World's 100 Resilient Cities, India's 100 Smart Cities, and Jaipur Resilient & Smart City

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The views expressed in this paper by the authors are their personal views.

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ABSTRACT

More than half of world's population started living in urban areas in 2007. This trend is continuing, unabated. Unplanned and haphazard urbanization around the world is affecting the quality of life of urban dwellers. Majority of the economic growth is also contributed by cities, for example 63% of Indian GDP is generated in cities. Therefore, governments, international organizations, foundations, and civic societies around the world started thinking about improving the cities. This paper will present 100 Resilient Cities around the world program pioneered by Rockefeller Foundation, 100 Smart Cities program in India, and about Jaipur city, which is both 100 Resilient City and Smart City.

A. 100 Resilient Cities

2.   Rockefeller Foundation on its centenarian year 2013 launched a challenge to select 100 cities around the world each with population more than 50,000 to make them resilient. A city Mayor or Administrator or CEO (whatever is the official designation) only could have applied for the challenge on behalf of the city or should have supported an application prepared by third party. The challenge was in three phases of 2013, 2014, and 2015, selecting about 33 cities in each phase. Rockefeller Foundation branded it as 100 Resilient Cities (100RC).

3.   100RC defines resilience as the capacity of individuals, communities, institutions, businesses, and systems within in a city to survive, adapt, and grow, no

matter what kinds of chronic stresses and acute shocks they experience. 100RC explains shocks are typically considered single incident disasters, such as fires, earthquakes, and floods. Stresses are factors that pressure a city on a daily or recurring basis, such as chronic food and water shortage, an overtaxed transportation system, endemic violence or high unemployment. City resilience is about making a city better, in both good times and bad, for the benefit of all its citizens, particularly the poor and vulnerable. More than $655 million has been leveraged from national, philanthropic and private sources to implement resilience initiatives in 100RC.

B. 100 Smart Cities

4.   Govt. of India in 2015 launched a challenge to select 100 cities to make them smart by investment of Rs.1,000 billion (~ $14.3 billion in Aug. 2018), half by federal funding and half by states over a five year period. This challenge was also in three phases selecting 100 smart cities.

5.   Ministry of Housing and Urban Affairs (MHUD) of Government of India is overseeing the Smart Cities Mission (SCM). It states that the purpose of the SCM is to drive economic growth and improve the quality of life of people by enabling local area development and harnessing technology, especially technology that leads to smart outcomes. Area-based development will transform existing areas (retrofit and redevelop), including slums, into better planned ones, thereby improving liveability of the whole City. New areas (greenfield) will be developed around cities in order to accommodate the expanding population in urban areas. Application of smart solutions will enable cities to use technology, information and data to improve infrastructure and services. Comprehensive development in this way will improve quality of life, create employment and enhance incomes for all, especially the poor and the disadvantaged, leading to inclusive Cities.

C. Synergy between Resilience and Smart City

6.   Resilience and smart have synergy to improve urban life. Resilience is an important aspect while making smart city proposal (see section 10) and has been emphasized in the mission guidelines and is one of the criteria to evaluate the smart city proposal.

D. Jaipur Resilient & Smart City

7.   Jaipur city of 3,046,163 population according to 2011 census, is the fastest growing capital city of a state in India. Jaipur is capital of Rajasthan, geographically the largest state in India. Jaipur is about 260 km south-west of Delhi. Jaipur is both resilient and smart city.

8.   TIEMS – India Chapter (TIEMS-IC) approached proactively and pro bono the then Mayor of Jaipur Municipal Corporation (JMC) in 2013 to support the application prepared for the 100RC challenge. Jaipur was not selected. In 2014, TIEMS-IC did

some more research and with the support of the Mayor again submitted the Jaipur application for 100RC. Second time not selected. After the municipal elections, new political party Bartiya Janta Party, came in power and there was a new Mayor. TIEMS-IC persuaded the new Mayor to support the Jaipur city application for 100RC. In the last phase of 2015, Jaipur was selected as one of the 100RC.

9.   An Agenda Setting Workshop, "Towards a Resilient Jaipur" was held in October 2017 at Malaviya National Institute of Technology, Jaipur. A MOU is to be signed between JMC and 100RC. Subsequently, a Chief Resilience Officer (CRO) will be appointed by JMC, whose salary for minimum two years will be paid by 100RC. The CRO will support lead stakeholders of Jaipur in the development of a Jaipur resilience strategy. 100RC has about 100 platform partners that include leading data analysis companies, reinsurance companies, architects, experts in the domain of urban planning, energy, transportation, solid waste and other related areas. Platform partners will provide access to tools and their experts will help Jaipur in implementation of resilience strategy. Jaipur CRO will be part of 100RC CROs network and benefit from peer-learning.

10.   With the consent of Rajasthan state government, MHUD appointed a consultant to prepare Smart City Proposal for Jaipur. In the first of three phases, Jaipur ranked 3rd in the smart city challenge. Under the SCM federal government will provide to Jaipur Rs. 5 billion and Rajasthan state government will contribute its matching share of Rs. 5 billion over five year period. Jaipur is also making convergence of SCM with other government schemes, like Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Swachh Bharat Mission, and Heritage City Development and Augmentation Yojana (HRIDAY).

11.   For execution of Jaipur SCM, Jaipur Smart City Limited company was incorporated. The vision of Jaipur Smart City is "Jaipur smart city aspires to enhance the quality of life for its citizens, and to leverage its heritage and tourism through innovative and inclusive solutions." Jaipur smart city is working on the following goals:

- Smart Heritage and Tourism Precinct: Adaptive reuse of old heritage buildings in project area with an aim to conserve heritage and promote tourism with increase of average tourist time spent in Jaipur from 2.8 days to 3.5 days by 2025.
- Smart Mobility: Improve pedestrian mobility in the area by increased Non-Motorized Transport share from 15% to 25% and 100% barrier free access in the area by 2019
- Smart and Sustainable Civic Infrastructure: Enable coverage and monitoring of 100% smart meters for water connections and 100% coverage of door to door collection adopting technology to dispose waste in environment friendly manner by 2019.
- Smart Multi Modal Mobility: Increase the stare of public transport to 45% of total trips made in city by 2025.
- Smart Solid Waste Management: Enable coverage and monitoring of 100% of solid waste management operations resulting in 10% reduction in the cost of operations by 2019.

12.   Jaipur also has many challenges. The construction of second phase of metro is considerable delayed and is creating traffic congestions. Jaipur had the dubious distinction of fourth highest reported traffic fatalities of 25.5 per 100,000 inhabitants in selected world cities (Cities Safer by Design by World Resources Institute published in 2016, p 11-12). In cleanliness and sanitation Jaipur ranks towards lower end among Indian cities.

13.   On the positive note, Jaipur was established 291 years ago in 1727 as a planned city. According to US Ambassador to India Kathleen Stephens, "Jaipur is the original smart city built long ago. It was smart in its own time . . ." (Tiems of India, Sept. 4, 2014, p. 12). Jaipur has two UNESCO Heritage sites Amber Fort and Observatory. Jaipur has third largest number of educational institutions in an Indian city. Jaipur hosts world's largest free Jaipur Literature Festivals in January and AU Bank Jaipur Marathons in February, and TIEMS-IC is disaster management partner of both.