs 100% on solar power

A village in Amroha district of Uttar Pradesh is fulfilling all its electricity demands through solar power. The village 'Mandirowala Bhuddi' under Chakanwala Panchayat is completely solar powered and have no electric poles. As a part of government's scheme, solar panels are installed at every house of the village. Kanwar Singh Tanwar, Member of Parliament, Amroha said that solar panels have been installed to make people's lives better. He further said that he will start working on road connectivity project soon. Villagers talked about how solar power helped to bring light in village.

Odisha gets approval from MNRE for 18MW solar rooftop project

The Ministry of New and Renewable Energy (MNRE) has approved for setting up an 18MW solar rooftop project in Odisha. Presently, there are 4MW rooftop solar power projects ongoing in Bhubaneswar and Cuttack. A ministry official said, "Around 600 government buildings covering 17 key cities and towns will be used for solar energy generation under Public Private Partnership mode." The developers for the project will be selected using a tender which will be floated by the state run Green Energy Development Company Limited." Odisha plans to touch 2200MW of solar energy by 2022 under its Renewable Energy Policy 2016.

ADB approves funds for renewable projects in Pacific island countries

MANILA: To overcome the constraints faced by private sector investing in renewable power projects in Pacific island countries and support them, the Asian Development Bank (ADB) has approved an umbrella facility of up to $100 million, which will provide financial support including loans, guarantees, and letters of credit.

ADB's Pacific Department (PARD) and Private Sector Operations Department (PSOD) will work together to implement the Pacific Renewable Energy Programme. The programme will support an estimated 5 separate renewable energy projects in ADB's Pacific developing member countries over a 5-year period.

Carmela Locsin, PARD Director General, said, "The program will help to build urgently needed capacity for energy sector expansion and private sector interest in clean energy projects in the region." Funds for power utilities in the pacific is inadequate to bring a transition from fossil fuels to clean energy, private sector investment is crucial to expand renewable power generation in the region. Development is also hampered due to a lack of bankable power purchase agreements, uncertainties over foreign currency availability and convertibility, and perceived political risks.

Michael Barrow, PSOD Director General said, "The program is designed to work within these constraints and encourage private sector investments through an innovative blend of ADB's direct private sector lending, ADB's guarantee of commercial bank lenders, together with donor funds which provide a backstop to the payment obligations of the power utilities."

The first project proposed for approval under the programme has been identified and a budgetary plan for the same is under discussion.

CCMC to use technology to assess water pipelines' quality

COIMBATORE: Coimbatore Municipal Corporation signs an agreement with Suez Projects Private Limited, to improve the city's water distribution via water supply pipelines. Suez Projects Pvt Ltd will be using a technology, used for the first time in India, to test quality of water pipelines. With the installation of the new pipelines 60 wards of the corporation will have digital water meters. The company uses two technologies to study the pipelines at over 10 locations in the city. The first was 'e-pulse', which involved contact with the pipelines to place sensors between 80 and 200 m to study the quality. The second was scanner technology that involved sending electromagnetic waves to study the quality of pipeline over a kilometer or so.

A senior municipal corporation official said, "We have decided to replace all the asbestos and PVC pipelines. Suez Projects Private Limited is working on two technologies, external acoustic condition assessment (e-pulse) and electromagnetic method to check the condition of metallic pipelines, especially internal and external corrosion. The scanner is placed on the surface of the pipeline after excavating the ground. It can scan 360 degrees surface of the pipe." The official said, "We have completed the test at six locations and the remaining would be completed within a day. While the scanner is used at four locations including DB Road, KK Nagar and corporation office, e-pulse is used at Nethajipuram and Varatharajapuram." The testing equipment was imported from France.

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Kerala to use digital recorders to measure groundwater levels

The Groundwater Department of Kerala in order to keep a check on ground water level will soon install digital water level recorders in observatory wells to capture the real-time movement of groundwater. Around 150 wells in the state has been selected for the project. The project will begin in July and recordings from the digital device will be sent to the department network via a probe connected to an equipment outside the well. Presently, the readings of groundwater level are taken manually and processed for a monthly average and there is no real time data available regarding the variations in groundwater.

Madras HC orders highways department to plant 13,000 saplings

Madras High Court ordered highways department to seed 10,000 new plants to cover the loss of green cover during the road projects in the state. According to a press release from V Easwaran, state youth wing secretary, Marumalarchi Dravida Munnetra Kazhagam (MDMK), filed a case against in HC and demanded the highway authority to plant 10,000 new trees. Following the orders, the department official has written a letter to national highways ministry seeking permission to seed 13,000 new plants on both sides of the road from Sulur to Vellakovil at a cost of nearly ₹2 crore.

Housing & Urban Development Department of Odisha receives HUDCO Award

BHUBANESWAR: Odisha's Housing and Urban Development Department receives HUDCO Award for Best Practices in Housing, Urban Poverty & Infrastructure for improving the living environment for the year 2018-19. Housing and Urban Development Corporation Ltd. (HUDCO) is a public sector enterprise fully owned by the Government of India, under the Companies Act 1956. 'Universal coverage of urban piped water supply' in Odisha has been selected as one of the award winning best practice in the said category. Kudumbashree – State Poverty Eradication Mission has bagged another award in the same category for 'PMAY-LIFE House Construction through Woman Construction Group'.

State Urban Development Agency of Chhattisgarh won the best practice award for 'Pre-Audit/Internal Audit' and 'Accrual Based Double Entry Accounting System' in 168 ULBs, under the Urban Governance theme. Karnataka State Road Transport Corporation received award for 'City Bus Services at Tier II and III Cities & Towns' under the Urban Transport theme.

'Energy Security Efforts by Surat Municipal Corporation' and 'Revitalization of Derelict Urban Spaces-Chhakarpur-Wazirabad Bundh' wins best practices award. Petland Municipality in Gujarat and Hyderabad Metropolitan Water Supply and Sewerage Board (HMWSSB) respectively received best practice award under the Sanitation theme for 'door to door collection of sanitary napkins & diapers. Ujjain Development Authority of Madhya Pradesh under the 'Urban Design and Regional Planning, Inner City Revitalization & Conservation' theme also received best practice award for 'Bharat Ratna Shri Atal Bihari Vajpayaee Anubhuti Udhyan'.

IGBC awards gold rating to Tirupati station

TIRUPATI: The Tirupati railway station has been awarded gold rating by the Indian Green Building Council (IGBC), because of the eminent facilities provided by the station and encouragement to reduce its carbon foot print. The station stood ahead in terms of facilities provided to its passengers, such as foot-over-bridges, lifts and escalators (on all platforms), drinking water points, snack kiosks, porters, wheel chairs, and 100 per cent outdoor lighting fixtures with LED lamps. The Tirupati railway station, which has been revamped under Piyush Goyal-chaired Railway Ministry's station beautification and redevelopment plan has been given an all-new makeover. The station has a housekeeping plan, a 40 kWp solar rooftop system that caters to 11.7 per cent of the station's non-traction energy consumption, a solar water heating system and smart passenger services to improve passengers experience.

The station has kept separate bins for collection of dry and wet waste on all platform to keep station clean and it also provides drinking water conforming to the Indian Standard 10500, and has seven RO water vending machines placed inside the station.

The CII-IGBC with the support of Environment Directorate of Indian Railway has developed the Green Railway Stations rating system. The main objective of the rating is to facilitate adoption of green concepts, thereby reduce the adverse environmental impacts due to station operation & maintenance, and enhance commuter experience.

WORLD'S LARGEST VIRTUAL BATTERY PLANT TO POWER UAE

UAE, HOME TO some of the world's largest buildings and largest desalinated water reservoir, is now also home to worlds' largest virtual battery plant. The plant's capacity is 108 MW and is distributed in 10 locations across the country which are controlled by single plant, hence named the 'virtual battery plant'. The plant uses sodium sulfur batteries as they can perform better in higher temperatures (as high as 300°C) making them a lot more robust than lithium-ion batteries. The system is large enough to provide up to six hours of power backup to Abu Dhabi in case the electricity grid goes down.

Nepal collects 3000kg garbage from Mt Everest

Under the 'Sagarmatha Cleaning Campaign' launched on April 14, the Nepal government collected as much as 3,000 kg of solid waste from the Mount Everest region. According to Dandu Raj Ghimire, director general, tourism department, 2,000 kg of the total collected garbage has been sent to Okhaldhunga while 1,000 kg of garbage has been brought to Kathmandu for disposal, reported Himalayan Times. This is the first venture in which the Ministry of Culture, Tourism & Civil Aviation, Ministry of Environment, Nepalese Army, Nepal Mountaineering Association, Sagarmatha Pollution Control Committee, Khumbu Pasang Lhamu Rural Municipality, and Nepal tourism board are working together.

CCMC officials seize 100 kg banned plastic items

Coimbatore City Municipal Corporation (CCMC) officials seized over 100 kg banned plastic items from over 30 shops across the city and imposed fines over ₹25,000. Senior officials raided shops in all the five zones and seized the banned items. Officials targeted grocery stores, juice shops, and bars attached to liquor outlets. During the raids, shopkeepers claimed that they stored plastic covers as primary packing materials, which is exempted from the ban. However, officials continued to seize those items categorising them as one-time use plastic items.

Multi-level parking lots to ease congestion in Chennai

CHENNAI: Chennaites will soon get multi-level car parkings in the city along congested stretches with acute parking shortage. Following a meeting held by Chennai Corporation officials with other civic agencies on April 23, identification work for finding suitable land for development of multi-level car parking lots has started. The corporation will identify land plots and government owned vacant land to build the parking lots.

Land given to the Chennai Corporation would also be traced. An official of the Corporation said, "Many parcels of land in congested areas have been grabbed by some persons. We have to use the land for development of multi-level car parking spaces."

On April 22, Chennai Metropolitan Development land drafted its final report on Comprehensive Mobility Plan, which also pointed towards the need for development of multi-level parking.

An official said, "Provision of mass parking facilities should not always be the norm. However, mass parking facilities are needed in order to pedestrianise commercial areas. This is the basis of the proposal. For example, the proposals for multi-level car parking lots in T Nagar and George Town are linked to the pedestrianisation in such commercial areas." The civic body has identified 22 locations which are mentioned in comprehensive action plan for reviewing them to find out if they are suitable for multi-level parking or not. A parcel of land on Barathi Salai in Triplicane would accommodate 330 cars. Chennai Central would get a multi-level parking lot for 270 cars. Another one near Ega Theatre in Kilpauk would accommodate 300 cars. Plans are on to set up parking spaces at Chetpet, Saidapet Metro, Mandaveli MRTS, Anna Nagar Roundtana and Nungambakkam Sterling Road. Suburbs such as Tambaram and Chromepet would also get multi-level parking lots.

Chennai to have nine recreational cycle trails soon

CHENNAI: The work on recreational cycling trails will be taken up along 237.5 km in the city and suburbs covering various scenic and historically important landmarks in Chennai Metropolitan Area, as per a final draft report of Comprehensive Mobility Plan.

According to an official, "Comprehensive Mobility Plan identifies the need of 17,000 bicycles for 205 docking stations at 15 major interchanges and 190 public transit stations in Chennai and its suburbs." Most of the cycling trails will be along waterbodies, beaches and in the locality of heritage buildings.

Cycling trail along OMR and ECR will cover a length of 29 km. Another recreational cycling trail will be developed from Velachery MRTS to Ottiambakkam quarry.

The Chennai Metropolitan Development Authority has proposed to develop a scenic road along Chembarambakkam Lake and develop a recreational cycling trail from Porur junction to the lake. A 35 km recreational cycling trail will be developed from Padi to Puzhal lake, linking Padi flyover. The longest recreational cycling trail of 48 km will be developed along the stretch from Padi to Sholavaram Lake. "Such recreational cycling trails are likely to attract tourists," added the official. The trail along the Pallikaranai marsh will be developed, connecting Madhya Kailash with the wetland, which will be eco-restored soon.

Madhya Kailash would also be linked with Besant Nagar beach by developing a recreational cycling trail of 10.1 km length. The trail covering 10 km, connecting Koyambedu with Anna Nagar Tower Park, will link shopping malls, commercial areas, parks and transit hubs.

NGT asks for action taken report on encroachments on Naini lake

NEW DELHI: The National Green Tribunal (NGT) asked for an action taken report from a committee against alleged illegal constructions in the catchment area of Naini lake in Uttarakhand.

A bench headed by Justice Adarsh Kumar Goel, NGT Chairperson asked the committee comprising representatives of the Uttarakhand State Pollution Control Board (USPCB), the Nainital District Magistrate and the Secretary, Urban Development, to submit the report within two months by email. "Before we consider the matter further, we find it necessary to obtain a factual and an action taken report from a joint committee. The nodal agency for compliance and coordination will be the District Magistrate, Nainital. A copy of this order be sent to the Uttarakhand State Pollution Control Board, the District Magistrate, Nainital, and the Secretary, Urban Development by email," the Bench said.

The tribunal directed the applicant, NGO Friends, to furnish a set of papers each to the committee and file an affidavit of service within a week. The NGO approached the NGT against alleged illegal constructions around the lake and claimed that such constructions result in landslides, reduce the lake's capacity and increase soil erosion. It also alleged that constructions are beyond the carrying capacity of Nainital town and as a result of it, the water level of the lake has gone down and recharge of groundwater is also affected.

"Not withstanding this alarming situation, the authorities concerned are allowing big commercial structures, multi-storey group housing buildings, flats, etc. in different parts of the town, flouting directions of the Supreme Court. This violation is still going on at many places in Nainital," the plea said.

Citizens protest against lake beautification in Ranchi

RANCHI: Under the shadow of the Jharkhand Civil Society, influential citizens of Ranchi staged a demonstration near the Ranchi Lake, accusing the Ranchi Municipal Corporation of dirtying and shrinking the reservoir in the name of beautification.

According to the campaigners, beautification amounted to nothing but encroachment and excessive concretisation of the reservoir, even as basic issues of cleanliness and rejuvenation were ignored. A 33 feet high statue of Swami Vivekanand has been installed near Vivekanand Sarovar, a British-era reservoir, popularly known as Bada Talab. Bada Talab is in the process of getting 2 km long and 10 feet wide landscaped pathways around it with vintage lamps, and guarded by railings, as per Ranchi Municipal Corporation concept. This, on the lines of Marine Drive in Mumbai, would enable walkers to get a feel of flowing water of the lake, the authorities claimed. Khushboo Kataruka, a member of Jharkhand Civil Society and Jharkhand High Court lawyer, who was at the protest said that they aimed, through demonstration conducted on April 6, to draw the attention of the masses towards over 150 years old lake. "Jharkhand Civil Society has raised its voice against unwanted concretisation and excessive delay in beautification of Ranchi Bada Talab. While sewage keeps flowing into the lake unheeded, contaminating groundwater, JCB machines are seen filling up the lake and drying it up for encroachment and reducing the lake area (for constructions). If all this is not stopped in time and water is not cleaned, the entire ecosystem of the lake will collapse," Kataruka said.

HC orders TMC to seal hospitals operating without fire NOC

The Bombay High Court on April 18, ordered the Thane Municipal Corporation (TMC) to seal all private hospitals and nursing homes operating without a no-objection certificate (NOC) from the Thane Fire Department. The decision came after Sapna Shrivastav, an RTI activist filed a plea. According to Sapna, the fire department released a report last year that showed more than 50 per cent of the private hospitals and nursing homes not having equipment to deal with fire incidents. A bench of Chief Justice Pradeep Nandrajog and Justice NM Jamdar said that if hospitals do not follow the notice related to safety norms served by TMC and the fire department, authorities have the right to cease such health care units.

North, East Delhi get new Mayor, Deputy Mayor

Municipal Corporation of Delhi (MCD) revealed north and east body's new mayors' and deputy mayors' election result on April 29. Avtar Singh, BJP councilor from Civil Lines was elected unopposed as the new mayor of North Delhi Municipal Corporation and Yogesh Verma, BJP Councilor from Ashok Vihar was elected as Deputy Mayor of NDMC. Adesh Goel and Jaipraksh of BJP and Ravindra Bharadwaj of AAP were elected for the standing committee. Anju Kamalkant, BJP councilor from Vishvas Nagar and Sanjay Goyal of BJP were elected as Mayor and Deputy Mayor of East Delhi respectively. Bipin Bihari Singh, Ajay Sharma and Abdul Rahman were also elected as the members of the Standing Committee.

Delhi Police launches 24X7 helpline for mob violence & noise pollution

For prevention of mob lynching and noise pollution, the Delhi Police launched two new 24X7 helpline numbers on April 18, 2019; 155270 for mob violence and 155271 for noise pollution.

The Delhi Police in a statement said that the helpline number 155270 is available for making complaints about mob violence. Any person aggrieved or a witness can report any such incident to this helpline round the clock. The other helpline 155271 is made available for making complaints related to noise pollution. The helpline for mob lynching was launched as per the directions of the Supreme Court, while the helpline for noise pollution came in compliance with the directions of the National Green Tribunal (NGT) orders.

BeMC conducts training programme for rag pickers

Berhampur Municipal Corporation (BeMC) has initiated a training programme for rag pickers to improve cleanliness in the city by recycling of plastic waste. The training started on April 17, at the BeMC conference hall. Safety kits including gloves, masks, aprons, caps, and shoes were handed over to the rag pickers. Chakravarty Singh Rathor, Commissioner of BeMC, said that a memorandum of understanding has been signed with a Delhi-based company Gem Enviro Management Pvt Ltd to collect plastic waste through local rag pickers and recycle them. Vikram Sharma, head of Gem Enviro's eastern India operations said that the target is to train 6,000 rag pickers in phases and will train them for two months.

Delhi to get 7th biodiversity park soon

NEW DELHI: South Biodiversity Park, which was recently approved by the Delhi Development Authority (DDA), will be developed in different phases on the Yamuna floodplain in the next five years.

At present, New Delhi has six biodiversity parks – Yamuna Biodiversity Park, Kamla Nehru Ridge, Aravalli Biodiversity Park, Tilpath valley, a park behind Tughlakabad Fort, and the Neela Hauz Lake. Currently, the area is next to the DND flyover, just behind Kalindi Colony on the western banks of Yamuna river. It receives wastewater from nine unauthorised colonies, the biggest of which is Kilokri village, and has become a mosquito breeding ground. A team of scientists, led by an ecologist C R Babu, who heads the Centre for Environmental Management of Degraded Ecosystems (CEMDE) at Delhi University, is slated to work on the project. The Delhi Development Authority (DDA), which owns the land, has allocated about ₹2 crore for the project. The decision was taken at a meeting of the Yamuna Pollution Monitoring Committee, set up by the National Green Tribunal (NGT) on April 11, 2018, headed by former Delhi chief secretary Shailaja Chandra and expert member B S Sajwan. C R Babu said, "The 115 hectares area near DND, which is a part of the Yamuna floodplain, will be revived through the Constructed Wetland System (CWS) which was earlier employed successfully at Neela Hauz lake in 2017. This is a completely natural sewage water treatment method which uses specific plant species and microbes to purify grey water."

Environment Ministry to restart redevelopment projects at Sarojini Nagar & Netaji Nagar

NEW DELHI: To restart the stalled redevelopment projects at Sarojini Nagar and Netaji Nagar, the Union Environment Ministry has accorded fresh approval and permitted NBCC —a public sector construction company— for the 'transplantation' of about 5,000 trees as opposed to the felling of 11,000 trees. However, the clearance is subject to the Delhi High Court's decision on the petition demanding that the project be scrapped. The High Court had permitted NBCC to draw plans that could minimise or avoid the arboreal decimation.

The project had sparked protests in Delhi last year due to felling of trees involved in the plan. This led to the petition filed in the High Court and the National Green Tribunal (NGT), demanding that the project be scrapped. The High Court then ordered a 'stay' on the project.

The complete project includes six redevelopment projects in Sarojini Nagar, Netaji Nagar, Nauroji Nagar, Thyagaraj Nagar, Mohammedpur, and Kasturba Nagar. The cost of the project is Rs 32,835-crore which covers 6,62,000 sqm and involves development of government accommodation as well as commercial properties.

The project required clearance by the Union Environment Ministry's Expert Appraisal Committee (EAC) to proceed. As per the documents, the EAC gave clearance to the projects to be carried out at Netaji Nagar, Nauroji Nagar, Thyagaraj Nagar and Sarojini Nagar — the last of which involves felling 11,000 trees.

Regarding the component of the project in Nauroji Nagar, the EAC had been told that of the 3,906 existing trees of different species, 1,600 (+/- 5%) trees would be transplanted and 2,306 (+/- 5%) trees would be retained at the project site.

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Urban Development Department passes on fine of ₹18 cr to NDMC

The National Green Tribunal (NGT) slapped a fine of ₹18 crore on the Delhi government's Urban Development Department for environmental damage and non-compliance with the plastic waste management rules. The UD department passed on the fine imposed by the NGT to the North and South civic bodies. While SDMC has been asked to deposit ₹7 crore towards "cost of damage to the environment", the Northern body has to pay ₹18 crore to the Central Pollution Control Board (CPCB) for "recovery of damages". The NGT had directed Delhi government to deposit ₹25 crore within a month.

DPCC fines 765 industrial units for flouting pollution norms

Delhi Pollution Control Committee (DPCC) on April 10, 2019, has imposed environment damage charges of ₹1 lakh each on 765 industrial units in west Delhi's Mayapuri for causing pollution through scrapping activities. The DPCC imposed environmental damage charges of ₹50,000 on each municipal corporation for unauthorised dumping of wastes in drains at 38 locations. The action has taken following the guidelines of the National Green Tribunal (NGT). DPCC has asked the South Delhi Municipal Corporation (SDMC) to remove 305 tons of scrap material lying on public land from the industrial area of Mayapuri, where such units were found dumping solid waste into the drains.

NGT directs CPCB to submit report on use of waste tyres in factories

NEW DELHI: The National Green Tribunal (NGT) has directed the Central Pollution Control Board (CPCB) to submit a report pertaining to the remedial measures required against the usage of waste tyres by illegal pyrolysis industries. The directions came post a plea seeking a ban on illegal pyrolysis industries that use waste tyres as raw material for the production of fuel oil.

A bench headed by Justice Adarsh Kumar Goel, NGT chairperson said, "Before we consider the matter, it appears necessary to obtain a report from the CPCB about the status of compliance of rules on the subject and remedial measures required, within three months. The CPCB may compile information on the subject from the relevant quarters."

Social Action for Forest and Environment (SAFE) moved the plea contending the use of waste tyres by the pyrolysis industries across the country. The plea said that the usage of waste tyres in the industry will lead to emission of toxic pollutants that affect public health adversely.

The plea further said that the Ministry of Environment, Forests and Climate Change, the CPCB and the state pollution control boards in consultation with other scientific agencies should develop a monitoring mechanism to ensure that waste tyres imported in the country are verified through scientific measures and through a robust monitoring framework.

The plea also sought directions to concerned agencies to ensure proper implementation of the provisions mentioned under the Hazardous Waste Rules, 2016 which state that it is "mandatory for the occupiers or actual users to maintain records of hazardous and other wastes".

RMC sets up 24×7 control room to deal with garbage complaints

RANCHI: Ranchi Municipal Corporation (RMC) is setting up a 24×7 control room to meet the challenges of waste management. It also has appointed over 2,000 people to take up the job of door-to-door garbage collection after RMC decided to fire the private agency assigned for the job earlier. Sanjeev Vijaywargiya, deputy mayor said, "Due to the model code of conduct we cannot initiate the process of appointing a new agency for collecting garbage. Until then, RMC will handle garbage collection and disposal on its own. We know there will be problems, so we will be setting up a 24×7 control room with a helpline at our office within a week." RMC was bound to take this action after receiving complaints about uncollected garbage from various residential localities for the last two-three days. The corporation has taken over 220 garbage collection vehicles so that these can be used in all the 53 wards. Vijaywargiya said that the municipal body will act immediately and dispose all the garbage at the landfill site in Jhiri.

Ranchi generates nearly 600 MT of garbage every day. RMC has also decided to set up garbage dumping yards at four places, namely, Harmu Road, Jail Road, Doranda and Ratu Road. RMC had conducted a survey of all 53 wards and identified 2,393 lane side drains. At each of these lanes, it would depute a health worker at intervals of 500 meters, added Vijaywargiya. Health worker will be responsible for monitoring cleaning and collection of garbage from individual houses on a daily basis. Contact numbers of people living near each of these lanes will be collected so that they can provide feedback depending on payments would be made to the staff, added Vijaywargiya.

Draught risk rises in north-east India: IIT study

NEW DELHI: The eastern and the northern states of India saw a rapid decline in usable groundwater between the year 2005 to 2013. Researchers also found an impending risk of food crisis, severe droughts and drinking water scarcity for millions of people.

A team of Indian Institute of Technology (IIT) Kharagpur and Athabasa University of Canada put together the first approximates of usable ground water storage (UGWS) at the state level across India using in-situ and satellite measurements.

The study estimates show a rapid deficiency in UGWS in Punjab, Assam, Haryana, Bihar, Uttar Pradesh and West Bengal. In these states, growth in agriculture have resulted in non-renewable loss in groundwater volume at a warning rate. On the other hand, the western and the southern states of India like Maharashtra, Andhra Pradesh, Chhattisgarh, and Gujarat show a restore in usable ground water trends.

Abhijeet Mukharjee, a lead researcher from IIT Kharagpur and associate professor of hydrogeology said, "The earlier works done by government agencies, have only been able to approximate the total ground water, is only a part of which is usable for human purposes. The study shows a rapid deficiency in usable ground water mostly in northern regions, losing 8.5 cubic km per year of the total groundwater and in eastern regions five cubic km per year of the total groundwater. More than 85 per cent of the groundwater usage in India is linked with irrigation abstraction practices," he emphasised.

Abhijeet also said that, rapid deficiency in UGWS would boost the decline in production of food and availability of drinking water which is two of the vital goals under SDGs. He further said that, more than 120 million people will get affected only in Gangetic states. "There is a need to develop a robust quantitative approach, with the help of advanced data science and hydro science techniques to know the conjunctive water demands and usage," Abhijeet Mukharjee added.

India is the largest country to use ground water in the world by using 230 cubic km of ground per year as an average which is a quarter of the global total. Dr N C Ghosh, former head of Hydrology, NIH, agreed that the ground water of Rajasthan is definitely declining faster, there are also pockets in Uttar Pradesh where the dip in ground water have been seen. "Around 85 per cent of rural drinking water needs and 65 per cent of irrigation needs and 50 per cent of urban drinking water and industrial needs are fulfilled from the underground water." he added.

Researchers claimed that the north-eastern states like Assam, which was always known as water affluent, saw a decline of two per cent to its usable groundwater resource, and Assam is at the edge of suffering drought in impending years.

Himachal Pradesh which gets an annual precipitation of 1,147 mm per year has the lowest UGWS at 520 cm whereas, Haryana holds the highest levels of usable groundwater with an annual precipitation of 689 mm. Assam and some other parts of eastern India seems to be losing the usable groundwater storage at a higher rate, said the researchers.

The depletion trends and practices have not only affected the storage groundwater but also it is affecting the rivers such as Ganga. Dr Ghosh said that definitely there is a huge pressure on underground water and flow of several rivers has also decreased. As a result, river aquifer interaction has been influenced. Wherever there is lack of organised water supply, the dependence on groundwater is high.

Salem corporation works on riverfront development of Thirumanimutharu

Salem Corporation has started working on the development of 2.5 km long bank of river Thirumanimutharu. The project costing ₹18.08 crore was proposed under the Smart Cities Mission which aims to stop dumping of waste and sewage into the river. It is also planning to develop jogger's park, cycle track, children play area and other attractive components. In the first phase, the corporation has begun to construct grill fences on both sides of the river to stop people from dumping waste into the river and only treated effluents would be released through the baby channel laid along the river.

NGT constitutes committee to check erosion of Yamuna floodplain

For analysing the erosion of the Yamuna floodplain, the National Green Tribunal (NGT) formed a committee on April 8, 2019. It was alleged in a plea filed by Krishna Chandar, a resident of Haryana, that the erosion is caused due to heavy vehicular movement in Sonipat. A bench headed by Justice Adarsh Kumar Goel, NGT Chairperson formed a committee comprising the principal secretary of the Haryana Irrigation & Water Resources Department (HIWRD), member secretary of the Haryana State Pollution Control Board (HSPCB) and the director of the Mines and Geology Department. The NGT made the principal secretary, HIWRD, the nodal agency for coordination and compliance. NGT asked the committee to furnish a joint report within one month.

BTP launches special drive to address traffic issues

BENGALURU: The Bengaluru Traffic Police (BTP), to reduce traffic issues, has launched a special drive to identify the problems at various points in the city and also sent a report to civic agencies and all concerned departments. P Harishekaran, additional commissioner, Traffic Police said, "221 locations in the city has been identified as spots of problem. The city needs 86 skywalks and foot over bridges. We have also identified 45 spots where we see frequent water logging, this need to be addressed."

There are some other civic works which also need attention. These include upgradation of pedestrian crossing at 213 locations, junction improvements at 478 locations. The police also identified that 97 electricity poles and 76 transformer spots need to be relocated. Bengaluru needs 86 skywalks and foot-overbridges. The police also identified 45 spots that see frequent water-logging, which need to be addressed, added Harishekaran

A senior police officer said, "We have identified 47 black spots with regard to accidents. Streetlights are required at 105 locations, and bus bays need to be shifted. 207 scientifically designed road humps are needed and problems of 131 badly designed roads need to be addressed to prevent accidents."

Clearing of garbage black spots and construction of high raised pedestrian crossings, are other solutions those were suggested in report.

"If these issues are resolved, we will have smooth movement of traffic in the city. We have also requested Bruhat Bangalore Mahanagara Palike (BBMP) to fill potholes before the rainy season as it will be helpful to avoid accidents," said Harishekaran.

The traffic police have taken up a drive to clear pavements of encroachments to make them pedestrian friendly.

Chennai Metro's phase 2 to connect all major hospitals

CHENNAI: In the phase II development of Chennai metro rail, the development work will begin by connecting several major hospitals in Chennai. According to the Chennai Metro Rail Limited (CMRL) officials, four stations at — Murari Hospitals in Madhavaram, Royapettah Government Hospital in Royapettah, Sri Ramachandra Medical Centre in Porur and Global Hospitals in Perumbakkam — would come up. An official said, "Chennai is a hub of medical tourism, and on a daily basis, these hospitals get thousands of patients. So it would benefit them if a mass rapid transit is connected. What is significant here is that for those coming from other countries or other cities, it will be extremely easy to reach these hospitals, as the Metro travels through Central, Egmore, CMBT and airport too".

The metro station will come up at the Chennai Trade Centre in Nandambakkam and it will be close to the MIOT Hospital. Thapalpetti station will be built near by the St Anthony's Hospital in Madhavaram. Murari Hospital and the Royapettah Government Hospital stations are going to be constructed underground, Sri Ramachandra Medical Centre station will be elevated. Phase I has already provided connectivity to the Kilpauk Medical College and the RGGGH. The challenge will be to ensure that there are no issues for commuters and patients during construction. The ₹69,180-crore Phase 2 project, which will be implemented by the end of 2019, is likely to be completed within six years with a possible spill over to the seventh year, according to a Comprehensive Detailed Project Report prepared by CMRL.

Governments across the globe come together to curb chemical and plastic pollution

GENEVA: Approximately 1400 delegates from over 180 countries gathered in Geneva worked together under the theme of "Clean Planet, Healthy People: Sound Management of Chemicals and Waste". The meetings were held under the Basel, Rotterdam and Stockholm conventions. Major decisions to curb the plastic and chemical pollution across the globe were taken in the convention.

Countries have agreed to control the movement of plastic waste between their national borders at the Basel convention. One of the major changes introduced in the meetings was the categorisation of non-hazardous plastic waste that is not recyclable as a waste requiring special consideration and enlisting it under Annexure II of the Basel convention. This alteration has been made as a bid to reduce and control the movement of non-recyclable plastic wastes. The countries will work together to improve the management of such plastic wastes under the Basel Convention Partnership for Plastic Wastes

The United Nations had acknowledged plastic pollution as one of the greatest environmental hazards globally and intended to curb it at the Basel convention. An estimated 100 million tonnes of plastic has been found in the oceans out of which 80-90 per cent comes from land-based sources. This directly indicates the seriousness of the issue at hand and the Basel convention addressed it with the 187 countries adopting a draft of decisions aimed at protecting human health and the environment from the harmful effects of chemicals and waste. The various countries have agreed to control the movement of plastic waste between their national borders at the Basel convention. One of the major changes introduced in the meetings was the categorisation of non-hazardous plastic waste that is not recyclable as a waste requiring special consideration and enlisting it under Annex II of the Basel convention. This alteration has been made as a bid to reduce and control the movement of non-recyclable plastic wastes. The countries will work together to improve the management of such plastic wastes under the Basel Convention Partnership for Plastic Wastes.

The production of new plastic goods is projected to rise exponentially in the coming 10 years. However, the world is less equipped to handle the waste generated from such drastic rise in production as the collection and initial sorting of used plastics is currently low and hence these new targeted plastic waste management techniques will prove to be instrumental in the near future. The new amendment to the Basel convention includes plastic waste in a legally-binding framework which would effectively introduce better regulations for global trade in plastic waste, while ensuring that its management is safer for human health and the environment. A new Partnership on Plastic Waste was established to mobilize business, government, academic and civil society resources, interests and expertise to assist in implementing the new measures, to provide a set of practical supports – including tools, best practices, technical and financial assistance - for this ground-breaking agreement.

Complementing this was the decision to eliminate two toxic chemical groups which combine to a total of 4,000 chemicals. One of these chemicals, Perfluorooctanoic Acid, has till now found a wide variety of industrial and domestic applications including non-stick cookware and food processing equipment, as well as a surfactant in textiles, carpets, paper, paints and fire-fighting foams.

The Rotterdam Convention, which followed the Basel convention, also saw a legally-binding framework for information exchange and informed decision-making in the trade of certain hazardous pesticides and industrial chemicals. Two more chemicals, the pesticide phorate and the industrial chemical hexabromocyclododecane were added to Annex III of the Geneva convention here. This made them subject to the Prior Informed Consent Procedure, through which countries can decide on future imports of these chemicals.

In his closing speech of the session, Rolph Payet, UN Environment's executive secretary of the three conventions said, "I'm proud that this week in Geneva, Parties to the Basel Convention have reached agreement on a legally-binding, globally-reaching mechanism for managing plastic waste. Plastic waste is acknowledged as one of the world's most pressing environmental issues, and the fact that this week close to 1 million people around the world signed a petition urging Basel convention parties to take action here in Geneva at the COPs is a sign that public awareness and desire for action is high. We were able to list two out of 7 candidate chemicals and will continue working closely with parties to identify feasible alternative solutions to hazardous pesticides, taking due account of food security and market access aspects."

Only 37% of the world's rivers are free flowing

NEW DELHI: According to a new study published in the scientific journal Nature, one-third of the world's 246 longest rivers (37 per cent) are free flowing. Dams and reservoirs are drastically reducing the diverse benefits that healthy rivers provide to people and nature throughout the world.

34 international researchers from McGill University, World Wildlife Fund (WWF), and other institutions evaluated the connectivity situation of 12 million kilometers (~ 7.5 million miles) of rivers across the globe, providing the first global assessment of the place and extent of the remaining free-flowing rivers of the planet.

In addition to other findings, the researchers determined only 21 of the world's 91 rivers longer than 1,000 km (~ 600 miles), which originally flown into the sea, still maintain direct connection to the sea from the source. The remaining free-flowing rivers of the planet are largely confined to the remote areas of the Arctic, the Amazon basin and the Congo Basin.

Lead author Günther Grill of McGill's Department of Geography said, "Rivers of the world make a complex network with important links to land, groundwater and the atmosphere. 'Free-floawing rivers are important to humans and the environment, yet economic development around the world is making them increasingly rare. Using satellite imagery and other data, our study examines the boundaries of these rivers in more detail than ever before."

With a plan of thousands of hydropower dams around the world, a new report from WWF and The Nature Conservancy tells how the renewable energy revolution can solve the world's climate and energy challenge without sacrificing its remaining free-flowing streams and diverse benefits it provide. The report came few days after a global study published in the Nature.

Due to the reducing costs of solar power, wind generation and storage technologies as well as significant advances in energy efficiency and grid management, now it is possible for the world to provide electricity to those billions who currently lack access, while reducing greenhouse gas emissions and preserving tens to hundreds of thousands of kilometres of free-flowing rivers.

"A future where only electricity systems are accessible, affordable and power-giving economies with a mix of renewable energy, we cannot imagine, we can now build that future," Jeff Opperman, WWF Freshwater Scientist and lead author said on the report. "We can secure a bright future for people and nature with power systems that are low carbon, low cost and low impact, by accelerating the Renewable Energy Revolution."

With the contribution of several academicians, the report found that accelerating the renewable revolution can prevent approximately 165,000 km of river channels from being disrupted, however, it is still helping to limit the global temperature rise to 1.5°C. As well as dealing with climate change, this will help reduce the deterioration of the freshwater species population, which has fallen to 83 per cent since 1970. Healthy free-flowing rivers provide many important ecosystem services. They support freshwater fish stocks, which improve food security for hundreds of millions of people, deliver sediments, which keep delta above the rising seas, reduce the effects of excessive flooding and droughts, and prevent loss of infrastructure and fields to erosion.

While the renewable revolution will not indicate the end of hydropower-development, it makes a difference in new dams to a significant reduction and a shift towards low impact projects, those who support the expansion of solar and wind, such as retreating existing hydroelectric dams, adding turbines to non-operated dams and discontinuing channel pump storage.

Schools, universities in Britain declares 'climate emergency'

BRISTOL: Several universities have declared a "climate emergency" in Britain, reflecting growing student unease over the slow pace of official action. Bristol University did so in April, saying it wanted to acknowledge the deep concerns of its students. It is already acting to reduce its own carbon footprint.

Since 2005, the university has reduced carbon emissions by 27 per cent through a combination of technical measures, including heating controls and LED lighting. It has pledged to become carbon neutral by 2030 and in March 2018, it announced plans to divest completely from all investments in fossil fuel companies within two years.

Bristol University should be a pioneer in this field, it houses the Cabot Institute for the Environment, home to several of the lead authors on reports for the Intergovernmental Panel on Climate Change, which includes the devastating analysis of last year, that the world is running out of time to limit global warming to 1.5°C above pre-industrial levels.

Professor Judith Squires, deputy vice-chancellor and provost said, "Calling a climate emergency highlights the urgency of the task we are engaged in and I hope others join us in increasing their action on this, the biggest challenge we face."

Across the world, UN Environment is working with universities to set up national and regional Green Universities Networks to enable institutions to incorporate low carbon-climate resilience development strategies and sustainability in education, training and campus operations.

Niklas Hagelberg, coordinator of the Climate Change Programme at UN Environment said, "Decarbonizing our economies and lives will be a defining and recurrent element of any profession until the end of this century. Schools going carbon-neutral provides a great opportunity to demystify carbon neutrality for students and can give them a practical experience through inclusion in curricula and operations of the school."

The UN Environment has produced the Greening Universities Toolkit V.2.0 to inspire universities to develop strategies for green, resource-efficient and low carbon campuses.

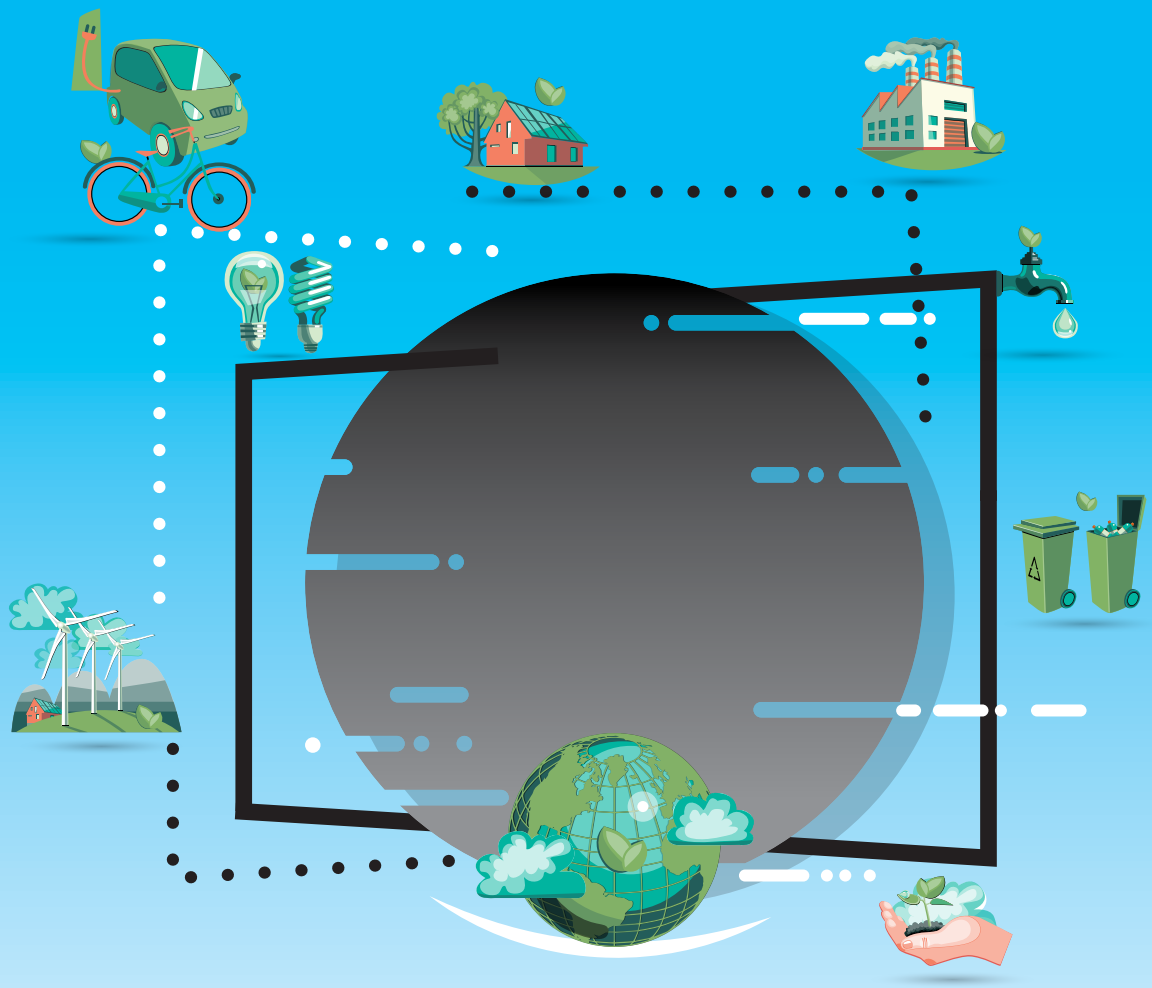
For example, Bowdoin College in Maine became carbon neutral in 2018, two years ahead of the schedule it pledged as part of the Presidents' Climate Leadership Commitments. The private liberal arts college reduced its carbon emissions by 29 per cent, from 16,326 metric tons in 2008 to 11,620 metric tons in 2017. Bowdoin installed a cogeneration turbine, which produces electricity as a by-product of generating heat, insulated 5,100 feet of underground steam tunnels, replaced thousands of lights with efficient LED bulbs and diverted more than 50 per cent of its waste from landfills.

In Washington D C, American University also reached carbon neutrality two years ahead of schedule. It now uses 21 per cent less energy per square foot than it did in 2005.

The Green Schools Alliance tries to harness this youthful enthusiasm and connects more than 13,000 sustainability champions across more than 9,000 schools, districts and organisations from 48 U S states and 91 countries.

The Alliance believes that schools act as community hubs, helping to transform markets, policy, education and behaviour. Its approach focuses on Whole School Sustainability, which means integrating sustainable solutions into the physical space, organizational culture and educational programmes.

Cities prioritizing PEOPLE'S ASPIRATIONS



Abhishek Pandey
Editor

The scale and pace of urbanization are putting pressure on city governments in almost every developing economy as they are still in the process of understanding the needs of citizens, and accordingly, trying to equip themselves with skilled human resources and technological tools. Urban local bodies are also rebalancing the environmental and economic foundations of urban metamorphosis, and integrating policy and programs to improve efficiency, sustainability and accessibility of civic services to ensure social justice for the marginalized and to build a sustainable 'future city'

Many cities in India are enduring unplanned sprawl and growth. This is happening because the cities failed to anticipate the changing needs and expectations of citizens. But everything in cities is not murky else why would they keep attracting people from all corners. Cities are places of prosperity and new opportunities. Cities also provide fertile ground for innovative ideas to germinate. They are hubs of innovation, new ideas that give everyone hope and belief that the situation on the ground can be altered and urban livability can be improved. Many cities across the globe have come out with various kinds of incredible governance and civic engagement models through which they are able to adapt to the changing urban ecosystems.

These cities exist in every part of the world. Some cities in Asia are rewriting the growth and sustainability models of urban planning. For example, Singapore has shown how to optimize the use of energy and natural resources. Hong Kong has shown the world how to build and maintain high-density urban habitats. Some North American cities are leading the field in environmental planning and economic regeneration. Certain Latin American cities, in particular, have demonstrated innovation by pioneering new transport and governance systems. Despite having a low level of air pollution, European cities have shown how non-motorized transport and public transit system can become a way of life for daily commuters and contribute towards maintaining breathable air. They are exemplars that show that environmental and economic priorities can be synchronized. Australian cities have demonstrated how cities can be transformed into livable habitats by integrating multiple urban factors for one single objective of livability.

Fine exemplars of innovation

The top-down approach of governance and policymaking has been in practice in cities too. Despite being closest to citizens, city governments in many countries are still compelled to implement the policies and programs decided in national capitals. In the times of the Internet and social media when a citizen in a far-flung corner of the country can talk to the highest government authority or leader, it is the right time to strengthen local democracy in true Gandhian sense. Through digitalization, citizens are empowered than ever to have a strong say in city development. This is visible in the rise of informal groups for advocating environmental protection, advocate alternative planning and take-up placemaking projects in cities. Such groups exist in many Indian cities and execute their works in silos. There has been no such initiative from local governments in which a large number of people are involved to take a decision on the spending of allocated funds or prioritizing urban necessities of a particular city. However, citizen forums are an integral part of the 74th Constitutional Amendment Act (CAA). The absence of such practice leads to mistrust between the local government and citizens.

City government in the Hague, Netherlands is among one of the few local governments that are keen to reverse growing apathy towards government and has suggested Citizens in Action – Democracy 3.0 as a tool to give citizens power over the allocation of 2-3% of local taxes by allowing citizen proposals to be subject to vote. According to a report by LSE, unlike an individual tax break, this idea would encourage citizens to engage with each other to influence how their city develops. This is an excellent idea to encourage ownership and collaboration among citizens and community groups. The capacity to implement this project is supported by DIGID (Digital Identity), which helps identify Dutch citizens on the Internet and is mandatory for electronic tax returns, highlighting how local governance innovation may require national

support and infrastructure. Similarly, Gdansk (Poland) is strengthening public trust and engaging local communities in local development projects. Democracy Accelerator is a website that allows citizens to submit their ideas for enhancing the city.

Indian cities and citizen engagement

In India, the Union Government has created MyGov platform in which citizens can suggest on policies and programs. According to the information available on its website, the main objective of the initiative is to establish a link between Government and Citizens towards meeting the goal of good governance. For people who wish to go beyond discussions and wish to contribute on the ground, the platform offers several avenues. Citizens can volunteer for various tasks and submit their entries. These tasks would then be reviewed by other members and experts. Once approved, these tasks can be shared by those who complete the task and by other members on the platform. Every approved task would earn credit points for completing the task. Groups and creative corners are an important part of MyGov platform. It has been divided into various groups namely Clean Ganga, Green India, Job Creation, Girl Child Education, Skill Development, Digital India, Swachh Bharat, etc. Each group consists of online and on-ground tasks that can be taken up by the contributors. The objective of each group is to bring about a qualitative change in that sphere through people's participation. The ideation of the initiative is excellent but the impact of its implementation is not visible on the ground. The major drawback of the initiative is that the effectiveness of this platform is still not measured or is not available in the public domain to be adjudged. There is no mechanism available through which one can find how successful this initiative has been and what changes it has brought in the lives of people. However, a similar initiative at the local level would bring about a significant change in how our city governments engage with local citizens. Municipal Corporations must integrate their citizen engagement initiative with the platform and this will transform the available tool into a functional state with the intervention of city leaders and community groups. Such an initiative will bring local government closer to the people.

The smart cities initiative had the component of citizen engagement in development of proposal phase in which people's views are taken into account for selection of projects under the Smart Cities Mission (SCM) but the efforts under the same did not make a mark because most of those engagement initiatives fizzled out as soon as the proposals for smart cities were submitted. The citizen engagement in the implementation stage of the smart cities initiative was absent. Even local city leaders had complained about not being actively involved in the process.

Technological assistance

Citizen participation in city-making through the governmental mechanism remains a necessary cornerstone of democracy. Cities need to develop new and innovative methods of public engagement, especially those that embrace social media, new technologies, and collaborative design methods, to better bring the public into conversations on the future of city life.

No one can undervalue the influence of social media today. It is increasingly becoming a strong tool of communication. This can also be used for proactive citizen participation in governance. City government can organize interactive sessions online where city leaders can directly engage with citizens for a scheduled period of time. Citizens should be allowed to ask questions, register complaints, and get feedback on the issues of their importance. This will make local governance more transparent and accountable. Such an initiative does not require many resources and can be executed if the city leaders are willing. Former Vancouver Mayor Gregor Robertson kick-started Twitter town halls on topics such as citizen engagement, homelessness, and housing affordability. With increasing

Building inclusivity into city plans

Urbanization is known to have resulted in disparities among populations in many regions of the world. Disparities are often seen in citizens' access to services including sanitation, mobility, healthcare, and housing. Local governments must strive to address this gap and build equity into their city design. In their citizen engagement drives, ULBs must listen to the largest number of voices across economic and social strata and take cognizance of their dreams for the city. Though desirable, it is not always possible to meet the demands of every single voice; however the city cannot be designed for the mythical 'average' citizen either. Inclusivity will be an important parameter to rate city liveability and hence a high priority.

Internet penetration and accessibility to smartphones in Indian cities, such an initiative can be really beneficial in solving basic civic issues of people. Such engagement can steer the development agenda of a particular city. The role of local corporators and city mayors becomes important in such an initiative. Consistent engagement with citizens will also bring forward feasible solutions for the city. The suggestions received can be put up in public forums to discuss its financial and other feasibility.

The aspirations of people for better services and infrastructure are rising. And, cities will have to understand what do the citizens want? People's aspirations are generally linked to improvement in services and facilities, provision of green and blue spaces, efficient transport, aesthetics, and good design. People aspire to a sense of community and a safe environment.

ULBs need to make efforts to reconceive how and in what shape cities and urban regions should grow. For centuries, people in Indian villages have been forming communities that used to take decisions on development and various day-to-day operations. Citizens have consistently sought alternative ways to form communities and this is true for cities too.

Resident Welfare Associations in these days are a manifestation of such longing of association. Municipalities must formalize an engagement system with people to ensure that they are building the city as per citizens' aspirations.

THE TOP-DOWN APPROACH OF GOVERNANCE AND POLICYMAKING HAS BEEN IN PRACTICE IN CITIES TOO. DESPITE BEING CLOSEST TO CITIZENS, CITY GOVERNMENTS IN MANY COUNTRIES ARE STILL COMPELLED TO IMPLEMENT THE POLICIES AND PROGRAMS DECIDED IN NATIONAL CAPITALS. IN THE TIMES OF THE INTERNET AND SOCIAL MEDIA WHEN A CITIZEN IN A FAR-FLUNG CORNER OF THE COUNTRY CAN TALK TO THE HIGHEST GOVERNMENT AUTHORITY OR LEADER, IT IS THE RIGHT TIME TO STRENGTHEN LOCAL DEMOCRACY IN TRUE GANDHIAN SENSE

The system will also keep tab on whether people's hopes for cities of the future are in line with the agenda of municipal and national governments. Furthermore, a particular challenge of creating a sustainable future is to make the measures proposed acceptable to the people. Such acceptability is fostered if the suggested way of living is also felt to be maximizing the well-being of citizens. ■

Environment taking centre stage in urban management

A few decades ago, city governments in India were not much concerned about the environmental impact of the expansion of urban infrastructure, civic services being rendered to citizens, and their own energy consumption patterns. Of late, the situation has begun to change. City governments are judiciously making policies and projects with environmental impact in mind. It is also reflecting in the way city corporations are governing our cities

Ranjit S Chavan
President, AIILSG

Urban demography and the way cities are governed are constantly changing due to many external and internal factors such as increasing GHG emissions, climate change and depleting natural resources. Urban expansion is happening at a fast rate and it is a major determinant of increasing emissionsand several other emerging urban problems because of mounting pressure on cities' services and infrastructure.

Cities are conscious of the changing trend. Today, cities are not just focusing on how they can improve the standard of services they provide but also make themselves environmentally sustainable. National governments all over the world are aware of the fact that cities are the places which can make catalytic changes because cities are where a majority of people and industries thrive, where economy blossoms and where policies are formed. Cities in India have witnessed the drawbacks of not maintaining urban ecosystems such as urban forest, wetlands and rivers and their ignorance resulted in nature's fury. This was witnessed during the Chennai, Uttarakhand and Mumbai floods.

The cutting of trees in urban centres for building 'concrete jungle'is damaging cities' lungs and resulting in extremely severe air quality. Though the infrastructure development in cities is necessary for economic prosperity, the model of development should consider how these concerns can be addressed. These emerging challenges in our cities are impelling our cities to adopt new technologies, buildings, and infrastructure that have low or near zero-emissions and are adapted to expected future climate change. Along with these, the existing urban ecosystem needs to be maintained well. The rebalancing of development and environmental conservation is the need of the hour.

For such rebalancing, a systematic focus on urban ecosystems is needed through mapping all the key organs of a city's ecosystem. The second step would be making people aware of their significance and restoring their original functions. Reforestation, urban and spatial planning, and land and water management are some of the options that can enhance both climate change mitigation and adaptation.

Global agendas and cities

With changing times, global agendas have also shifted their focus.While the Millennium Development Goals (MDGs) focused on reducing extreme poverty in all its forms, the Sustainable Development Goals (SDGs) pursue a broader agenda that encompasses the social, environmental and economic aspects of sustainable development, which is relevant for all countries worldwide. This is also significant to note that the success of the projects will be adjudged by how cities perform.

Cities in the developed world are taking the lead in addressing global challenges and playing a vital role in achieving objectives under global agendas. Urban Local Bodies are already taking ownership of the global agendas, organizing awareness-raising activities and implementing Agenda 2030 for Sustainable Development by engaging all local stakeholders from the grass-roots and up. Indian cities are also joining the bandwagon and focusing on conservation and sustaining their ecosystems. In the last five years, the international community has adopted three major agendas — the SDGs, the Paris Agreement on Climate Change and the New Urban Agenda. All these agendas have a huge impact on cities. City governments are making efforts to link them with their own environmental agenda.

Technological integration

Technological innovations are also being adopted by corporations to help limit global warming. For example, enabling smart-grids, shared micro-grid technologies and adopting energy efficient practices in urban operations can help cities in reducing their

energy consumption. Being the closest form of government for the people, city corporations can create public awareness of the environmental impact of energy choices of citizens and it can help shift away from carbon-intensive energy consumption patterns. These solutions can be implemented quickly and at scale without the need of spending a large amount of money.

Smart Cities Mission that was envisaged to equip Indian cities with hi-end technological tools for better service delivery could be utilized to resolve major challenges of urban sustainability by integrating technological interventions.There is no doubt that advances in technology for the efficient management of urban growth can help in the environmental agenda of cities. The concept of smart citiescould improve urban resilience by providing low-cost, adaptive and efficient ways to deal with the challenges of providing safe food, pure water and clean air for growing numbers of urban residents.

Similarly, new technologies can be used to bring about a change in resource-use patterns. In the mobility sector, for example, Information and Communication Technologies (ICT) and app-based services can optimize public transportation efficiency, promote sharing of vehicles, and improve the utility of parking spaces. Since GHG emission reduction is one of the major priorities for the world to mitigate the negative impacts of climate change, cities can play a constructive role by expediting the adoption of technologies to include ICT, artificial intelligence, the Internet-of-Things (IoT), nanotechnologies, biotechnologies, and robotics for lesser energy consumption. Most of these technologies can be used in almost every domain of urban operations. For example, many cities, especially small corporations, are wasting a huge amount of energy in streetlights which are not automated and remain lit even in the daytime. Such simple yet effective steps to plug the gaps in urban management can improve the efficiency of municipal corporations and also have a positive impact on the urban ecosystem. ■

TECHNOLOGICAL INNOVATIONS ARE ALSO BEING ADOPTED BY CORPORATIONS TO HELP LIMIT GLOBAL WARMING. FOR EXAMPLE, ENABLING SMART-GRIDS, SHARED MICRO-GRID TECHNOLOGIES AND ADOPTING ENERGY EFFICIENT PRACTICES IN URBAN OPERATIONS CAN REDUCE THEIR ENERGY CONSUMPTION. BEING THE CLOSEST FORM OF GOVERNMENT FOR THE PEOPLE, CORPORATIONS CAN CREATE PUBLIC AWARENESS OF THE ENVIRONMENTAL IMPACT OF ENERGY CHOICES OF CITIZENS TO HELP SHIFT AWAY FROM CARBON-INTENSIVE ENERGY CONSUMPTION. THESE SOLUTIONS CAN BE IMPLEMENTED QUICKLY WITHOUT THE NEED OF SPENDING A LARGE AMOUNT OF MONEY

Mridula Sinha, Governor Goa, in an interview with Kumar Dhanajay, Consulting Editor at Urban Update magazine, talks about current situation of Goan towns and cities. Delivery of municipal services, cleanliness and sanitation, pollution and plans to tackle climate change were some significant topics discussed

'Civic services rendered in Goa are satisfactory but can improve for better'

Goa is among one the favorite tourist destinations in the country. The city is also a melting point of different cultures. What can Goa teach other Indian cities about inclusiveness and cultural diversity?

Yes, Goa has always been a favorite destination of both national and international tourists. It is the most preferred destination mainly because of its serene beauty and the salubrious climate it offers. Goa is a blend of myriad cultures. There have never been any clashes among the people living in Goa regarding their religious beliefs and culture as they have a lot of tolerance towards each other's values and customs. Respect for plural culture has remained hallmark of Goan culture. This is the very lesson other Indian cities can learn from Goa.

Rise in sea level is one of the major negative impacts of climate change around the world. Being a coastal city, how well is Goa placed in addressing the challenge?

Climate change can affect coastal areas in a variety of ways. Coasts are sensitive to sea level rise, changes in the frequency and intensity of storms etc. Growing populations haphazard development along the coasts and environmental pollution increase the vulnerability of coastal areas and its ecosystems to sea level rise. In Goa, the development has been rapidly growing in the last few decades. But our state is trying its best to strike a balance between infrastructural development and environment.

Also a number of voluntary organizations in Goa have been working for the cause of protecting our environment from pollution and climate change.

Before becoming the Governor of Goa in 2014, you were heading the Women Wing of the Bharitya Janata Party. I would like to know how the role of women in politics has changed over the years? And, what are the major benefits to a city if women start taking more interest in politics, especially in municipalities?

There is growing recognition of the untapped capacity and talents of women and women's leadership. I am glad that the number of seats reserved for women in Panchayta's and other public bodies have seen an increase in the recent past. And, the role of women in politics has definitely changed from good to better. As a woman politician one is in better position to voice women problems and opinions and speak about women rights which are heard on a mass level. It is heartening to note that Indian women were among the earliest to get their political rights like right to vote, contesting elections etc., without any political movement like many western countries. The role of women in building homes and society was known to the Constitution makers. They were also aware of many women rulers of past India.

Indian women were also among the foremost to take active part in politics even in pre-independence times on the call of Mahatma Gandhi. After independence, Gandhiji recognized the contribution of even illiterate women in freedom movements.

You have been Governor of Goa for almost five years. What is the best thing you like about Goa and what are the changes you would like to see in the city in terms of basic civic services renders to citizens and building of new infrastructure in the city?

One of the many things I like about Goa and Goans is social harmony. There is a deep bonding and understanding

among the people of Goa which helps maintain the law and order and unity in the State even in face of diversity. I feel the civic services rendered in Goa is satisfactory but can improve for better.

The general public should not face any problem while executing their works. The focus of the government should be on improving sanitation and solid waste disposal in the cities and improving other urban amenities such as water supply problems and connectivity issues. Also like I said earlier, infrastructural development is essential but as long as it doesn't hamper our environment, keeping a balance between the two is of utmost importance.

You were also among one of the ambassadors of Swachh Bharat Mission. How did this mission help in improving the sanitation and cleanliness in the State of Goa?

Swachh Bharat Mission has always been close to my heart and I have made a lot of efforts, as a brand ambassador of Swachh Bharat Abhiyan to create better awareness among people for maintaining cleanliness at all places in the State.

I am glad that since the launch of Swachh Bharat Abhiyan, the State of Goa has taken a giant leap forward in achieving the mission goals. It has taken a form of mass movement in Goa. "Cleanliness is next to Godliness", said Mahatma Gandhi. We must take a pledge that we will make cleanliness and hygiene not just a part of our lives, but the very way we live. Cleanliness has always been a part of our tradition and has played an important role in every person's life since childhood. It has always been our way of life and is taught in the first school called family. Purity of mind, purity of body and purity of intellect are the most important aspects of healthy and wholesome life. Also, the state government has planned to install 60,000 bio-toilets in the state to make it Open Defecation Free (ODF) under the Swachh Bharat Abhiyan.

Not only in Goa, I have nominated individuals and institutions as my ambassadors all over India. I conducted one meeting of all the ambassadors in Raj Bhavan Goa.

They learned from each other and exchanged views and best practices through their reports. Action plan was given to all members. They are working on it.

What is the future of Indian cities in your point of view? Does the fast paced urbanization in India going to impact urban livability because increasing population is causing dangerous air and water pollution levels?

The hopes of jobs and prosperity, among other factors pull people from villages towards the cities which put a lot of pressure on urban infrastructure and amenities. Fast paced and haphazard urbanization which is largely on account of large scale migration from rural areas impacts urban livability as it causes environmental degradation and a lot of urban issues such as traffic jam, tree falling, problem of solid waste management, sewage disposal issues, water supply problems, high energy consumption and other service deficiencies. Strong city planning is essential in managing these issues and other difficulties as the states urban areas grow.

Another way to avoid these problems is that the facilities in villages be improved, employment be created in villages itself due to which the migration rate will drop, which in turn will reduce the impact on urban livability.

Do you think that villages can address the problems of cities; if we improve facilities in villages and generate employment opportunities? This will in turn reduce the influx of people into cities.

Yes, definitely, like I just said, improving the facilities in villages will obviously reduce the pressure on urban areas. Major aspect is employment; if jobs are created then there would be no need for people to migrate to other places thereby causing development of the said village and simultaneously reducing the impact on city life. Providing urban amenities in rural areas is the most important way out.

AIILSG is organizing the World Mayor's Conference next year. What would be the benefit of bringing mayors from around the world under one platform?

It is good to know that AIILSG is conducting a world mayors conference next year. I am sure there will be a lot of exchange of ideas, practices and knowledge which will make it a fruitful event for everyone attending it.

THE FOCUS OF THE GOVERNMENT SHOULD BE ON IMPROVING SANITATION AND SOLID WASTE DISPOSAL IN THE CITIES AND IMPROVING OTHER URBAN AMENITIES SUCH AS WATER SUPPLY PROBLEMS AND CONNECTIVITY ISSUES. ALSO LIKE I SAID EARLIER, INFRASTRUCTURAL DEVELOPMENT IS ESSENTIAL BUT AS LONG AS IT DOESN'T HAMPER OUR ENVIRONMENT, KEEPING A BALANCE BETWEEN THE TWO IS OF UTMOST IMPORTANCE

What would be your message to city mayors coming to attend the World Mayor's Conference?

Mayors are the representatives of the local government. It is the duty of the Mayor to ensure that civic services in the city improves. My message/appeal to all the Mayors is that they should discharge their duties with utmost sincerity and empathy so as to provide a responsive, ethical and service oriented governance to the people. ■

"Ganga clean-up is not possible without citizens' support"

The Government of India launched Namami Gange under the National Mission for Clean Ganga in the year 2015. A five-year plan, it was the biggest-ever initiative taken to clean the River Ganga—over ₹20,000 crore was allotted as the project budget. The officials claimed that the river will be cleaned by 2019 which has now been extended to 2020

Team UrbanUpdate

Namami Gange is an influential project of the Central Government, what are the main objectives of this project?

Namami Gange project broadly is a project of rejuvenation and conservation of Ganga river and this project is not only for the river Ganga but for its tributaries as well. The main objective of this project is to make Ganga river nirmal (clean) and maintain aviral (uninterrupted) flow of Ganga,to give it a new life.

The central government approved ₹20,000 crores for this project. How much of that amount has been utilised, and did you face any financial stresses?

We got ₹20,000 crores from the central government in the year 2015 and this amount was for the next five years which is upto 2020. Here, we need to understand that we got a committed budget for the first time. This could help us to plan for next five years at once. Previously, we used to get the budget annually that only allows us to plan for a single year. Although, we still get the annual budget, but there is a certainty to execute the plan as we know that we have ₹20,000 crores project.

So, we started spending according to five years' budget and now the project is going well. As of now, we have spent more than ₹6000 crores in total since 2015. Here, I would like to mention that we spent ₹2,600 crore in the last financial year and ₹1,600 crore in the previous financial year.

So you can understand, that the project is moving at a good pace as we have five-year plan with us and funding as well. Now we have less than two years left, so we will ensure that we spend the money in the right way.

Initially, there were a few financial stresses when the state governments stopped releasing funds for the project. Therefore, to gain back the support we let the project to completely operate under the central government. Now there is no possibility of delay from state governments' end.

As per the census of 2001, there are 242 districts that come under the Ganga river basin. So, in how many districts has the Namami Gange project been initiated?

As far as the Ganga basin is concerned, people think that Ganga flows only in five states which are Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal. But when we consider the river basins there are 11 states in total where Ganga flows. There are more than 200 districts under the Ganga river basin, but we are only working in 70-75 districts as of now. Our priority is to work on the districts from where the Ganga originates and to protect the Ganga from polluted rivers. We have committed District Ganga Committee to ensure that.

There are many kinds of waste which go into the Ganga like industrial waste, human waste, offerings to the river, etc. So, how do you ensure that these kinds of waste do not enter the river?

If we talk about industrial waste, NMCG officials along with institutes like IIT, NIT and others do a survey on yearly basis of the industries setup at the banks of the river Ganga. This has resulted in an increase in industries complying with the guidelines. The pollution due to the industries was 60-65 per

cent earlier which is now decreased to 25-30 per cent. If we find an industry not following the guidelines, we give them a closure notice and as soon as it starts complying, we allow it to operate again. And if we talk about other kinds of waste like offerings to the river, to curb that there is a mission ongoing, namely Swachh Bharat Mission and it is performing well.

We have told cities' officials to keep the drains clean for one kilometre from its meeting point at Ganga. For that, they have installed filters. To ensure that the city waste do not make its way to the river, we held meetings with municipal commissioners to discuss the same.

On the ghats of Varanasi, we have installed "Aastha Kalash" where people can put worship material like flowers and other things. Basically, our motto is to take cities and river together so that we can make the project Namami Gange successful.

How do you ensure that sewage waste is not making its way to the river?

In this regard, we have done mapping of such drains which takes the sewage waste to the river and pollutes it. We tap such drains and make a structure so that we can intercept and divert the sewage waste to STPs. Then the sewage water is treated and re-used or drained into the river. In the big cities like Kanpur, Prayagraj, Patna, we are making it better in another way; we have setup sewage networks. This network includes officials from Urban Development department of state government, municipalities and other officials from the Ministry of Housing and Urban Affairs of the central government who are also working on the schemes like AMRUT and others. We all are planning and trying to make sure that the polluted water should not enter Ganga.

Under the Namami Gange project, how many sewage treatment plants (STPs) have been setup and what is their status?

The sewage plays a big role when the pollution in Ganga is concerned. The sewage flows in Ganga without any treatment, so there is a need to setup sewage treatment plants. We have 151 STP projects in different states. Out of them, we have completed 37 projects and we are working on the rest of the STP projects. We have 34 projects in Uttarakhand, out of which we have completed 19 projects and the rest will be completed in this year. Similarly, we have two projects in Jharkhand, which will be completed by the year end.

Who are the key stakeholders of this project and how are they contributing to make it a success?

Now, in this, we will have to understand who we consider as stakeholders for this Namami Gange. These kind of big projects are not only related to a particular ministry or a particular department. We can also see environment related schemes under Namami Gange. We have to take experts related to environment, pollution control and city development with us so that they can contribute their valuable support. In regard to Ganga, there are also cultural issues.

This project is not a concern of central government only; state governments and its various departments along with urban local bodies and gram panchayats will have to come in action. Apart from that, there is a need for citizens to join in as they are the key stakeholders because they play a vital role, and without their contribution we cannot make Namami Gange, a big success.

Apart from Government programmes and infrastructure development, do you think, there is a need to spread social awareness among the residents residing in nearby areas?

Yes, this is very much needed. If we actually want to make Ganga clean and want to give it a new life, the residents should also participate in this. The government cannot make it possible without cooperation of the people residing in nearby areas. You only enquire from the officials about the project, but without citizens' contribution, successful completion of the project is not possible.

No matter how many actions have been taken or are ongoing, if we still throw garbage or waste into the river, then the project will not reach its goal. We are trying to take communities with us. In the earlier programmes under Namami Gange, we only tried to focus on infrastructure. But now we are also connecting general public with us as we have organized several awareness programmes recently and we are getting a good response.

We have taken an initiative in which people can contribute in different ways – either they can take up various responsibilities related to the project at their level or they can contribute financially towards the cleaning of Ganga through Clean Ganga Fund.

Indian Institute of Technology, Kanpur also prepared a manual to keep the Ganga clean. Is that applied at local level?

The manual you are asking about was actually a report and we received that in 2015 for the first time. There were some estimates in the report that focused on the problems that the river is facing and the ways to get rid of them. There are majorly two points in the report, one is nirmal (clean) Ganga, and the other one is aviral (uninterrupted) flow of Ganga. Points on agriculture and forestation were also there in the report as these two play a vital role. After seeing the report, we initiated Namami Gange in 2015. IIT Kanpur is still working with us, when we need any technical help.

What are your future plans to keep the Ganga nirmal (clean) and aviral (uninterrupted flow)?

As we stared this Namami Gange project back in year 2015, and as of now, we have achieved some major goals. If we talk about the future plans, we are near to complete projects in Uttarakhand and Jharkhand, we will do that by the end of this year. And in Uttar Pradesh, we have almost completed all our projects in Kanpur, Prayagraj, Varanasi, and in other cities. And we will try keeping the river clean with the cooperation of citizens. ■

Odisha government must learn from its experiences while dealing with post Fani situation

Cyclone Fani made its landfall in the coastal state of Odisha at a wind speed of 175 kmph on May 3, 2019. This was a category 4 storm, which is a notch below the worst level. Odisha government managed to minimize the human loss and evacuated over a million people from 15 Odisha districts to cyclone shelters, including schools and other government buildings. But the post disaster situation in the cyclone hit areas remain severe

Basudev Mahapatra
Senior Journalist

Bhubaneswar, the capital city of Odisha, had to face an extremely severe cyclonic storm 'Fani' on May 3, 2019, in the beginning of summer. The cyclone ravaged the city that was close to its path from Puri to northern parts of Odisha and then to West Bengal and Bangladesh. With most of the trees uprooted, many of the electricity poles and mobile network towers struck by the swirling wind at a speed around 100 km per hour, highest sustaining speed of 98 kmph at 14.30 hrs of May 3 as per IMD, Bhubaneswar turned into a non-commutable city with no electricity, no mobile or data connectivity making life of the dwellers worse as they couldn't even talk to people far away who would be worried about their relatives in Bhubaneswar.

Such situation continued for quite some days reflecting unpreparedness or under-preparedness from the side of the government, which claimed to be prepared to face any situation to be caused by the cyclone.

Preparedness in question

"Trees, uprooted or broken by the cyclone have fallen everywhere, in every major road and lanes. It's five days since cyclonic storm Fani visited the city and the roads have not yet been cleared. We don't see the desired promptness from the government to restore normalcy in the capital city," said Prasanna Kumar Parida, a city based businessman. "Even though we are about to complete a week since Fani occurred, we are still uncertain about restoration of power supply and other essential services because actions from the government are very slow."

The cyclonic storm was predicted much before it finally hit Odisha. "Officials and the Chief Minister regularly conducted meetings and reviewed the plans to deal with any and all situations during and post the cyclone. Having experience in dealing with so many cyclones since the super cyclone of 1999, they must have minimum knowledge of the possible damages to be caused by the cyclonic storm and there could have been all preparedness for quick recovery," said Ranjit Kumar Parija, staff member of a city based college.

Didn't the officials know that the cyclonic storm could uproot trees, which would then block roads, would disrupt electricity supply in any city? "What preparedness the government had to deal with such situation? As we see now, there was absolutely no preparedness on the part of the government, no sufficient backup plan, no equipment or manpower, nothing," Parija added with so many questions.

"This government claimed big about its preparedness; now it claims equally about restoring services. It only claims and does nothing," people of Salia Sahi said while staging demonstration and road blockades demanding immediate supply of water through tankers.

Harsher than others

Fani, though not as intense and severe as many cyclonic storms like the super cyclone of 1999 and the Phailin of 2013, has been harsher than the others in many ways. The primary difference that affected life largely in Bhubaneswar as well as other cities like Puri is that Fani occurred in May, the beginning of summer while other recent cyclones experienced during last few decades occurred during the months of October-November, the beginning of winter.

While winter days are somehow manageable without electricity, sunny summer days are just unbearable in Bhubaneswar. As the city is known for coming under heat island effect and becoming the hottest city of India on many days during the summer, life in the city without electricity during this

season just cannot be imagined because everyone needs at least a fan at home to cool the body to escape heat stress.

"Post Fani, people in the city are now forced to live hot summer days without electricity, which would make many vulnerable to acute heat stress that would lead to heat stroke. Even nights without electricity are more painful because one can't close the doors and windows when atmosphere is warmer. Then comes the danger of mosquitoes that also grow faster in a warmer climate. While series of summer days without electricity increases the risk of heat stroke for the dwellers of Bhubaneswar, series of warmer nights with mosquitoes may lead to the threats of malaria and dengue in the city," public health experts apprehended and urged for quick restoration of power supply.

No connectivity

To make life worse, the city dwellers were completely disconnected from the rest of the world as there was no mobile, data and internet connectivity to either communicate or access information through mobile data. "In the age of information, a life without access to information is just unthinkable," said an undergraduate student Mayank Mahapatra. This is not about making calls or accessing information only but also affecting cashless business by using debit or credit cards. "ATMs (Automated Teller Machines) are not working because of internet failure; even transactions through cards are not possible," said a Bhubaneswar based hotelier and real estate developer Brundaban Dalabehera. "This has made life further miserable as we are unable to buy something essential due to non-availability of cash in hand.

"There is no way contacting anyone in an emergency situation but to visit physically when the person is important for the work," Dalabehera added.

Take lessons

The state government often mentioned that restoration works continued in fast pace and teams from other states were invited and engaged in such works. "As Fani caused large scale devastation, it will take some time to resume all services in a fool proof manner," a government official said.

However, the government cannot ignore public health issues like heat stress and people being forced to experience sleepless nights in the absence of power supply, said Bipra Charan Das who had decided to move to his village in Nayagarh district till the city came back to normalcy.

Whatever the official pleas, the response from the government reflects utter callousness in regard to restoration works. It should have taken the seasonal factor into serious consideration while planning for post cyclone actions. "The government can't leave people to suffer in a helpless situation after such a calamity. It must take lessons from the failures this time and build a strong, well equipped mechanism to deal with any such calamities in future more efficiently," Arun Sahu, a city dweller urged. ■

[The views expressed are the author's own. They do not purport to reflect the views of Urban Update.]

WASTE TO ENERGY
Not a complete solution

India generates 62 million tons of solid waste every year. This is one of the major environmental challenges we face today. With rapid population growth and urbanisation, the global annual waste generation is expected to increase by 70 per cent from 2.01 billion tons in 2016 to 3.40 billion tons by 2050, according to World Bank. Countries from all over the world are trying to find feasible solutions to cope up with the volumes of waste generated by the increasing urban population and waste-to-energy is one among them. Waste-to-Energy (WTE) is a term that is used to describe various technologies that convert waste into usable forms of energy including heat, fuel and electricity. It sounds like a foolproof solution to many developing countries that recycle as much as they can and convert the rest to energy, but one needs to consider whether it is the best solution.

No doubt, converting waste-to-energy can help to decrease the quantity of waste by 95 per cent and reduce the solid quantity of the original waste by 80-85 per cent depending on the components of the solid waste especially in our country where landfills exist in large numbers. It also helps in controlling generation of methane gas and other toxics, which are released when the waste starts decaying in landfills and thus prevents contamination of soil.

Like every solution, waste to energy also has its pros and cons. Installation of waste to energy plant is expensive, from the cost of establishing the infrastructure to the costs of operating the plants. In addition, a waste to energy plant requires trained and devoted staff to operate it. Need of regular maintenance adds to the already high costs of its operation.

Indian examples

Pune Municipal Corporation (PMC) in alliance with Concord Blue Technology Private Ltd. adopted a similar system taking care of 50 per cent of the city's waste. A 'gasification-reformer tower' which is a 10 MW plant processes 650 tons per day. The tipping fee for the tech solution providers was around Rs 300 per ton. The cost of the plant was 14-15 crore per MW with the generated cost of electricity coming to Rs 13 per unit. However, the normal existing tariff of electricity in Pune is Rs 4.67 per unit on consumption of 0-100 units, Rs 6.58 for 101-300 units, and Rs 8.57 for 301-500 units.

Similarly, Tamil Nadu hosted 50acres site for a gasification project worth Rs 100 crore ($18.5 million) with a public private partnership under the Design Build Operate and Transfer (DBOT) model, to process 300 tons of solid waste on a daily basis, generating around 3 MW of electricity costing Rs.6.28/ kWH. The existing tariff of electricity in Tamil Nadu is Rs 1.05 per

to waste woes

Solid waste is a growing problem that needs to be addressed with the most efficient solutions. Waste-to-Energy, which is among a few probable solutions, comes with certain drawbacks. As a Japanese proverb says, "A vision without action is daydream, action without vision is nightmare". When an action is initiated to resolve an issue, the probable fallouts should also be analyzed. Is it improving waste management & preventing more waste piling up at dumpyards or increasing our carbon footprint?

Shania James
Editorial Assistant, Urban Update

unit on consumption of 0-200 units, Rs. 2.5 for 200- 500 units, and Rs. 4.5 for the consumption above 500 units.

A waste to energy plant uses combustion as a process to consume waste, but its efficient functioning requires segregated waste. Or else there is possibility of pollution. Therefore, consumers need to adopt a change in the attitude towards the advantage of availability of WTE plants and segregate the waste optimally before discarding it. In India, WTE plants process 5,300 tons of garbage to produce 63.5 MW per day. According to a 2015-16 report by the Ministry of New and Renewable Energy (MNRE), this capacity can be enhanced to 1,075 MW by 2031 and to 2,780 MW by 2050. Since 1987, 15 WTE plants have been set up across the country. However, seven of these plants located at Kanpur, Bengaluru, Hyderabad, Lucknow, Vijayawada and Karimnagar have been shut down.

Mostly, waste to energy plants were designed to function successfully in-developed countries where segregated waste is fed to the plant. Currently, process of segregation is not much in practice in India, which makes it difficult to identify a suitable technology. Hence, segregation of waste at source plays a vital role in deciding the success of a WTE project.

Recycling - A better option

Recycling is considered one of the best and effective ways to keep the environment safe. Recycling and composting is a combination that can save three to four times more energy than an incinerator can produce. Moreover, recycling reduces massive amounts of CO2 emissions. Many environmentalists are expressing their concern that people think burning unsegregated waste is easier and more economical than recycling. There is a fear that surrounds the burning of waste because it may encourage people to forgo recycling if it is easier and more economically feasible to dump all waste into incineration plants without sorting it. The energy produced by WTE plants most commonly generates electricity for homes. Each ton of waste processed, generates around 500kWh of electricity, which is enough to power 15 average households for a day. However, recycling turns out to be a better option for waste management than a waste to energy plant. The energy produced by the plant is comparatively less than what is saved by recycling the same amount of waste. In addition, the amount of energy produced depends highly on the waste material fed to the plant. For example, recycling one ton of aluminum saves 14,000kWh of electricity, which is enough to power 15 households for four weeks.

According to the US Environmental Protection Agency (EPA), burning waste materials generates high amount of toxic gases than burning of natural gas but comparatively lesser than coal. Incineration of certain kinds of waste materials can result in emission of greenhouse gasses such as nitrous oxide, methane (CH4) and more. The byproducts of some burning methods contain heavy metals and many other toxic substances, which include furans and dioxins. But if waste materials are carefully sorted out, it can significantly lessen the percentage of greenhouse gas emissions.

We cannot fully ignore the benefits of using WTE plants since modern technologies have significantly lessened the amount of pollution resulting from burning waste and landfilling which is even more harmful and damaging to our environment. Recycling is obviously a better option than WTE. But to generate energy from the waste materials we need to first segregate the waste optimally. Therefore, recycling and WTE can work together and can reduce the amount of waste sent to landfills. Our main motive should be to come up with the most effective way of disposing the waste without harming the environment and preserving our natural resources. ■

MANY ENVIRONMENTALISTS ARE EXPRESSING THEIR CONCERN THAT PEOPLE THINK BURNING UNSEGREGATED WASTE IS EASIER AND MORE ECONOMICAL THAN RECYCLING. THERE IS A FEAR THAT SURROUNDS THE BURNING OF WASTE BECAUSE IT MAY ENCOURAGE PEOPLE TO FORGO RECYCLING IF IT IS EASIER AND MORE ECONOMICALLY FEASIBLE TO DUMP ALL WASTE INTO INCINERATION PLANTS WITHOUT SORTING IT

Delhi's growing MOUNTAIN OF GARBAGE

The National Capital – Delhi is home to three huge mountains of trash- Ghazipur, Bhalswa, and Okhla landfill sites. The biggest and the oldest of them is Ghazipur. Commissioned in 1984, the site's saturation limit was hit in 2002, but the site is in use even today. The landfill site, spread across 29 acres of land area, has grown enough to heights comparable to the Qutab Minar

Team UrbanUpdate

The Capital City of India generates 10,000 metric tonnes of waste every day. This municipal waste generated is dumped in the landfill sites like Ghazipur, Bhalswa and Okhla. These landfills were commissioned in the year 1984, 1994 and 1996 respectively. "The Ghazipur landfill was setup without any authorization for using it as a landfill, but it is authorised to be used as a waste dumping site", said Arun Kumar, Senior Engineer EDMC.

68 meters tall mount of garbage – Ghazipur landfill

The most prominent of the three landfill sites is Ghazipur landfill because itthe oldest and the largest (in the sense of over-saturation) landfill in Delhi.This huge un-engineered landfill has grown by several meters over the last few years. It gets the municipal waste from east, central and old Delhi. At the time of its set up, its height was not meant to surpass 20 meters. But thelandfill crossed the 20 meters mark in the year 2002 and is growing even today.

As per a report by the Parliamentary Standing Committee on Science and Technology, Environment and Forest, the Ghazipur landfill site popularly known as the 'mountain of garbage' is now 68 meters tall, almost reaching the height of the Qutab Minar which is 73 meters tall.

On September 1, 2017, one corner of this tall mount of garbage collapsed which caused loss of two lives. Residents believe that the number of deaths reported is different from the actual numbers. Post the incident, the authorities banned the use of landfill site effectively from September 2, 2017. But the site is still in use and garbage is still being dumped.

In an interview with Urban Update, an East Delhi Municipal Corporation (EDMC) official stated that on an average, 700 trucks dump waste at the site on a daily basis. A statement from a truck driver revealed that there are no safety measures provided to them, thus exposing them to various diseases and putting their lives in danger.

Steps taken by the government

Delhi is continuously suffering from the effects of severe pollution and hazardous air quality. The government is constantly looking for solutions to curb it. EDMC officials told Urban

Update "We signed an MoU with the National Highway Authority of India (NHAI) in November 2016, for the construction of roads by using the municipal solid waste from Ghazipur landfill, but the process has not yet started and it is pending with the NHAI."The officials added, "There is also a proposal pending in the Ministry of Environment and Climate Change to generate electricity by incinerating the garbage."

When asked about the continuous dumping of garbage even after over-saturation of the landfill, the officialsaid, "There is no alternative landfill where we can dump the municipal waste".

It is to be mentioned that the National Green Tribunal (NGT) asked thecorporation to consider Rani Khera land as an alternative site to dump the waste, but reports say that, the officials are not using theland because of 2 hours of travel time to reach Rani Khera.

"The waste should be segregated at source"- experts

Talking about solutions regarding the solid waste management, Satish Sinha who is an associate director of Toxics Link organisationsaid, "The generated waste should be segregated at initial stage and the municipalities, administration and other government officials must know that it is possible and it can be done. We can set other cities of India like Surat and Indore as examples of waste segregation. I question that if other cities can make it possible then why Delhi cannot."

When asked about the harmful effects on water quality in nearby areas of landfill sites, Sinha said, "Each and every living being is threatened by various diseases like cancer, malaria, and many dangerous ones".

Sinha believes that the human behaviour is not responsible for open dumping of waste, he said, "When you travel in metro, you see there are no wrappers and other waste material lying on the floor, when you go to shopping malls, it's the similar case. In such places you see the sanitary workers regularly maintaincleanliness. If the waste is separatelycollected in dry and wet forms then why it gets mixed when it is being dumped at landfill sites. So somewhere, the government is responsible for the situation that Delhi is suffering," Sinha added.

Waste to Energy plants in Delhi

The Ministry of Environment, Forest and Climate Change introduced new Solid Waste Management Rules,2016, in which the ministry proposed to solve the solid waste problems by incinerating the solid waste to generate energy in waste to energy plants. The plantsuse incinerator machines to produce electricity but the process releases harmful gases which negatively affects the air quality.

Delhi is currently having three waste to energy plants located at Ghazipur, Bhalswa and Narela Bawana. These together have a capacity to process 4000 metric tonnes of solid waste every day which is only 40 percent of the total waste generated in the capital.

"We want it to be converted into a park"- demand residents

The landfill siteis causing a lot of problems to the residents nearby. Some of the residents told us that many of them are suffering from variousdiseases due to the harmful gases that are released from the Ghazipur landfill and they are helpless. During monsoon season, the garbage gets wet and it creates bad odour all around. Harmful chemicals leach in the soil beneath and impact the ground water quality. Residents said "the ground water is very bad here and itappearsalmost black in colour".

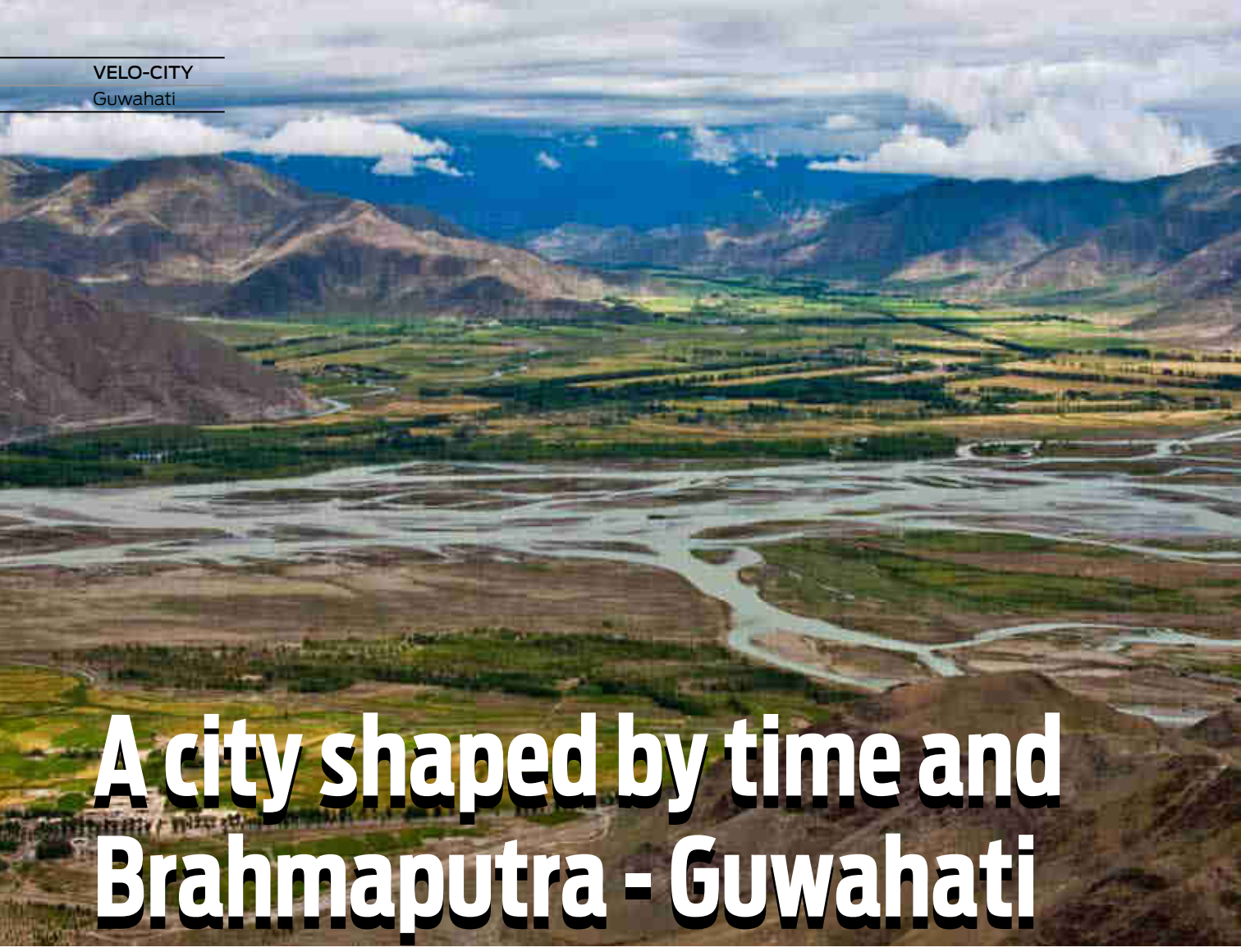
"In summers, the garbage dump catches fire due to the chemical reactions inside which leads to smoky clouds engulfing the nearby area. Many of usare suffering from lung infection but the administration is not taking any step for relief."

People residing in the localities nearby the landfill site are demanding to move the garbage to an alternate site or convert it into a park.The residents facea lot of troubles in their daily life because of thelandfill whereas EDMC officials tell us that they spend 700 crore rupees every year in cleanliness. The reality it seems, is not matching with the claims.

Conclusion

The problem of solid waste which is actually choking the capital city needs a solution. There is an urgent need to make the cityliveable. Government launched various plans and schemes like Swachh Bharat Mission, Plastic Waste Management Rules, Good Green Deeds and others which aim at cleanliness, curbing pollution, protecting environment and so on. But, there is a need for the schemes to work effectively on the ground. This can only be possible with the whole-hearted cooperation of all including the citizen. ■

THE GENERATED WASTE SHOULD BE SEGREGATED AT INITIAL STAGE AND THE MUNICIPALITIES, ADMINISTRATION AND OTHER GOVERNMENT OFFICIALS MUST KNOW THAT IT IS POSSIBLE AND IT CAN BE DONE. WE CAN SET OTHER CITIES OF INDIA LIKE SURAT AND INDORE AS EXAMPLES OF WASTE SEGREGATION. IF OTHER CITIES CAN MAKE IT POSSIBLE THEN WHY DELHI CANNOT



A city shaped by time and Brahmaputra - Guwahati

Kumar Dhananjay
Consulting Editor

Somebody has said "how should I turn the pages of my life, everyone wants to read me as per their choice". These beautiful lines aptly describe the city of Guwahati. Whatever Guwahati may be today with some even describing it as 'epitome of emerging India', deep within the surrounding hills and the Red River are tales that go back a thousand years. In the Nilachal Hills there is a rock inscription. It reads "This temple of the illustrious Lord Balabhadra has been constructed by Maharajadhiraja Sri Surendra Varman." The inscription is estimated to date back to the 5th century AD, which makes it one of the earliest found in North-East India. It signaled the existence of a city Guwahati for more than 1500 years of recorded human history. Historians also believe that the inscription is proof that the city has been home to a sizeable settlement for at least two millennia. The people from North-East rue the fact that the region has rarely figured in the imaginations of the bulk of Indian historians, and yet it has stood the test of time in its voyage through the ages.

What is in a name?

There have been debates about the origins of the name Guwahati. Different explanations have been put forth by historians at different times as to its origin.

Gunabhiram Barooah, a nineteenth century Assamese intellectual, was of the opinion that in all probability, the name came from 'guwa', or areca nut, trees of which are found in abundance across the city. While archival records do not give a clear picture when the name changed from Pragjyotishpurato Guwahati, historians have found the first mention of the latter in Tabaqat-iNasiri, a book by 13th Century Persian historian Minhaj-i-Siraj, that chronicled Bengal ruler Ikhtiaruddin Malik's conquest of Guwahati in 1256. Later, the Ahom kings of Assam began using the same name.

The Brahmaputra River

Any narrative of Guwahati is incomplete without Brahmaputra. It has remained the lifeline of the city

since its existence. It's not just a river but witness to history. The banks of the river, in medieval times, were the site of many battles between the Muslim rulers in the west and the established kings of the east. One of the architectural marvels of the Kamrupa era - the SilsakoBridge in modern North Guwahati -was the site of the battle between the Kamrupa king and the Afghan Muhammad-i-Bakhtiyar in the year 1206 AD. The SilsakoBridge, however, sustained damage in the 1897 Assam earthquake.

It was also the setting for the battle between the Ahoms and the Mughals, which culminated in LachitBorphukan's crushing victory in 1671. The fortifications by the river, along with the ItakhuliFort, repulsed the Mughals decisively. The river has thus stood as a vanguard of history, protecting the citadel of Guwahati for thousands of years.

The Modern City

Moving on to more recent times, in 1853, Guwahati was declared a municipal region. It again became a 'city' by modern definition. In the same year a devastating fire burnt down large parts of the city, prompting the dwellers to petition the government for better housing facilities. The government accepted the demands of the local population and procured bricks from present-day Bangladesh.

The first burnt brick factory in Guwahati was set up in the Durga Sarovar area. In 1874, in honour of the visiting Viceroy Lord Northbrook, the Northbrook Gate was built at Sukreswar Ghat on the banks of the Brahmaputra River. It is designed on the lines of the chapel in King's College London. The rectangular structure had 12 arches. While the arches of the gate have Gothic elements, the spires are inspired by Indian temples, making it one of the finest examples of Indo-Gothic architecture.

The firsts in the city

The first wholesale general store was opened in 1828 in the city. Bijulee Cinemaghar brought cinema to Guwahati. The Sheikh Brothers established their bakery in 1885 and legendary Assam leader Deshbhakta Tarun Ram Phukan bought the first bicycle of Guwahati in early 20th Century. It is said the day he got the bicycle, almost the entire city assembled to look at this unique machine on two tyres and huge applause followed when he began pedaling. He incidentally was also the first man in Guwahati to own a car.

By 1899, the municipal limits of Guwahati had been described for the first time. Ulubari, Rehabari, Chandmari, Rajgarh, Barpul, Bhangagarh, Kharghuli, Santipur and Bhutnath made up the length and breadth of Guwahati. By 1901, it was a city of 14,244 people, residing in a total area of 4.5 Sq. Km. Almost 120 years later today Guwahati has a spread area of 216 Sq. Km.; it has a population of over 1 million.

Places to visit

For anybody who lands in Guwahati, the first destination is always the famous Kamakhya Temple atop Nilachal Hills. This is where Goddess Kamakhya is worshipped. It is a unique temple that has no idol. But the believers tell you that one can feel the divine presence in the sanctum sanctorum. Nilachal Hill is also home to many others temples. While coming down from the hill you get a fantastic view of the Brahmaputra. It will leave you in awe. Another big attraction is Shiva temple on the island of Umananda. You can either take a ferry to reach there or the state tourism department transport. The to and fro journey in an open ferry is truly an out of the world experience where one can feel the might of the Brahmaputra. One can do a lot in Guwahati. During a morning walk along the Brahmaputra when the river is silent, one can see ferries transporting people, cattle, bicycles across the river; the birds singing and the sun rays bouncing off the ripples; one turns poetic and one's day is made. If you are fond of shopping, during the day you can visit Paltan Bazzar and Paan Bazzar. You will find Asomiya silk sarees and many other emporia that sell handicrafts items. But the big fun comes in the evening. One must visit Fancy Bazzar. As the name suggests one can find all kinds of stuff from the entire North-East region. The place is bubbling with activity. From street entertainers to street food it's a shopper's delight. An interesting fact about the place is its name; it got its name from 'phansi' (Hanging). Originally the market was set up around a public gallows where British Raj hung rebels and criminals.

Today Guwahati is one of fastest growing cities in India and works as a window to the Central Government's 'Act East' policy. Fast paced modern development has completely changed the face of this city, making it one to watch out for in anew emerging India - restless and energized. Yet, deep within the surrounding hills and the Red River, are tales which take you back thousands of years. ■

Oh! To be in Chandni Chowk!

Abhilash Khandekar
Sr Journalist

Delhi has inspired an awesome number of books written on the historical city's varied range of interesting facets. While I remember having written recently about Delhi's trees-a slightly older book by the famous treewalah Pradip Krishenin the Urban Update, I also got hold of a very recent one on the severe smog of Delhi that I had reviewed for its readers earlier this year. Although it also covered other cities, essentially it was about the 'pollution capital' of India that is Delhi. The two books spoke about two aspects of the City.

Well, here's another book, a little one but full of gripping stories and facts that readers must not miss. It's not about entire Delhi, or the New Delhi. Rather it's a fascinating account and historical perspective about what was once known as the imperial city of Shahjahanabad. Today's Chandni Chowk was an important part of the then Shahjahanabad, named after the 17th century Mughal Emperor Shahjahan. So it's neither trees nor pollution but taking a deep dive into the illustrious past of this quaint city.

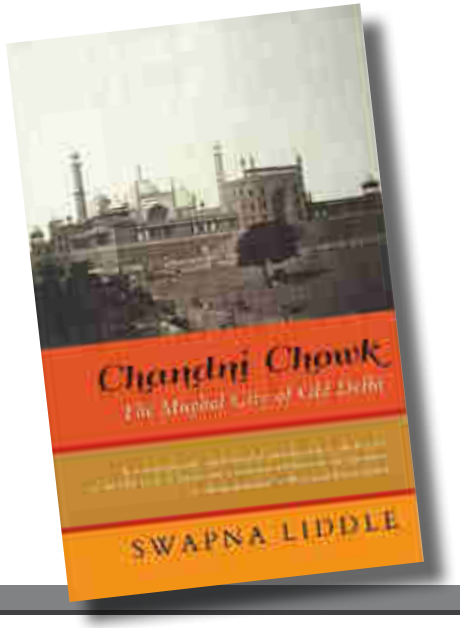
Today, 'Shahjahanabad' is totally crowded and has been subsumed by the gigantic sprawl of ever growing Delhi. Yet the crowded, narrow lanes have a charisma of their own and a number of stories to tell. Bang opposite the Red Fort, another mighty symbol of the Mughal Empire, Chandni Chowk has inspired tourists and writers, artistes and architects, for centuries.

Author Swapna Liddle's love for the city of Delhi, particularly for Shahjahanabad, led her to write her PhD thesis on the same, including the cultural and intellectual life of the ancient city, in the 19th century. She is passionately in love with that area where she has been conducting heritage walks, under the aegis of INTACH.

The old city came into being at a time when the Mughal Empire (founded in the 16th century) was at the height of its heritage and prosperity, and there was a long tradition of monument construction behind it, writes Liddle in the beginning. The illustrious ancestor of the Mughals, Timur, had built a grand capital at Samarkand. The Mughals carried to India this Timurid legacy, and married it to the strong local tradition to produce a distinct Mughal style. Architecture in particular, the book says, flourished under the emperors Akbar and Jahangir, and the best examples were created in Agra and Lahore, which had developed as the principal seats of the Empire.

It was in Agra that Shahjahan ascended the throne of his ancestors on 14 February, 1628. While his father and grandfather had presided over some remarkable developments in the arts such as architecture and painting, Shahjahan's particular interest lay in architecture. He commissioned a large number of buildings, and exercised a close personal supervision over the department that was responsible for execution of building projects. He used to examine, according to the author, designs of buildings laid before him by architects and superintendents of constructions, himself while sitting in the Diwan-e-Khas.

Shahjahan's lasting contribution is of course the Taj Mahal built in memory his beloved wife Mumtaz Mahal who died in 1631. Agra and Shahjahanabad were alternate homes (and Lahore too) of the emperor those days. The unparalleled mausoleum was constructed over a period of 12 years and at the cost of five million rupees.



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The Mughal City of Old Delhi

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Swapna Liddle

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Speaking Tiger

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176

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Reviewer's rating
Must have in personal library

Ustad Ahmad (Lahouri) was the main architect of the Taj. The author tells us about the story of the Red Fort (kind of a new city for the emperor) and how it came into being. Since Shahjahan was deeply interested in constructing newer and newer buildings, and also very large ones, and had a keen sense of design, he did not like the Agra Fort much when he decided to expand his reign. Agra was said to be crowded then and thus he sent out Royal engineers to look for a new place for setting up of the new capital. An eighteenth century historian in Persian language put it: " ...exalted emperors always had it in mind to adorn their reigns with some permanent records, and signalize their names by the establishment of some everlasting landmarks, and consequently this wish was reflected from the mind of Shahjahan in the conception of a city ....". The new suitable site was on the bank of River Yamuna, north of Delhi. Sadly, while the fort-city stands erect well after 250 years, the river is anything but a river. This is the cost of growing civilisation and urbanisation that we are paying. Actually Delhi has been the capital of various Mughal empires even when it had ceased to be the capital after the early part of Akbar's reign and thus the Mughal emperors had regularly visited Delhi. There were three reasons for this, as the author puts it -to visit the shrine of NizamuddinAulia, to visit the tomb of Humayun, and to hunt in Palam, which abounded in game, particularly Nilgai (blue bull).

The book, while talking about Chandni Chowk, takes a deeper look at how the then emperor built the entire region around today's Chowk and the author provides through her research work greater details of the imposing and sprawling fort. And how wonderful it is to note that during his visit to Peshawar in 1646, Shahjahan saw a covered bazaar that had been constructed by Ali Mardan Khan, the Governor of Punjab. He got built such a Chhatta bazaar in the Fort in Delhi. The fort was designed to accommodate the complex administrative machinery of the Mughal capital and the large royal household. "It was practically a small self-contained city, containing residences for a large population, buildings for the ceremonial functions of the emperor, and for the administrative and military personnel, workshops for various crafts produced for the royal household, markets, and gardens." The red wall around the complex actually gave it the later day name of Red Fort.On the eastern side was Yamuna river (an old plan of 1857 in the book calls it river Jumna) with a wide sandy bank. The river-front buildings included the Diwan-e-Khas, the Aramgah and Imtiyaz Mahal, the main palace of the Emperor.

Why I have stated these details of the Red Fort, which of course constitutes the dominating part of Chandni Chowk today, is to first, underline the admirable vision of the Emperor's planning and second, for the river-front's example. Today's urban planners and city designers are all increasingly using this concept to spruce up river fronts be it in Ahmedabad or Varanasi or in Indore. But not many are, sadly, bothered about the health of Indian rivers.

After the fort was completed, an earthen wall was built around the city but it collapsed soon and then a more permanent wall was built. Perhaps, Delhi was called a walled city, due to this wall which was not very strong but had many entrances and huge gates. Broad streets were laid out in the city, closely mirroring the symmetry within the fort. The east-west axis was an extension of the imperial axis that linked the Lahori Gate to Imtiyaz Mahal. This was a long and wide street, with a channel of water running down its middle, and trees providing shade. It was lined on both sides with arcaded shops, which we see even today and most of them are intact. There were three bazaars--Urdu Bazaar, Asharfi Bazaar and Fatehpuri Bazaar. The Asharfi Bazaar (literally money market) ended at an octagonal square called the Chandni Chowk.

The Chowk had a large pool in its centre, reflecting the moonlight, or Chandni, which gave the square its name which over the years became so famous! Shahjahanabad and this Chowk have inspired many creative writers and history chroniclers to come out with beautiful books; this one included.

Elsewhere in the book, the researcher-author, has woven history, urban planning, architecture and the arts giving us exact idea of how the emperors thought about their royal states, the subjects and the army centuries ago when modern science was not at hand, especially for architects.

Most of the mosques in and around Delhi were built by the Muslim rulers of the time. As we all know, the Mughal Empire was one of the richest, most populous and extensive of all time and hence the rulers always had grand plans of constructing monuments. Thus the Jama Masjid was built near today's Chandni Chowk after the fort work was completed. The foundation was laid in 1650 and it was completed in six years. Notably a college and a hospital, were also built in the square surrounding the wall. The Emperor's favourite son Dara Shukoh's mansion was also built north of the fort, besides large gardens outside the city. One of them was RoshanaraBagh. A road has been named after Shukoh near RashtrapatiBhawan in New Delhi.There is also a mention of Daryaganj market which was included in Shahjahanabad after the walls were built. This was a traders' hub where boats would carry grains and other merchandise and unload them on the ghats, south of the fort. Today, Daryaganj is largely occupied by book publishers and sellers.

In short, this little book gives the reader a very fair idea of how Delhi's Red Fort area, sorry the iconic Chandni Chowk area, was planned so meticulously some 250 years ago and what it looked like and what purpose it had served. The fact that most of the monuments, streets, bazaars and chowks are still existing despite having been tormented by rains, dust storms and scorching heat, speak highly of the quality of civil work, of the imagination of the designers and architects and of course, the emperor Shahjahan's ambitious vision. ■

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24X7 WATER SUPPLY A DREAM IN PIPELINE?

Ashok Wankhade
Managing Editor

India is one of the most water challenged countries. The situation is getting worse by the day due to its depleting surface and ground water resources. As per NITI Aayog, by 2030, the country's water demand is projected to be twice the available supply, implying severe water scarcity for hundreds of millions of people. Sustainable management of water resources has acquired critical importance and become among top priorities of ULBs

Water scarcity is a global issue which is exacerbated by growing water demand, pollution and climate change. It is predicted that by 2040, 33 countries are likely to face extreme water crisis out of which 15 are middle east countries, a major section of North America, Pakistan, Turkey, Afghanistan, India, China, Southern Africa, Australia and Spain, as per a report 'Beneath the Surface: The State of World's Water 2019 released on World Water Day this year.

Water crisis - India

According to the World Bank estimates, India draws around 250 cubic kilometers of groundwater per year, which is more than a fourth of the global total, this makes India the world's largest user of groundwater. The 65th round of the National Sample Survey (NSS) showed that only 47 per cent of the urban households have individual water connections. As estimated, presently, around 40 to 50 per cent of the water is lost in the distribution system.

India Water Tool 2.0 (IWT 2.0), an online tool evaluating India's water risks, brings forward a few trends: 54 per cent of India faces high to extremely high water stress (high water stress refers to usage of more than 40 per cent and extremely high to 80 per cent of the available surface water annually), nearly 600 million people are at higher risk of disruption in surface water supply. In particular, the Northwestern India is blanketed by the higher stress. Groundwater resources are also depleting, of the 4000 wells captured in the IWT 2.0 54 per cent dropped over the past seven years, with 16 per cent declining more than 3.2 feet on yearly basis.

The online tool also measures the quality of surface and ground water as per Bureau of Indian Standards (BIS) guidelines. Shockingly, out of 632 groundwater sources analysed only 59 were found above the standard limits. This implies that around 100 million people live in areas of poor water quality. The water in these areas was considered unsafe for drinking as it contains chlorine, fluoride, iron, arsenic, nitrate, and electrical conductivity more than the national standard.

Innovation in water management

There are several measures which can better the situation, such as rain water harvesting to recharge ground water, treating and reusing waste water, reviving wetlands by creating farm ponds, individual and community driven actions.

For example – Dhara Vikas programme launched by the state government in Sikkim consists of locals who every morning climb up hills and dig trenches. Trenches are on an average six feet wide and two to three feet deep. These trenches capture rainwater and recharge the groundwater resources in the area. As per locals, this has helped provide drinking water to over 80 per cent of the state's households.

Residents' Welfare Association of JR Nagar in Visakhapatnam along with the residents has taken an exemplary step for water conservation. Complying with the directions from the municipality, the residents dug water recharge pits to capture rain water.

There is an urgent need for government agencies, industries, civil society organisations, and people to assess the water risks and come out with innovative solutions. This also becomes important because most of the municipalities are now planning to provide uninterrupted 24x7 water supply to their citizens. But if the water is not managed well, such plans will remain in pipeline. ■

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