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All India Institute of Local Self-Government, Mumbai**



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 (AIIILSG), 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 AIIILSG, 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 AIIILSG, 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 ex-officio Chairman of the Advisory Committee of the RCUES, Mumbai, which is constituted by MoHUA, Government of India.

The RCUES was recognized by the MoHUA, 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 then the Ministry of Housing and Urban Poverty Alleviation, Government of India.

The then Ministry of Urban Employment and Poverty Alleviation (MoUE&PA), GoI and UNDP have set up the 'National Resource Centre for Urban Poverty' (NRCUP), which is anchored by RCUES at AIIILSG, Mumbai.

AIIILSG, Mumbai is empaneled by the Ministry of Housing and Urban Affairs, Government of India, for providing technical support to the ULBs in the field of water supply, sanitation, sewerage and drainage systems. RCUES, Mumbai is also identified as a technical service provider in Municipal Solid Waste Management projects under Swachh Bharat Mission (SBM) launched by the MoHUA, GoI.

Over the years, RCUES of AIIILSG Mumbai has been working in close coordination with state and local Governments to provide strategic, advisory, technical and capacity building support for assessment and improvement in infrastructure service delivery in cities.

Maharashtra Urban WASH and Environmental Coalition (Maha UWES-C) is a joint initiative of the RCUES of AIIILSG, Mumbai, and UNICEF Maharashtra. The Coalition brings together local organisations, thought institutions and sector experts to strengthen municipal capacities and encourage collaborative action to enhance service delivery in WASH (Water, Sanitation, and Hygiene) in urban Maharashtra. The Secretariat of the Maha UWES-C is anchored at RCUES of AIIILSG Mumbai. In 2022, MoU is signed with the Directorate of Swachh Maharashtra Mission, Urban Development Department, Government of Maharashtra for building capacities, facilitating partnerships, and supporting innovations under Swachh Maharashtra Abhiyan - Urban 2.0 under Maha UWES-C.

Along with ULBs, it is also engaging with multiple stakeholders like NGOs/CBOs, SHGs, private sector organisations, financial institutions at city level for providing technical and strategic support focusing on preparing action plans/strategies, technical assessment reports, CSPs/CDPs/DPRs as well as on-ground support by engaging with communities for improvement in various urban sectors to ensure improved quality of life to the citizens. AIIILSG, Mumbai is also working at the grass root level in cities through field visits, guiding ULB officials, conducting situation assessments with the objective of bridging the gap between the cities and state for sustainable sanitation solutions under Swachh Bharat Mission Urban.

In February 2016, the then Ministry of Housing and Urban Poverty Alleviation, Government of India empaneled the RCUES of AIIILSG, Mumbai for conducting training and capacity building programme for experts of SMMU, CMMUs, COs, Key Officials and other stakeholders of the states and ULBs under Deendayal Antyodaya Yojana – National Urban Livelihoods Mission (DAY – NULM).

In 2017, AIIILSG was empaneled among one of the 35 agencies in India for conducting Integrated Capacity Building Programmes (ICBP). AIIILSG Mumbai is supporting the states of Maharashtra, Rajasthan and Goa for the same.

Through all these activities, RCUES of AIIILSG Mumbai is striving to transform the notion of capacity building by not limiting itself to trainings / workshops but engaging with the state and local governments at multiple levels. With a small but enthusiastic team, RCUES, Mumbai will continue to strive towards improving the capabilities of municipal officials with a broader objective towards developing able governments thereby enabling better cities.

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Editorial

The Sustainable Development Goals (SDG 11) highlight making cities and human settlements inclusive, safe, resilient and sustainable. Many cities have framed policies to improve public infrastructure, environmental governance and sustainability. India's Smart City Mission has energised multiple stakeholders to create data-driven urban governance by harnessing technological advancements like Information and Communication Technology (ICT) and Artificial Intelligence (AI). The Indian cities across the states and Union Territories have declared ambitious Climate Action Plans to bring about transformative changes in their quest to become 'net-zero', conserve the environment, control air pollution, preserve and promote natural heritage, and increase their liveability quotients. Still, achieving the goals of 'net-zero', 'inclusive' and 'liveable' remain significant challenges.

The Cities continue to struggle with problems of basic infrastructure and services, including affordable housing, solid waste management, worsening traffic congestion and pollution. Urban India is also facing the major challenge of climate change-related risks from extreme weather events. Coastal cities are especially vulnerable to the rising sea level. From a gender perspective, the safety and accessibility of women, gender minorities, and people with disabilities in cities remain unaddressed. Combating gender-based violence needs to be integrated into the urban planning and governance discourse.

Climate change is posing a significant challenge to cities in India. From unprecedented floods to heat islanding, cities nationwide are ravaged by extreme weather conditions with increasing frequency and intensity. Urban planning needs to take into consideration the ecological character of the cities. Expansion of built areas, filling up and reclamation of water bodies, and reducing green cover, among other human activities, have severely impacted the urban environment and led to ever-increasing pollution. Coastal cities like Mumbai, Chennai and Kochi have to deal with threats of rising seawater levels and increasing frequency of oceanic cyclones. On the flip side, sometimes environmental governance measures can inadvertently lead to gentrification, impacting the housing of marginalised communities and low-income groups. In the context of these multi-pronged problems in urban India, which account for high levels of greenhouse gas emissions, urban governance has to meet the global climate goals.

Wide income disparities, discrimination and exclusion make the cities unsafe. The smart cities have to be safe cities that are child-women-transgender-elderly-persons with disability-friendly cities. Inequity in rights and opportunities to live a safe and dignified life has propagated multiple forms of marginalisation suffered by women, gender minorities and people with disabilities. While safety and discrimination remain the prime concern, access to safe drinking water, shelter for migrant poor, toilets, restricted mobility, and representation in public fora are the other issues that require attention and action. UN-Habitat recognises that investment in human development-education & skills-employment-health-decision-making power, gender mainstreaming, equity and inclusion are vital to developing solutions for accelerating progress towards achieving the SDGs and implementing the New Urban Agenda.

Urban India's pursuit of sustainability and inclusivity confronts challenges in fundamental infrastructure, social equity, and climate adaptability. Despite technological strides and climate action plans, contending with the requirements of vulnerable groups remains imperative. The approach onward necessitates a clearheaded path that integrates technology, social inclusivity, and environmental sustainability.

Feminist Urbanism: Reframing Urban Planning from a Gender Perspective

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Abstract

The planning and development of cities is generally understood as an impartial and neutral process unaffected by the social implications in society. Historically, the field of urban planning is defined by a goal of the 'common good' where cities were designed to foster economic productivity, consumerism, and an exclusive focus on constructing the building mass of a city. However, in reality, at the centre of this unbiased planning and design process was an able-bodied, upper-class, working male from whose standpoint urban planning processes were largely imagined and implemented. Feminist theorists have tried to bring forth how architectural design, planning, and the concept of space and the built environment impact political power, cultural and social experiences of individuals and communities in urban life.

Keywords: *Urban Planning, Design, Gender-Inclusive Cities, Urban Theory, Governance.*

Introduction

The environment surrounding us is shaped by urban planning and design, which influences how we conduct our lives, perform our jobs, travel around, and rest. The interrelationship between planning and design processes and the structures and practices that shape our societies is a

fundamental aspect to consider. It is worth noting that these processes often tend to mirror and perpetuate existing systemic disparities.

To properly understand the formation of a city, it is necessary to examine who owns, manages, and governs urban areas, for what goals, and how this is accomplished. These issues provide insight into the ways that contemporary cities have been formed and structured, as well as how they affect all kinds of people who live in and utilise them. Consequently, one's immediate surroundings are constantly constructed and defined by various social relationships. (Visakha, 2021).

The prevailing knowledge suggests that urban environments often exhibit a higher degree of efficiency and functionality for individuals who identify as heterosexual, possess physical fitness, conform to cisgender norms, and identify as men. Conversely, women, young girls, members of the LGBTQIA community, and individuals with disabilities tend to encounter more significant challenges and limitations within these urban settings. These challenges manifest in various forms, such as transportation systems that prioritise commuting over considerations for caregiving responsibilities, as well as the lack of adequate lighting and restroom facilities in public spaces.

Urban Planning Theory

Planning is the purposeful social or organisational activity of developing the most effective plan of action for the future to accomplish an intended set of objectives for resolving innovative challenges in complicated situations. Planning may be thought of as generating the most effective plan of action for the future to achieve an intended set of objectives. It comes with the ability and the will to allocate resources alongside the desire to carry out operations whenever required to put the chosen strategy into action. (Alexander, 1987). Urban planning can be conceptualised as a collection of administrative procedures that serve as intermediaries between development and economic actions. These processes are closely intertwined with policy strategies expressing ideas for future development patterns. (Beebeejaun, 2017).

World Bank report titled 'Handbook for Gender-Inclusive Urban Planning and Design' defines urban planning as "a multi-disciplinary approach to deciding where things get built and why. Urban planning is concerned with the relationship between people and the built environment and ensuring the protection of people's general health, safety, and welfare. Planning does this by creating and assessing plans for the preservation and development of commerce, the environment, transportation, housing, parks and public spaces, and urban design" (Terraza et al., 2020, p. 18).

Planning theory has primarily focused on creating development plans that operate within fixed boundaries of geography, despite acknowledging the significance of routine practices which are shaped by 'network economic players', such as those in the entertainment and media, financing, transport and logistics, and telecommunications industries, in shaping cities of the future (Adams et al., 2015). This territorial emphasis on regulatory planning contrasts with the widespread

understanding, at least among several social scientists, that wealth, goods, thoughts, and individuals 'flow' within a variety of transnational relations that resist attempts by planners to control them. As a result, some planning theorists have called for alternative planning that emphasises relational forms of place-making (Healey & Upton, 2010).

A substantial portion of planning history studies has been criticised for generating a generally cohesive narrative of linearity and progress and concentrating on the grand plans of great historical planners—mostly male, middle-class, and Western. It has also been said that contemporary planning theory ignores the diversity of other histories and neglected perspectives. However, insightful micro-histories that are attentive to various local, cultural, and social histories are still developing in both Western and non-Western contexts, and in some cases, they support the dismantling of official narratives (Ward et al., 2011). However within the planning regime, due to continuous push from cultural geographers and postmodern urban planning theories, there has been a notable shift towards a participatory approach in fields of urban planning. This approach highlights the significance of actively involving citizens in decision-making processes. However, despite this participatory turn, it is essential to acknowledge that civic contribution statutorily binding planning processes continue to face certain limitations.

Nevertheless, it is crucial to acknowledge the potential drawback of excessively prioritising personalised and localised narratives of inequalities across various dimensions such as sexual orientation, gender, ethnicity, socioeconomic status, disabilities, and aging within the context of geographically specific planning frameworks. By doing so, there is a possibility that we may inadvertently overlook the fundamental reality that we, as a collective, hold shared perspectives on prevailing and future global

challenges (Adams et al., 2015). Feminist urban theorists and geographers have called these ‘concerns’ superficial and perfunctory. Though feminist theorists have agreed that some concerns in planning and design are shared by all, like sustainability and climate change; however, feminists have pointed out that the pitfall of these concerns is borne mainly by women and people experiencing poverty.

Women are more susceptible to the effects of environmental catastrophes due to several underneath factors that interact with the physical environment. These include social and cultural expectations, a lack of resources to replace lost property, a lack of options for employment, limited opportunities for education, and essential services in many cases (Trohanis et al., 2011). Feminist planners have tried to establish a relationship between poverty and vulnerability to climate change, particularly in unauthorised neighbourhoods and other economically disadvantaged regions with inadequate basic infrastructure, where it disproportionately affects women, girls, and persons with disabilities.

Historical Perspective of Urban Planning in Global North and Global South

In recent years, scholars and historians have undertaken extensive efforts to uncover the underlying attitudes, values, and objectives that have shaped the planning field. The researchers have examined the cultural and social context in which planning concepts were formulated and developed. Additionally, they have investigated the broader political and financial relationships that provided support and influence to these ideas (Ward, 2013).

Before the introduction of modern planning and significant industrialisation, most income-generating activities took place within or near the house, along with reproductive work, private

interests, and commerce heavily influenced the growth of cities (Terraza et al., 2020). The Industrial Revolution led to enormous growth in the number and extent of cities, forming the general conditions needed for modern forms of urban planning in Europe and North America. The city was embraced by modern urban design as a vibrant, capitalistic hub of manufacturing, transportation, consumption, and regeneration. For cities to function effectively as economic and social entities, this new approach embraced the emerging technology of the industrial era (Ward et al., 2011).

Modern planning constituted a significant departure from the pre-industrialisation practice of putting up defensive structures and vast urban spaces or approaches. Modern planning is distinguished by contemporary functional concerns concerned with formalising the utilisation of land, infrastructure, optimal movement of products and services, and, increasingly, improving the welfare of society. The transition occurred gradually and incrementally in the latter half of the 19th and early 20th centuries, particularly in Germany, France, Britain, and the US (Ward, 2013).

This overall trend was strengthened by serious initiatives to transform urban and regional planning into an increasingly quantifiable discipline starting in the late 1950s and particularly in the 1960s and 1970s. Collectively, these changes enhanced the idea that a professional planner is an objective expert who is well-versed in the latest approaches and can assist society in finding the proper solutions. The professionalisation of urban planning had a significant cultural impact by more strongly defining a planner as someone with a masculine standpoint (Greed, 1994).

The Western planning regime and bureaucratic machinery were under intense pressure by the late 1960s to a higher standard of accountability and to offer citizens a stronger voice. Even in its thriving

core, by the 1970s, the outcomes of modern planning were overwhelmingly perceived as having fallen short of the expectations that had accompanied its conception. Cultural geographers and movements for social justice raised different concerns regarding capitalist planning ventures, which increasingly eroded democratic spaces, and environmental concerns and were mainly designed from the perspective of affluent classes.

The economic and political priorities of colonial powers in third-world countries introduced a distinct layer, trend, and form of Western influence to the process of urbanisation in the global south. The colonial masters introduced distinct layers and structures, notable among them being the establishment of exclusive civil lines. These civil lines were primarily intended for colonial officers, Europeans, and the local elite who collaborated with the colonial administration. These areas were equipped with amenities such as water pipelines, sewer systems, well-organized residential zones, paved roads, and restricted shopping areas (Mehra, 2019).

Even after the independence, there has been a long history of imposing the models of designs, procedures, practices, and urban planning rules and regulations from the imperial heartlands of the U.K., Europe, and the U.S.A. throughout nations of the global South (Watson, 2009). Master planning, zoning, and ideas of urban modernity remain the standard in much of the global South. Tools and standards for planning practice have been developed, notably in the Global South, to assist the market and the motivation behind development: maximising investment from abroad and economic production (Speak, 2012).

Planning theorists developed the concept of informal urbanism to understand the global south's urban planning regime. The informal urbanism is not a “marginalised form of places and practices; rather, they are central to understanding the logic of

urbanism because they constitute debates about what is legal and illegal in the city, what is legitimate and illegitimate, and with what effects” (Inam, 2022, p. 178). The transactional conditions of uncertainty between what is acceptable and what is objectionable in cities could be characterised as informal urbanism.

According to Yiftachel & Yakobi (2004), governments in ethnocratic states and other contexts may tolerate or even support urban informality. This is done to create an image of openness and democracy while simultaneously employing it as a strategic planning approach to restrict certain groups from accessing their rights and services.

Postcolonial urban theorists have argued that conventional methods of urban planning borrowed from imperial countries work as a double-edged sword. Foremost, the hierarchical and rigid approach towards planning, zoning laws, and land-use patterns has severely hindered the development of a participatory planning system that focuses on a localised understanding of urban planning rather than on uniformity and an outdated development model exclusively based on economic productivity and construction of build-mass. Moreover, conventional planning methods have also been criticised for supporting capitalised developmental patterns where the statutory framework is manipulated opportunistically by those in positions of political and economic power to support the greed of the real estate industry to push the urban poor on the city’s margins.

India's Urban Planning: A Hierarchical System

In the Indian context, it is noteworthy that the responsibility for planning predominantly rests with the government, which primarily focuses on formulating macro-development plans or master plans. The assumption of user neutrality is

commonly accepted, with limited emphasis on active participation from individuals. The enforcement of rules lacks additional guidelines. Special demographic groups such as older individuals, children, and women are often overlooked regarding their unique needs and perspectives. Their experiences and viewpoints are not given the necessary attention or recognition they deserve.

In India, urban planning cannot be equated with anticipating and controlling urban expansion. Ananya Roy, an expert on urban theory and planning, believed that “urban planning in India has to be understood as the management of resources, particularly land, through dynamic processes of informality”, where informality has to be understood as a “state of deregulation, one where the ownership, use, and purpose of land cannot be fixed and mapped according to any prescribed set of regulations or the law” (Roy, 2009, p. 80).

Roy (2009) defines two critical ways in which informality comes to be actualised in the processes of urbanisation and planning. First, informality is “inscribed in the ever-shifting relationship between what is legal and illegal, legitimate and illegitimate, authorised and unauthorised. This relationship is both arbitrary and fickle and yet is the site of considerable state power and violence. Second, while it has been often assumed that the modern state governs its subjects and conducts planning through technologies of visibility, counting, mapping, and enumerating”. However, it is through the 'unmapping' of cities and other forms of deregulation that urban governance is carried out. This informality gives the state much territorial freedom to change how land is used, exercise authority through eminent domain, and procure more land (Roy, 2009, pp. 80-81).

Mehra (2019) enumerated several reasons for the failure of India’s urban planning policy. According to him, disregarding the aspect of regional

governance since achieving independence, advancing populism through various centralised initiatives has resulted in the depletion of resources and capabilities of local authorities, rendering them incapable of fulfilling even their fundamental responsibilities. Furthermore, the lack of consideration for the unique requirements of urban centres of varying sizes and capabilities, the influence of the push factor from rural areas with unfavourable economic and demographic conditions, and the failure to consistently implement effective planning measures have collectively contributed to the persistent disorderliness of urban areas in India.

Moreover, in the 1990s, characterised by free market-driven economic restructuring, the central objective of decentralisation in India was to safeguard urban local bodies from political interference. This is based on the assumption that political involvement impedes the efficient functioning of free markets.

The allocation of power to municipalities in India is not substantial according to the constitutional framework, as it necessitates the delegation of authority from individual states through state legislative acts. In recent years, there has been a discernible trend of specialised agencies under state governments gradually assuming the roles and financial responsibilities that were originally designated for Urban Local Bodies. In the field of urban planning, it is not uncommon for states to enact legislation that pertains to specific and localised contexts. However, it is arguable that such matters should ideally fall under the purview of city governments. Urban planning is a multifaceted process often executed through various schemes and plans. In numerous instances, these initiatives are implemented by highly trained semi-public agencies that function within the purview of the state administration. However, it has been observed that such arrangements can potentially undermine the authority and autonomy of local governments

(Ashok, 2022; Visakha, 2021). As a result, the legislative framework governing planning appears ineffectual in planning urban centres in India.

Feminist Urbanism: A New Approach Towards Urban Planning

Men and women use and experience cities differently, often in ways planners did not intend. The work performed for monetary exchange in the public realm is prioritised during the creation of the built environment over the activities done at home. According to Elizabeth Wilson (1991), historically, gender stereotypes have significantly impacted urban design and organisations. As a result, the needs of women in urban settings are frequently overlooked. However, it is not only women's gender roles that must be considered while planning for a city or a space. As Healey & Williams (1993) contend, we must also incorporate the concept of social diversity into public policy to make the built environment less like a landscape of exclusion or a place of risk and into a more accessible, secure, and enjoyable space for everyone — men and women, the poor and the rich, healthy and disabled, and as well as people at various stages of their life cycle.

The design and planning of public spaces, such as buildings, transit networks, residential areas, and dwellings, significantly impact women's everyday lives. However, women are perceived as having very little knowledge and ability to contribute to the urban planning regime (Weisman, 1994). Feminist scholars in urban planning have critically examined the prevailing assumption that urban planning should adhere to a neutral stance and prioritise collective welfare, as advocated within architecture, engineering, and urban planning. Despite its purported neutrality, the field of urban planning has exhibited a lack of inclusivity by neglecting to incorporate the experiences and needs of women in its design processes (Escalante & Valdivia, 2015).

The emergence of the feminist critique of urban theory and planning can be traced back to the 1970s. During this period, scholars and activists began to critically analyse how city-making and planning practices perpetuated social inequalities and highlighted how these practices reflected and reinforced these inequalities, effectively solidifying them within the physical structures of cities (Hayden, 1980). Feminist urban theorists and planners have effectively showcased how contemporary post-industrial urban planning ideology has been constructed around promoting commerce and industry, primarily through an automobile-centric urban design approach. This approach prioritises the facilitation of vehicular movement and convenience, often at the expense of creating cities that prioritise the needs and well-being of human beings. Consequently, feminist scholars and practitioners advocate for a shift towards a pedestrian-centric design philosophy that places human beings at the core of urban planning considerations.

Feminist urban planning is a theoretical framework encompassing a critical urban planning approach. Its primary objective is to effectively address various social groups' diverse needs and concerns within urban development. Specifically, feminist urban planning emphasises the experiences and perspectives of women and young girls. This approach seeks to rectify historical inequities and create more inclusive and equitable urban spaces by centring these marginalised groups (Visakha, 2021).

Feminist urban planning and gender analysis of cities would reveal how modern cities are planned and designed from an androcentric perspective. However, Feminist urban planning also challenges the prevailing notion that gender inclusion is narrowly confined to matters concerning women, disregarding the intricate interplay between genders and the collective consequences arising from the intersectionality of sexual orientation,

gender, ethnic background, socioeconomic status, disability, and age.

The conventional approach to urban development, zoning, and land utilisation policies and practices establishes legal boundaries that separate manufacturing and economic regions, which are primarily dedicated to the production, trade, income generation, and public activities, from residential areas, which are primarily designated for domestic activities, reproduction, care, and private life. The spatial divisions observed in society are intricately connected to gendered divisions of labour. These divisions are characterised by the differentiation between productive work, which is commonly associated with men and is aimed at generating income, and unpaid reproductive work, which is predominantly associated with women and pertains to activities related to the care and maintenance of the household and family. The spatial demarcation between public and private domains imposes an additional strain on women's material and physical resources. For women and girls residing in informal settlements, typically situated on the outskirts of urban areas, the insufficiency of infrastructure and the considerable distance between essential resources and residential areas contribute to an increased allocation of time towards caregiving responsibilities. Consequently, this directly hampers their ability to access employment and educational prospects. The current state of the built environment often presents challenges for women and girls rather than actively addressing and meeting their specific needs (Beall, 1996; Desai, 2007; Phadke et al., 2011; Terraza et al., 2020).

However, the government of India, to some extent, has departed from this conventional understanding of urban planning. In its Smart City Mission (2014), while defining a 'smart city', the plan acknowledges that "there is no universally

accepted definition of a Smart City. It means different things to different people. The conceptualisation of Smart City, therefore, varies from city to city and country to country, depending on the level of development, willingness to change and reform, resources, and aspirations of the city residents" (Ministry of Urban Development, 2015, p. 5). However, implementing this plan espouses the creation of specialised agencies like Special Purpose Vehicles or SPVs at the city level, which undermines democratic institutions at the local level.

The pivotal determinant governing the correlation between women and urban environments is safety. The absence of safety, or more precisely, the absence of perceived safety within city spaces, significantly impacts women's ability to access and utilise these areas. It is imperative to recognise that safety is not solely a matter of traditional notions of security and law enforcement but rather a multifaceted social and political concern that necessitates broader consideration (Visakha, 2021).

According to Shilpa Phadke, a prominent feminist urban theorist, the prevailing discourse surrounding women's safety can be more accurately characterised as a discourse centred on sexual safety (Phadke, 2007). Urban planning projects such as Smart City Mission focus on the safety and security of women, children, and the elderly. However, cities' mechanisms to ensure it relies on a paternalistic surveillance approach. The paternalistic approach towards safety can be mapped to conservative class and community structures, precisely, those characterised by sexual endogamy. The concept of safety in this context extends beyond instances of sexual assault to include instances of undesired sexual encounters, even when they are consensual, particularly within the dynamics of middle-class women and lower-class men (Phadke, 2007).

Planning policies design urban environments to ensure safety based on the 'opportunistic' understanding of crime and violence against women. However, feminist scholars have long argued that systemic and ingrained socioeconomic inequities significantly contribute to the prevalence of violence against women (Trench et al., 1992). Integrating social and economic planning is imperative to bolster physical planning measures within the built environment. The phenomenon of women's fear is not solely influenced by the physical attributes of public spaces but also by their social position within a context that continues to exhibit gender-based discrimination against women (Sweet & Escalante, 2010).

Conclusion

Urban Planning cannot be done in isolation without understanding how it intersects with gender inequality and other forms of discrimination and exclusion in society. Challenges in urban environments, like access to resources, mobility, and safety, etc., are not separated from each other; instead, these challenges tend to accumulate and exacerbate, thereby contributing to the perpetuation of systematic economic and social disparities.

The notion of "good governance," often emphasised in discussions surrounding democracy, necessitates a broader examination beyond mere considerations of financial responsibility and operational effectiveness. It is imperative to delve deeper into the political dimensions associated with democratic systems, civil rights, and citizen participation.

Analysing urbanisation demands a thorough understanding of its complexities at the micro level, with a specific focus on local urban fabrics and institutional settings. Macro-level approaches are beneficial when addressing questions about the pace of urban expansion and the underlying structural characteristics of urban areas. However, micro-level approaches are essential for comprehending the power of choice. Specifically, the actions and decisions individuals make within urban environments as they navigate and shape the ever-evolving urban structures. Both macro-level structural factors and micro-level actions of city dwellers have a daily impact on cities. The potential for effective urbanisation in India hinges on the convergence of these two distinct levels while also recognising the unique experiences and challenges faced by women, LGBTQ+ individuals, and other marginalised groups in shaping urban spaces and policies.

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Support System for Women with Visual Impairment in the Urban Areas

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Abstract

Women with disabilities often face heightened discrimination compared to their male counterparts. This "double discrimination" stems from not only their disability but also societal gender biases. They struggle with a multitude of challenges, ranging from marginalization and stigmatization to discrimination and social exclusion. This heightened vulnerability becomes even more pronounced when compared to men with disabilities and women without any (United Population Fund, 2019).

This research delves into the support received by Women with Visual Impairment (WWVI) from Cherthala Taluka, Kerala. Sixteen visually impaired women participated in the study. Constructivist Paradigm focusing on experience was used for the study. The epistemological assumption of this research is based on an interpretative approach. The everyday experiences of women with visual impairment can be better understood by 'contextual understanding'. The sampling method used for the study was non-probability sampling and Snowball sampling was used to choose the participants.

Central theme of this research is the exploration of support WWVI received during their education and their current lives. Key findings suggest that families of WWVI predominantly held progressive views regarding their education, serving as a

pivotal backbone of encouragement and guidance. However, when examining social interactions and familial support, it became evident that parental overprotectiveness curtailed certain leisure pursuits of WWVI. Equally significant was the role of peers in the lives of these women. School friendships were treasured by WWVI, with many attributing their positive educational memories to these relationships.

Keywords: *Women, Visual Impairment, Family, Peers, Social Support.*

Introduction

Women with disabilities (WWDs) frequently encounter issues like marginalization, stigmatization, and social exclusion, hindering their active participation in public life. Such challenges are magnified when compared to men with disabilities or women without disabilities (United Nations Population Fund, 2019). The hurdles these women face are further intensified by familial overprotectiveness and societal norms that devalue their educational or vocational worth, often relegating them to more traditional roles (Addlakha, 2007).

Amidst these challenges, the importance of social support becomes evident. Studies emphasize the transformative power of social support. For

WWVI, a blend of perceived emotional and instrumental aid can significantly bolster their well-being (Hobfoll & Vaux, 1993; Reinhardt et al., 1997 as cited in Cimarolli & Boerner, 2005). Moreover, the role of educators and peers is pivotal, contributing not only to their academic achievements but also to fostering socio-emotional development (Manitsa, 2020). In a country like India, where disability is often associated with pronounced societal stigma, robust social support equips women to challenge and navigate these deeply entrenched cultural norms effectively.

Research accentuates this understanding. Bhagotra et al. (2008) points the vital role of social support for visually impaired individuals, noting that genuine assistance, which includes valuing their presence in society, guiding, and helping them, promotes their socio-emotional and educational welfare. Meanwhile, Khurshid & Malik (2011) indicate that a significant portion of visually impaired individuals perceive a lack of this crucial support, with caregiver attitudes playing a consequential role. This disparity in social support is also evident in the work of Huurre (2000), who found that adolescents with visual impairments found it more challenging to form friendships, especially for girls. Kef & Dekovic (2004) further confirm that while visually impaired adolescents might receive less parental and peer support compared to their sighted counterparts, the value of peer support is profoundly influential in their well-being.

The social structures and biases prevalent in societies, especially like India, exacerbate the challenges faced by WWVI. It's evident from the literature that structured, meaningful social support can be a transformative tool in their lives, ensuring they lead fulfilling, dignified lives amidst challenges.

Existing literature has comprehensively highlighted the challenges faced by women with

visual impairments in India. However, a clear gap emerges when considering the detailed roles and subtle aspects of support systems, particularly the influence of family in areas like education, social interactions, and leisure activities. Additionally, while the importance of social support has been acknowledged, the unique dynamic of peer support for these women, its influence on their well-being, and its interplay with familial support remain under-researched. Hence, the present study tries to delve into these under-researched facets and illuminate the pivotal influence of these support systems.

The Rationale of the Study

Individuals with disabilities encounter numerous challenges in their pursuit of inclusion and equality. While both men and women with disabilities are subject to discrimination, women often face even more profound disadvantages.

In Indian culture, there's a prevailing 'physical norm' for those without disabilities, and any form of disability is perceived as an individual deficiency (Kumari, 2009). This means women with disabilities often deal with negative stereotypes, making it hard to cultivate a positive self-image amidst both societal and physical barriers. This situation often hinders the acknowledgment and celebration of individual uniqueness (Addlakha, 2006).

Cultural and traditional practices, along with prevailing attitudes and prejudices, tend to isolate and confine women with disabilities more than their male counterparts. This enforced seclusion often results in diminished self-worth and negative emotions among disabled women. The absence of suitable support services and insufficient education often pushes them into economic vulnerability. This financial instability frequently leads to their dependence on family members or caregivers (Jogdand & Narke, 2022).

In India, there is limited discourse surrounding support systems for WWVI. Not many studies have delved into the support available to them or how they navigate challenges arising from insufficient support. The main objectives of Study is to highlight the distinct experiences of WWVI, focusing on the support they received during their educational journey and their current situation.

Methodology

This study aims to explore and understand the social support systems of WWVI. A constructivist paradigm focusing on experience was used in the study, where the focus is on understanding the human experience. The epistemological assumption of this research is based on an interpretative approach. The lived experiences of WWVI can be better understood by 'contextual understanding.'

Drawing from this ontological and epistemological standpoint, the researcher is using qualitative research paradigm which can set what and how the participant wants to see the world and act towards it accordingly.

This article is a segment of a larger qualitative exploration into the lived experiences of WWVI. The primary focus here is on their support systems throughout their educational journey and their current challenges.

The researcher used non-probability sampling method. According to Ritchie & Lewis (2003) in this method, the units are deliberately selected to reflect particular features of or groups within the sampled population. The sample is not intended to be statistically representative: the chances of selection for each element are unknown but, instead, the characteristics of the population are used as the basis of selection.

The participants were chosen using snowball sampling. This approach in the qualitative method

involves asking people who have already been interviewed to identify other people they know who fit the selection criteria (Ritchie & Lewis, 2003).

Data was gathered from fifteen participants, ensuring a mix of socio-economic backgrounds. Participant's confidentiality are maintained throughout the study.

The study is situated in Kerala, chosen for its pioneering efforts in promoting the empowerment of persons with disabilities and its remarkable socio-demographic indicators, especially concerning women.

In-depth interviews were conducted using an interview guide to capture the participants' emotions, challenges, coping mechanisms, and overall experiences. Data were collected from parents of Women with Visual Impairment as part of collecting thick data.

The scope of the study is confined to women with visual impairment. The lived experiences of the women with visual impairment are considered through their experiences with social domains, the challenges that they faced, and the way of response to the issues. The study will be an effort to contribute to the knowledge about the situation and educational experiences of women with disabilities in the Indian context.

The following criteria were used to narrow down the participants:

1. Women belonging to the age group 20 to 40 living in rural areas.
2. Women with Visual Impairment as per the Rights of Persons with Disability Act, 2016 by birth disability and not acquired disability.
3. Women with Single Disability
4. Women who are pursuing higher education or working will be included in the study.

Profile of the Participants

Knowing the profile of the respondent helps in understanding the nature and background of the participants. To ensure privacy, the names of the

participants have been altered. The study encompasses sixteen WWVI. The subsequent table provides insights into their age, educational backgrounds, current status, degree of disability, and the age at which the disability was recognized.

Sr. No.	Name	Age	Special school	Inclusive school	Education	Occupation	Degree of disability fully/partially blind	The age at which the disability was identified
1	Sandra	24	1 st -7 th Grade	8 th -12 th Grade	BA, MA, B.ED - pursuing	Nil	Fully Blind	By Birth
2	Ajitha	32	1 st -7 th Grade	8 th -12 th Grade	BA, MA(History), B.Ed.	Asst. Bank Manager (Indian Bank)	Fully Blind	By Birth
3	Chitra	26	1 st -7 th Grade	8 th -12 th Grade	BA History) - pursuing	Nil	Fully Blind	By Birth
4	Sreelakshmi	28	1 st - 7 th Grade	8 th -12 th Grade	BA (Music), MA (Music)	Music Teacher (contractual post)	Fully Blind	By Birth
5	Afna	25	1 st -7 th 11 th -12 th Grade	8 th - 10 th Grade	BBA, Certificate course in Data Entry	Data Entry Operator	Fully Blind	By Birth
6	Ashwathy	24	1 st -7 th Grade	8 th -12 th Grade	BA (Economics) BA (Music)-final year	Online music tutor	Fully Blind	2 years
7	Vinaya	21	6 th - 7 th Grade	1 st -5 th 8 th -12 th Grade	BA (History), Applied for PG	Nil	Fully Blind	1.5 years
8	Jisha	24	1 st - 7 th Grade	8 th -12 th Grade	BA (History), MA (History), B.Ed.	Internship	Fully Blind	By Birth
9	Revathy	23	1 st - 7 th Grade	8 th -12 th Grade	B.A, M.A, Ph.D. Scholar	Nil	Fully Blind	By Birth
10	Suryalatha	33	1 st - 7 th Grade	8 th -12 th Grade	BA, MA, MPhil, PhD Scholar	Nil	Fully Blind	By Birth

Sr. No.	Name	Age	Special school	Inclusive school	Education	Occupation	Degree of disability fully/partially blind	The age at which the disability was identified
11	Jomol	25	6 th - 7 th Grade	1 st -5 th 8 th -12 th (Integrated for the blind)	BCA, MBA (HR)	Technical Recruiter	Fully Blind	1 year
12	Harishree	27	1 st -7 th 11 th -12 th Grade	8 th -10 th Grade	BA, TTC (Pursuing)	Worked in customer care (Asianet broadband)	Fully blind	3 years
13	Sayunjya	25	1 st -4 th Grade	5 th -10 th (integrated for the blind) 11 th - 12 th Grade	BA, MA, PhD Scholar	Nil	Fully blind	1 year
14	Simi	33	5 th -6 th Grade	1 st -4 th 7 th -12 th Grade	BA, MA, B.Ed. NET	Assistant Professor	Fully blind	1 year
15	Anjana	31	1 st -7 th Grade	8 th -12 th Grade	BA, TTC (Pursuing)	Nil	Fully blind	By Birth
16	Pathu	20	1st -7th Grade	8 th -12 th Grade	BA pursuing	Nil	Fully blind	By Birth

Findings and Analysis

Support System

Social support refers to the prosocial behaviours or attitudes individuals receive from their family and social environment to enhance social functioning and interactions (Nolten, 1994 as cited in Elliott et al., 2001). Social support involves the positive actions or attitudes people receive from their family and community, aimed at enhancing social interaction and function (Nolten, 1994 as cited in Elliott et al., 2001). These behaviours contribute to the development of a sense of value and acceptance. Social support also includes guidance and hands-on help to aid individuals to cope with challenges within social interactions.

1. Familial Support

● Education

Parental attitude is an important factor in children's education, especially in the case of visually impaired children. The level of parental support for education can have a significant impact on a child's academic success. WWVI may experience low motivation and poor self-esteem if they do not receive adequate support from their parents regarding their education (Sharma, 2015).

“My father wanted me to be educated in an inclusive school. He always told my mother that it would help my personal growth”

“My family moved closer to the school as it was very far from home, and they did not want to put me in a hostel during my primary education.”

According to the data from the study, all the participants were either undergraduates or postgraduates. The parents' attitude towards educating WWVI was positive, even among those parents who were not educated. Whether their children attended special or inclusive schools, parents of WWVI believed that education played a vital role in the overall development of WWVI. The majority of educated parents in the study guided their children in selecting courses for advanced education and also informed them about various career possibilities.

- **Social Interaction and Leisure**

Girls and women with disabilities are often confined within the house because of stigma, shame, and practical considerations like mobility issues. This gives them little opportunity to socialize with their peers, make friends, attend family events, religious ceremonies, etc. (Gender and Disability, n.d.). Here are some of the voices of the respondents:

“My father used to say that I should not remain silent and sit in the corner. He always motivated me to interact with others.”

“They always took me to social gatherings even though I tried to distance myself from certain functions”

“My parents didn't like to take me to family functions because they felt that it was a shame and my brother wouldn't get a good alliance in the future.”

The majority of WWVI were prompted by their parents to attend family events and other social gatherings, with one exception. While parents were keen on having WWVI interact with others, they preferred to be with them at every event due to concerns about their safety.

“I was not allowed to travel alone. Even if I went to meet my friend my mother used to accompany me”

“I don't have the freedom to travel alone and I feel like I should be independent. This overprotection has left me unfamiliar with traveling solo, and I lack the confidence to do so”

Many individuals with impairments face difficulties with independent travel and access to public spaces, which considerably shape their social inclusion, employment prospects, and quality of life (Lubin and Deka, 2012, McClimens et al., 2014, Townley et al., 2009). The overprotection from the parents restricted WWVI from meeting their friends and engaging in leisure activities with them. The most common forms of leisure activities the participants in the study engaged in listening to music, watching movies with friends, and making phone calls to old friends.

2. Peer Support

Students with visual impairments often experience emotional problems and encounter difficulties forming and maintaining social relationships. Research indicates that the social support provided to these students by their peers in educational institutions may have a positive impact on their academic learning and socio-emotional development (Manista, 2020).

The following voices of the WWVI indicate that they had anxiety and fear of getting along with peers after moving from a special school to an inclusive school.

“After moving to normal school I have felt isolated. There were gangs in the class. They decide everything by themselves and don't involve me in that. I didn't have anyone close to me at that period. Later I got adjusted to it”

“In the beginning, I was not emotionally prepared to be in an integrated setup and I used to cry. I had a fear in my mind about whether they would accept me, help me, and support me... Then after a few days, they came to me and started talking to me.”

Studies indicate that students with visual impairments can find high school socially challenging (Rosenblum, 2000). These students often have relatively small social networks of friends have challenges keeping pace with the visual nuances of peer interactions, and have to work hard to establish and maintain relationships with sighted peers (Sacks & Wolffe, 1998).

The study findings showed that the WWVI were satisfied with the networks and friendships they had during the period of education. According to their voices, they felt that friends had a meaningful role in their lives. They also felt that their friends made their school life enjoyable. They were found to have smaller networks of friends and often limited social interaction. As one of the participants said,

“I have few friends which is very fine because I feel quality is more important than quantity and this is what matters. So those true friends are there with me in times I need them, in bad times as well as in my good times”.

“She helped me a lot when I was in school and she still guides me...even now we are very close to each other”

“I felt like they wanted to help me but they didn't know how to do it”

The WWVI in the study perceived their school life as enjoyable and felt less lonely in during their schooling. Most of them felt accepted by their peers in the school. The participants felt that they had not been discriminated against or isolated based on their disability by their peers in the school.

Conclusion

WWVI confront significant barriers when accessing primary and secondary education, and even after enrolment, achieving a fair education remains challenging. As highlighted by Limaye (2016), the outlook of parents toward their children with disabilities and their schooling can either greatly aid or hinder their integration and active participation in regular society. Encouragingly, this study found that parental attitudes, even among the less educated, were positive towards the education of WWVI. Most educated parents actively advised their children on higher education course selection and career paths.

A concerning trend is the confinement of girls and women with disabilities, predominantly within their homes, due to societal stigma, embarrassment, and logistical challenges like mobility. Data indicated that, while the majority of parents encouraged WWVI to be part of communal events, they often exhibited protective behaviours, preferring to accompany them due to safety concerns.

School environments that foster a feeling of belonging and validation, enhanced by tangible and emotional support from educators and peers, are foundational to social support. Such nurturing

environments don't only elevate the well-being of students but are instrumental in forwarding inclusive education (Pavri & Monda-Amaya, 2001). The support that students with visual impairments receive in school from peers and teachers can serve as a stepping stone for future autonomy (Celeste & Grum, 2010). Moreover, forming relationships in school environments can fortify their confidence and self-worth (Lindsay & McPherson, 2012). The research underscores that WWVI held their school friendships and associations in high regard, attributing much of their positive school experiences to these bonds. Yet, a consistent observation was their limited social circle and restrained social engagement.

Recommendations

1. Efforts should be intensified to reshape societal perspectives and diminish the stigma associated with visual impairments.

2. Parental education programs can be beneficial, equipping parents with the knowledge & tools to support their children's educational and social pursuits without being overly protective.
3. Further studies could delve deeper into understanding the factors that limit the social interactions of WWVI and devise strategies to enhance their social inclusivity.
4. The current study delved into the supportive environment for WWVI within families and educational institutions. The findings are centered on the support WWVI felt they received, meaning the data predominantly reflects perceived social support. To truly understand and differentiate between what support they perceive they receive and what is provided, further in-depth studies are recommended.

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Impact of Climate Change on Human Health in India

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Abstract

This study intends to direct future research initiatives and provide information for public health policy choices in a constantly changing environment. The negative effects of climate change on human health are severe and need rapid action. Rising temperatures cause heat-related diseases and put a strain on healthcare systems by producing more frequent and severe heat waves. Additionally, the geographic distribution of infectious illnesses like malaria and Lyme disease is altered by climate change, and extreme weather events can cause harm and foster the spread of disease. Rising temperatures encourage the creation of ground-level ozone, while wildfires emit toxic particulate matter that degrades the air quality and causes respiratory and cardiovascular problems.

Keywords: *Climate Change, Human Health, Food Security, Adaptation.*

Introduction

This research paper highlights how human health is impacted by climate change both directly and indirectly. Extreme heat waves, sea level rise, altered precipitation leading to droughts and floods, and powerful hurricanes can all directly result in harm, illness, and even death. Due to environmental changes brought on by climate change, health may also be indirectly affected. For

instance, worsening air pollution levels may have detrimental effects on cardiovascular and respiratory disorders. Variations in temperature and precipitation can affect insect survival, range, and behaviour, which can modify the spread of infectious diseases. Increases in precipitation, storm surge, and sea temperature may increase diseases associated with water. Climate change can impair food safety, exposing consumers to tainted foods that might cause foodborne illnesses, according to numbers. Additionally, climate change may have an impact on mental health and general well-being. (Xingzhi Mara Chen, Andrew Sharma, Hua Liu. (2023) The Impact of Climate Change on Environmental Sustainability and Human Mortality. *Environments* 10:10, 165.)

The biological, chemical, or physical stressors that can be exposed to climate-related risks vary in time, location, population, and severity. Exposure pathways are what they are known as. These dangers may manifest at the same time, having compounding effects on health. Threats from climate change could build up over time and affect resilience and health in the long run. Climate change can have an impact on human health by altering the severity, length, or frequency of health issues, as well as by posing new, unexpected, or unanticipated risks to people or locations. Even though everyone is at risk for health problems related to the environment, not everyone is harmed in the same ways. People may be more susceptible

to health consequences associated with climate change because they are more exposed to climate-related risks and more sensitive to the effects of climatic stressors. Their current level of health and well-being; or they lack the means or capacity to cope or protect themselves from danger. Improving overall public health preparedness and preventing injuries and diseases depend on an efficient public health response to reduce the hazards of climate change. (Ruby Coast Research Centre, Mapua, 2005, New Zealand)

Relationship between Human Health and Climate

The environmental health literature discusses a variety of connections between climate change and outcomes for human health, including through mechanisms like thermal extremes, infectious diseases, food shortages, and nutrient deficiencies. The links between climate factors and health outcomes are moderated by other factors, just like the relationships between climate change and societal stability. Most significantly, socioeconomic development and health systems (the individuals, organizations, programs, and resources required for disease prevention and health protection) play a crucial role in determining whether climate-related threats become more widespread population health challenges.

Despite the existence of literature connecting climate change to both human health and national security, very little study has combined the three concerns, with the notable exception of studies examining the relationship between infectious disease and armed conflict. Depending on local temperature conditions, demographic trends, and land use characteristics, climate change may widen the distribution of several infectious diseases. Infectious disease can cause conflict and instability by, among other things, weakening domestic governance capabilities, altering the power dynamics between states by affecting national

wealth, and creating disagreements between governments over how to handle outbreaks of infectious diseases. Infectious disease outbreaks, social unrest, and climate change might all spiral into a deadly cycle. (Minnesota Population Center. 2018. Integrated Public Use Microdata Series, International accessed 15 March 2019]

Climate change may damage state institutions including the health system and state governance, increasing the danger of disease outbreaks, which may then lead to instability that makes subsequent outbreaks more likely. International cooperation to lower pathogen risks is possible but frequently very difficult, and it has been criticized for disproportionately favouring high-income nations.

Various Health Hazards

By changing the environment and making some diseases more common, climate change can have a profound effect on human health. Following are some ailments and health hazards linked to climate change (Menezes, de Souza et al., 2015):

1. **Heat-Related Illnesses:** As temperatures rise, heat-related illnesses including heat exhaustion and heatstroke may become more common. The danger is larger for vulnerable groups, such as the elderly and those with pre-existing medical disorders.
2. **Vector-Borne Diseases:** The distribution and behaviour of disease-carrying vectors like mosquitoes and ticks can vary as a result of climate change. Diseases may spread as a result of this.

Malaria: Warmer temperatures and different precipitation patterns can widen the area of mosquitoes that transmit the disease.

A rising environment may encourage the *Aedes* mosquito, which spreads the dengue virus, to multiply.

Warmer temperatures may lead to longer tick seasons and wider geographic areas where ticks are active, which can both contribute to Lyme disease.

3. Changes in temperature and precipitation may affect the standard and accessibility of freshwater resources, which may affect the development of waterborne diseases like:

Increased floods and alterations in the quality of the water supply can encourage the spread of the cholera bacteria.

Diarrheal infections, such as E. coli and rotavirus, can result from contaminated water supplies brought on by severe weather.

4. Respiratory Conditions: Climate change can harm air quality by boosting the production of ground-level ozone and raising the concentration of allergens such as pollen and mold spores. Asthma and allergy symptoms may become worse as a result.
5. Zoonotic illnesses spread via vectors: Changes in environment and climate can have an impact on the distribution of wildlife and the diseases they carry. Certain zoonotic illnesses can spread from animals to people. Examples comprise:

Hantavirus: A virus carried by rodents that may become more common as rat populations adapt to changing climatic circumstances.

Climate-related factors can have an impact on the behaviour and geographic dispersion of the mosquitoes that spread the West Nile virus.

6. Foodborne Illnesses: Climate change may have an effect on food safety and the development of foodborne pathogens, which may result in foodborne illnesses.

7. Outbreaks of Infectious Disease: As a result of ecological disruption brought on by climate change, infectious diseases are more likely to appear and spread. Deforestation and different rainfall patterns, for instance, can affect how viruses like Ebola spread. (Walsh, J., and others, 2014: Appendix 3: Climate Science Supplement. *Climate Change Impacts in the United States: The Third National Climate Assessment*)

Climate Change and Adaptation of Health

Climate Change and Adaptation in the Health Sector

Climate change poses significant challenges to the health sector, as it can exacerbate existing health problems and lead to new ones. Adaptation in the health sector involves preparing for and responding to these climate-related health impacts. Here are some key aspects of climate change adaptation in the health sector (Epstein, Mills et al., 2009):

1. Heat Action Plans: Many regions are experiencing more frequent and severe heatwaves due to climate change. Health authorities can develop heat action plans that include early warning systems, cooling centers, and public awareness campaigns to protect vulnerable populations from heat-related illnesses.
2. Vector Control: As climate change alters the distribution of disease-carrying vectors like mosquitoes and ticks, health agencies may need to implement more robust vector control measures, such as insecticide spraying and surveillance programs.
3. Water and Food Safety: Climate-related events like flooding and extreme precipitation can compromise water and food safety. Health organizations can develop strategies to ensure the safety of water supplies and food sources during and after extreme weather events.

4. **Infrastructure Resilience:** Hospitals and healthcare facilities should be designed and retrofitted to withstand extreme weather events. Backup power systems and disaster preparedness plans are essential to maintaining healthcare services during climate-related emergencies.
5. **Disease Surveillance and Early Warning Systems:** Climate change can alter the distribution of infectious diseases. Health agencies should strengthen disease surveillance systems and establish early warning systems to detect and respond to outbreaks quickly.
6. **Mental Health Support:** Climate change can lead to increased stress, anxiety, and mental health issues due to extreme weather events, displacement, and loss of livelihoods. Healthcare providers should be prepared to offer mental health support to affected populations.
7. **Public Health Education:** Raising awareness about climate change-related health risks and promoting adaptive behaviors is crucial. Public health campaigns can educate communities about the health impacts of climate change and how to protect themselves.
8. **Vulnerable Populations:** Special attention should be given to vulnerable populations, including the elderly, children, people with disabilities, and those living in poverty, as they are often more susceptible to climate-related health risks.
9. **Research and Data Collection:** Continual research and data collection are essential to monitor the evolving health impacts of climate change and to inform adaptation strategies effectively.
10. **International Collaboration:** Climate change is a global challenge, and health authorities should collaborate internationally to share knowledge, resources, and best practices for climate change adaptation in the health sector.
11. **Policy Integration:** Climate adaptation should be integrated into broader health policies and planning. Health systems need to work in coordination with climate and environmental agencies to develop comprehensive strategies.
12. **Climate-Resilient Healthcare Supply Chains:** Ensuring a stable supply of essential medical equipment, medicines, and vaccines, even in the face of climate-related disruptions, is crucial for healthcare system resilience.
13. **Community Engagement:** Involving local communities in the development of adaptation strategies can increase their effectiveness and ensure that interventions are culturally and contextually appropriate.

Adaptation efforts in the health sector should be part of a broader strategy to address climate change at the global, national, and local levels. Collaboration between health professionals, policymakers, and environmental agencies is essential to protect public health in a changing climate. (Brownstein et al., 2012)

Adaptation for Infectious Diseases

The first crucial realization in this regard is that infectious diseases are caused by a variety of factors, including personal (behaviour), social (economics, health care), and environmental (including climatic circumstances). So, in addition to steps in the health sector, adaption measures should also be taken in the areas of meteorology (weather forecast and early warning systems), sanitation, and civil defence. Strategies implemented in these non-health sectors would

lessen the dangers of infection in the environment and increase the effectiveness of public services for the protection of the population.

A health sector adaptation strategy should concentrate on both primary prevention (reducing exposure to infection) and secondary prevention (healthcare).

Important health adaptation measures (Eisenberg, Kaur, Balakrishnan, Corloan, et al., 2012):

1. Due to the anticipated growth of the spread of endemic infections and the appearance of diseases in new places, epidemiological monitoring operations targeted to specific territories must be strengthened. This would be determined using data from climate scenarios that were scaled down to particular regions and their effects on disease cycles.
2. The creation of early detection systems for epidemics, particularly following severe hydro-meteorological events like storms and floods. After these occurrences, outbreaks of water-associated, water-borne, and mosquito-borne diseases are frequently recorded.
3. Strategies to make it easier to access healthcare services would help in the early detection and treatment of infections, perhaps preventing outbreaks. Preferably, this should target the more vulnerable individuals and regions.
4. Significant adaptation efforts should also be made in support of targeted disease and vector control initiatives, including entomological surveillance. By reducing the populations of pathogens, vectors, and animal reservoirs of infection, these activities would aim to lower the risk of infection.

The strategies mentioned above are predicated on the idea that existing infectious illnesses and other health outcomes will become more severe due to

the epidemiological changes brought on by climatic change. (Corvalan et al., 2010)

Mental Health and Climate Change

Climate Anxiety

The term "climate anxiety," which is also used to refer to "climate change anxiety" or "eco-anxiety," describes the distress, dread, and uneasiness that people may feel in response to the current and future effects of climate change. This emotional reaction may appear in a variety of ways, such as helplessness, grief, rage, or even despair. Concerns about the environmental and social effects of climate change, such as extreme weather events, rising sea levels, the loss of biodiversity, and the potential displacement of communities, are common sources of climate anxiety. (Corvalan et al., 2010)

The following elements affect climate anxiety:

Awareness: People may get more anxious as a result of increased media coverage and scientific information concerning the severity of climate change.

Personal impact: People may be concerned about how climate change will impact their personal lives, including how their homes will be safe, how they will obtain clean water and food, and how it will affect the welfare of future generations.

Grief and loss: People may feel grief and loss for the natural world as they observe environmental destruction, species extinction, and ecosystem degradation.

Feeling helpless: A sense of helplessness might result from the perception that one cannot significantly impact efforts to solve climate change, which exacerbates worry.

Interconnectedness: As individuals struggle with the intricate web of problems brought on by climate

change, seeing how intertwined environmental and social issues are can be daunting and anxiety-inducing.

It's critical to remember that climate anxiety is a typical emotional reaction to the world's climate problem rather than a clinical diagnosis. By promoting climate education, encouraging a sense of agency through climate action, and offering mental health help for those in need, numerous individuals and organizations are attempting to combat climate anxiety. (Campbell et al., 2015)

Various Psychological Barriers to Climate Change and Mitigation and Adaptation

Efforts to address climate change through mitigation (efforts to reduce greenhouse gas emissions) and adaptation (efforts to deal with and adjust to the repercussions of climate change) are significantly hampered by psychological hurdles. These obstacles might range from personal attitudes and ideas to more general societal and cultural influences. The following are some significant psychological obstacles to climate change adaptation and mitigation (Virulence et al., 2015):

1. **Distance and Abstraction:** People frequently perceive climate change as a remote and abstract issue, making it challenging for them to link their regular behaviors to its effects. This mental remoteness may result in a lack of personal interest and initiative.
2. **Temporal Discounting:** People frequently give short-term advantages precedence over long-term concerns. Since climate change is a long-term problem, people might put their immediate worries before taking steps to mitigate its effects in the future.
3. **Confirmation Bias:** People frequently look for data to support their current ideas and values.

In contrast to those who are concerned, individuals who are skeptical of climate change may actively seek facts that confirm their doubt.

4. **Social standards:** Groupthink and conformity to social standards can serve as roadblocks to taking action. People may be hesitant to articulate or act upon their own climate-conscious beliefs if the dominant social norm is to ignore climate change or to place a higher priority on economic growth than environmental concerns.
5. **Psychological Distancing:** When people believe that climate change will mostly harm far-off areas or future generations, they may feel less pressure to act now and feel less personal responsibility.
6. **Cognitive Dissonance:** When a person's actions conflict with their beliefs, they may experience cognitive dissonance. For instance, someone who realizes the gravity of climate change but keeps up high-carbon behaviors could feel uncomfortable; this discomfort might be alleviated by denial or justification.

It frequently takes deliberate communication techniques, education, and policy interventions to address these psychological hurdles to climate change mitigation and adaptation. To get through these obstacles and encourage increased engagement in combating climate change, it is important to instill a sense of urgency, emphasize the advantages of action, and offer specific, doable initiatives for individuals and groups. Furthermore, developing a feeling of group responsibility and highlighting the shared advantages of climate action can aid in bridging ideological gaps and advancing significant change. (Virulence et al., 2015)

Approaches to Address the Mental Health and Psychosocial Impacts of Climate Change

In order to effectively address the mental health and psychological effects of climate change, a multifaceted strategy including people, neighborhoods, governments, and other entities is necessary. Here are some methods to lessen and deal with these effects. (Engels et al., 2010):

1. **Increase Education and Awareness:**
Conduct public education efforts to increase understanding of the effects of climate change on mental health and the necessity of addressing those effects.

Include education about the climate: Include the effects of climate change on mental health in school curricula and community education initiatives.

2. **Services for Supporting Mental Health:**
Resources for mental health services should be increased to address the rising need for care associated with trauma and concern about the climate.

Provide training to mental health professionals so they can identify and treat psychological suffering linked to climate change.

3. **Interventions in the Community:**
Build resilience: Encourage community resilience through fostering social cohesion, creating robust social networks, and offering support services to assist people in coping with stress related to the environment.

Programs for community therapy: Establish community-based counseling and support networks to give people a safe place to express their worries and experiences about the environment.

4. **Mental Health First Aid:**
Prepare responders: Provide immediate aid to persons affected by climate-related disasters by teaching community leaders and emergency personnel psychological first aid.

Establish crisis helplines and support services to be available both during and after extreme weather events or disasters.

5. **Mental Health Care attuned to the Climate:**
Identify and treat emerging difficulties by incorporating assessments of the mental health of people in relation to the climate into routine medical visits.

Develop therapeutic strategies that are especially suited to addressing trauma and anxiety related to the climate.

6. **Assistance to Vulnerable Populations:**
Concentrate on communities at risk: Concentrate resources and actions on groups that are disproportionately impacted by climate change, such as indigenous peoples and low-income communities.

Consider displacement: Create plans to assist the displaced and climate-related populations' psychosocial and mental health needs.

7. **Collaboration on a Global Scale:**
Global cooperation: Encourage international cooperation and knowledge exchange on the most effective ways to handle the psychological and social effects of climate change.

Promoting climate justice will help to guarantee that the effects of climate change on mental health do not disproportionately affect vulnerable people.

It takes a comprehensive and well-coordinated approach from many different fields, including mental health, healthcare, education, environmental

policy, and community development, to address the psychosocial and mental health effects of climate change. Societies can more effectively assist people and communities in coping with the difficulties brought on by climate change by taking proactive measures and understanding the interaction between climate and mental health. (Crutzen, Lambin et al., 2007)

Impact of Climate Change on Human Health in India

Extreme Climate Scenario in India

Extreme climate scenarios in India are becoming increasingly common and pose significant challenges to the country's environment, economy, and society. While India experiences a wide range of climatic conditions due to its diverse geography, extreme climate events are characterized by their severity and the significant impact they have on various aspects of life. Here are some of the extreme climate scenarios that India faces (Houghton JT, Ding Y, Griggs DJ et al., 2014):

1. **Heatwaves:** India is prone to intense heatwaves, especially during the summer months. High temperatures can lead to heat-related illnesses, crop failures, and increased energy consumption for cooling.
2. **Monsoon Variability:** India's monsoon season is crucial for its agriculture and water resources. Variability in monsoon patterns, including delayed or deficient rainfall or extreme rainfall events, can lead to droughts or floods, affecting millions of people and agriculture.
3. **Cyclones:** Coastal regions of India, especially the eastern coast, are vulnerable to tropical cyclones. These storms bring heavy rainfall, strong winds, and storm surges, leading to flooding, infrastructure damage, and loss of life.

4. **Floods:** Flooding is a recurrent problem in many parts of India, triggered by heavy rainfall, dam releases, or melting snow in the Himalayas. Floods can displace populations, and damage crops, and infrastructure.
5. **Droughts:** Prolonged dry spells and water scarcity are common in several regions of India, affecting agriculture, drinking water supply, and livelihoods.
6. **Glacial Melting:** The Himalayan region, which provides water to major rivers in India, is experiencing glacial melting due to rising temperatures. This threatens water availability and can lead to downstream flooding.
7. **Landslides:** Hilly regions, such as the Western Ghats and the Himalayas, are prone to landslides during heavy rainfall. These can result in loss of life and property.
8. **Air Pollution:** India faces severe air pollution issues, particularly in major cities, due to industrial emissions, vehicular pollution, and agricultural practices. Poor air quality has health implications and reduces the quality of life.

India has been working on several efforts, such as climate adaptation and mitigation measures, creating robust infrastructure, and encouraging sustainable agricultural and water management techniques, to face these extreme climatic scenarios. To lessen the effects of climate change in India and around the world, international collaboration and initiatives to minimize greenhouse gas emissions are also crucial. (Hassol SJ et al., 2013)

Role of Climatic Change on Human Health in India

The effect of environmental change has been extensively sufficient to undermine human well-

being both straightforwardly and by implication through expanding temperatures, increasing ocean levels, water, and food supply influences, outrageous climate occasions like floods, dry spells, quakes, and so on, powerless sanctuary and populace movement. Direct impact of natural conditions might facilitate the dissemination of vector-borne sicknesses, water-borne illnesses, cardiovascular infections, respiratory sensitivities hunger, and so on. (Shrikhande S et al., 2017) Backhanded impacts of environmental change, for example, emotional wellness issues and compulsory relocation are additionally significant. Kids, the older, and networks are living in destitution among the most helpless of the harmful impacts of environmental change. Ecological outcomes environmental change, for example, outrageous intensity waves, rising ocean levels, changes in precipitation bringing about twisters, tremors, flooding and dry seasons, extraordinary typhoons, and corrupted air quality, influence straightforwardly and by implication the physical, social, and mental wellbeing of people. For example, changes in precipitations are making changes in the accessibility and nature of water, as well as bringing about outrageous climate occasions like extraordinary tropical storms and flooding (Daniel G. Brown et al., 2014). Seeing the aggregate pattern of the effect of environmental change on human wellbeing, execution of easing estimates like solidification wellbeing frameworks and administration conveyance components through early checking, infection examination, vector and infectious prevention, and health care coverage to counter the equivalent becomes legitimate. Interest in innovative work, well-being risk computation studies, weakness planning studies, arrangement of gauge conditions, situation demonstrating and acknowledgment of clean extension systems, and so on is the need of great importance. Financial matters would assume a significant part in fighting the likely danger. Nations with great Gross domestic product would

have the option to present the most ideal that anyone could hope to find devices of mediation and can top off the lacunae in the well-being framework. (Howard Hu et al., 2013)

Conclusion

In conclusion, the impact of climate change on human health is a multifaceted and pressing global challenge that requires urgent attention. As our planet's climate continues to change, it poses a wide range of direct and indirect threats to human well-being. From extreme heat events and air pollution to the spread of infectious diseases and disruptions in healthcare systems, the consequences of climate change on health are profound and far-reaching.

Research on the impact of climate change on human health is a complex and evolving field, and several research gaps need to be addressed to better understand and mitigate these effects. Some of the key research gaps include:

1. **Regional Specificity:** Climate change impacts on health can vary significantly by region. Research should focus on understanding how different climate-related factors affect health outcomes in specific geographic areas. This includes studying regional climate patterns, local vulnerabilities, and adaptation strategies. (George Luber et al., 2008)
2. **Long-term Health Effects:** Many studies have focused on immediate health impacts, such as heat-related illnesses or extreme weather events. More research is needed to understand the long-term health consequences of climate change, including chronic diseases, mental health issues, and the cumulative effects of repeated exposures. (Natasha Prudent et al., 2009)
3. **Complex Interactions:** Climate change interacts with multiple environmental and social factors. Research should explore the

complex interactions between climate change, air quality, water quality, infectious diseases, and socioeconomic factors to better predict health outcomes. (Claessens YE, Taupin P, Kierzek G et al., 2008)

4. **Healthcare Infrastructure:** Climate change can strain healthcare systems, leading to disruptions in healthcare delivery. Studying the resilience of healthcare infrastructure in the face of climate-related challenges is essential to ensure public health preparedness. (Watts N, Adger WN, Agnolucci P, et al. Health and climate change: \policy responses to protect public health. Lancet 2015; 386: 1861–91)
5. **Psychological Health:** Climate change-related events like extreme weather events, displacement, and loss of livelihoods can have profound psychological impacts. Research should delve into the mental health consequences of climate change and develop strategies for resilience and coping. (Nusbaum N et al., 2016)
6. **Economic Costs:** Understanding the economic costs of climate change-related health impacts is crucial for policy decisions. Research should assess the direct and indirect economic burdens placed on healthcare systems, communities, and individuals. (Weiss MG, Saraceno B et al., 2013)
7. **Data Collection and Surveillance:** Improved data collection and surveillance systems are needed to monitor climate-related health impacts. This includes standardized methods for tracking health outcomes, environmental exposures, and adaptation measures. (Rodriguez H et al., 2014)
8. **Communication and Education:** There is a need for research on effective communication and education strategies to raise awareness about climate change and its health impacts.

This includes studying how to effectively convey information to different audiences and motivate behavioral changes. (Crossref, Medline, et al., 2014)

9. **Interdisciplinary Collaboration:** Climate change and health are multifaceted issues that require interdisciplinary collaboration between climate scientists, epidemiologists, healthcare professionals, social scientists, and policymakers. Encouraging such collaboration is crucial for advancing research in this field. (Schwartz S, White et al., 2011)

Addressing these research gaps is essential for developing evidence-based policies and interventions to protect human health in the face of climate change. It will also help communities and governments better prepare for and adapt to the evolving challenges posed by a changing climate.

It is evident that vulnerable populations, including low-income communities and marginalized groups, are disproportionately affected, underscoring the importance of addressing health disparities in climate adaptation and mitigation strategies. Additionally, the long-term health effects and complex interactions between climate-related factors and other environmental and social determinants of health demand continued research and a holistic approach to understanding and addressing these challenges.

Efforts to protect human health in the face of climate change require not only scientific research but also interdisciplinary collaboration, effective communication, and informed policy decisions. Mitigation measures to reduce greenhouse gas emissions and adaptation strategies to build resilience at the community and individual levels are vital components of a comprehensive response.

In essence, the impact of climate change on human health is a critical aspect of the broader climate crisis. Addressing this issue requires a coordinated,

global effort to reduce emissions, enhance preparedness, and prioritize the health and well-being of all populations, especially those most at risk. By taking proactive measures and investing in

research, education, and sustainable practices, we can strive to protect current and future generations from the adverse health effects of a changing climate.

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Reimagining Prosperity: Social and Economic Development in Post-COVID India¹

Book Review

Reviewed by Dr. Narayan Barman

Research Associate, Tata Institute of Social Sciences, Mumbai.

This empirically nuanced edited volume examines the discourse on 'the dynamic of the social and economic landscape of the post-COVID period of India.' The book highlights the existing fault line of India's socio-economic spectrum which has been stretched rigorously during and after the COVID-19 period and also directs to the way to deconstruct it. India, such a vast country with its heterogeneous society and economic activities, the country has been severely affected by the consecutive COVID-19 wave. Due to the infectious character of the COVID-19 virus, the government has declared a strict lockdown over the country and issued the instructions to maintain physical distance. Thus, most of the production, and transport activities have been shut off and millions of migrant workers who were working in the city areas were forced to return to their native place. Similarly, the consecutive COVID-19 wave and consequent lockdown paused economic activities and pushed millions of informal workers who constitute about 93 percent of the country's working force into the plight of a livelihood crisis. From this adaptive and transformative phenomenal background, the book brought collective socio-economic and political discourse to us.

In Chapter 1, the authors' analyses the current world system where the powers of the world work for elite and hegemonic groups which do not follow equal representativeness and decentralization of power distribution. Therefore, when the world goes

through an emergency phenomenon like the COVID-19 period, this power system becomes a hindrance to the overall development of the people. They elaborated that, rural-urban migration is the fundamental injustice of partial and concentric development policy and it has occurred in an unequal industrial society due to monopolized economic and social policy by enhancing the techno-centric production system. They argue that over periods, industrializations accumulated the economic activities within particular centers i.e. urban areas. As a result, this industrial center attracts counter parts of rural areas people by providing their livelihood but it not able to sustain their livelihood for a long time. Rather these processes de-skilled millions of labour force and made them dependent by weakening the small crafts and village economy which ultimately disempowered to rural population. Thus, the authors advocated to develop such an economic system and political order that constitutes equal representation and hold the ability to cope with all kind of emergencies and deconstruct a balanced and sustainable society.

Chapter 2 discussed the inter-sectional risk and vulnerability of the informal workers of the Indian economy. In the Indian economy, about 93 percent of the workforce engaged in informal economies and most of them come from the lower castes/class, backward castes, women, and minority communities and they are vulnerable due to a lack

of legal professional entitlement. During the pandemic period, a large number of these informal workers lost their jobs due to the sudden lockdown and could not get back in the workplace even after the pandemic period. Consequently authors emphasized inclusive economic institutions rather than extractive institutions which do not bother about welfare of equal distribution of resources and foster economic and social inequalities.

Chapter 3 attempts to address the fault lines of the Indian economy with respect of caste, class, and gender. The author assessed how the century-old castes system restricts the people even today in their upward mobility and deprived of their rights, and due to the COVID phenomenon this backward, lower castes populations are severely affected in respect of their livelihood compared to their counterparts upper castes advantaged groups due they're over participation in informal sectors. The women who lost their job during the pandemic period, could not able to get back in their work place because of their limited opportunities which exacerbated the gender inequality after the pandemic. The authors blame for all these inequalities on extractive economic policy which is not able to do equal economic and social justice and provide the unequal in society. Hence authors suggested investing more in public and private funds to create equal physical infrastructure like judiciary, education, and health system to boost inclusive economic and social policy.

Chapter 4 analyses the key factors of inequality in India and raises questions on India's long-cherished caste systems which perpetuated unequal social and economic justice in society. The authors opined that this century-old fault line of Indian society stretches more inequality in respect to accessing resources, education, and health facilities among different classes and castes after the COVID pandemic period. Labour laws reforms gave the more flexibility in the workplace but do not ensure labour entitlements. Thus, particular classes of the

population who overwhelmingly participated in the informal sectors are forced to work more than before the pandemic period without their entitlements and incentives.

Chapter 5 reveals the inter-age and inter-sectional trend of employment and unemployment scenarios in the country. In contrast, special attempts have been made to highlight the rural-urban trend of employment and unemployment. The authors argue that not necessarily education is the key factor to get employment, rather than individual and social motives, professional skills and accessibility of opportunities also determine the employability of the people. The study shows that the lower castes educated sections like Scheduled Castes and Schedule Tribes youths are highly unemployed compared to their counterparts Other Backward Castes and General Castes who have higher accessibility of resources and opportunities due to their historical socio-economic advantages among Indian society. They also highlight the gender perspectives on employment and unemployment scenarios and give pictures on how women are restricted from entering in the workplace due to their limited mobility in society. Among the higher educated youths, the trend of unemployment is higher among the urban areas and higher castes due to their higher professional options. Likewise, the trend of unemployment is higher among the educated than the uneducated sections of the youth.

Chapter 6 shows how in the patriarchal social structures women's contributions are devaluated. Because of social stereotypes and prejudices women are restricted from moving across the workplace. They get limited choice for employment which is often low-paid and unpaid works, they face discrimination in respect of payment and incentives and are force to work in extreme work conditions. Frequently women struggle with wage discrimination and overworking hours which fall in work based trauma

and related diseases like back pain and other gynecological diseases. The authors also assessed the gendered impact of the COVID-19 pandemic and shows how the pandemic impacted discriminatorily to women, they faced more burden related to work and workplace and forced to work in less pay than earlier. Women are mostly participated in the informal sectors who lost their job during the pandemic and could not able to return their workplace or participate in other work without proper payment and incentives.

Chapter 7 is a longitudinal study, where the authors has analyses how the concurrent developmental process ignores the most disadvantaged society of the country and pushed them into livelihood crisis over the period. Conventional development approaches highly neglect in inclusion of disadvantaged groups like indigenous populations, therefore for long they did not able to come up in the mainstreams of society, and still, their socio-economic and livelihoods are overwhelmingly dependent on traditional intensive activities like agriculture. Tribal societies are facing numerous livelihood-related crisis such as limited land holding, deforestation, and climate change which forces them to search for alternative livelihoods. He argues that because of the scarcity and high vulnerability in traditional livelihoods, tribal populations are forced to migrate to the urban centers to search the alternative livelihoods. In the destination place, they participate in informal work which is excluded from any social and economic security which prevents them in their upward mobility.

In Chapter 8, the authors highlighted the transformation scenarios of Indian agriculture and its agricultural societies. The study shows how a food grain deficit state became a food grain export country. On the other hand, it also brings out the gaps of the Indian agricultural systems and policy which creates vast spatial and intersectional differences. India experienced an exponential

increase in agricultural production in a result of the green revolution, but it has a great limitation, the benefits of the green revolutions were only few states and were mostly limited in the north-western part of the country which created the vast difference of agricultural production across the country and stretches the economic inequalities among agricultural society. Similarly, mechanization and commercialization which have been introduced in these sectors also gave the advantages mostly to rich farmers and men who constitute a small portion of India's farmers sections.

Chapter 9 assesses the impact of COVID-19 and subsequent lockdown on food and nutrition in India., a large number of India's population already suffered from problems like malnutrition and food security which became more complicated over time particularly during the COVID-19 period, in this period due to consecutive COVID wave and strict lockdown India's transport sector has been affected badly, except emergency service all the transport system was closed which effects food distribution system as well as to agricultural production. Authors reveal that the pandemic has persuaded India's malnutrition of child and women, however, schemes like Jan Dhan Yojana, and Pradhan Mantri Gareeb Kalyan Yojana gave great relief in this regards.

In Chapter 10, the authors' raise questions on the traditional development and growth model where we only look after GDP growth rather than the actual socioeconomic developments of the people. The study shows how India's traditional food, nutrition, and rural economy has been collapsed by the imposition of liberalization, commercialization and privatization which creates a great fault line between poor and rich in respect of food availability and nutrition. In addition, the HYV has changed agricultural practices which has helped to become extinct of the local breads and made the farmers more dependent on markets. Therefore, the authors recommended more de-centralization and

specializations of agriculture, industrialization as well as food distribution to give more access of food and resources to common people.

Chapter 11 assesses the contemporary water issues of India, as indiscriminate use of water for irrigation and the absence of conservation efforts have left over 10 percent of water bodies in rural areas redundant. Similarly, due to limited availability and unequal distribution of water, a large portion of the Geographical area and their population are struggling with the water crisis. On the other hand, due to over-exploitation of water like river water, and ground water, India's water health has been highly decreased after independence. In 75 years since independence, annual per capita water availability has declined by 75 percent i.e. from 6,042 cubic meters in 1947 to 1,486 cubic meters in 2021. Hence author advocated for sustainable water management by implementing the 'The National Water Framework Law, 2018.'

Chapter 12 broadly reveals the water crisis-based issues, where the authors show how Indians are suffering from the worst water crisis in its history and thus millions of lives and livelihoods under threat. He argued that only water policy is not enough to deal with the deep-seated water crisis in the country, rather than he directed the radical water reform to cope with this situation. Subsequently, he assesses some concepts i.e. Anthropocene, Climate Change, and Hydraulic Mission to conceptualize the water crisis of India in this study.

Chapter 13 analyses the accessibility of water from an unconventional point of view. As author argues that the water crisis not a physical crisis, rather than it is a distributional crisis and it is highly varies among the different geographical regions due to natural and other anthropogenic factors. The study brought the inter-sectional lens to show the unequal water distribution assesses how women bear the burdens of water management in the family as well

as in society. In addition, he highlights the unequal distribution of water among various classes, different regions like rural-urban and peri-urban areas, and lastly discusses how water management becomes an emerging academic discourse.

Chapter 14 is dedicated to highlighting the impact of COVID-19 on Street Vendors, an important sector of India's informal economy. National policy for urban street vendors estimated that street vendors constitute 2 percent population of the country's metropolis where the total population of India's street vendors is about 10 million (Bhowmik, 2005). These large amounts of populations and their livelihood are severely impacted due to COVID-19 and the consequent lockdown. Due to the sudden implementation of the lockdown, they stopped their street entrepreneurship helplessly for a long time, therefore when they reopened their shops again after COVID-19, they lost their customers. A large number of vendors also lost their previous locations which they occupied before the pandemic period. The authors also analyse the policy failure in respect of street vendors and show how the government schemes like the Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014, Pradhan Mantri Street Vendor's AtmaNirbhar Nidhi scheme could not able to curtail the livelihood hurdled of the street vendors due to lack of accessibility of the scheme's benefits.

Chapter 15 reveals the lived experiences of women domestic workers during the pandemic period. The employability and livelihoods of a large number of women domestic wage workers faced severe shocks and instability due to the imposition of consecutive lockdowns and various restrictions in 2020 and 2021. The study provided a broad intersectional scenario of women domestic workers in urban settings with their motivations to enter this sector. While most of the women come from disadvantaged groups, they participate in wage

domestic work to earn some extra money and reduce the dependency on the single earner of the family. During the pandemic, a large section of migrant women wage domestic worker loses their jobs and were force to return to their native place which deprived them socially and economically hence women are helpless to shoulder the extra responsibility in respect of work hours in the workplace as well as their own household. Apart from that author also shows the impact of the schemes like Public Distribution System, Pradhan Mantri Garib Kalyan Package, and Mahatma Gandhi Rural Employment Guarantee Act on these migrant informal workers.

Chapter 16, entitled “Impacts of COVID-19 on Public Health in Urban Slum in India and Lessons for the Future” authors shows how essential medical facilities in slum areas were neglected during the pandemic period. In Indian cities, around 40 percent population lives in slum areas which constitute mostly urban poor, migrant, socially disadvantaged groups, and minorities. This large section of the population often live without proper civil amenities like improper hygienic conditions, and lack of public health facilities. However, during a nationwide health emergency like COVID-19 induced pandemic, these urban disadvantaged sections are highly neglected from public health facilities. The authors analyses the impact of the lockdown on slum dweller and discuss basic health issues related to COVID-19 and other non-COVID health care and posturized how the chain of healthcare services was disrupted which pushed the urban slum dwellers in life-

threatening condition in respect of maternity health care, child health care, and immunization services to an infant. In addition authors also highlighted the livelihood crisis of urban slum dwellers during the lockdown period and, the impact on child education, food, and nutrition which were severely affected to this disadvantaged urban population.

In the concluding chapter titled “Whose Knowledge Makes a City Smart? Exploring Conceptions of the Role of Knowledge in Urban Policy in Indore, India”, the authors attempts to conceptualize the smart city and gave a holistic approach to “Smart City” by emphasizing on inclusivity and public participation on the development of the city. He discusses the longitudinal paradigm shift of Indian urban policy from the early twentieth century to the inception of the latest Smart City Mission 2015 and assesses chronological changes in city planning and their morphological transformations over the time. Finally, the authors advocated for inclusive knowledge-centric city regions that could share the equal stakeholders of the city's population irrespective of class and castes to makes the better urban planning.

Detailed notes and extensive indexing enhanced the value of this scholarly effort multifold. Scholars and academicians who are interested in Economics, Gender Studies, Sociology, Political science and other inter-disciplinary subjects will find this empirical dense book immensely educative to temperance of their inquisitive mind.



ROUND & ABOUT

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Good Practices in the Delivery of Service by Municipal Corporations

As we know, good practices by organizations are such new practices, methods of doing things in a better way with better results, which brings improvements in the services offered by the organizations in its field of activity. Such news spreads fast as others in the field catch them. This is particularly so in respect of public institutions which have a common agenda. Often such good practices are compiled to serve as examples to others.

Recently, two such good practices by two municipal corporations have made news. A brief account of them is as follows:

Use of GPS for tracking sanitation workers by Pune Municipal Corporation: As a matter of daily cleaning in the city hundreds or thousands of sanitation workers spread in all the wards, localities and places in the city to perform sanitation works. It is not uncommon for a corporation or its wards to receive complaints from one place or the other. The Pune Municipal Corporation has taken a significant step towards optimizing the efficiency of sanitation works and monitoring overwork by making use of GPS technology. With the city producing a staggering 2200 tons of waste daily and a workforce of around 15 thousand individuals engaged in waste management, the present control is exercised on a ward and local beats basis, but the monitoring was not foolproof. To harness the full potential of the sanitation workforce, initially, nearly 1 thousand workers in the Aundh-Barner-Balewadi Ward office's jurisdiction were monitored using GPS wristbands. The system primarily focuses on monitoring cleanliness, garbage collection, and transportation within the domain of the respective field offices. With immediate access to information about assigned areas and completed tasks, workers can be more efficiently directed. Under the system, data is collected on the amount of waste transported to processing centres, by detailing the originating vehicle and processed volume.

- GPS wristband is assigned to employees.
- The bands record work hours, distances travelled and are supervised from the control room.

The result was very encouraging. The model will extend to the whole area of the Corporation from September, 2023.

[Reference: <https://punekarnews.in>, 18 August 2023]

Mira Bhayandar Municipal Corporation Goes Paperless: The Computerization of municipal corporations started in the 1990s. As a first step, they had placed all their forms for obtaining municipal licenses and other services on their websites. Since then there has been steady progress in extending IT

tools to all other departments. For any service-rendering organization **going paperless** is the ultimate goal in this respect. Such an achievement has a range of benefits including easier, more accurate and faster delivery, saving of papers, an environment-friendly practice, etc. Recent good news is that Mira-Bhayandar Municipal Corporation (MBMC) has gone paperless with all the departments going digital. The National Informatics Centre (NIC) has issued a certification of an e-office system to MBMC. Its various departments- property tax, water tax, town planning, solid waste management, and licensing- will now compete with each other for 'good governance' ranking. Shifting to e-governance requires a lot of effort. As per the report, all 250 Class I to Class III employees have been selected for training in the digitalization process. The training inter alia included a change in the mindset of staff to adapt to new technologies. The 21-year municipal corporation has been offering online services like property tax, water tax payments, commencement of construction and occupation certificate, online complaints and e-tenders. The State Government had last December directed all government departments to go paperless to improve the quality of service to the public. Other corporations will also follow suit, although most of them have computerized their operations substantially.

[Reference: The Times of India, Mumbai, 14 November, 2023]

Regional Rapid Transit System (RRTS)

We all know, rather amazed at how the state-of-the-art Metro system in Indian cities is transforming local travel into a fast and comfortable commutation, a major improvement over the earlier congested, crowded, bottlenecked local travel of buses and other means of road transport. Metro lines have been introduced in a good measure in the cities and many more are under rapid construction. Along with this stupendous progress in the transport sector, India is also introducing the Regional Rapid Transit System (RRTS) in the Delhi NCR. In October 2023 Prime Minister Mr Narendra inaugurated the first leg of the RRTS, India's first mass rapid system dedicated to regional connectivity, capable of running at speeds up to 180 km/hour, trains on the first section which will cut the travel time between Delhi and Meerut to less than an hour.

What is the RRTS Project? RRTS is an integrated, mass transit network which aims to ensure balanced and sustainable urban development through better connectivity and access across the NCR. Its origin lies in a study that the Indian Railways was commissioned to carry out in 1998-99, which identified the possibility of an RRTS network to connect various locations in the NCR through fast commuter trains. The proposal was re-examined



in 2006, with the extension of the Delhi Metro lines to some NCR towns such as Gurgaon, Noida and Ghaziabad. Then it was taken by the National Capital Region Planning Board (NCRPB), which identified and recommended eight RRTS corridors to connect NCR towns.

The project is being handled by the National Capital Region Transport Corporation (NCRTC), a joint venture of the Centre and the governments of Delhi, Haryana, Rajasthan and Uttar Pradesh, which built the RRTS also known as **Namo Bharat**.

How is RRTS different from Metro, railways?

Compared with metros, the RRTS network is faster. It will cater to commuters who want to travel relatively longer distances across the NCR in a shorter time. Compared with the Indian Railways, though the RRTS train will cover small distances, it will do so at a higher frequency and provide more comfort than the average Railways coach.

Speed: RRTS trains will operate at 160 km/hour but are designed to run at speeds up to 180 km/hour. Delhi metro trains can operate at 100 km/hour to 120 km/hour, and the Airport Express Line operates at 120 km/hour.

What is the objective behind RRTS?

The RRTS seeks to unlock the entire potential of the NCR in addition to enhancing multi-modal connectivity. One of the most significant aims of the project is to nudge commuters towards public transportation and relieve congestion on its roads as well as metro and railway networks. In terms of the economy, the project aims to give a push to employment generation and opening up of newer commercial hubs along the current contours of the NCR. Shorter travel times are expected to increase the overall economic productivity of the region and allow more economic activity in and around suburban locations in Uttar Pradesh, Rajasthan and Haryana.

Expected completion: The P.M. has inaugurated a 17 km stretch classified as the priority section of the 82 km Delhi-Ghaziabad-Meerut RRTS corridor, which has 16 stations. Of these, the priority section has five: Sahibabad, Ghaziabad, Guldhar, Duhai and Duhai Depot. The entire corridor is expected to be operational by 2025.

[References: (1) Website of National Capital Region Transport Corporation <https://ncrtc.in/>; (2) The Times of India, Mumbai, 20 October, 2023]

More Fossil Fuel Production Despite Commitments of Emission Reductions!

The 2023 Production Gap Report: “Phasing down or phasing up? Top fossil fuel producers plan even more extraction despite climate promises”

The main and major cause of emissions and consequent climate change is the use of fossil fuels (petrol, diesel, coal). They account for 90% of the carbon dioxide emissions. The first international treaty in the form of the Kyoto Protocol under the auspices came into force on 16 February 2005, which inter alia, imposed binding commitments on 37 industrialized nations to reduce greenhouse gas emissions to 5% below 1990 levels. This treaty was succeeded by the Paris Agreement in 2015, according to which, inter alia the developed countries are still enjoined to bring about absolute reduction of emissions, and developing countries to step up efforts to reduce emissions and were encouraged to move to absolute reductions. Despite such pledges, and a hue and cry over the hazards of climate change noticed by the day across the globe, not only the production of fossil fuels is reducing, but on the contrary, their production is increasing continuously. This anomaly is rightly brought out in a report, whose excerpts are produced below:

The above-titled report is produced by the Stockholm Environment Institute (SEI), Climate Analytics, E3G, International Institute for Sustainable Development (IISD) and the UN Environment Programme (UNEP). It assesses governments' planned and projected production of coal, oil, and gas against global levels consistent with the Paris Agreement's temperature goal.

Excerpts

“Governments are literally doubling down on fossil fuel production; that spells double trouble for people and planet,” said UN Secretary-General António Guterres. *“We cannot address climate catastrophe without tackling its root cause: fossil fuel dependence. COP28 must send a clear signal that the fossil fuel age is out of gas — that its end is inevitable. We need credible commitments to ramp up renewables, phase out fossil fuels, and boost energy efficiency while ensuring a just, equitable transition.”*

July 2023 was the hottest month ever recorded, and most likely the hottest for the past 1,20,000 years, according to scientists. Across the globe, deadly heat waves, droughts, wildfires, storms, and floods are costing lives and livelihoods, making clear that human-induced climate change is here. Global carbon dioxide emissions — almost 90% of which come from fossil fuels — rose to record highs in 2021–2022.

The 2023 Production Gap Report provides newly expanded country profiles for 20 major fossil-fuel-producing countries: Australia, Brazil, Canada, China, Colombia, Germany, India, Indonesia, Kazakhstan, Kuwait, Mexico, Nigeria, Norway, Qatar, the Russian Federation, Saudi Arabia, South Africa, the United Arab Emirates, the United Kingdom of Great Britain and Northern Ireland, and the United States of America. These profiles show that most of these governments continue to provide significant policy and financial support for fossil fuel production.

“We find that many governments are promoting fossil gas as an essential 'transition' fuel but with no apparent plans to transition away from it later,” says Ploy Achakulwisut, a lead author on the report and SEI scientist. “But science says we must start reducing global coal, oil, and gas production and use now — along with scaling up clean energy, reducing methane emissions from all sources, and other climate actions — to keep the 1.5°C goal alive.”

Despite being the root cause of the climate crisis, fossil fuels have remained largely absent from international climate negotiations until recent years. At COP26 in late 2021, governments committed to accelerating efforts towards “the phase down of unabated coal power and phase-out of inefficient fossil fuel subsidies”, though they did not agree to address the production of all fossil fuels.

[Reference: UNEP: <https://www.unep.org/news-and-stories/press-release/governments-plan-produce-double-fossil-fuels-2030-15degc-warming>].

Conference of Parties 28 Held At Dubai

The biggest event of the quarter, as regards the environment, was the Conference of Parties (COP) 28 was held in Dubai from 30 November to 12 December 2023. The COPs are the annual conferences under the auspices of the United Nations Framework Convention on Climate Change (UNFCCC). It is an international treaty of the parties (countries) who are united to co-operatively consider what they could do to limit average global temperature increase and the resulting climate change, and to cope with whatever impacts were, inevitable.

This was a pledge entered into in 1994, to take voluntary actions to prevent dangerous anthropogenic [human-caused] interference with the climate system. The representatives of 195 member countries including the heads of state, high officials, climate negotiators, journalists, world media, and NGOs gather at the event where deliberations take place as regards the state of affairs in respect of advancing dangers of climate change, and measures to tackle them.

Some excerpts from the Press Release of the Final Agreements reached at Conference of Parties 28:

UN Climate Change News, 13 December 2023 – The United Nations Climate Change Conference (COP28) closed today with an agreement that signals the “beginning of the end” of the fossil fuel era by laying the ground for a swift, just and equitable transition, underpinned by deep emissions cuts and scaled-up finance.

In a demonstration of global solidarity, negotiators from nearly 200 Parties came together in Dubai with a decision on the world's first 'global stocktake' to ratchet up climate action before the end of the decade – with the overarching aim to keep the global temperature limit of 1.5°C within reach.

The stocktake recognizes the science that indicates global greenhouse gas emissions need to be cut 43% by 2030, compared to 2019 levels, to limit global warming to 1.5°C. But it notes Parties are off track when it comes to meeting their Paris Agreement goals.

Helping countries strengthen resilience to the effects of climate change

The two-week-long conference got underway with the World Climate Action Summit, which brought together 154 Heads of State and Government. Parties reached a historic agreement on the operationalization of the loss and damage fund and funding arrangements – the first time a substantive decision was adopted on the first day of the conference. Commitments to the fund started coming in moments after the decision was made, totalling more than USD 700 million to date.

Increasing climate finance

Climate finance took centre stage at the conference, with Stiell repeatedly calling it the “great enabler of climate action.”

The Green Climate Fund (GCF) received a boost to its second replenishment with six countries pledging new funding at COP28 with total pledges now standing at a record USD 12.8 billion from 31 countries, with further contributions expected.

Eight donor governments announced new commitments to the Least Developed Countries Fund and Special Climate Change Fund totalling more than USD 174 million to date, while new pledges, totalling nearly USD 188 million so far, were made to the Adaptation Fund at COP28.

“We must get on with the job of putting the Paris Agreement fully to work,” said Stiell. “In early 2025, countries must deliver new nationally determined contributions. Every single commitment – on finance, adaptation, and mitigation – must bring us in line with a 1.5-degree world.”

“My final message is to ordinary people everywhere raising their voices for change,” Stiell added. “Every one of you is making a real difference. In the crucial coming years, your voices and determination will be more important than ever. I urge you never to relent. We are still in this race. We will be with you every single step of the way.”

[Reference: UNFCCC Website: <https://unfccc.int/news/cop28-agreement-signals-beginning-of-the-end-of-the-fossil-fuel-era>]

Six Growth Centres and a New Town Planned in Mumbai Metropolitan Region

Those concerned with urbanization in India have long been reading or hearing a repeated cliché that India is witnessing rapid urbanization and infrastructure development lacking. For the last decade picture seems to be changing for the better, thanks to a range of National Missions in the urban sector and the crucial role being played by *Metropolitan Regional Development Authorities* across the States of India. While the municipal corporations focus on their cities and are recipients of the funding under the national missions, the metropolitan region development authorities (who act as *special planning authorities*) supplement the efforts of the municipal corporations for infrastructure in the city and further, they are concern themselves with the infrastructure development and growth centres having an impact on industrial and economic development in the metropolitan regions. Many regions in India are experiencing bustling activities of development. The NCR and the Mumbai Region are among the forefronts.

The Mumbai Metropolitan Region Development Authority (MMRDA) has a budget for 2023-24 of the order of Rs 28,704.98 crore with a thrust on projects in the region.

In addition to several mega infrastructure and development projects, the MMRDA recently announced that it is planning to develop growth centres and three industrial growth centres along with a -

- (1) A growth centre under its Special Planning Authority in Kalyan.
- (2) Kharbav Growth Centre, strategically located in Bhiwandi Taluka near Bhiwandi Nizampur City Municipal Corporation;
- (3) Poynad Growth Centre in Alibag Taluka.

The Kharbav Growth Centre is expected to attract investment opportunities because it connects with several upcoming major infra projects like the Virar-Alibaug multi-modal Corridor, the Mumbai-Ahmedabad High-Speed Rail (HSR) and the Dedicated Freight Corridor (DFC).

The Industrial Growth Centres (IGC) include Angaon IGC, Sape IGC, and Amba IGC. These are forecasted to be catalysts for economic growth in their respective micro-regions, enhancing employment and connectivity, and contributing to the industrial development, specifically in the manufacturing sector and high-end industries.

Dr. Sanjay Mukherjee, the Metropolitan Commissioner, of MMRDA, stated in a press statement that “*MMR is a robust contributor to the economy of Maharashtra and the entire nation, contributing about four per cent to the country's GDP. MMT is projected to contribute 0.35 trillion US dollars to the Indian economy by 2028, making development a key factor.*”

Setting up a new town is big news for the urban sector as every town comes up with the best urban planning designed on virgin lands. In these columns, the Urban World, in an earlier issue, had briefly

reported the coming up of a state-of-the-art new town NAINA near New Mumbai. With the completion Mumbai Transport Harbour Bridge nearing completion, news of the setting up of a new town in the area is cheering news. This was announced by the Metropolitan Commissioner in a function held in Mumbai on 6 December 2023.

[References: (1) Website of MMRDA; (2) The Times of India, Supplement Real Estate, 14 October 2023; and (3) Loksatta, Mumbai, 7 December 2023]

443 Died while Cleaning Septic Tanks and Sewers in 6 Years

India is on a roll in all sectors. It has the fifth largest economy and is on the march to become the 4th largest one. The incomes of the people have increased substantially. More and more people are finding a place in the Forbes magazine for their stupendous wealth. About 8 crore people have filed income tax returns for the FY 2022-23, which broadly indicates that they had a minimum of about 5 lakhs or more. With this all-round prosperity, the above news that 443 died while cleaning septic tanks and sewers in six years, comes as a blemish on the front of social justice. This was a reply to a parliamentary question replied by the Minister of State of Social Justice on 6 December 2023. This report does not mention the number of people whose health has been damaged due to the cleaning of sewers, because sewers with their poisonous gases are death chambers. During the same reply, the Hon'ble Minister stated that out of 766 districts, 714 districts have reported that they are free from manual scavenging as of 2023, i.e. ten years after manual scavenging was banned in the country by an Act of Parliament.

[Reference: The Times of India, Mumbai, 6 December, 2023]

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