The Urban World

Quarterly Publication









Regional Centre for Urban & Environmental Studies (RCUES), Mumbai

(Supported by the Ministry of Housing and Urban Affairs, Government of India)

Established in 1926, the All India Institute of Local Self Government (AIILSG), India is a premier autonomous research and training institution in India. The Institute was recognized as an Educational Institution by Government of Maharashtra in the year 1971. The Institute offers several regular training courses in urban development management and municipal administration, which are recognized by the Government of India and several State Governments in India.

In the year 1968, the Ministry of Housing and Urban Affairs (MoHUA), earlier Ministry of Urban Development), Government of India (GoI) established the Regional Centre for Urban & Environmental Studies (RCUES) at AIILSG, Mumbai to undertake urban policy research, technical advisory services, and building work capabilities of municipal officials and elected members from the States of Goa, Gujarat, Maharashtra, Rajasthan and UTs of Diu, Daman, Dadra & Nagar Haveli. The Ministry of Housing and Urban Affairs (MoHUA), Government of India added States of Assam and Tripura from February, 2012 and Lakshadweep from August 2017 to the domain of RCUES of AIILSG, Mumbai. The RCUES is supported by the MoHUA, Government of India. The MoHUA, Government of India has formed National Review and Monitoring Committee for RCUES under the chairmanship of the Secretary, MoHUA, Government of India. The Principal Secretary, Urban Development Department, Government of Maharashtra is the exofficio Chairman of the Advisory Committee of the RCUES, Mumbai, which is constituted by MoHUA, Government of India.

The RCUES was recognized by the Ministry of Urban Development, Government of India as a National Training Institute (NTI) to undertake capacity building of project functionary, municipal officials, and municipal elected members under the earlier urban poverty alleviation programme-UBSP. The RCUES was also recognized as a Nodal Resource Centre on SJSRY (NRCS) and Nodal Resource Centre (NRC) for RAY by Ministry of Housing and Urban Poverty Alleviation, Government of India.

The AIILSG, Mumbai houses the Solid Waste Management (SWM) Cell backed by the Government of Maharashtra for capacity building of municipal bodies and provide technical advisory services to ULBs in the State. The Water Supply & Sanitation Department (WSSD), Government of Maharashtra (GoM) established Change Management Unit (CMU) in AIILSG, Mumbai from 13th January, 2010 to 30th June, 2014 and also selected AIILSG, Mumbai as a Nodal Agency in preparation of City Sanitation Plans for 19 Municipal Corporations and 15 A Class Municipal Councils in Maharashtra State, under the assistance of Ministry of Urban Development, Government of India. The WSSD, GoM also established Waste Management & Research Centre in AIILSG, Mumbai, supported by Government of Maharashtra and MMRDA.

In August, 2013 Ministry of Urban Development, Government of India empanelled the AIILSG, Mumbai as Agency for providing technical support to the Cities / Towns of States / Urban Local Bodies (ULBs) in the field of Water Supply and Sanitation, Sewerage and Drainage systems.

In July 2015, Ministry of Urban Development, Government of India empanelled the RCUES & AIILSG, Mumbai an Agency for technical support in Municipal Solid Waste Management under Swachh Bharat Mission (SBM) programmes.

In February, 2016, Ministry of Housing and Urban Poverty Alleviation, Government of India empanelled the RCUES of AIILSG, Mumbai for conducting training and capacity building programme for experts of SMMU, CMMUs, COs, Key Officials and other stakeholders of the State and Urban Local Bodies (ULB) level under Deendayal Antyodaya Yojana—National Urban Livelihoods Mission (DAY—NULM).

In December, 2017, AIILSG has been empanelled as a training entity regarding implementation of new Integrated Capacity Building Programmes (ICBP) under Urban Missions, viz. Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Swachh Bharat Mission (SBM), Smart Cities Mission (SCM), National Urban Livelihoods Mission (NULM), Housing for All (HFA), Pradhan Mantri Awas Yojana (PMAY) and Heritage City Development and Augmentation Yojana (HRIDAY) for Elected Representatives and Municipal Functionaries.

At present, RCUES and AIILSG, Mumbai is involved in providing capacity building, research and technical support to number of State Governments and ULBs for implementing various urban development missions and programmes launched by the GoI.

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Contents

Editorial

A Local Chronicle of the Smart City Enterprise: Case Study of

New Town Kolkata, West Bengal, India

Dr. Joy Karmakar,

Lecturer,

Serampore College, Hooghly,

West Bengal.

• Impact of COVID-19 on Urban-Rural Dynamics

14-21

01-13

Mr. Prakhar Goel,

Independent Researcher,

Mumbai.

Book Review: An Intersectional Gendered Discourse on Empowerment During Pre and Post COVID-19 Pandemic, by Dr. Vibhuti Patel, IMPRI Impact and Policy Research Institute, New Delhi, 2022.

22-25

Reviewed by Dr. Narayan Barman,

Research Assistant,

Institute for Rural Management,

Anand, Gujarat.

ROUND & ABOUT

26-30

Mr. Fazalahmed Khan.

Advisor,

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Mumbai.

RCUES Key Publications

- 1. Urban Development.
- 2. Urban Planning.
- 3. Solid Waste Management Resource Material.
- 4. Hospital Medical Waste Management.
- 5. Planning for Urban Informal Sector in Highly Dense Cities.
- 6. Study of Municipal Schools with Special Focus on Drop-outs, Standard of Education and Remedies.
- 7. Rainwater Harvesting.
- 8. Institutionalisation of Citizen's Participation in Urban Governance.
- 9. Gender Budgeting.
- 10. Gender Equality in Local Government Comparative Study of Four States in Western Region in India.
- 11. Mapping of Basic Services in Urban Slums.
- 12. Basic Services to the Urban Poor.
- 13. Health.
- 14. Security of Tenure.
- 15. Resettlement and Rehabilitation.
- 16. Mumbai Human Development Report, 2009. (UNDP / MOH & UPA, GOI / MCGM).
- 17. Resource Material on Urban Poverty Alleviation.
- 18. Laws of Meetings.
- 19. Resource Material on Preparation of City Sanitation Plan (CSP) & Capacity Building for Urban Local Bodies.
- 20. Implementation of 74th CAA, 1992 in Urban Local Bodies and Impact Assessment of Training of Women Elected Members.

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Editorial

Intersectional vulnerabilities of the urban populations namely the informal sector workers, poor men and women, street children, persons with disability, transgender individuals and migrant population face persistent challenges in everyday life. When the pandemic struck the Indian cities, their plight became visible and gained the serious attention of researchers, policy makers and the government. The pandemic also revealed the extent of the urban economy's dependence on the migrant workers and the informal economy. What emerged from the discourse of last 2 years is - an acknowledgement of unsurmountable human miseries generated due to poor social and physical infrastructure resulting in poor service delivery; massive data-gap for informed and targeted policy-making and policy intervention; and complete lack of agency of the socio-economically vulnerable and underserved urbanites despite their valuable contribution in the urban economy and gross domestic product of our country.

The rapid assessment surveys during the pandemic period also brought out the exacerbation of gendered inequities that manifested in the worsened economic, social and psychological hardships of women who had to shoulder an enhanced burden of increased unpaid domestic chores and care work of children/elderly/sick family members and cope with gender-based violence. Data recorded by National Crime Records Bureau shows that for two consecutive years, 2019-2020 and 2020-2021, 50% of suicides among women were of housewives. As we move into the post-pandemic world, the urban governance had to take cognisance of the painful realities and to address these problems earnestly and pro-actively so that NO ONE IS LEFT BEHIND.

The state supported urban housing projects that ensures running water and waste management and sanitation systems require the top priority in the budgetary allocations. Under the banner of Affordable Housing for All, the slum settlements marked abject living conditions need to be replaced by safe low cost housing on an ownership basis and also hostels/homes on a rental basis should come under the jurisdiction of the local self-government bodies. This will reduce health burdens of vector borne diseases, including digestive track, respiratory and lung ailments.

Visibility of the vulnerable populations in the data system is need of an hour. Collecting and using data on migration- rural-urban, urban-urban, urban-rural and circular migration is imperative for better policy as well as targeted intervention to reduce their precarity and improve their quality of life.

There is a need for social security and the social protection for the urban informal sector workers and recognition of contribution of unpaid labour of women and girls. Currently millions of Indian girls are out of school, bringing them back to schools is a herculean tasks for the urban local self-government bodies. To reduce the gender gap in the labour force and the urban India needs a gendered approach in the urban planning and governance.

The Urban World invites scholars, policy makers, practitioners, urban planners and researchers to send their original research-based articles and book reviews with special focus on developmental concerns of the Urban India.

A Local Chronicle of the Smart City Enterprise: Case Study of New Town Kolkata, West Bengal, India

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Abstract

The Smart City Mission (SCM) in India is one of the highly publicized projects that focus on the 'digital transformation' of the cities and towns across India. However, policy analysts and scholars have raised questions and concerns regarding such a transformation. They question whether the smart city mission at all fulfills the pressing needs of towns and cities or not? New Town Kolkata is one of the cities in West Bengal which initially adopted the SCM, but later rejected the programme. They adopted a new state-funded project called Green City Mission (GCM). Within this context, it tries to focus on the shortcomings of the smart city mission and how cities in peri-urban interface like new town Kolkata are transformed and encounter different challenges. In addition, this paper also analyzed the newly announced green city mission of West Bengal and tried to understand the differences and similarities of both the projects. The paper reveals that such projects failed to create employment opportunities not only for the people of the town but also for the people of the surrounding villages.

Key words

Smart City, Green City, Digital Transformation, Peri-Urban

Introduction

It is almost eight years since the smart city mission in India has been introduced. Many cities participated in the mission but some cities withdrew their application after a few rounds of selection process. Four cities in West Bengal had participated up to the second round of selection but withdrew their candidature after that. The State administration has rejected the Centre's 'Smart City Project,' opting instead to create a number of cities under its own 'Green City Project.' New Town Rajarhat, a Kolkata suburb that also was a part of the Centre's Smart City Project, will now be developed as India's first 'Green City'.

A smart city plan for individual cities in West Bengal was made based on citizen's interaction, suggestions and public opinion. It is noticed that there is no unanimous vision for the proposed smart city because each city represents a different character altogether, so the requirements have to be different. Some terminologies used in the visions have broader connotations, like 'sustainability' and 'smart', while some are very specific. It is important to note that the proposed smart city of Bidhannagar wants to attract a "new creative class" (Karmakar, Chatterjee and Basu, 2017). It raises some crucial questions like who is the "new creative class"? What will happen to those who are not in the purview of the so-called 'new creative class'? The other concerns include will it create a barrier to the

migration of traditionally skilled people and will it be inclusive?

Within this context, this paper tries to focus on the inadequacies of the smart city mission and how cities in peri-urban interface like New town Kolkata are transformed and encounter different challenges. In addition, this paper also analyzed the newly announced green city mission of West Bengal and tried to understand the differences and similarities of both the projects. To analyze the paper, several official documents are used, including land use plan of New Town Kolkata, environmental impact assessment plan, concept plan of New Town Kolkata, smart city project proposal, green city mission plan etc. Apart from that, socio-economic census data of 2011 and ESRI image 2020 are also used.

After the introductory section, the following section identified some concerns and challenges of the smart city mission. The third section explores the transformation of New Town Kolkata and its challenges. The fourth section analytically discuss the green city mission and the similarities and differences with the smart city mission. Thereafter, a concluding remark has been made based on the above findings.

Concerns and Challenges of the Smart City Mission (SCM) in India

After the announcement of Smart City Mission (SCM) as a nationwide project in December 2014, policy experts argued that the project in its present form will promote skewed development rather than a comprehensive as well as inclusive urban future (Srinivasan, 2015). It came as part of the Prime Minister's initiative to capture the public imagination and as a continuation of the 'Gujarat Model' of development. The new scheme is focused on promoting not only new satellite towns but also modernizing existing cities. The scheme would include upgrading of social, institutional and health

infrastructure in existing cities. Moreover, it is a direct effort to reduce the pressure on metro cities and its 'solution' initiatives are based on technology. It is because the current government noted in its manifesto that "our cities should no longer remain a reflection of poverty and bottlenecks. Rather, they should become symbols of *efficiency*, *speed and scale*". However, it may sound vague, but initially the scheme was able to capture the imagination of the public and projected the narrative of 100 new (smart) cities onto public perception (CFA, 2019).

Critics question the implementation of SCM, claiming it is an exclusive and fragmented approach to urban development. In addition, it is argued that smart cities have become detached from the realities and needs of poor urban people. Moreover, it is claimed, the concept of smart cities in the Indian context is imprecise to overcome regional and regional differences and can be broadly described as a tool for considering cities as "more competitive". The lack of fixed meaning using catchphrases such as inclusiveness and sustainability has made it possible to convey SCM as a human-friendly reform scheme.

Many urban experts doubt whether the initiative is addressing the real problems facing too many people in India's cities or not. It is noticed that the "Smart" city proposal offers a variety of technical solutions for better cities, but sometimes fails to outline a comprehensive vision that takes into account the lack of basic services of many Indian cities. It confines its possibilities a lot in that respect. In fact, experts also opine that a large part of our urban population is living in really dismal conditions, without basic services and smart city proposals fail to address it (Chatterjee, 2017; Chaudhry, 2017). It is also highlighted that the Smart Cities Mission for promoting greater urbanization but failing to address structural causes of migration: an agrarian crisis, drought and floods, a lack of jobs in rural areas and failed land reform.

Scholars also highlighted that people must be the focus of government intervention, not technology. Technology development is very important and can bring about positive changes, but they should be based on an integrated approach rather than an apparently exclusive platform.

The smart city mission requires each city to create a Special Purpose Vehicle (SPV) under the Companies Act 2013. This is a limited liability company that manages the implementation of mission-based projects. This SPV plans, evaluates, approves, and releases funding to further implement, manage, operate, monitor, and evaluate smart city development projects in the cities involved (Kummitha, 2019). Due to the lack of know-how and resources in the existing Urban Local Governments (ULGs), it is possible under an alibi to ensure the implementation of the programme. Therefore, SPVs are given tremendous power under the SCM, which was originally (constitutionally) the "rights and obligations" of the local bodies. The SPV, which is clearly harmless and even said to be useful to the city's administration, is in direct conflict with the 74th Constitutional Amendment Act, which transfers planning and management functions to ULG. Ambiguous relationships between elected institutions and SPVs further complicate matters, as SPVs are usually run by state-level officials who run the show (Sandhir, 2016). This is the exact opposite of the SCM's goal of "strengthening local governments." So, the next section tries to capture the transformation of New Town Kolkata and the non-adherence of SCM.

Shifts from Smart to Green City Mission: Case of New Town Kolkata

New Town Kolkata is a planned newly developed satellite city on the north-eastern fringes of Kolkata. The city is of 13 years old, being born with the enactment of the New Town Kolkata Development Authority (NKDA) Act in 2009. The

township project was officially announced by the government of West Bengal on the 1st June 1995. To accommodate the population growth in the Kolkata Metropolitan Area (KMA), the State Government conceived development of the New Town Project (NTP) at Rajarhat in the early nineties to provide land for construction of houses for population of 7.50 lakhs for all income groups with emphasis on housing for economically weaker sections and lower income groups as well as developing a new Business Centre. After the announcement of SMC in 2014, the state government submitted a proposal to the centre to declare New Town Kolkata as a 'Smart Green City'. For this purpose, NKDA submitted a 16 point initiative including a vehicletracking system for solid waste management. It is also worthwhile to remember that the United Progressive Alliance (UPA) Government at the centre declared this town as 'solar city' (Chakrobarty, 2014).

The vision statement for the smart city project of New Town Kolkata highlights that "New Town Kolkata – a future ready global services hub attracting the best talent with a fine work-life balance" (Ministry of Urban Development, 2016). It's apparent that New Town Kolkata is projected as a global business center to attract the global capital and compete with other cities. Citizen feedback reveals that walkability and transport are the main areas of intervention, followed by safety & security, the economy and employment and water. The lack of adequate job opportunities for the residents or future property owners of New Town Kolkata is one of the main issues highlighted by the citizens.

New Town Kolkata is one of the eastern peri-urban planned towns where villages along the boundary still exist, since only agricultural land has been acquired for this project. This paper tries to analyze the socio-economic condition of those villages and settlements existing in and along the boundary of the 'smart city' New Town Kolkata. It also takes into

account the life of the people living in those spaces. Socio-economic census data has been used for the analysis as well as some case studies presented to show the reality of the people living in and around the so-called 'smart city'.

From the overview of the Figure 1, it's evident that land procured for the project was in two ways, i.e. direct acquiring and purchase from the land owner. It is relevant here because this town is at its inception stage and the smart city mission projected the mission as 'inclusive'. Therefore, a narrative of inclusivity can be easily caught through the lens of different stakeholders living in and around this so-called smart space. These *mouzas* are under the

jurisdiction of four Gram Panchayats, namely Chandpur, Jangrahatiara-II, Patharghata and Rajarhat-Bishnupur II. There are total of 32 villages under these three *Gram Panchayat*. Out of 32 villages, land was procured from the 15 villages. People of these villages have given their agricultural land for the development of the township project.

Socio-Economic Transformation and its Implications

Economic and social changes in the second half of the 20th Century transformed the nature of the countryside. Aspects such as peri-urbanization,

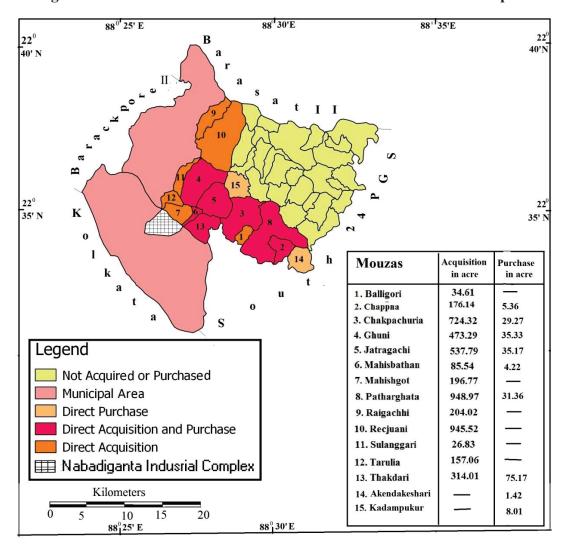


Figure 1: New Town Kolkata Land Procurement and its Surround Space

peri-urban agriculture, urban expansion and associated areas and environmental transformation become fundamental core in the urban studies. Due to such transformation, peri-urban people are encountering a complex situation because of the degradation of their activity and the transformation of their peasant condition. This is one face of the New Rurality characterized by the unequal access and use of urban-rural peripheral spaces (Ávila-Sánchez, 2011). Aguilar (2006) explains the process and timing of rapid changes in the periurban areas of a city compared to the other areas of the city. Huge constructions transform completely peripheral areas due to its magnitude: transport infrastructure, vast housing developments (formal and informal), the emergence of industrial sites and corporate business management impact and change the use of large portions of agricultural land and its productive pattern. However, very few papers investigate the socio-economic as well as environmental challenges encounters by the peri urban areas in the context of a smart city. This section of the paper argues that though there is a change in the peri-urban economy, the income and unequal access to material resources are remarkable.

The Indian Socio-economic Census 2011 has created four categories of household in rural and urban areas. These categories are based on some indicators1 proposed mainly for different government schemes, like the National Social Assistance Programme (NSAP). These categories excluded households, included households, deprived households and zero deprived households. From these categories, a glimpses of rural household status can be depicted. Villages in and around the New Town Kolkata can be looked at from this perspective. Figure 2 shows the different categories of household. Among the four gram panchayats, Jangrahatiara-II has the maximum number of households, followed by Rajarhat-Bishnupur II, Chandpur and Patharghata respectively.

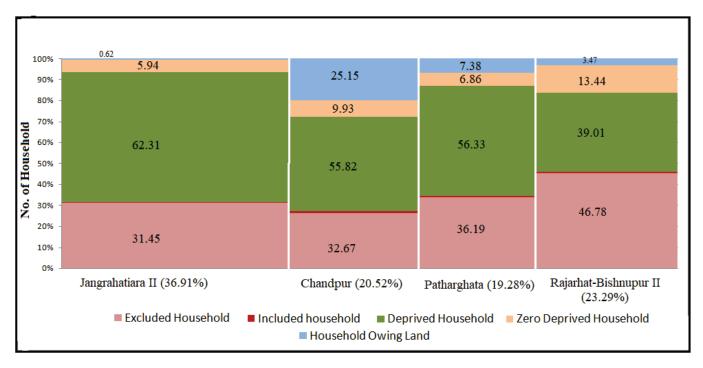


Figure 2: Types of Household in and around New Town Kolkata

Source: Socio Economic and Caste Census, 2011

From the overview of Figure 2, it's apparent that there are a large number of households under the deprived category. Jangrahatiara II Gram Panchayat has more than 62 percent of households in the deprived group, followed by Patharghata (56.33%) and Chandpur (55.82%) while Rajarhat-Bishnupur II (39.01) Gram Panchayat has the lowest number of deprived category household. Jagrahatiara has a 50.48 percent landless household and it is the highest among the four Gram Panchayat. Patharghata and Chandpur have 46.86 percent and 40.87 percent landless households respectively. Rajarhat-Bishnupur II Gram Panchayat has 31.92 percent landless households. This implies that these landless households are deriving a major part of their income from manual casual labour in the smart city. Broadly, the main source of household income of these Gram *Panchayats* is categorized into seven types.

From Table 1, it is very clear that most households are engaged in manual casual labour and very few

households have been able to develop a nonagricultural own account enterprise. At Patharghata, the number of households engaged as manual casual labour is 61.08. In Jangrahatiara and Chandpur, the percentage of households engaged as manual casual labour is 58.36 and 53.31 respectively. In Rajarhat-Bishnupur II Gram Panchayat, the lowest number (39.64) of households engaged as manual casual labour. Households engaged as part-time or full-time domestic service range from 2.52 to 4.75 percent. This is because the township is still not fully populated as expected in the policy documents. Therefore, demand for domestic service is very low in the township. Apart from this, a large number of households engaged in other activities which are miscellaneous in character.

Descriptive statistics of economic activities further reveal so many things about the nature of job availability and people's engagement in different jobs.

Table 1: Households involved in different Types of Activities

Types of Work	Jangrahatiara-II	Chandpur	Pathargahata	Rajarhat-Bishnupur I
Cultivation	0.41	15.00	5.40	1.24
Manual Casual Labour	58.36	53.31	61.08	39.64
Part-time or Full-Time Domestic Service	3.08	2.52	3.38	4.75
Foraging Rag Picking	0.06	0.40	0.41	0.10
Non-agricultural Own Account Enterprise	3.52	2.31	5.81	9.44
Begging/Charity/ Alms collection	0.37	1.70	0.93	0.95
Others	34.20	24.75	23.00	43.87
Total Household	12135	6747	6339	7659

Source: Socio Economic and Caste Census, 2011

Table 2: Descriptive Statistics of Labor Force Employed in Selected Activities

Economic Activities	Mean	SD	CV	Median	UQ	LQ	Minimal
Cultivation	46.84	58.89	125.71	25.50	59.00	5.75	2.00
Manual Casual Labour	549.59	583.21	106.12	383.50	665.75	215.00	79.00
Part-time or Full- Time Domestic Service	35.06	39.06	111.41	19.00	67.50	6.75	0.00
Foraging Rag Picking	2.13	3.27	153.89	0.50	2.50	0.00	0.00
Non-agricultural Own Account Enterprise	52.31	81.18	155.19	19.50	62.25	1.00	0.00
Begging/Charity/ Alms collection	9.13	7.41	81.24	7.00	12.25	5.00	0.00
Others	332.44	405.26	121.90	186.50	366.00	77.25	20.00

Source: Socio Economic and Caste Census, 2011

The median values for all seven economic activities indicate the median occupational structure of all the villages in and around the township. Moreover, it also shows that the highest number of median workers are engaged as Manual Casual Labour. The minimal value for each economic activity is the smallest number of persons employed in that group in any village; it might be assumed that this is the minimal number of workers in each occupation group required to make a village viable.

Households' monthly income also reflects the economic conditions of the landscape. In Patharghata and Chandpur *Gram Panchayat*, more than 80 percent of households', monthly income is less than 5000. In the case of Jangrahatiara II, more than 69 percent of household income is less than 5000 and in Rajarhat-Bishnupur I, more than 62 percent of households' income is less than 5000.

Table 3: Households Monthly Income

Gram Panchayat	Less than Rs. 5,000	5,000 -10,000	More than Rs. 10,000
Jangrahatiara-II	69.54	18.61	11.84
Chandpur	82.15	13.07	4.77
Pathargahata	84.28	12.16	3.54
Rajarhat-Bishnupur I	62.64	23.18	14.16
Total Household	12135	6747	6339

Source: Socio Economic and Caste Census, 2011

Table 4: Educational Scenario of the Villages

Category	Jangrahatiara-II	Chandpur	Pathargahata	Rajarhat-Bishnupur I
Illiterate	19.92	22.16	25.83	17.06
Below Primary	14.34	7.53	13.70	9.69
Primary	25.78	28.73	26.73	20.84
Middle	20.24	25.83	19.96	24.93
Secondary	8.79	8.25	7.83	11.53
Higher Secondary	4.34	4.03	3.46	6.97
Graduate or Above	6.01	3.34	2.29	8.03
Other	0.57	0.14	0.20	0.95

Source: Socio Economic and Caste Census, 2011

In Jangrahatiara-II and Rajarhat-Bishnupur I, more than 10 percent of households earn more than 10,000 rupees monthly. In Chandpur and Patharghata, only 4 and 3 percent of households earn more than Rs. 10,000 per month respectively. Table 3 clearly reflects that from the time of inception, it has failed to provide not only jobs but also adequate income to the people who live close to the 'smart space' despite the city being projected as a 'global business centre'. In addition, the persistence of cultivation and casual labour in agricultural fields in the peri-urban interface, as an expression of the *New Rurality*, which reflects a territorial relationship between cities and their immediate rural surroundings.

One of the possible arguments for lack of jobs and employability would be lack of education, skill and training of the village population. This can be seen through Table 4. Education is one of the essential components to being part of the smart city as the various solutions are 'technology based'. Therefore, education is the utmost requirement.

From the above Table 4, it is evident that more than 80 percent of the population of the each Gram Panchayat do not have secondary and above educational qualification. This makes people incompetent for higher paid jobs which are supposed to be available in the smart city. However, it is important to highlight that occupational diversification in the smart city is less, which reflected from the occupational engagement of the people. Therefore, a policy of territorial intervention is in and around cities in the context of diversity (with tertiary activities, productive, educational, and recreational or ecotourism and environmental protection) that minimizes the adverse effects of urbanization and consumption of urban agricultural products. Agriculture should be

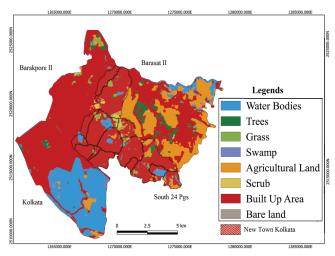
promoted. It is important, this activity, which deviates from traditional agriculture, needs to be integrated into the territorial public policy. Its practice should be promoted as an alternative to poverty reduction and as a contribution to community development. Bellet and Llop (2000) identify four services that urban centers offer to their rural surroundings: (i) specialized goods and services; (ii) greater social, economic and cultural interaction; (iii) links to infrastructure networks that connect local communities with regional, national, and international communities; and (iv) public and government administration services through which local demands and needs can be channeled. Satterthwaite and Tacoli (2006) propose four functions that can contribute to the development of rural areas where small and medium-sized cities are closely related. They are: (a) markets of agricultural products; (b) production and distribution centers of goods and services; (c) centers for non-agricultural rural job growth and its consolidation; and (d) attraction centers for rural migrants. They also added that the contribution of these functions to social inclusive growth depends on existing social and economic structures in both urban and rural environments, their power relations and development strategies at the national level (Satterthwaite and Tacoli, 2006).

Ecological Concerns over Township Creation

This section throws a light on the changing land uses and ecological consequences encountered by the people of Rajarhat and New Town in particular. Conversion of agricultural land into urban land did not only bring economic change but also brought paramount environmental change. Environmental change includes the vanishing of agriculture and wetland ecosystems as a substantial part of the *mouza* were under wetland and ecosystem. Ecosystem services that the villagers used are at stake now. Not only has the acquired land been transformed, but the area which is not acquired is also transformed for the development of housing

enclaves. Dhar et.al. (2019) studied the land surface temperature change due to change in the landuse in Rajarhat block under which New Town Kolkata and surrounding villages are located. They find out that from 1990 to 2016: 13 km² of vegetation cover lost due to urbanization; 9.3 km² of open land converted to agricultural land and open fields/parks; 1.4 km² of aquaculture ponds converted to tree cover/scrublands and 1.45 km² of lakes/ponds filled up. Furthermore, due to this change in land-use pattern over 26 years, Land Surface Temperature has increased by 0.94°C. The urban-heat-island (UHI) phenomenon has also increased. The following Map 1 shows that there are still a few patches of agricultural land that exists outside the smart city New Town Kolkata. Likewise, only a few artificially created large water bodies exist within the township.

Map 1: Land Use and Land Cover of Rajarhat Block



Source: Reproduced by author from ESRI land use map 2020

It is to be noted that most of the converted agricultural land within and outside the juridical boundary of New Town Kolkata are now transformed into several housing estate like Sanjeeva Orchard, Sukhobrishti Township, Unitech Uniworld, etc. For example, in Thakdari mouza, apart from the East Kolkata Wetland² (EKW) area (35.60 acre approximately) within the

village, mouza had 1.62 acre wetland area and two big Beels are there, whose size is 0.69 acre and 0.11 acre. Out of 1.62 acres of wetland in the village, 0.7 acres of land has been directly purchased by WBHIDCO for the New Township Project (Government of West Bengal, 2013). In total ten ponds and two small water bodies compare to a pond i.e. doba has been filled up for purposes (Karmakar, 2015). However, for the permission of any project, the state government created a legal body called State Level Expert Appraisal Committee (SEAC) and they look at the various aspects of the project including the environmental aspects. The Committee proposes some stipulated conditions for environmental clearance as per the provision of Environmental Impact Assessment Notification 2006 and the subsequent amendments like water bodies, if any, should not be lined and their embankments should not be cemented. The water bodies are to be kept in natural conditions without disturbing the ecological habitat. No existing water body, if any, should be encroached/relocated/reshaped without prior permission of competent authorities and the unit should strictly abide by The West Bengal Trees (Protection and Conservation in Non Forest Areas) Rules, 2007. The proponent should undertake plantation of trees over at least 20% of the total area. No trees can be felled without prior permission from the Tree Cutting Authority constituted as per the West Bengal Trees (Protection and Conservation in Non Forest Areas) Act, 2006 and subsequent rules (GoWB, 2012). It is worthwhile to mention that these laws are applicable within the boundary of New Township, but outside the boundary, especially in peripheral villages, various housing enclaves are formed ignoring such environmental concerns.

Non-adherence to the National SCM and the Floating of the Green City Plan

As noted earlier, New Town Kolkata is recently developed major planned satellite township located

in the peri-urban areas of Kolkata which participated in the smart city mission competition in 2014. Out of three stages of the competition, New Town Kolkata participated in two stages. In fact, they also organized a programme for stakeholder engagement. But In the month of August 2016, the state government rejected the smart city project and decided to develop selected cities along the line of its own 'Green City Project' (Ghosal, 2016). According to government officials, there are two reasons for this move. The primary reason is the "skewed nature of investment from the State and the Centre" and the second reason is the mandatory collection of water taxes in smart cities (Financial Express, 2016).

Components of the Green City Plan in comparison to SCM

After denouncing SCM, the Government of West Bengal introduced Green City Mission (GCM) in the State. The two objectives of the GCM are to build an 'environmentally friendly, sustainable, livable, an energy positive, safe city' as well as to focus on the 'creation of jobs and affordable housing for the poor'. The component of the programme includes greening, bluing and cleaning the city, building an energy positive, safe, secure, technology-efficient city (GoWB, 2017). Moreover, they also focused on livelihood generation programmes as well as innovation efforts. Under the greening plan of the city, they stressed projects like urban afforestation, park creation and plantation along the medians of the road. In the case of the bluing plan, they focused on conservation of water bodies, waterfront development and water-based recreation. The concept of an energy positive city is visualized through installation of LED lights and incentives for green buildings. They emphasized batteryoperated vehicles and eco-friendly parking space as well as CCTV installation at important locations under the programme.

Initially, the state government invested Rs.650 crores in GCM (Laha Roy, 2017). It was decided that Rs.50 lakhs each for all the 125 Urban Local Bodies (ULBs) will be allotted (Ghosal, 2016). On July 25th 2018, the Government of West Bengal informed the assembly that they spent Rs.1372 crores (Business Standard, 2018). Since the start of the Green City mission, up to 3109 projects have been approved at an estimated cost of Rs.1605.89 crores. Of these, Rs.806.45 crores were released to ULB authorities primarily in the areas of LED street lights, high mast lighting, water body restoration, green space development, and various projects such as seating arrangements, bus stops, communal toilets, and water ATM. etc

There are some basic differences between GCM and SCM. SMC proposed and tried to set up a new ad hoc structure within the ULB to implement the programme which is termed as 'extralegal' body by the various stakeholders. On the contrary, GCM relies on the existing ULB's elected representatives for implementation of the programme. Moreover, smart cities focused on area-based development programmes, while, green city mission stressed city wide project development and implementation.

Conclusion

This paper made an attempt to understand the challenges and concerns faced by the smart city mission in India. The SCM is still running, but policy-makers and scholars raised some crucial questions regarding the fulfillment of the purpose of the projects. Smart cities have been separated from the reality and needs of people's lives and have finally been packed with "development" rhetoric. The Peri-urban interface of New Town Kolkata shows that the area has been ecologically and economically transformed but it produces unequal access of resources and spaces in the townships. Moreover, lack of education among the peri-urban population created limited access to job market. After the rejection of the SCM, New Town Kolkata adopted the green city mission, but since the mission is not directly linked with any livelihood mission as a result, it did not produce any job opportunities for people in peri-urban interface, who lost their livelihood due to the transformation of space. Therefore, there is a difference between the existing reality and the visualization of the programme.

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Impact of COVID-19 on Urban-Rural Dynamics

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"In every adversity lies the seed of an equal or greater opportunity."

~ Napoleon Hill

Introduction

While cities have existed since the Mesopotamian civilisation, urban cities, as we know them today, started developing during the 18th century Industrial Revolution. Since then, the world has weathered countless storms, including two World Wars, over 40,000 natural disasters and innumerable sociopolitical problems. Through all this turmoil, urbanisation has stood its ground, with the percentage of global population living in urban areas consistently increasing since 1920.1 However, the COVID-19 pandemic could disrupt this trend. While we were already getting increasingly dependent on screens for various services, the pandemic has accelerated this process. Our devices have transformed into workplaces, restaurants, shopping malls, cinemas, and doctor's clinics, that we can easily access from the comfort of our homes. Various pandemic-induced behavioural changes could reduce the pace of urbanisation in the long-term, with urban cores decongesting and acceleration of growth in towns and the countryside.

Remote Work & Online Learning

Since the Industrial Revolution, cities have been centres of economic activity due to high productivity. This stems from the 'Growth Poles' theory, which suggests that growth occurs around a specific region because the concentration of businesses gives rise to external economies of scale

and allows economic interactions to occur more frequently and efficiently.² A major appeal of urban cores is the opportunity to earn higher wages, as reflected in immigration data for global metropolises like Sydney, London, and Tokyo, which attracted 46,000, 229,000 and 76,000 domestic immigrants respectively in 2016.³, ⁴, ⁵ However, social and technological developments during the pandemic have challenged this. Increased prevalence of work-from-home could spur decongestion of urban cores, and technological development can help rural regions circumvent their remoteness to markets. Remote work is not temporary, and 99% of remote workers wish to continue telecommuting to some extent after the pandemic.⁶ The attraction of greater productivity in urban cores is dwindling as remote work is proving to be more efficient in several industries. A report by Owl Labs found that remote work raises productivity by 47% due to fewer breaks, sick days, and distractions in the work environment.⁷. Today, 55% of firms globally offer some capacity for remote work, and large multinational companies like Twitter, Apple, and Tata Steel offer permanent work-from- home options. 6 Consequently, expenditure on offices has significantly fallen, and 12% of offices globally are vacant, up from 8% before the pandemic.8 As businesses become increasingly digitised and adopt distributed production processes, the need for physical proximity is waning, especially for white-collar workers. Hence, these workers do not need to be concentrated in urban cores anymore, and rural areas will likely become more competitive and attractive for businesses and employees alike. However, work-from-home is a privilege that most blue-collar workers do not enjoy, and this shift may not be feasible for them.

Better education in cities is a major driver of urbanisation and contributes towards congestion of urban cores. 2017 study in China discovered that better educational infrastructure attracts a larger number of rural students to urban cities. However, online education, which had a breakthrough during the pandemic as an alternative to physical school, is likely to gain widespread acceptance as a complimentary tool to traditional schooling in the long run and can help bridge the education divide between rural and urban areas. According to UNESCO, hybrid education, comprising online and offline teaching, is expected to be a popular mode of education post-pandemic in over 180 countries. 10 It provides greater flexibility, more active classroom engagement and is cost-efficient. The EdTech sector has grown exponentially, having raised over \$10 billion in venture capital investment globally in the past 2 years, which revalidates the long-term prospects for online learning. 10 E-learning is democratising education and allowing students in rural areas to have remote access to a similar quality of education that urban students receive. Additionally, access to good quality online courses in the countryside allows workers to up-skill themselves and improve productivity.

Health, Hygiene & Housing

People have become more sensitive to issues of hygiene and sanitation, which are difficult to resolve in cities given their dense populations. Globally, the average population density for urban areas is 1143 persons/km2, significantly higher than the estimated optimum population density for

a city, 300 persons/km2. 11, 12, 13. Hence, cities found it more difficult to contain COVID-19 and maintain reasonable living standards for low-income groups during stringent lockdowns (while a universal optimal population density is difficult to accurately determine, the large difference between the two explains why cities find it difficult to maintain healthy living standards for their entire population). The pandemic has exposed pre-existing vulnerabilities like pollution, congestion, and inadequate housing infrastructure in today's urban cores. As urban residents become more aware of these shortcomings, they may become inclined to move to the countryside.

The pandemic has made people more conscious about health, and demand for open spaces has substantially increased. Habits like cycling and walking have become more popular. These practices require green expanses, which are scarce in most urban cores. Moreover, there has been increased in mental health awareness, especially due to elongated isolation periods in lockdowns. Urban residents looking for a permanent escape from busy city life could choose to shift to the calmer countryside. According to a series of Gallup surveys, while the percentage of Americans preferring to live in the countryside rather than urban areas was consistently decreasing until 2018, the pandemic disturbed this trend. Within two years, preference for rural areas shot up from 39% to 48%. 14

Frequent lockdowns have made homeowners recognise the importance of integrating outdoor living spaces like patios and backyards in their houses. In 2021, which was termed 'Year of the Yard' by the International Casual Furnishings Association, the number of people buying outdoor furniture increased from 23% to 58%. Such open spaces are difficult to find in cities at an affordable price.

Since remote work and online learning have become commonplace, demand for home offices and study-rooms has increased. According to real estate firm square yards, a home office will become a requirement for 48% of house-buyers post-pandemic, leading to a long-term increase in demand for larger houses. ¹⁶ Since larger houses are not as common and affordable in urban cores, many are choosing to migrate to the suburbs or countryside. In fact, housing markets in dense urban cores in the US like New York City and San Francisco are already showing evidence of the 'Donut Effect', wherein rents in inner cities are on the decline, while value of suburban real estate is rising. ¹⁷

Entertainment

The appeal of city life also entails easier access to goods and services, entertainment and leisure amenities. However, the pandemic has digitised these aspects to a large extent, which makes them more accessible in the countryside and may partially reduce cities' charm.

The ecommerce industry has grown exponentially during the pandemic, and will continue to do so in the future, with projections showing ecommerce being responsible for 25% of total sales by 2025. 18 Ecommerce satisfies consumers' growing demands for personalisation, convenience, and flexibility of choice. Even when almost all COVID restrictions were lifted in UK in August 2021, high street sales fell by 3.7% against the previous month while online sales rose by 1.5%. 19 While, historically, the access to goods and services in the countryside has been limited, ecommerce is now penetrating rural areas rapidly. For example, the consumer durables sector in India saw faster post-lockdown recovery in Tier 3-4 cities (rural) compared to Tier 1-2 markets (urban), driven largely by easy access to goods on ecommerce platforms. ²⁰ Due to the greater prevalence of ecommerce, companies are investing heavily on strengthening their e-stores which allows consumers to get similar access to goods and services in the countryside compared to urban cores.

The exponential growth of cloud kitchen and food delivery services during the pandemic makes diverse food options more accessible in the countryside. By 2024, the cloud kitchen industry is expected to expand by 750%, significantly larger than the 10% growth forecasted for the brick-andmortar restaurant industry. Physical restaurants cater to a limited catchment area while cloud kitchens have the potential to serve much larger geographical areas driven by proliferation in delivery services. Rebel Foods, India's largest cloud kitchen company, saw higher demand from small towns as compared to metropolitan cities during the second COVID-19 wave. It motivated the company to open more cloud kitchens in smaller towns like Ludhiana and Patna.²¹ Such measures trigger a virtuous cycle of opportunities for the residents in smaller towns, and they may not feel as deprived of the perceived attractions of urban cores.

The pandemic has leapfrogged the growth of digital entertainment options that are omnipresent and not just confined to cities. Over-the-top (OTT) platforms like Netflix and Amazon Prime became household staples during lockdown. In 2020, Netflix gained a record 15.8 million new subscribers.²² While the end of the pandemic will certainly reduce content consumption, OTT platforms will continue to be a part of our everyday lives. These platforms have high six-month customer retention rates, with Disney+ and Netflix observing 78% and 74% respectively.²³

While OTT platforms will not necessarily replace cinemas and other entertainment options available in urban cores, they provide a viable source of entertainment for rural residents.

High streets have been a defining feature of urban cores, whether it is New York City's Fifth Avenue,

London's Bond Street or Paris' Avenue Montaigne. However, the emergence of ecommerce, cloud kitchen services and OTT platforms could pose a threat to their hegemony.

Increased Attractiveness of the Countryside

The pandemic has created a tailwind for the countryside to capitalise on opportunities in local manufacturing and domestic tourism. The government is also playing a key role in creating an enabling environment for growth and employment in rural areas.

Due to globalisation, firms and economies have become more interdependent. A crisis in one country can have devastating impact on other economies and lead to supply-chain disruptions. The COVID-19 pandemic brought this issue to the forefront, with disruptions like the global chip shortage. It has triggered discussions in various countries to restore and repatriate strategic industries to maintain strategic and economic autonomy. In March 2021, EU implemented policies that partially localised their supply chain production. Such measures have the potential to revive the rural areas that accommodate these industries.²⁴

The pandemic-induced restrictions on foreign travel have caused an increase in demand for domestic tourism, which often involves countryside destinations. The largest polish cities, which largely host international tourists, were affected much more by the pandemic relative to the smaller cities, which attract domestic tourists.²⁵ Furthermore, given the greater importance of health and hygiene after the pandemic, foreign tourists are becoming inclined towards visiting rural, decongested regions rather than overcrowded tourist hotspots. In Spain, rural economies during the COVID-19 pandemic experienced a much smaller loss in international tourism-related business as compared to urban destinations like Madrid and Barcelona.²⁶

Governments are attempting to capitalise on this increase in demand for rural tourism. The Italian Government is promoting tourism in the Veneto region, a largely rural area with several less-known UNESCO heritage sites.²⁷ If tourism is successfully boosted in rural areas, it could create several ancillary industries like hotels, restaurants, travel insurance, among others.

Most governments around the world have doled out stimulus packages to help the economy recover from the pandemic. If the stimulus money is effectively channelized, it could retain the migrants arriving from the city and create lasting growth in rural economies. Using the stimulus to improve public infrastructure helps alleviate living standards and create a more conducive business environment in rural areas. For example, hundreds of thousands of migrant labourers flocked to India's rural states in the pandemic's first wave. Five of these Indian states expedited 25 public infrastructure projects to increase employment opportunities.²⁸ As a result, over 10% of blue-collar migrant workers preferred to stay back with their families and take up local jobs, even after COVID restrictions were eased.²⁹.Many countries are building stable broadband connection in the countryside. As part of their stimulus package, the New Zealand Government allocated \$15 million in upgrading existing mobile towers in rural areas.³⁰ The Spanish Government launched a similar program where it subsidises projects that enhance internet connectivity in small towns.³¹ Such initiatives create a favourable environment for employment in the countryside, thereby diminishing the appeal of urban cores.

Governments have an incentive to decongest urban cores as it is more environmentally sustainable. The energy consumption patterns of urban residents are significantly higher, relative to that of people in the countryside. In China, coal consumption per capita is 30% more in urban areas than in the countryside. Spreading out the population more

evenly across the country's territory could help governments meet sustainability goals more easily.

Lessons from History

Long-term decongestion of urban cores after epidemics has been witnessed in the past as well. Over 50 years after the 1918 Influenza Epidemic, Inner London, an urban core with dense population and high economic activity, saw a population decline from 4.5 million to 3 million and its density reduced by 34%. On the other hand, Outer Boroughs, London's suburban and countryside area, saw an increase in population from 2.9 million to 4.4 million and a 61% rise in density. Similar decongestion in urban cores was seen in Manhattan and Paris, whose populations reduced by 40% and 20% respectively. Hold the epidemic may not have been the sole reason behind decongestion, it was likely a major factor.

A study about London after the 19th century cholera outbreak found a strong correlation between the number of disease-related deaths in a neighbourhood and the likelihood of its residents leaving the neighbourhood. The deaths acted as negative externalities on neighbours. Moreover, the worst-affected neighbourhoods saw significantly lower house prices for the next decade.³⁶ Urban areas have borne the brunt of the

COVID-19 pandemic and have been responsible for 90% of cases, according to the UN.³⁷ If a similar experience were to play out again, urban cores could, like the worst-affected neighbourhoods in the cholera outbreak, see long-term decongestion.

Conclusion

When we think of COVID-19, the words that come to mind are 'viruses, 'lockdown', and 'quarantine'. However, this period has been a catalyst, making drastic consumer behavioural changes that would have otherwise taken decades to manifest. It has been a pause button, slowing down urban cores and exposing their inadequacies. It is an opportunity, allowing governments to promote rural growth and pursue equitable development in an environmentally sustainable manner. Historically, governments and businesses have relied on urban cores to stimulate economic activity. However, the pandemic allows for more inclusive and broadbased development of the countryside, which can eventually transform these regions into 'urban' areas, in terms of industry structure, employment and quality of life. Therefore, the decongestion of urban cores does not necessarily translate into more people living in the countryside. Instead, we could see a more balanced and equitable distribution of economic activity and population density across a more expanded urban area.

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An Intersectional Gendered Discourse on Empowerment During Pre and Post COVID-19 Pandemic¹

Book Review

Reviewed by Dr. Narayan Barman, Research Assistant, Institute for Rural Management, Anand, Gujarat.

Intersectionality is an important feature of the Indian labour market, where the labour markets are segmented upon caste, gender, region types of workers and the contractual arrangement. There is a very small segment of workers with greater access to high quality work with legal social security called organized sectors, the largest share (92%) of workers dominated in low quality, less stable and insecure work, without social security benefit on the other hand known as unorganized sectors. Although both types of workers are effected by the COVID-19 induced pandemic but the severe and devastating effects have been mainly on unorganized workers including migrant workers and women. Therefore, in this book the author Dr. Vibhuti Patel brought a cross-sectional gender discourse on prior and post outbreak of the pandemic and also advocates the policy interventions for the economic inclusion of the socially oppressed sections of the society.

In chapter 1, titled, 'Gender Equality and Youth Development with regard to SDG 5' the author examined the status of women in India in light of the Sustainable Development Goals and discovered that while India has made significant progress in areas such as sex ratio, education, and reproductive health, there is still a large gender disparity at the inter-regional and inter-sectional level. The author also review different governmental programmes and initiative like smart cities and commented that with smart governance, the government must assured the safety measure, particularly for women

because of high chances of gender abuse. In a patriarchal society where different tasks are predetermined by gender biased system, the physical and mental exploitation of women are more intensified during the COVID-19 health emergency period. During the Lockdown period the women migrant workers, care workers and other unorganized workers like women agricultural workers faced the tremendous hurdle at their daily life due to unavailability of the basic commodities. Gender based violence has become another shadow pandemic of the society in this time, according to the author. And because of the inadequacy of the policy implementation for women's protection, this pandemic is becoming more severe. In different economic year the government approved the budgetary allocation for overall women's safety but due to complexity of the mechanism the fund is largely unutilized, several gender responsive schemes initiated by the state to enhance the women empowerment and opportunities in the society, but again it's failed to reach the goal due to gender biases Thus the author ultimately keeps her trust to the youth of society to develop a gender sensitive society to reach the Sustainable Development Goal.

In the chapter 2, titled, 'School Education for Gender Justice', the author critically analyses how the 5000 years old patriarchal value system tied the women in a system of subordination. Where even women ownself feel apologize for giving the birth of girl child. Thus the writer in this chapter strongly

recommended for gender sensitization to abolish the traditional gender stereotypes socialization. She also noted that gender sensitization must begin at home, and that education will be the primary tool for eliminating all forms of gender prejudices.

In terms of achieving the Sustainable Development, the target and present situation has assessed in the chapter 3, titled, 'SDG 8: Descent Work and Economic Growth'. The neo-economic reform leads the organized labour market into more unorganized forms, while maximum concentration of women workers has found and their livelihood entirely depends upon tiny income which is not able to accomplish the minimum living standard. The neo-liberal economic system also accentuated the inequality among poor and rich, the rich capitalist peoples getting richer day by day by higher exploitation of cheap labour of the informal sectors. On the other hand due to heavy casualization of labour and diluting the labour laws the informal workers, particularly women workers being faced the overwork in the work place which increased the livelihood burden of women. The gender biased innovation accelerate the gender division of labour and declined the women's work participation in last three decades, therefore, a large number of women lost their chance to upward mobility and empowerment. Due to casualization of the labour markets, the activity of labour organization also adversely affected, their ability of collective bargaining in support of workers interest also declined in last three decades. However within this transitional phase different labour organizations struggling for survival with focusing on informal sector's workers with their limited control. In this time, they are mainly emphasizing for basic work security of workers, their pension, minimum wage, pension and other facilities to make the work environment sustainable.

In the chapter 4, on 'Implications of COVID-19 Lockdown on the Informal Sector Women Workers in the Indian Economy', Dr. Patel articulated the hard struggle of migrant workers during COVID-

19 and subsequent lockdown period. In India, the migrant workers employed mainly in the unorganized sectors on the basis of daily wage earnings. Then the sudden lockdown pushed them into the extreme helpless condition. Due to lack of savings, shortage of food and others amenities, migrant workers forced to return to their native places by walking, the employers refrain to help during that emergency time. The author highlighted how several social organization such as Ghar Bachao Ghar Banao Andolan played an important role for the relief of these helpless needy migrant workers and from that point of view she advocates for some remedial emergency measures to make sustainable work culture and society.

During the lockdown period, when the workers needed more fiscal stimuli and constitutional labour protection, there are several states of India brought the labour insensitive ordinance to attract the investment and entrepreneur by abolishing/diluting the national labour laws. This may effects adversely to the highly segmented Indian labour market where 92 percent of the workforce is engaged in informal sectors. Consequently the author assessed the relation between new labour code and probable workers' security in the chapter 5, titled, 'Impact of Labour Codes on Descent work for Women Workers'. The author cautioned that women workers who are mostly participate in the informal sectors already struggling with lack of their livelihood insecurity, will be more an object for super exploitation by this new labour code, especially when the women work are highly segmented into paid and unpaid work. The author presents a broader picture of casual workers, working in unhealthy environment which effect in their physical and mental health. Apart from that they are deprived from basic entitlements like insurance, employee provident fund and other facilities.

In Chapter 6, titled, 'Women's Human Right in the Changing World of Work Women's Collective Action in the Asia-Pacific Region' disseminated

how the women workforce adjusted with the changing labour economy. The neo-liberal stabilization policies drastically reduced the state's contribution and responsibility regarding the welfare of the workforce, particularly to the unorganized workers. In this chapter, Dr. Patel also shows how the globalized economic system uphold the women and their work as exploitative goods. And also highlighted the emerging women's issues like unequal wage, land rights, technological advancement from the Asia-Pacific context. The pro-workers, pro-women voices which raising the issues relating the work, workers in East Asia, South East Asia, and South-Asia and several times their initiatives abled to accomplished the workers interest, this paradigm also explained in the chapter.

Chapter 7, on 'Gender Differential Impact of COVID-19 on Urban India' revealed the partial and discriminative impact of COVID-19 on women and girl child. Due to overwhelming contribution of women in household's unpaid and care-based activities during the pandemic period, most of the responsibility and work related to family maintaining disproportionally came to women's shoulder. The migrant women and their family forced to leave their rented house and destination place without compensation. They faced starvation, and treated by inhuman behavior by the house owner and administration, in those days due to shortage of essential commodities, the women home maker challenged tremendous difficulties. The women care workers viz. nurses are facing the critical shortage of medical equipment like COVID testing kit, PPE, which make the women worker's life vulnerable. On the other hand, because of consecutive lockdown the learning system has shifted in online mode where the girl child witnessed the discrimination which made the gender digital divide in education system. Consequently, to bring down the inequality among genders the author tried to find out the suitable critical measures in this chapter.

Chapter 8, titled, 'Gender Implications of COVID-19 Pandemic and Challenges for Community Interventions' is a brief account to frame out the community intervention during pandemic period. Different communities such as civil society organizations, NGOs and other volunteer organizations played an important role by providing free relief materials to needy poor and migrant workers during the lockdown period. They also coordinated with the government and other inter-organizational mechanism to curtail the difficulties of needy poor and migrant workers.

Chapter 9, dedicated to highlight the gender implication of COVID-19 and subsequent countrywide lockdown on informal sectors of India. Among the total workforce of Indian labour market, the informal workers constitute 92 percent and within which 60 percent are migrant workers and 25 percent women workers who lost their livelihood during lockdown and forced to survive with extreme poverty and helplessness. The author gave an explicit explanation about how the neoliberal economic decision makers were only concerned about middle and upper strata of the countries workers and expertly list out the largest group of informal workers from any kind of compensation and entitlements measure in the time of emergency when they needed it most.

About half of the population of India is women, but there is very little gender responsive initiative or policy existed in the society which can be accelerating the women's need. Therefore, in the chapter 10, titled, 'Evidence Based Inputs for Gender Responsive Participatory Budgeting in India'. The author firmly advocates to adopt the gender responsive budget for the economic inclusion of women, poor, and marginalised groups who living in the bottom of the economy and facing the hardship to fulfill the basic need by engaging in the informal work where they get the wage on daily basis. Thus, Dr. Patel incorporated all the marginalised and economically weaker sections of

the society like women, informal workers, so called lower caste people to bring them in the mainstream by adopting the proper gender responsive and inclusive budgeting in this chapter.

In the initial phase of the decade 2020-30, the world experienced the unexpected health emergency which has affected the world in multifaceted ways. Subsequently the society also adopted multidimensional measure to cope with it, which also brought many prospects, possibilities and generate different problems in the contemporary world system. The digital technology has made the daily life of the people easier in this time in one hand, and also helps to spread the hatred, racism, xenophobia, Islamophobia, bigotry on the other hand. The economically prosperous capitalist people are getting richer day by day and rest of the people struggling for their daily livelihood in the neoliberal economic system. So, in this chapter 11, titled, 'A Peep into the New Decade: Prospects, Possibilities, Problems'. The author brings out the whole scenario of contemporary post-COVID-19 development debate from the lens of interdimensional perspectives.

Chapter 12, titled, 'Let Us Build a Gender Inclusive Post-COVID-19 World'. Is an advocacy from the perspective of gender economist to make the gender-inclusive post-COVID world by implementing Gender responsive policy interventions. The authors also explain that the existing budgetary endowment is not adequate to reach the Sustainable Development Goals. Thus she put emphasis on adequate gender responsive budgeting and appropriate machinery to build a gender responsive new normal society.

From the initial phase of economic reform, Indian labour market witnessed the gradual shifting of labour market from organized to unorganized mode and observed a sharp fall of women participation in the labour market. Due to neo-liberal economic policy the production system has been centralized instead of decentralization. The village based

cottage industry have been destroyed and that place occupied by the big urban industrial hub in this period. Subsequently the rural poor, landless people, agricultural labourer migrate to the big cities for substitute employment. Likewise, due to lack of profit in agriculture the rural agrarian youth migrate to cities for better employment and earnings and left the women in farm sector which led the increase of work burden to women. On the other hand, because of exponential rising of COVID-19 infection, on 25 March 2020, Government of India imposed a nationwide lockdown which has led to mass destabilization of economy and society. Domestic migrant look into desperate measures to reach home mid the pandemic, they often long treks home were made in the most inhospitable conditions frequently with tragic results (Rajan & Bhagat, 2022). The poor migrant workers lost their employment overnight and forced to live with starvation and extreme uncertainty. Consequently, in this book Dr. Vibhuti Patel draws a intersectional line to examine gender discourse during pre and post COVID-19 pandemic from the gender lens, where especial attention have given to migrant workers of the country. In doing so, the author critically assess the response of the government initiatives and also recommended the suitable remedial measures which have remained untouched from the academic scrutiny. That is the reason this book is a must-read for academician, policy makers, workers, organizations, media persons, thinking youths, researcher dealing with the problem and challenges posed by unorganized workers, particularly women in pre and post COVID-19 period.

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ROUND & ABOUT

Mr. Fazalahmed Khan Advisor, AIILSG, Mumbai

National Action Plan for Mechanized Sanitation Ecosystem (NAMASTE)

Sanitation is the most happening sector in recent years. In this column over the years, various developments in the sector have been mentioned in relating to the sector. One such happening is removing stigma around the sanitation work has been removed. Now our sweeper or washman is no longer so: they are now housekeeping assistants. Latest development in this sector is the formulation of a scheme 'National Action Plan for Mechanized Sanitation Ecosystem (NAMASTE)'. The NAMASTE project is a joint project of the Ministry of Social Justice and Empowerment and the Ministry of Housing and Urban Affairs (MoHUA), Government of India (GoI). The project aims to achieve the following outcomes:

- a. Zero fatalities in sanitation work in India.
- b. All sanitation work to be performed by skilled workers.
- No sanitation workers should come in direct contact with human faecal matter.
- d. Sanitation workers are to be collectivized into SHGs and are empowered to run sanitation enterprises.
- e. All Sewer and Septic Tank Sanitation Workers (SSWs) have access to alternative livelihoods.
- f. Strengthened supervisory and monitoring systems at national, state and ULB levels to ensure enforcement and monitoring of safe sanitation work.
- g. Increased awareness amongst sanitation services seekers (individuals and institutions) to seek services from registered and skilled sanitation workers.

(Reference: The Ministry of Social Justice & Empowerment, press release. Posted on: 2 August 2022, 4:56 PM by PIB Delhi.)

Recycling of E-Waste-Present Status in Nutshell

Parliament Questions are the means by which the peoples' representatives elicit the information on important public matters. The information so given is most authentic. The replies given by the concerned Ministers in the House are made public through PIB, the media arm of the government, for public information. The reply given by the Minister of State for Environment, Forest & Climate Change, Shri. Ashwini Kumar Choubey in Lok Sabha is reproduced below in respect of the present status of Recycling of E-Waste in the country.

The Government has taken a number of steps to formalise the e-waste recycling sector of the country. The E-Waste (Management) Rules, 2016 provide for compulsory registration of the recycling units and Central Pollution Control Board (CPCB) has issued guidelines/Standard Operating Procedures (SoPs) for processing of e-waste. The CPCB and State Pollution Control Boards (SPCBs) have been monitoring the units and necessary steps have been taken to mainstream and modernize the recycling industry with the help of Ministry of Electronics and Information Technology.

The E-Waste (Management) Rules, 2016 also provide for recognition and registration, skill development, monitoring and ensuring safety and health, of workers involved in dismantling and recycling of e-waste.

Under the E-Waste Management Rules, provision for reduction of hazardous substances in manufacturing of Electrical and Electronic Equipment (EEE) has been provided. It mandates that every producer of EEE and their components shall ensure that their products do not contain lead, mercury and other hazardous substances beyond the maximum prescribed concentration.

(Reference: The PIB Delhi, Posted on: 8 August 2022 4:35 PM)

Watch Your Carbon Footprint

Our daily activities of living generate carbon footprints. "A carbon footprint is the total amount of greenhouse gases (including carbon dioxide and methane) that are generated by our actions. The average carbon footprint for a person in the United States is 16 tons, one of the highest rates in the world. Globally, the average carbon footprint is closer to 4 tons. To have the best chance of avoiding a 2°C rise in global temperatures, the average global carbon footprint per year needs to drop to under 2 tons by 2050. Lowering individual carbon footprints from 16 tons to 2 tons doesn't happen overnight! By making small changes to our actions, like eating less meat, taking fewer connecting flights and line drying our clothes, we can start making a big difference1". Food & Agricultural Organization (FOA) has long prepared the carbon footprints from the type of food we eat –vegetarian, non-vegetarian, etc. on the basis of the carbon footprints generated in production of the range of food items.

Those of us who are calorie-conscious measure or take into account the broad calorie content of the food before eating. Time will come soon when we may also consider carbon footprint of the food before eating. Such a beginning has been made in the UK. A few excerpts from the news report.

The menu at The Canteen in southwest England doesn't just let diners know how much does a dish costs. It also provides information of carbon footprint of the dish. The carrot and beetroot pakora with yoghurt sauce is responsible for just 16 grams of CO₂ emissions. The aubergines with a miso and harissa sauce with tabbouleh and zaatarr toast caused 675 grams of carbon dioxide. The report further notes that beef burger's emissions is 10 times the amount of its vegan alternative.

Every human activity including travel results in carbon emissions. The carbon footprints of big events are also calculated. For example, the researchers found that about **129,686 tons of carbon dioxide emissions were avoided** due to additional people **not traveling by airplane** for the games (a COVID effect) a reduction of nearly 80 percent if all 141,000 estimated attendees had flown to Tokyo².

(References: (1) The Nature Conservancy (www.nature.org/en-us/get-involved/how-to-help/carbon-footprint-calculator/); (2) https://insideclimatenews.org; (3) The Times of India, Mumbai, 1 August, 2022.)

26 New Wetlands in India get Ramsar tag

In this column in the previous issues, we have mentioned that a Ramsar site is a wetland area that the Ramsar Convention identifies as being of international significance. The Ramsar Convention is an environmental agreement that establishes the framework for national action and internal cooperation for wetland conservation. Last year India's first **Centre for Wetland Conservation** was set up on the World Wetlands Day on 2 February in Chennai. This year India had proposed 26 new wetland sites for inclusion in the Ramsar list. All the proposed sites were added taking the tally to 75, the highest for any country in South Asia. The list includes the Thane creek flamingo sanctuary over which we pass every time we go out of Mumbai. Out of the total area of 6,225 hectares 1690.5 hectares area has been declared as the Thane Creek Flamingo Sanctuary and 4,832 hectares notified as eco-sensitive zone around the sanctuary, which is the largest wetland area declared a Ramsar in the State.

(References: (1) #IndiaAt75 https://t.co/9gpTq7Wjhi (https://twitter.com/PIB_India/status/1558423870839095297?t=FZzdYOIqHRJW-SbEfoqguA&s=03); (2) The Times of India, Mumbai, 14 August, 2022.)

NEOM Futuristic City

The early 20th century saw many innovative town planning theories. One of them was the concept of *Linear City* which envisages a city to be linear. The theory has many merits. Its latest ultra-modern *avatar* is now coming up in Saudi Arabia. For some years, the proposed mega project of a new futuristic called NEOM was known and reported, whose wondrous features were being given out from time to time. In response to a latest tweet from the Saudi Crown Prince Mohammed bin Salman the media world over further updated their feature articles. A few excerpts from the TIMESOFINDIA.COM are as under:

The plan for the city is to cover 10,000 square miles of Saudi Arabia's Tabuk province, near its borders with Jordan and Egypt. It is billed as a test bed for new technologies that could revolutionize urban life. Neom's plans include an industrial city and a mountain ski resort. But its centerpiece is *The Line*, a linear city. Initially described as a series of walkable communities close to nature, it has since transformed into the current idea to build a mega structure that makes up the entire city, with gardens and parks along the inside.

The plan includes developing an economic hub that will cover an area of 26,500 km² extending along the Aqaba Gulf and Saudi Arabia's Red Sea coastline.

The initial plans presented an AI-powered city, with flying cabs and an artificial moon. Called *The Line*, it has 170 km-long linear urban development of communities, connected by an underground public transport network. They will connect the Red Sea coastline with the mountains and valleys of the north-east of Saudi Arabia.

And, what exactly is the Line?

This belt of hyper-connected communities will not have cars or roads and will be built around nature. It will run on 100% renewable energy and 95% of land will be preserved for nature. People's health and wellbeing will be prioritized over transportation and infrastructure, unlike traditional cities. Only 200 meters wide, but 170 kilometers long and 500 meters above sea level. *THE LINE* will eventually accommodate 9 million people and will be built on a footprint of just 34 square kilometers. The world's largest structure will house two buildings up to 1,600 feet tall, running parallel for 75 miles in a line across coastal, mountain and desert terrain, connected via walkways. This project has been named 'Mirror Line' because mirrors will be used in its construction. It is being said that the buildings will be taller than the Empire State Building.

The urban design focuses on people and not on infrastructure. Walkability will define everyday life. Residents will also have access to all facilities within a five-minute walk, in addition to high-speed rail – with an end-to-end transit of 20 minutes.

"The idea of layering city functions vertically while giving people the possibility of moving seamlessly in three dimensions (up, down or across) to access them is a concept referred to as Zero Gravity

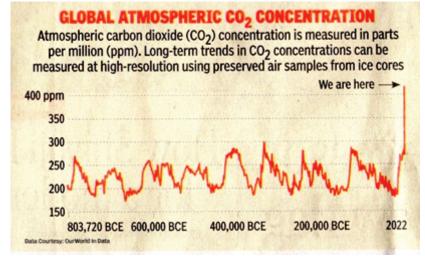
Urbanism. Different from just tall buildings, this concept layers public parks and pedestrian areas, schools, homes and places for work, so that one can move effortlessly to reach all daily needs within five minutes," the crown prince said in a statement.

According to the designs, the eight-sided structures would span from the Gulf of Aqaba to a mountain resort, with a suspended sports complex, a marina to park yachts, and a complex that will house the Saudi government. The idea intends to feed its people with vertical farming incorporated into the buildings.

There will be a sports arena 300m above ground and will have access to a marina where they may berth their boats under an arch between the two buildings.

(Reference: TIMESOFINDIA.COM/26 July 2022, 11:45 IST http://timesofindia.indiatimes.com/articleshow/93128551.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst)

Latest Position (2022) of Carbon Dioxide Concentration in the Atmosphere



The main scientific cause of climate change is the rising concentration of greenhouse gases which include carbon dioxide, methane, nitrogen dioxide, etc. These gases have a propensity to retain heat. As their concentration increases, they retain more heat. This rising atmospheric temperature causes aberrations in the climate, melting of glaciers and occurrence of extreme events. Science of climate change is an amazing science. Paleoclimatology

is a special science which uses a variety of proxy methods from Earth and life sciences to obtain data previously preserved within rocks, sediments, boreholes, ice sheets. Scientists (Paleoclimatologists) have measured concentration of carbon dioxide from millions of years. The chart here shows how over the ages, concentration of carbon dioxide has been varying going up and down. Such a chart is periodically published by NASA. But now it is constantly going up on account of burning of fossil fuels, transport, industrialization, power production, etc.

(Reference: Chart is from The Times of India, 3 September 2022.)

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