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FROM THE EDITOR-IN-CHIEF

“Youth power is both the agent of change and also the beneficiaries of change”

Shri Narendra Modi

The global youth population, aged 15-24, is approximately 1.2 billion, representing 16% of the world's total population. Asia hosts over 60% of the global youth. Engaging youth, defined as individuals aged 15 to 29 according to India's National Youth Policy of 2014, is essential for realising India's Urban Vision 2047. In 2021, the Indian youth were 37.14 crore which is about 27.3% of India's total population of 1.41 billion. The median age of the Indian population is projected to be 31 in 2030 compared to 42 in China and 40 in the US, thereby making India a country with the largest working-age population in the world. This demographic is crucial for shaping future economic, social, and political landscape. The young, heavily concentrated in urban areas, presents both challenges and opportunities. As they constitute a significant section of the population, their involvement in planning, policy-making, and entrepreneurship is essential for driving sustainable development, ensuring vibrant, resilient cities that cater to the demands of a rapidly expanding urban population.

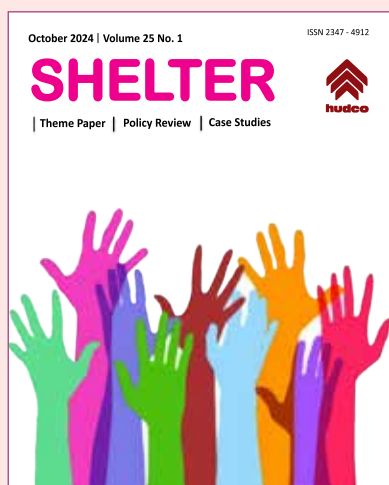
Realising the need to unlock the potential of the Indian youth, the Union Budget 2024-25 for India allocated a total of ₹2 lakh crore to provide employment and skilling opportunities for 4.1 crore youth over five years. The Government of India has introduced a range of initiatives to boost youth education, skill development, innovation, and overall progress. The budget allocates ₹15,000 crore specifically for digital literacy and technological training, equipping young people with vital skills for the digital economy. Key reforms of the government include the National Education Policy (NEP) 2020, a landmark measure promoting holistic, multidisciplinary learning and early integration of vocational education. Additionally, programmes like the National Urban Learning Programme and the Green Schools Programme embed urban planning and sustainability into school curricula, raising awareness among students. To bridge the skills gap, the Skill India Mission was launched, aiming to train over 40 crore youth in various skills through programmes like Pradhan Mantri Kaushal Vikas Yojana (PMKVY) and the National Apprenticeship Promotion Scheme (NAPS). These initiatives focus on industry-relevant skills, making the youth more employable and competitive globally. The Atal Innovation Mission (AIM) fosters a culture of innovation and entrepreneurship among young people. Through initiatives like Atal Tinkering Labs (ATL) in schools and Atal Incubation Centers (AIC), AIM provides a platform for students and entrepreneurs to develop innovative solutions for real-world problems.

Additionally, the Government of India has launched several Entrepreneurship and Skill Development Programs to stimulate economic growth and empower individuals. With an allocation of ₹25,000 crore for job creation initiatives, including support for startups and small businesses, the goal is to generate new employment opportunities and foster a supportive environment for innovation and entrepreneurship. The Startup India program assists young entrepreneurs by offering funding, mentorship, and streamlining regulatory processes, thereby fostering a strong startup ecosystem. Additionally, the government will facilitate internships for one crore youth across 500 companies over five years. Interns will receive a monthly stipend of ₹5,000, while companies will cover the training expenses. These extensive measures by the government are crucial in empowering India's youth, helping them play a significant role in the nation's socio-economic development, with employment serving as a key pathway out of poverty.

Engaging youth in urban planning fosters innovative solutions tailored to community needs, enhancing inclusivity and sustainability. Initiatives that actively involve young people—through workshops or advisory panels—allow them to contribute unique perspectives in shaping urban environments. Furthermore, youth-led initiatives in disaster preparedness empower young people to advocate for safety measures and disseminate preparedness knowledge within their communities, fostering a proactive approach to resilience. With the extensive reach and nationwide presence of youth volunteers from the National Service Scheme (NSS), National Cadet Corps (NCC), and Bharat Scouts and Guides Programs—all supported by the Government of India—the country has been able to effectively respond to major natural disasters, including the 2024 Wayanad landslide in Kerala.

This issue of Shelter adopts the World Habitat Day theme of “Engaging Youth to Create a Better Urban Future,” and underscores the importance of involving young people in shaping their urban environments and futures through participatory processes and local leadership. The journal features a range of articles arranged into three sections. These articles offer a range of insights and perspectives into the crucial role young people play in shaping a more vibrant urban future. The issue explores the involvement of young people in influencing urban development, while

INSIDE



also addressing the challenges of equipping the young people and readiness needed to actively participate in shaping the future of our cities.

The theme paper by Adishree Panda emphasises the significance of effective urban governance from a youth's perspective in tackling the well-being challenges faced by vulnerable groups in our community. The paper by Dr. Akshaya Kumar Sen et al examines how participation of Indian youth is essential for India to reach the Viksit Bharat @ 2047 goal, given the country's accelerating urbanisation, youth-focused demographic trends, and ongoing reform initiatives. The paper by A. K. Jain examines how youth engagement is shaping India's urban future, contributing to the realisation of India's urban vision for 2047. In the policy review section, the paper by Ojasvi Goyal examines the critical role of future and emerging skills in unlocking the potential of urbanisation. The paper by Ramakrishna Nallathiga explores the need and challenges of equipping young people to engage effectively in the construction and housing industry. The paper by Arjun Kumar et al argues the need for rethinking urban policies to meet urban poor's needs in urban planning and governance mechanisms so as to achieve the mission of Viksit Bharat by 2047. The case study section features the paper by Anushka Goswami presents two case studies from the coastal cities of Mumbai and Thane, highlighting successful initiatives that actively involve youth in technological innovation and community engagement to reduce disaster risk.

I thank all the contributors for an overwhelming response to this issue. I hope the readers enjoy the issue as much as we did putting it together. We value your feedback and would appreciate your comments.

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Hybrid Training Programme on ‘RBI Regulations & Compliances pertaining to Non-Banking Financial Companies (NBFCs)’ especially Infrastructure Finance Companies (IFC)

HUDCO’s HSMI organised a training programme on “RBI Regulations and Compliance for NBFCs” in a hybrid format for senior officers of HUDCO from the Corporate Office and various Regional Offices across the country. The programme was inaugurated by Chairman Managing Director, HUDCO, emphasising the role of Reserve Bank of India (RBI) in regulating and overseeing Non-Banking Financial Companies (NBFCs) in India. The programme was graced by Shri M Nagraj, Director Corporate Planning, HUDCO and Shri Daljeet Singh Khatri, Director Finance, HUDCO. This programme is important for HUDCO in view of grant of Infrastructure Finance Companies (IFCs) status recently by RBI. In this programme distinguished speakers namely Shri S.S.K Pradhan, General Manager, Reserve Bank of India and Shri A.P. Saxena, Ex-General Manager, National Housing Bank (NHB) provided valuable inputs on Regulatory Framework of KYC/AML with respect to NBFCs and Compliance for Middle Layer NBFCs specifically IFC.



Figure 1: CMD HUDCO delivering the inaugural address



Figure 2: DCP HUDCO addressing the senior officials



Figure 3: Head HSMI HUDCO delivering the welcome speech



Figure 4: Senior HUDCO officials at the Training Programme

EMPOWERED YOUTH, INCLUSIVE CITIES

ADISHREE PANDA

The paper begins with an overview on the importance of achieving effective urban governance from a youth lens to address well-being issues of vulnerable segments in our community. Highlighting the crucial role of participatory approaches in developing and implementing policies, the focus of the paper is on the importance of incorporating youth perspectives in urban development processes. Aligning with the Leave No One Behind principle of the 2030 Agenda, key enablers for mainstreaming youth and gender perspectives have then been discussed for different planning and implementation stages.

For a pivotal urban transformation, the key enablers for enhancing capacities of and empowering the youth across five aspects have been elaborated upon - 1) urban policies and legislations, 2) urban planning and design, 3) finance mechanisms and resource allocation, 4) digital engagement, and 5) public advocacy. For each aspect, various participatory approaches, digital tools, and engagement methods that cities are adopting have been illustrated through global and national case studies.

The paper concludes with ways in which city governments, communities, and citizens can engage and empower youth towards building inclusive cities - such as mandating public participation and citizen engagement, institutionalising accountable mechanisms of planning and budgeting, enhancing digital literacy, and supporting place making interventions.

Introduction

Young people are more concentrated in cities than ever, accounting for a sizable share of the global urban population. In many countries, young people aged 15 to 29 years make up one-quarter to almost half of various demographics, making contributions in the social and economic activities in cities. India is home to a fifth of the world's youth demographic with 27.2% of the total population of 2021 in the age group of 15-29 years and demonstrates the aspirations of the young to be part of city life (MoSPI, 2022). As the country experiences this demographic pattern of a "youth bulge" along

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with technological advances, the youth population can contribute significantly towards realising the country's ambition to be a USD 5 trillion economy. Young people are increasingly demonstrating their willingness to contribute to bring meaningful change in the world and involving the youth in shaping urban futures is now not just a voluntary option but has become essential.

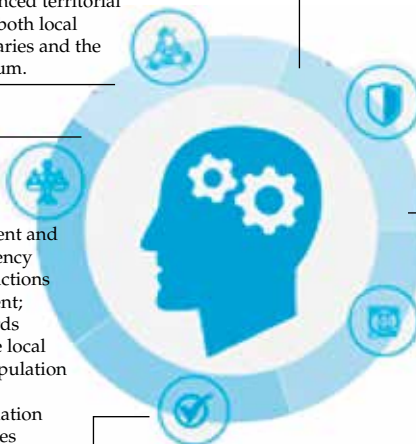
Urban governance can be defined as “the different ways in which public and private institutions and individuals participate in the planning, design, and management of the common affairs of a city, and the processes used for effectively realising the short- and long-term agenda of a city's development”¹. Policymakers thus need to embrace the transformative energy and creativity along with novel perspectives towards urban development provided by the country's youth to make urban planning and policy more adaptive, future-oriented, and responsive to the needs of different communities.

Five principles of effective urban governance which are interdependent and mutually reinforcing are as follows:

Equity:
Equity Comprises Sustainability, gender equality and intergenerational equity, with institutional priorities focusing on pro-poor policies and an established mechanism for responding to the basic services. Also, it refers to balanced territorial development across both local jurisdictional boundaries and the Urban-rural continuum.

Acceptability:
Mechanisms are present and effective for transparency in the operational functions of the local government; responsiveness towards the higher level of the local government; local population and civic grievances. Availability of information on government policies and actions, a clear sense of organisational responsibility, and an assurance that governments are efficiently administered and free of systematic corruption are essential components of this principle.

Security:
Security of governance implies that there are adequate mechanisms for citizens security, health and environmental safety.



Effectiveness:
Effectiveness includes efficiency, subsidiarity and strategic vision. It measures the existing mechanisms, the delivery of services and response to civil society concerns. It also involves the delegation of resources competences and decision-making. Along with the urban governance principles described above, the Handbook is based primarily on the governance of transparency, accountability, and citizen participation.

Digitalisation and knowledge management:
The use of e-governance tools and knowledge management strategies can facilitate greater access to urban services for dwellers and businesses, as well as creating new options for gathering and using data. This principle includes the notion of digital rights and data property policies.

- 1) Effectiveness
- 2) Equity
- 3) Accountability
- 4) Security
- 5) Digitalisation and Knowledge Management

The 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs) expressly

emphasise the importance of having participatory urban planning and policymaking, specifically under Goal 11 on Sustainable Cities and Communities. It is captured in Target 11.3 - “By 2030, enhance inclusive and sustainable urbanisation and capacity for participatory, integrated and sustainable human settlement planning and management in all countries”². The New

¹ UN-Habitat, 2020. Building Participatory Accountability Systems for City Policies: Handbook. Accessed at: https://unhabitat.org/sites/default/files/2021/06/210618_the_building_p

² United Nations. Global Goals: SDG 11 Sustainable Cities and Communities. Accessed at: <https://www.globalgoals.org/goals/11-sustainable-cities-and-communities/>

Urban Agenda³ (adopted at Habitat III in Quito, 2016) further outlines the transformative principle of Leave No One Behind (LNOB) and lays out guidelines for the planning, construction, development, management, and improvement of cities along five main pillars - national urban policies, urban legislation and regulations, urban planning and design, local economy and municipal finance, and local implementation.

Youth engagement in each of these aspects has a lot of potential to bring in innovative viewpoints that challenge the established status quo. Young people tend to perceive cities differently than older generations, particularly in terms of pursuing educational interests and professional opportunities as well as accessing public spaces, which is important to consider while planning for cities. Youth engagement has to be more than a symbolic gesture as it is essential for developing policies that reflect the lived reality of all age groups, ensuring that urban spaces and policies are inclusive and forward-thinking⁴.

Challenges Faced in Youth Participation

Despite the recognized significance of including young people and adolescents in planning, they face many obstacles in being actively involved in urban governance processes. A major barrier is attitudinal due to the traditional views carried by adult decision-makers which create an environment that is not conducive to engaging young people. Augsberger, Collins, and Gecker (2017)⁵ bring forth three views of note - “developmental views (youth lack the knowledge, skills, attitudes, behaviours, and social connections of adults), perceptions of youths’ vulnerability (youth are both in need of adult protection and can be co-opted by adults and thus cannot participate independently), and legal views (because of their age they are not full citizens and at best can be trained in civic engagement but do not yet have full authority to contribute to decisions)”.

Young people also frequently encounter several economic and political barriers to being part of civic engagement activities. The political

barriers include restricted access to formal power structures and decision-making processes along with an underrepresentation of the youth in leadership and political institutions. Bureaucratic hurdles such as opposition to change in traditional systems and structures as well as not validating the practical concerns of the young people further enhance their difficulties and often lead to systematic prejudice. In economic barriers, many young people particularly from low-income communities face unemployment, poverty, and social exclusion which hinder their ability to mobilise for participation in civic activities⁶.

Young women and girls face additional gender-specific barriers and biases that limit their active participation in public-centric activities and community action, such as societal perceptions of being restricted to voice their opinions and familial safety concerns of not being allowed to go to unfamiliar spaces or participate in any activities beyond daylight hours.

³ UN-Habitat. 2020. The New Urban Agenda Illustrated Handbook. Accessed at: <https://unhabitat.org/the-new-urban-agenda-illustrated#:~:text=The%20New%20Urban%20Agenda%2C%20adopted>

⁴ Blanchet-Cohen, Natasha, and Liesette Brunson. 2014. Creating Settings for Youth Empowerment and Leadership: An Ecological Perspective. *Child & Youth Services*, 35, no. 3: 216–36. Accessed at: <https://doi.org/10.1080/0145935x.2014.938735>

⁵ Augsberger, Astraea, Collins, Mary Elizabeth and Gecker, Whitney. 2017. National Civic Review, Vol. 106, No. 1., pp. 9-16. Accessed at: <https://www.jstor.org/stable/10.1002/naticivirevi.106.1.0009>

⁶ UNDESA. 2018. World Youth Report: Youth and the 2030 Agenda for Sustainable Development. Accessed at: <https://www.un.org/development/desa/youth/wp-content/uploads/sites/21/2018/12/WorldYouthReport-2030Agenda.pdf>

Consequently, young people have insufficient avenues (both offline or online) for expressing their concerns and there are limited formalised platforms which can offer continuous dialogue between youth groups and urban policymakers. There is an urgent need to improve and standardise participatory processes so that the perspectives of young people are included from the inception stages of urban policymaking and planning instead of being consulted at a later stage of policy implementation as a perfunctory step.

The scale of the 'Urban Youth Bulge' thus requires deliberate strategies to reformulate the social contract between young people and the urban environments. Governments must invest in initiatives that promote education and skill development, as well as leadership and civic involvement. Moreover, adequate and consistent coordination between government institutions, civic society, and youth representatives and champions is needed so that these initiatives do not fail to provide long-term and sustained changes.

By considering the views of young people and involving them actively in urban governance processes, it will help build their skills and capacities as well as encourage them to be catalysts of change.

Key Enablers for Youth Participation in Urban Governance

Youth face complex urban challenges, such as the rising crises of climate change, exacerbating income inequality, several international conflicts, to difficulties affecting their education, employment, and social issues. Youth mainstreaming or the systematic consideration of views of the youth in urban planning and policymaking processes will ensure that the various requirements of diverse youth groups are met without major obstacles. Without a youth-sensitive strategy, we risk limiting the potential that young people of the country could provide in the development process to build truly inclusive environments.

To incorporate youth mainstreaming in urban governance processes, an intersectional⁷ and multi-sectoral approach is needed across the following aspects:

Urban policies and legislations

The 74th Constitutional Amendment Act (CAA) of the Indian constitution creates room for citizen engagement in urban governance under Section 243S by mandating State legislatures to make provisions by law to constitute ward committees in all metropolitan areas having population of 3 lakhs or more. However, the engagement efforts have continued to be piecemeal as either not all states have the enabling legislation to constitute the committees; not all cities in states having the legislation have constituted the committees; and wherever the committees are functioning, their composition varies considerably across states and are not delegated with essential functions and resources, and the line of control still exists with the municipality⁸.

Moreover, under the purview of the previous Jawaharlal Nehru National Urban Renewal Mission (JNNURM) scheme of erstwhile Ministry of Urban Development (MoUD), Government of India, enactment of a Community Participation Law (CPL) – or the Model Nagar Raj Bill – was a part of the mandatory reforms

⁷ Hankivsky, Olena. 2012. An Intersectionality-Based Policy Analysis Framework. Accessed at: <https://data.unhcr.org/en/documents/download/46176>

⁸ Sharma, Tarun, and Vora, Yutika. 2022. How do citizens engage with their cities? India Development Review (IDR). Accessed at: <https://idronline.org/article/urban/how-do-citizens-engage-with-their-cities/>

Case Study 1: Sangguniang Kabataan (SK) and the National Youth Commission, The Philippines

Source: UNESCO, 2023

Sangguniang Kabataan (SK) is a Youth Council that represents young people, aged between 15-21 years old, in a barangay or community, and provides them with opportunities to directly participate in local governance. Each SK is mandated to formulate a three-year rolling plan called the Comprehensive Barangay Youth Development Plan (CBYDP) that must align with the Philippine Youth Development Plan. Projects called for by law in the execution of SK functions include advocating for good governance, climate change adaptation, disaster risk reduction and resilience, youth employment and livelihood, health and anti-drug abuse, gender sensitivity, and sports development.

The law designates the SK to approve its budget, promulgate resolutions, implement projects, hold fundraising activities, create regular and select committees, and submit progress and financial reports, among other things.

Learn More: <https://nyc.gov.ph/>

NYC IS OFFICIALLY ISO 9001: 2015 CERTIFIED

The Management Systems of the National Youth Commission, with scope in public administration covering Training Development and Management, Policy Research, Social Marketing, Planning, Monitoring and Evaluation, have been assessed and registered against the requirements of ISO 9001: 2015 effective 05 January 2023.

NATIONAL YOUTH COMMISSION ORGANISATIONAL CHART



The law provides economic independence in the city youth council's operations and disbursements, subject to accounting and auditing laws, rules, and regulations. The national law also established Local Youth Development Councils (LYDC) in every province, city, and municipality, composed of the SK President

and two other members, plus other representatives of youth organisations. The National Youth Commission, together with relevant national and local agencies and youth leaders, has also published the SK Operations Manual, which lays down guidelines on implementing the roles and responsibilities of city youth councilors.

to be brought about by the beneficiary states. It proposed to modify the existing two-tier system of urban local governance into a three-tier system by adding the Area Sabha/Mohalla Sabha as the lowest layer. According to MoUD, till 2011, 12 states had enacted a CPL and 7 more states had passed it or modified their existing laws incorporating crucial points of the Law.

Consequently, a strategic entry point to enhance youth participation at the local municipality level is to constitute Youth Councils which are “often convened, organised, elected, and administered by youth”. These Councils are formal structures housed within local governments wherein the membership follows the existing roles, responsibilities, and structure for elected officials. Under their mandate, city Youth Councils can identify challenges faced by community members and engage with diverse stakeholders to ideate solutions to present to their local governments. It is a platform for the youth to directly get involved in governance and civic issues. Such Councils contribute towards enhancing accountability and transparency and can be leveraged as a mechanism

for promoting citizen engagement and good governance practices.

Holistic engagement in policy and planning processes is thus crucial for creating vibrant, inclusive, and sustainable cities. Young citizens can bring valuable local insights and contextual knowledge that provide novel perspectives. Current urban policies are beginning to embrace participatory approaches and community mobilisation processes, allowing young people to contribute towards effective governance and planning. Creating and offering mentorship and skilling programs for the youth can further assist in closing the gap between young innovators and decision-makers in the country.

Urban planning and design

Urban planning is a critical aspect that influences the physical, social, and economic landscapes of cities. To formalise public participation in planning processes, there needs to be a shift from providing passive feedback after project implementation to active engagement and consultations from the initial planning and design stages of the projects. Urban planning processes must prioritise the design and implementation of

public spaces and places that are functional and accessible by all, ensuring that all people, regardless of gender, age, or ability, can traverse and use urban settings securely and comfortably. By incorporating a youth lens into every stage of the planning and design process, urban landscapes can be transformed to meet the various requirements of diverse population groups effectively, taking into account their individual as well as overlapping issues.

Young people have the willingness to go beyond conventional wisdom of traditional decision-making and bring in novel perspectives to approach urban issues. Youth-led efforts and commitments to promote social justice, sustainability, diversity, and inclusivity are challenging the boundaries of traditional urban planning and paving a path for inclusive and equitable cities. Such innovative efforts and solutions can be discovered and hand-picked through crowd sourcing challenges, youth-oriented festivals, knowledge sharing platforms, and global policy forums.

It is crucial for decision-making bodies, such as advisory boards, planning committees, and policymaking institutions, to include consultations and

¹¹ Make Space for Girls. Case Study: Stockholm, Sweden. Accessed at: <https://www.makespaceforgirls.co.uk/case-studies/stockholm>

Case Study 2: Superblocks in Barcelona, Spain

Sources: C40 Cities, 2018; CITIES Forum, 2021



‘Superblocks’ are 400m x 400m units – which is larger than a block but smaller than a neighbourhood. Barcelona’s Superblocks (Superilles in Catalan) especially focus on accessibility of public spaces and follow community participation guidelines. Barcelona City Council fosters urban transformation by offering the maximum level of public dialogue, consensus-building on diagnosis and proposals, and

high civic co-responsibility in the implementation phase of the project. Barcelona introduced

the Superilles in its 2013-2018 Urban Mobility Plan identifying 120 intersections to be converted with the main motives of moving towards sustainable mobility and encouraging social cohesion among diverse population groups. The 2024 Urban Mobility Plan further contributes to the city’s vision of creating 503 Superblocks throughout the city in the future enabling a 21% reduction in private car and

moped use in the city. The Superblock strategy has resulted in pedestrianisation of several areas, reduction in traffic congestion and pollution, increase in both resting and play areas, and provision of safe spaces for nurturing cross-generational social interactions - all of which contribute to enhancing the overall quality of life for citizens and creating a more inclusive urban environment. Moreover, aligning with the Barcelona Resiliency and Climate Change Adaptation Strategy, and the Barcelona Green Infrastructure and Biodiversity Plan, there has also been an expansion in urban green spaces. The holistic results seen from Barcelona’s efforts towards collective action are numerous, and supporting the Citizen Commitment to Sustainability 2012-22, there is a focus on implementing more small-scale tactical urbanism interventions with people’s participation as a major component.

Learn More: <https://www.barcelona.cat/pla-superilla-barcelona/en>

focus group discussions with the youth as a regular practice to go beyond tokenistic participatory approaches. For instance, under the “Make Space for Girls”¹¹ programme in Stockholm, a park was designed to address the concern that

there was pronounced low activity among Swedish children and young people, especially teenage girls. Focus groups of girls were consulted to discover and explore the facilities and types of infrastructure that would encourage them to

be more active in the park. It was observed that they were experiencing safety issues, so the responsive design was to ensure that the park has sufficient lighting and is integrated into the heart of the community facilities which motivated them to visit

Case Study 3: Participatory Budgeting in Youth Action Challenge, Singapore

Source: National Youth Council, Singapore

The National Youth Council's Youth Action Challenge (YAC) is an annual

competition inviting youth to generate ideas for a better future and the chance to win funding of up to USD 50,000. Young participants are equipped with skills and the opportunity to partner with the government. Participatory Budgeting is used to allocate

either equally or in different denominations to the different project proposals. A website is then set up for the voting process. Voters are encouraged to think of several selection criteria when allocating their virtual budget, such as innovation, feasibility, desirability, impact, and resonance.

YAC is a structured programme that gives youth the opportunity to act on their passions and co-create an inclusive, sustainable, and progressive Singapore. Mentors and advisors help youth ideate solutions that can drive meaningful change within the community at the national level. Born from the Singapore Youth Action Plan, the YAC is one of several programmes that the National Youth Council (NYC) offers youth to pursue their aspirations and shape the future they want.



additional funding to the winning teams and projects. Voters are given a USD 30,000

virtual budget which they can allocate to anywhere between 3 - 30 YAC proposed projects,

Learn More: <https://www.nyc.gov.sg/youth-action-challenge>

the park often.

Engaging young people and communities in urban designing processes also helps to develop a sense of ownership and belonging to the surroundings and encourages young people to

actively co-create the future of their cities. Moreover, it addresses intergenerational equity by ensuring that city leaders gain valuable insights on and integrate the preferences and priorities of future generations in urban planning and designing

considerations¹².

Finance mechanisms and resource allocation

Encouraging youth-inclusive urban development initiatives, however, requires sustained financial and technical

¹² Child in the City. 2024. Shaping tomorrow's cities – the role of youth in urban design. Accessed at: <https://www.childinthecity.org/2024/02/23/shaping-tomorrows-cities-the-role-of-youth-in-urban-design/#:~:text=Another%20key%20aspect%20of%20involving,connection%20to%20their%20local%20communities.>

assistance and dedicated resources. A strategic budget and resource allocation mechanism is required at multiple governance levels - to plan, design, and implement projects which promote social inclusion; to conduct continuous training and sensitization programmes for technical experts and government officials; to organise digital skilling and capacity building sessions for youth and diverse communities to be inducted into participatory planning and data collection approaches; and to facilitate outreach, communication, and advocacy campaigns to sustain the impact of the initiatives.

For improving effectiveness in resource allocation and encouraging co-ownership of project processes and outcomes, a Participatory Budgeting (PB) approach can be used which is “a democratic process in which community members decide how to spend part of a public budget”¹³. It consists of budgeting tools and mechanisms that communities and citizens of a city can leverage to collectively decide on how portions of the municipal budget can be utilised for specific purposes. It is an

open, iterative, and inclusive process through which citizens collaborate (directly or indirectly) with the local governments and contribute towards identifying local needs and challenges, planning and decision-making, construction and implementation, as well as periodic monitoring and evaluation of the budget utilisation. PB takes into account the contextualised expenditure requirements aligning with optimal utilisation of the available resources.

Participatory Budgeting enables a variety of powerful and lasting impacts across a community. The Participatory Budgeting Project (2024)¹⁴ enlists the following impacts:

- *Stronger civil society:* Promotes democracy, consensus-building, and conflict resolution across diverse and marginalised stakeholders including women, persons with disabilities, low-income groups, elderly, and young people. It enables transparent and accountable relations with the government paving a way for long-term civic engagement.
- *New community leaders:*

Provides access to gaining experience in leadership opportunities as well as avenues to build skills such as public speaking, negotiation, facilitation, and community mobilisation. It motivates the youth to gain confidence in publicly expressing their views and opinions, and enhance their leadership, communication, and advocacy skills.

- *More equitable and effective public spending:* Increases responsiveness to the specific needs expressed and vocalised by communities and incorporates their innovative ideas for spending and project expenditures. Even if all ideas are not taken up for funding and implementation, it helps to relay the local contextual needs of the communities to the governments.

Digital engagement

Many local governments are yet to utilise the advantages of leveraging digital tools to collect and manage data and information in an integrated manner which has the potential to contribute to informed

¹³ Participatory Budgeting Project. 2024. Accessed at: <https://www.participatorybudgeting.org/about-pb/>

¹⁴ Participatory Budgeting Project. 2024. Accessed at: <https://www.participatorybudgeting.org/about-pb/>

¹⁵ MoHUA. 2020. National Urban Policy Framework (NUPF): Strategic Intent. Ministry of Housing & Urban Affairs, Government of India. Accessed at: https://iica.nic.in/images/Articles/NUPF_Final_Oct%202020.pdf

decision-making and improve the quality and cost-effectiveness of public services in cities¹⁵. This further creates issues due to inconsistency in data collection mechanisms across cities and insufficient disaggregated indicators to accurately inform urban policymaking and commensurate resource allocation.

Digital technologies and tools provide an opportunity to bridge the gap between citizens and local governments. Traditionally, local authorities and urban planners restrict community engagement by disseminating official documents and knowledge resources on their websites or public notices for feedback. The documents are also technical in nature and not always available in local languages. To address this, digital data collection, data analysis and visualisation, and urban designing tools (such as Kobo Toolbox, Inhabit Place, Miro Board, and Safetipin) build responsible communities while simultaneously enhancing digital capacities and have the potential to - increase door-to-door engagement, transform technical planning processes into interactive games and enjoyable activities, stimulate critical and analytical thinking and reasoning skills, and have a bigger reach to marginalised groups.

Government departments as well as private institutions have begun leveraging social media campaigns and information and communication technologies (ICT) to design large platforms moving beyond traditional in-person means such as census surveys, focus group discussions, and interviews. This has helped in enabling dialogue between governments and citizens through open discussion forums, creative competitions, polls, and digital solutions challenges. For instance, the Government of India has created MyGov.in, an open digital platform for citizen engagement. Launching these digital engagement platforms and utilising digital tools enables direct and efficient communication between youth, communities, and decision-makers, fostering a collaborative environment for more informed and inclusive decision-making.

Public advocacy and awareness

Public participation and stakeholder consultation can provide decision-makers with the necessary data to strategically frame calculated policies that suit the audience and align well with the country's environmental, economic, and societal aspirations and interests.

It also activates iterative feedback mechanisms to integrate the local needs and perspectives in the urban developmental process. Public advocacy and awareness plays a significant role to ensure that diverse voices are heard by the political and bureaucratic leadership and consequently implemented in practice. When communities advocate for their rights, they can hold the leadership accountable to protect and uphold their rights.

Youth advocacy specifically implies using the “youth’s collective voice to defend and protect rights or to support different initiatives or causes”¹⁶. Their advocacy and awareness campaigns have the potential to transform policies, programmes, actions, behaviours, and investments and direct towards youth. Young people being involved in public advocacy efforts also leads to gaining self-confidence, sense of worth, discovering inner potential, and a feeling of empowerment to address issues and challenges of the community. It creates a sense of belonging and solidarity of being part of a trustworthy network that works together and can bring about change by challenging conventional power structures.

International organisations

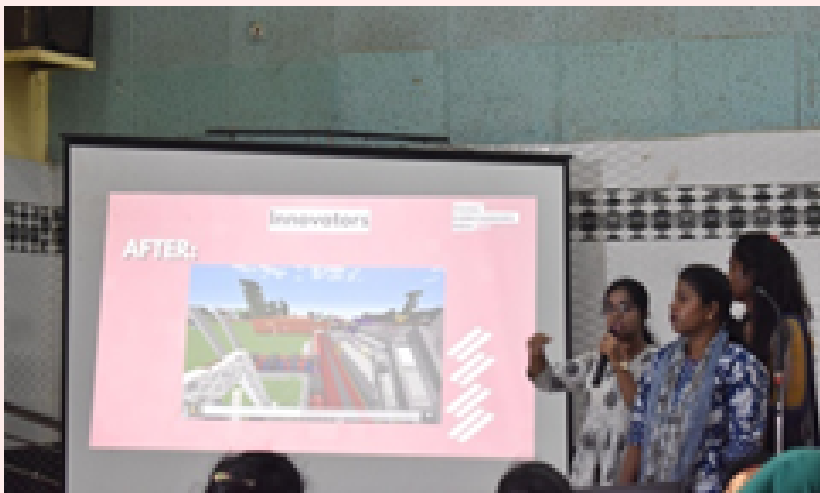
¹⁶ UNICEF. 2020. Youth Advocacy Guide. Accessed at: <https://www.unicef.org/lac/media/38341/file/ENG-Unicef-youth-advocacy-guide.pdf>

Case Study 4: Young Gamechangers Initiative, Jatni

Source: UN-Habitat, 2024

The Young Game changers Initiative (YGI) is a 3-year programme focusing on improving the health and wellbeing of youth and communities in intermediary cities of India, Senegal, and Colombia. In Jatni, India, it is being jointly implemented by UN-Habitat with the Department of Housing & Urban Development (HUDD), Jatni Municipality (JMC), funded by Fondation Botnar, and supported by partners Block-by-Block Foundation, World Health Organization (WHO), and several local entities.

Key focus areas of the initiative are on - 1) helping to improve the understanding of the youth on the interlink ages between health and urban environments, including its social, built, and natural components; 2) supporting the use of data and evidence collected and managed through participatory processes; 3) equipping the youth with digital skills, tools, and guidelines (such as Kobo Toolbox, Inhabit



Place, and Minecraft) to support the assessment and design of public spaces; and 4) developing their ability to communicate issues and challenges effectively to local government authorities and

advocating for action towards inclusive public spaces, individual wellbeing, and healthier communities.

Learn More: <https://www.unhabitatyouth.org/en/young-gamechangers/>

as well as local non-governmental organisations (NGOs) can play a supportive role to supplement or

complement government initiatives towards grassroots mobilisation and community action. Technical assistance,

financial mechanisms, and policy frameworks and guidelines facilitated by global institutes can also

be leveraged to further the objectives of inclusive and participatory approaches of urban development. Evidence-based practices and periodic monitoring and reporting of outcomes will foster trust, ensure responsiveness to the needs of all residents, and consolidate shared ownership of a city's future. Citizens and civil society thus play a key role in ensuring that city leaders and managers are accountable to their commitments to

articulate and implement inclusive strategies, visions, and plans.

What Can Cities, Communities, and Citizens Do?

Citizen engagement is particularly critical in urban settings because of the sheer diversity and density of cities. The benefits of an engaged urban citizenry are multifold. It can help local authorities better understand the needs of communities and help in tailoring policies catering

to the needs of diverse communities and vulnerable population groups. It can play a crucial role in identifying urban challenges as well as in providing local perspectives that can help design better solutions by encouraging debate, gathering opinions, and implementing innovative ideas. Moreover, participatory processes benefit communities by increasing accountability, improving policy outcomes, reducing corruption, and increasing access to public services.

Youth Engagement Continuum



Image Source: Funders' Collaborative on Youth Organizing (FCYO), 2003. *An Emerging Model for Working with Youth*.

Being part of the urban governance process creates a sense of agency, ownership, and belonging among citizens that affects how they engage within their communities.

Implementing youth-inclusive urban governance thus necessitates a multifaceted approach that incorporates youth development and civic engagement strategies at different stages. Few ways in which city governments, communities, and citizens can engage and empower the youth towards building inclusive cities have been elaborated below:

- *Mandate Public Participation and Citizen Engagement:* At the local governance level, advocacy efforts to constitute Ward Committees and enforce Community Participation Laws needs to be increased in more small and medium-size cities. In such cities, there is a lot of scope to achieve 'civic intimacy' between citizens and their city governments due to ideal elected representative-to-citizen ratios, frequent interactions due to community events and festivals, and strong social ties at the neighbourhood scale. Moreover, advisory committees need to be incorporated at the Municipality level, such as convening Youth Councils

or Disability Inclusion Committees, which consist of representatives of the vulnerable community or target group to provide inputs on their specific requirements, quality of service delivery, and accessibility as well as affordability of the services. This creates accountability and provides opportunities for civic engagement and local leadership development.

- *Institutionalise Accountable Mechanisms of Planning and Budgeting:* Many local governments lack adequate mechanisms to gather information and data at a granular level and local data sets are often inconsistent with national data collection systems. Consequently, there should be systems in place to collect and maintain up-to-date and dynamic demographic data with disaggregated indicators, when possible, to assess and develop appropriate policies. Additionally, city governments should embrace participatory budgeting processes which give citizens a direct understanding of how public funds are allocated and utilised. These processes enable transparency and accountability in financial mechanisms and also

provide a platform for young citizens to understand how project budgeting, procurement, and implementation works.

- *Enhance Digital Literacy and Build Capacities:* Overcoming inequalities necessitates a concerted effort to empower under-represented populations by providing them with the tools and avenues they need to engage effectively. By providing open access to educational resources and training, digital tools can enhance digital literacy and skills, helping to bridge the digital divide and empower all community members. Residents, particularly women and adolescents, can leverage digital tools and engagement platforms, such as online voting surveys in local language or user-friendly mobile applications for data collection, to voice their needs and outline their vision for inclusive urban development. Moreover, continuous training programs and capacity building efforts can provide such groups with the necessary skills and knowledge to participate successfully in governance processes.
- *Support and Engage*

in Place making Interventions: Place making is a hands-on and collaborative approach for citizens and communities to collectively design, reinvent, and transform the local shared spaces into vibrant places through a variety of people-centred and impactful small-scale initiatives. It encompasses the collaborative planning, design, budgeting, development, and management of public places along with the local government, while being rooted in the social, cultural, and economic identity of the place. Through active engagement and involvement of young citizens along with communities at every step of development, place making strengthens their connection and sense of belonging to the public places positively contributing towards their health and wellbeing.

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GIFT CITY is the central pillar of the tri-city approach, located on the banks of the Sabarmati River between Ahmedabad and Gandhinagar. The Gujarat International Finance Tec-City (GIFT) International Financial Services Centre (IFSC) began operations in April 2015 as India's first International Financial Services Centre (IFSC).

GIFT City is an integrated development on 886 acres of land with 62 mn sq. ft. of Built Up area which includes Office spaces, Residential Apartments, Schools, Hospital, Hotels, Clubs, Retail and various Recreational facilities, which makes this City a truly "Walk to Work" City. GIFT City consist of a conducive Multi-Service SEZ (Special Economic Zone) and an exclusive Domestic Area. The city has an integrated development model which has been spread out in three phases. Each phase is designed as integrated sustainable development, for example the first phase itself includes development of office space, residential, school, hotel, club, etc.

The salient features of the project are:

- India's first city-level DCS (district cooling system) is operational at Gift City. It reduces the operational cost by 30-40% and avoids the capital cost of implementing individual air conditioner in each building.
- The 400MW electricity supply is planned to be 99.999% reliable (about 5.3minutes of outage per year). All the electricity cables are laid in the Utility Tunnel in dry area protected by thick concrete wall in redundant paths.
- Natural gas is distributed to every house and building via pipes, which is cheaper and safer than cylinders.
- All Waste in the city are collected and taken to processing plant by vaccum chutes installed at every floor of the buildings. The waste is automatically sucked through underground chutes at a high speed of 90km/h (56mph), and is being treated through various methods including plasma gasification.
- Gift aims at providing a transportation network that ensures accessibility, easy and fast mobility and accidental free traffic.
- GIFT City's development has been a boon for job creation, generating thousands of opportunities across various sectors. This isn't just limited to high-profile finance and technology positions. Prestigious universities like Deakin University has already established campus in GIFT City.
- The ongoing development of GIFT City require a skilled workforce for construction, maintenance, and facility management. Increased job creation helps bring down unemployment rates in the region, uplifting the standard of living for many families.

ROLE OF YOUTH FOR TRANSFORMING BHARAT TO VIKSIT BHARAT@2047

**DR. AKSHAYA
KUMAR SEN
SIYA NANDY
SHASHWATI
MAZUMDAR**

The government of India's vision of Viksit Bharat@2047 is a bold and ambitious goal of transforming India into a developed nation that is economically prosperous with USD 30 trillion GDP & per-capita income of USD 20,000; socially just with equity & equality; and technologically advanced with modern, resilient & sustainable infrastructure by 2047, the 100th year of its independence. This article argues that Indian youths would be the key enabler for India achieving the Viksit Bharat@2027 goal, given India's increasing pace of urbanisation, youth-oriented demographic landscape and current reform initiatives. The article proposes a framework for Participatory Budgeting for Youth (PBYP) for engaging its young population in meaningful and impactful urban development.

Declaration:

We declare that this article is an original work of the Authors. It has neither been published nor under consideration for publication elsewhere.

DISCOURSES ON VIKSIT BHARAT@2047

When India declared its independence in 1947, its economy size was a mere 2.7 lakh crore, accounting for only 3% of the world's total gross domestic product (GDP). In the last 25 years, India's economy has grown at an average real rate of 6%, going through cycles of economic expansion and contraction and currently stands at being the 5th largest economy in the world with 295.36 lakh crore or 3.7 USD Trillion in 2023-24, which is almost 8% of the world's total GDP (IMF, 2024). India's economic surge is propelled by its strong fundamentals of domestic consumption, manufacturing, infrastructure, controlled inflation, growing exports, and strategic measures for investments and fostering innovation. The Government of India, in its Union Budget 2024-25, has unveiled a strong vision of 'Viksit Bharat@2024' that is of a 'Prosperous Bharat in harmony with nature, with modern infrastructure, and

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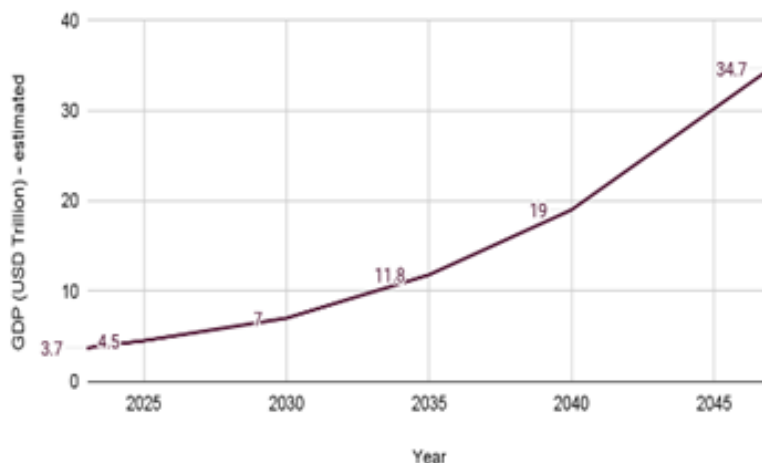
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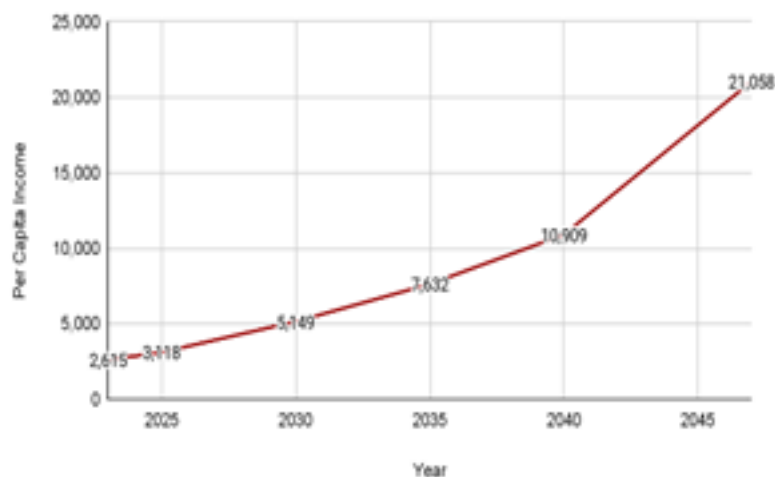
providing opportunities for all citizens and all regions to reach their potential' by 2047 when we reach 100th year of our independence. To achieve this vision, the Govt. of India has already formulated strategies and identified nine priority areas viz. Productivity and resilience in Agriculture, Employment & Skilling, Inclusive Human Resource Development and Social Justice, Manufacturing & Services, Urban Development, Energy Security, Infrastructure, Innovation, Research & Development and Next Generation Reforms.

The economy size of the Viksit Bharat 2047 is projected to be of USD 30 trillion and per-capita income (PCI) of USD 18,000-20,000 with strong emphasis on sustainable development, green growth & net zero by 2070. Various projections have already indicated that the targeted GDP size is achievable in view of India's current pace of reforms, urban transformation and demographic dividends. According to a Study by PHDCCI (2024), the size of the Indian economy is projected to reach USD 34.7 Trillion by 2047 with PCI projected to increase to USD 21,058 from the present PCI level of USD 2,615 (Figure 1). A Report by Knight Frank Research (2023) projects Indian economy size to range between USD 33

GDP Estimates of the Indian Economy (in USD Trillion)- PHDCCI



Estimated Per Capita Income in USD- PHDCCI



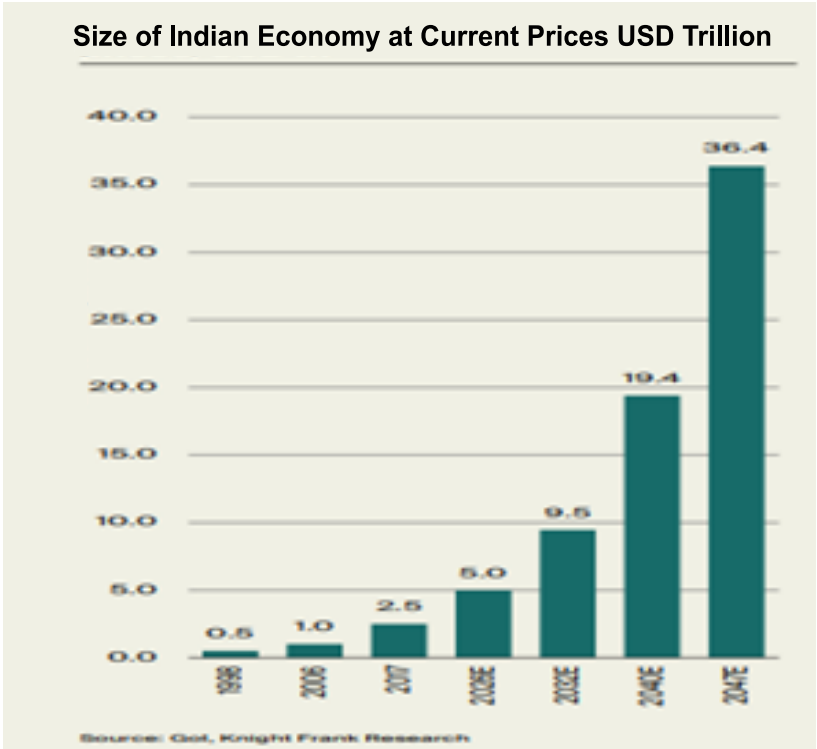


Figure 1: GDP Estimates of Indian Economy (in USD Trillion)
Source: PHDCCI (2024)

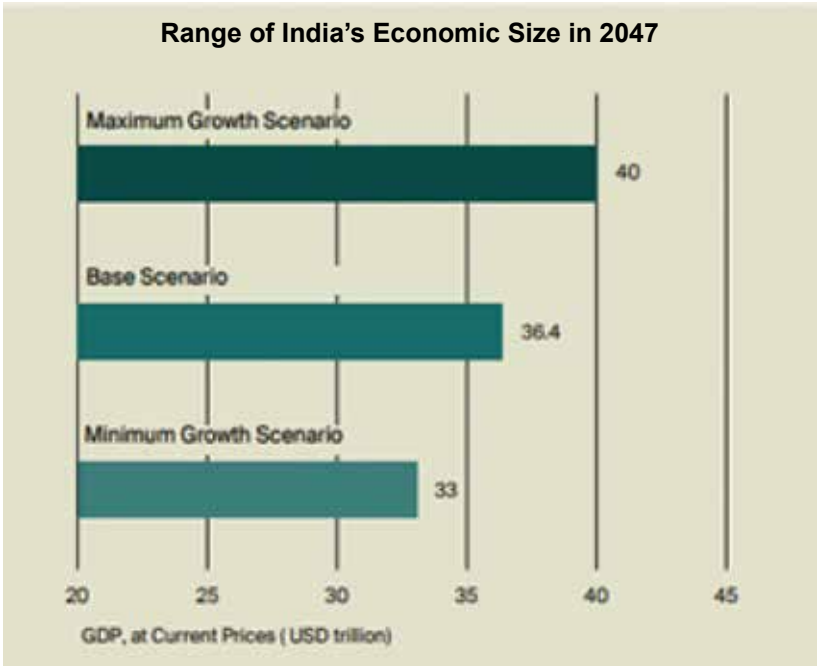


Figure 2: Range of GDP projections of Indian Economy (in USD Trillion)
Source: NAREDCO-Knight Frank Research (2023)

Trillion and USD 40 Trillion in 2047 under different growth scenarios by 2047 (Figure 2). In order to achieve these levels of economy size by 2047, India’s GDP requires to grow in the range of 10%-12% annually.

With this anticipated growth level by 2047, India is set to witness higher income growth for all segments of the population. Furthermore, a high per capita income in the future, indicates increased accessibility to essential facilities, promising a better standard of living for the Indian population. Factors such as dynamic shift in the country’s demographic landscape from an agrarian and predominantly rural society in 1947 to an urban-centric economy with a relatively younger population; increasing pace of urbanisation improving business and investment sentiments; government policy push towards generating high value manufacturing and infrastructure sector etc. will support India’s economic expansion. Sustained high growth rates will position India as one of the largest economies globally, enhancing its geopolitical influence. A larger economy will provide more resources for social welfare, infrastructure, and public services as well as lead to more job creation and

higher incomes, improving the standard of living for millions.

Population Pyramid, Urbanisation and Youth

As per the Census 2011, the population of India was 1.21 billion with 31.1% living in urban areas. As per the projections, India's population is expected to surge to 1.7 billion in 2047 with 50.9% urban, with the annual urbanisation rate expected to be 2.33% (UN World Urbanisation Prospects, 2018). This is indicative of the migration trends towards urban areas, driven by better employment opportunities, improved living standards, and improved infrastructure in cities. As a result, demand for urban housing and

infrastructure facilities is set to take a giant leap to absorb the rising urban population.

As the population Pyramid given at Figure 3 indicate, India is one of the youngest nations in the world, with 53.7% of the population of age less than 25 years, 27.6% in the age group of 25-44 years and more than 60% of the population in the working age of 15 to 60 years, which provides wide demographic dividends. The average age of Indian population is estimated to be around 29 years in comparison to 47 years old in Japan and 40 years old in the United States of America, which gives us an edge over the demographic dividend of other countries, in terms of job creation, income generation

and overall economic growth.

With this level of demographic dividend due to a younger population and the consequent level of economic growth by 2047, there would also be a positive shift in income composition of various socio-economic group with India set to witness a substantial decline in the share of the destitute class (income below ₹1.25 lakh) to a mere 1.51% in 2047 from 51.71% in 2015-16 (Figure 4). As per a Report (PRICE 2023), by 2047, the rich class (income higher than ₹30 lakh) is projected to constitute 26.31% of the population with the share of the middle class (income between ₹5 lakh- ₹30 lakh) being a massive 61.11%. This shift underscores the positive impact of economic growth on income distribution, leading to a more prosperous and equitable society.

Harnessing the Potential of Youth for Viksit Bharat

As India aims to become a fully developed nation by 2047 under the vision of Viksit Bharat, it faces the critical task of building resilient, sustainable, and inclusive urban infrastructure. One of the most untapped resources in achieving this goal is India's youth. India is home to a fifth of the world's youth demographic and this population advantage could play a pivotal role

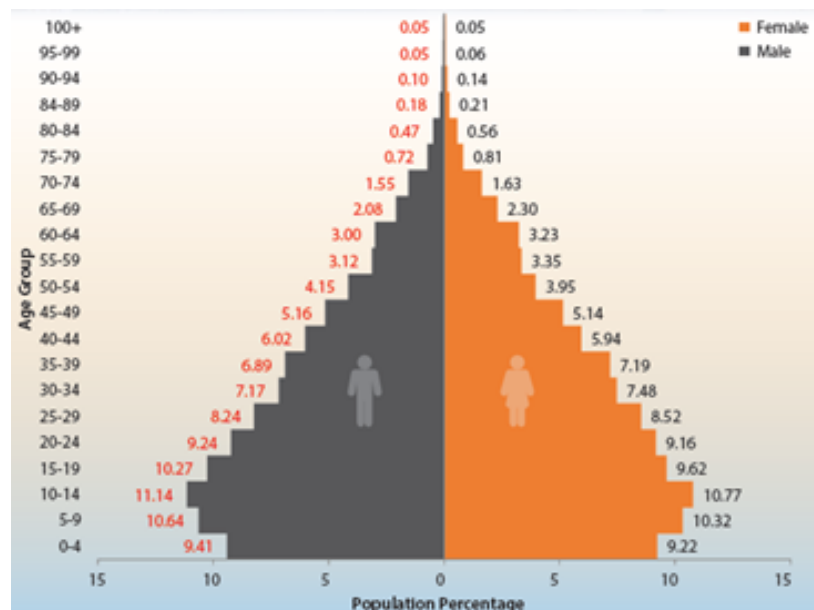


Figure 3: Population Pyramid of India, 2011

Source: Census of India 2011, RGI

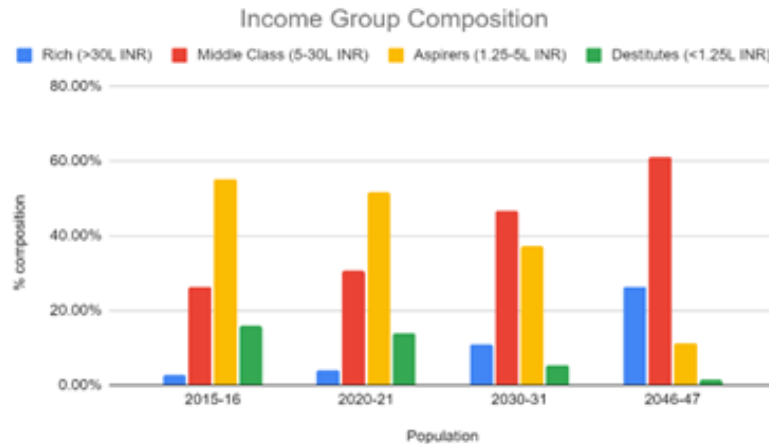


Figure 4: Projected Income Group Composition in India

Source: Peoples Research on India's Consumer Economy (PRICE), 2023

in achieving the nation's ambitious target to become a US\$ 30 trillion economy by 2047. As India experiences demographic shift, along with changing social dynamics and technological advances, the youth population will contribute significantly in realising the country's economic potential with their creativity, innovation, and resilience. India is experiencing a demographic window of opportunity, a "youth bulge". To harness this immense potential, it is imperative to channel their energy towards constructive avenues and provide them with the necessary tools and platforms for self-expression. If supported by investments in their participation and leadership, young people can transform the social and economic fortunes of the country. To achieve the vision of Viksit Bharat through

nine priority action areas, as outlined by the Govt. of India, it is imperative that the potentials of youth be harnessed, especially in the following key areas:

Urban Transformation:

Swami Vivekananda believed that the latent power within the youth, if harnessed and directed towards noble ideals, could bring about a profound transformation in society. Young India's creativity and potential for innovation coupled with supportive government policies like Digital India, Make in India and Start-up India are enabling youth to become job creators. India is home to over 100 Unicorns with a total valuation upwards of US\$ 340 billion and has emerged as the world's 3rd largest startup ecosystem. Cities and urban areas are the growth hubs and in view of the burgeoning

urban population, there is a need for urban transformation through appropriate economic and transit planning, and orderly development of peri-urban areas utilizing town planning schemes. This is where the youth, through their harmonious blend of collaboration, innovation, and digital integration, could play crucial roles in not only creating more job and income generation opportunities but also enabling sustainable growth, social progress, and effective urban transformation. The ideas and strategies of the youth will undoubtedly propel the nation towards achieving the vision of Viksit Bharat by 2047.

Sustainable Housing and Infrastructure Development:

India stands at the cusp of a transformative era, with housing and infrastructure development serving as the cornerstone of its journey towards becoming a developed nation by 2047. This ambitious vision isn't just about constructing buildings and roads; it's about laying the foundation for economic prosperity, enhanced connectivity, and improved living conditions for millions. It is projected that contribution of the real estate sector to GDP will increase from the present 7.3% to 15.5% in 2047 (NAREDCO-Knight

Frank, 2023). The growing requirements of housing and infrastructure facilities in view of the increasing urban population with projected housing requirement of 230 million units and real estate market size of USD 5.8 trillion by 2047 as well as staggering investment of approximately 840 million USD in infrastructure between 2024 and 2036, call for innovative thinking and participation by the youths to meet the challenges. As housing and infrastructure sectors have strong employment and income multiplier impacts through their inter-industry linkages, skill development of youth and startups are the two crucial measures that would make real impact in growth, employment, and livelihood opportunities.

Digital Technology, Entrepreneurship, and Innovation:

In this age of digital revolution, the youth can contribute to the cause of Viksit Bharat significantly, through their unparalleled access to information and technology by influencing policy decisions, raising awareness about various programmes & issues through social media and mobilising communities towards a shared vision. At the same time, they can be effective entrepreneurs through creation of a vibrant startup ecosystem

that fosters job creation, economic inclusivity, social equity and technological advancements. Various governmental programmes for encouraging a culture of innovation and providing incubation support would pave way for unleashing latent entrepreneurial spirit of our youth. As our father of the nation Mahatma Gandhi said, “Be the change you want to see in the world,” the youth have the potential that inspire transformative actions and bridge the gap between intent and impact.

A Framework for Assimilating Youth into Urban Transformation

Harnessing the potential of India's youth for Viksit Bharat vision requires sincere, participatory and collaborative approach involving government, private sector, academics, R&D Institutions and civil society organizations to equip the youth with necessary skills, tools and finance. In this context, this paper proposes a framework supporting the active participation of young people at the grassroots level in improving the quality of life in cities and metropolitan areas. Taking inspiration from previously successful projects in other countries such as USA and Brazil (COM'ON EUROPE, 2019), the paper propose a 'Participatory Budget for Youth' (PYD) It

is expected that PYB would result in more equitable public spending, greater government transparency and accountability, increased levels of public participation, and democratic and universal learning.

The Participatory Budgeting (PB) is a process of democratic deliberation and decision making, and a type of participatory democracy, in which ordinary people decide how to allocate part of a municipal or public budget. In a PB, initiatives are proposed by a special category of young people. Decision makers themselves can optionally come from only a special age category, such as young people, or a special category among young people. To successfully implement Participatory Budgeting for Youth (PB) in India, a structured and scalable framework is required, the steps of which are discussed below:

a. Identifying Key Areas:

- **Pilot in Tier 1 Cities:** Begin with major cities like Delhi, Mumbai, Bengaluru, and Hyderabad, which have the necessary resources, urban challenges, and a large youth population to launch impactful PB projects.
- **Alongside Tier 1 cities,** select smaller, rapidly

growing Tier 2 cities like Jaipur, Pune, and Surat to pilot the PBY model. These cities face similar urban challenges but on a smaller scale, making them ideal for testing grassroots-level engagement.

- The PBY process can complement the Smart Cities Mission, which focuses on using technology and citizen participation to make cities more livable. PBY could help young people contribute to the development of smart city solutions, such as smart public transport, green infrastructure, and waste management systems.

b. Identifying Financial Supporters:

Municipal bodies will allocate a dedicated portion of the city budget (1–5%) specifically for youth-led projects. These funds will be used for infrastructure improvements that are chosen through the PBY process.

c. Collaborations:

- Collaborate with schools, colleges, and universities to drive youth participation. Educational institutions will serve as key platforms to encourage students to propose ideas

and vote on projects, thus integrating urban planning into education.

- Partner with local NGOs and private sector companies to provide additional funding, resources, and mentorship to young people involved in the PBY process.
- Use social media and traditional media to reach a broader audience.

d. Digital Platform for Idea Submission and Voting:

Develop an accessible, easy-to-use online platform where young people can submit their project ideas. The platform will also host public voting, ensuring transparency and broad participation.

e. Idea Shortlisting and Public Voting:

- After the submission phase, a panel of urban planning experts will review and shortlist ideas based on feasibility, innovation, and impact. This ensures that the most viable projects are put to a vote.
- Once the shortlist is made, youth in the city will have the opportunity to vote on their favourite projects. The projects with the most votes will receive funding for implementation.

f. Budget Allocation and Implementation:

- Based on the voting outcomes, allocate the pre-set municipal budget to the winning projects. This will involve working closely with city planners, engineers, and young project leaders to ensure smooth implementation.
- Young people whose projects are selected will work alongside professionals in urban planning, architecture, and project management to execute their ideas.
- Use the digital platform to track project implementation, providing regular updates to the public. This ensures transparency and keeps youth engaged in the progress of their projects.

Concluding Remarks

To achieve the Viksit Bharat@2047 vision, India must harness the full potential of its youth. With the current transformative Missions undertaken by the Govt. of India coupled with demographic dividend of being a young nation, India is poised to take the next step. By adopting a Participatory Budgeting for Youth (PBY) model, India can engage its young population in

meaningful and impactful urban development. This will not only address immediate urban challenges but also build a generation of empowered and innovative leaders ready to shape India's future cities and its destiny as a developed nation@2047.

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ENGAGING YOUTH IN INDIA'S URBAN FUTURE

A. K. Jain

The paper attempts to link the theme of the World Habitat Day 2024 'Engaging Youth to Create a Better Urban Future' with India's Urban Vision 2047 and Union Budget's Incentive Linked Employment Scheme (2024-25) towards making India a developed nation. This requires understanding the needs of the youth beyond physiological and economic necessities, but also realisation of their full potential by security, sense of belonging, esteem, and self-development.

According to India's National Youth Policy of 2014, the term "youth" refers to people between the ages of 15 and 29. In 2021, India's youth population is estimated to be 37.14 crores, or about 27.3% of the country's total population which stood at 1,407,563,842. The average age of an Indian is 29 years, as compared to 37 for China and 48 for Japan. According to the vision paper for Viksit Bharat in 2047 the GDP of India would grow from \$ 3.3 trillion to 36 trillion. This means sustain growth in the range of 7 to 10% for 20 to 30 years. World Bank defines high income countries are those who's annual per capita income is more than \$ 14,005

in 2023. India aims to be a high-income country by the centenary of its independence in 2047. According to the paper being a youthful nation, the working age population would be around 112 crores, making it the single largest workforce of any nation (TOI, 28th July 2024).

India's Urban Future

As India experiences demographic shift, along with changing social dynamics and technological advances, the youth population has a very significant role in the country's urban future. India is moving towards a developed economy by the year 2047 and urbanisation will be its backbone. The cities shall be the crucible of ideas, investments, and innovations.

In 2047 India will have a population of 1,640 million, i.e. one-sixth of world's population surpassing China? Its urban population is projected to increase from 377 million (2011) to 820 million in 2047. It will have the world's largest workforce and will be the world's third largest economy of \$36 trillion. It is

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projected that 75% of GDP and new jobs will be created in the cities. This poses huge challenges for urban planning and infrastructure development. The issues of pollution, climate change, economic development, jobs, water, energy, together with ecology, greenery, slums and housing, traffic jams, lack of spaces for pedestrians, cyclists, etc. This calls for radical changes in urban development and planning with new technologies for climate and disaster resilience, sustainable and innovative ways of land assembly, financial investments, new partnerships, and participatory approaches.

The paradigm of sustainable development aims to synthesise with its humane, economic, environmental, cultural, and social aspects, protecting the rights of the poor, informal sector, women and vulnerable communities and provide them with housing, water, sanitation, renewable electricity, and jobs. It seeks to integrate human and physical geography by a shift from unsustainable urban growth to a circular, sustainable eco-city.

The new technology is necessary for delivery with speed, scale, and skills. The ICT (Information and Communication Technology), Artificial Intelligence, Big Data Analytics, Machine Learning, Deep Learning,

block chain, GIS, GPS, etc. are disrupting the urban processes by intelligent and smart planning, infrastructure and services, transport systems, land management and enforcement. According to NASSCOM- McKinsey Report 'Sustainability Opportunity for Tech Services and Solutions' (2022) digital technologies, such as Cloud, IOT, Block chain and AI (Artificial Intelligence), can be critical in evolving sustainability solutions, energy management, real estate and buildings, benefitting bottom lines and accelerating deliveries.

It is estimated that in the next 25 years, the number of buildings in India will grow six times. These have to be net zero and energy efficient. This involves upgrading the power monitoring system, unlocking renewable, smart waste management/ recycling with easy to digest dashboards, which provide real time measurement of power load. Digital Twins provide a technology platform for 3D modeling and virtual representation of an object or a system that uses sensors, drones, 5G Internet of Things (IoT) and industrial IoT (Iot) data.

Youth 20 Communiqué

The Department of Youth Affairs, Ministry of Youth Affairs and Sports,

Government of India organised the Youth20 (Y20) Summit-2023 under India's G20 Presidency. During the summit, Y20 Communiqué was signed with the following major recommendations:

- Empower Lifelong Learning
- Prepare The Global Workforce for Global Challenges
- Strengthen International Research Collaboration
- Promote Universal Gig Worker Rights and
- Implement Accessible Sustainable Financing and Mentoring.

Reiterating the universality, indivisibility, and integrated nature of the 2030 Agenda, the Indian Presidency put sustainable development at the centre of the international cooperation agenda, and strengthening the interlinkages between development, climate and environment. Sustainable development is not possible without gender equality that means to ensure equal access to quality and safe education, economic, digital and health resources, and social protection.

Understanding the Needs of the Urban Youth.

Maslow presented a need hierarchy for people at

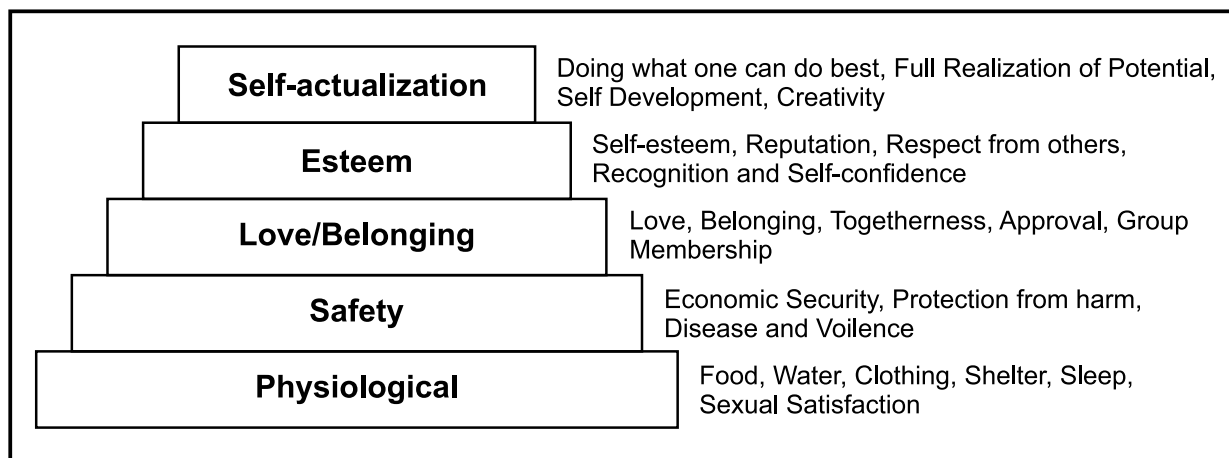


Fig.: Maslow's Hierarchy of Theory

Source: Satpathy Tridibesh (2017) A Guide to SCRUM Body of Knowledge, 2017, SCRUM Study, VMEdInc., Arizona

different levels. These start with physiological needs and then progressively move up to other kind of needs, viz. emotional, social, psychological and self-actualisation.

Engaging the Youth

Urban vision seeks to respond to immediate priorities, issues, while keeping in stride long-term transformations. It may not be possible to engage the entire youth population. Even engaging only 2 to 3% of youth population (i.e. 1 crore), can bring about an urban revolution of new ideas, technology and innovations. The youth today is much better exposed to urban innovations taking place across the globe. What they need is facilitation, some compensation, motivation, and guidance. The Government of India in its budget 2024-25 has floated an idea of internship, which can provide a springboard

for their active engagement by the urban local bodies and private sector partners.

The budget recognises that only pathway for prosperity is providing the young people with jobs and skills. The budget has launched employment linked incentive schemes over five years. Scheme A will provide one month's salary as an incentive to first time employees entering the formal sector and registering with the Employees Provident Fund Organisation (EPFO). This will be up to Rs 15,000 in three installments. This is to be expected to benefit 210 lakh employees. Scheme B aims to help create jobs in manufacturing. It provides EPFO incentive linked to the scale of hiring to both employers and employees over the first four years of new hiring. It aims to

benefit 30 lakh workers. Scheme C targets employers, reimbursing up to Rs 3,000 per month of employers' contribution to the EPFO for two years. The workers must be new contributors to EPFO and have a salary below Rs 1 lakh/month. This is expected to benefit 50 lakh new workers. The number of beneficiaries projected by these schemes is 290 lakh. The internship programme is voluntary but the stipend subsidy and freedom for employers to use CSR funds will attract the young persons with benefits like faster hiring, lower attrition, and higher productivity. The principles of making internship programme effective, scalable, and sustainable include learning by earning, learning by doing, learning with qualification modularity, learning with flexible delivery and learning with signalling value.

Depending upon the task, the urban needs of the youth can be related with his or her physiological, economic security and safety, emotional relationships and fulfilment, self-respect and esteem, realisation of potential of self-development and creativity of the youth with a variety

of interests and at different levels. This necessitates a shift from long range planning to strategic planning and interdisciplinary, gender-balanced teams. The old hierarchical structure is collapsing, and creative ideas and innovations are taking precedence over conventional

engineering, procurement and contracting (EPC) procedures and systems, which have produced glass towers, not only inconsistent with the climate and ecology, but a great opportunity of creating iconic urban architecture has been lost. The table given below lists some

Table: Potential Fields of Innovation and Ideas for Engagement of Youth in the Urban Sector

S. N.	Youth-Centric Urban Fields	Key Areas
1.	Green and Clean Economy	<ul style="list-style-type: none"> • Development of Markets, Workshops, Sheds, Kiosks, Shops, Small Offices, etc. • 10% Commercial Area Reserved for Informal Sector • Mixed Land Use • Zero Polluting Industries
2.	Air Quality Management	<ul style="list-style-type: none"> • Air shed Planning, Continuous Ventilation, Use of Coolers and Light Shaded Surfaces/Materials, Water Spray • Air Quality Data • Monitoring • Smart Electricity Poles with Air Quality Sensors • A Cap-and-Trade System instead of Command-and-Control Regulations
3.	Water	<ul style="list-style-type: none"> • Revival and conservation of rivers, water bodies, waterfront, biodiversity • Landscape Development • Aquafer mapping and conservation • Dual plumbing • Intelligent water networks with minimum losses and leakages • Non-invasive techniques and advanced analytics by managing the pressure in the network pumps and valves

		<ul style="list-style-type: none"> • Intelligent metering, billing and payment • Plug the Non-Revenue Water (NRW) losses
4	Climate Resilience	<ul style="list-style-type: none"> • Heat Mitigation Plans • Local Cooling and Ventilation • Cool Roof • Porous Pavement Surfaces • Parks and Trees for Shade and Moisture • Cool Street/Corridors • Cooling Pools and fountains • Zero Runoff of Drainage and Rainwater Harvesting
5.	Planning, Design, Green Construction and Circulatory	<ul style="list-style-type: none"> • CAD and CAM enabled Neural Architecture, Planning, Design and Construction • Integrated Digital Planning, Conservation of Heritage, Land, Natural Resources • GIS, GPS, Remote Sensing, Total Station/Drone/Satellite Surveys, Photogrammetry • Big Data Analytics, ERP Solutions • Experience Simulation, Concept Generating Matrix, Morphological synthesis, LiFE Platform, Digital Ledger and Dashboard • Smart Building, Parametric Design, Morphotectonic Strategies, Animation, Simulation, Algorithm and Equations, 3-D Modeling, Digital Fabrication, Morphogenic Geometry, Biomimicry, Adaptive Systems, NURBS Curves and Surfaces, Spline Topology, Voronoi, Generic Computation, Fuzzy Logic, Robotics, Artificial Intelligence • Way finding, Safe, Healthy and vibrant Public Spaces • Building Information Modeling • Online building plan approval, clearances and monitoring

6	Environment Management/EIA	<ul style="list-style-type: none"> • Sustainable Site Planning • Solar Photovoltaic. Building Integrated photovoltaic, wind energy/towers. Solar cookers, high COP chillers, Building Envelope, HVAC, LED/CO2Sensors, Bionic Controls • Porous Paving, Swales • Passive Design, Ventilation, Courtyards, Daylight, Green Roof • Dual Piping, Rainwater Harvesting, Wastewater Recycling • Solid/Liquid Waste Management • Building Systems, Construction and maintenance, Rapid Wall, Carbon Negative Cement • Low Carbon, Low Energy, Sustainable Recycled Materials
7	Land Management	<ul style="list-style-type: none"> • Digital Land Information System, Digital mapping, SDI, Geo-portal, GIS based property records, and transactions • Digital Block chain, Land Administration Digital Model (LADM) • Accommodation Reservation, Transferable Development Rights, etc.
8	Energy	<ul style="list-style-type: none"> • Common Digital Platform • Energy networks, Smart Grids, Smart Meters, Smart buildings • Renewable energy (Solar, Wind, Geothermal) • Low Energy Passive Technologies • Urban Heat Mitigation Planning • Electric Vehicles, Green Hydrogen • Power quality monitoring • Gasification and Biomass • Energy Conservation, Storage and Efficiency • Bionic Controls, Passive Evaporative Draught Cooling, Earth Air Tunnel, District Coding, Low Carbon Zones • Intelligent management/maintenance, MIS

9	Public Utilities, Low Carbon Infrastructure Services	<ul style="list-style-type: none"> • Real-time Digital Platform • Urban Amenities • Green and Blue Infrastructure • Parks and Playground, Biodiversity, Greenery • Water Bodies, Sanitation, Drainage, Flood Control, Urban Agriculture • SCADA (Supervisory Control and Data Acquisition) • ERP Solutions • 5 R Strategy for Waste Recycling • Repairs, Retrofitting and Preventive Maintenance
10	Smart Mobility	<ul style="list-style-type: none"> • Transit Oriented Development • Accessible, Affordable and Clean Public Transport • Real time congestion information • Accessibility, Inclusivity, Active Frontage, Amenities, Spatial Quality, Traffic Impact Assessment • Simulation modeling and analysis • Smart cards, driverless vehicles, Zero Polluting Vehicles, NMT/ Cycle Tracks • Smart signals, traffic controls, variable signage, mobile enabled real time maps/routes, way finding, etc. • ICT enabled traffic control, vehicle safety, communication, Dynamic Regional Network Modeling, multi-modal integration • Safety and security, accident monitoring, forensic analysis • Infrastructure integration, Smart Pole • Digital Taxi/Car/Bus/Auto Pools • Parking Policy and Plan • Maintenance, MIS and management

11	Intelligent Community Frameworks	<ul style="list-style-type: none"> Engaging youth in urban development Digital Intelligent Community Planning Networked Education, Health, Recreation, Security and Other Facilities Digital Data on Residential Types, WFH, Hostels, Night Shelter, Social Rental Housing, etc.
12	Disaster Resilience/ Management	<ul style="list-style-type: none"> Early Warning System, Emergency Aid, Rescue, Relief, Repair, Restoration and Reconstruction, Medical Aid, Life Support, District Hazard Risk Mapping Fire Safety Integrated Command and Control Center
13	Telecom Networks	<ul style="list-style-type: none"> Broadband Development, Home Automation, Internet access, ICT support and training Public Security System and Safety Business Incubation Center, Climate Street, Electronic Trade Office, City Administration, Technology and Innovation Centre Geo-portal, mobile based supervision and control
14	Urban Management	<ul style="list-style-type: none"> Whole of Government Platform Urban Platform for Delivery of Online Governance (UPYOG) Rethink Hierarchical Management Structure, Lifelong learning for Architects, Engineers and Planners A Shift from Long Range Planning to Strategic Planning Interdisciplinary teams.

Source: Author

such initiatives and areas of interventions.

Conclusions

India with a demographic dividend, youth power, and technological advantage can unleash its economy

and potential towards an urban turnaround. This requires a comprehensive strategic plan for a green and clean economy, air, quality management, water supply, conserving green and blue networks, green

construction and circulatory, digital land management, energy, public infrastructure, low-carbon infrastructure services, mobility, intelligent community networks, disaster resilience, telecom networks, and new forms of urban

management, governance, partnerships, financing frameworks and legal reforms. The engagement of youth is essential to bring in radical changes in India's urban future and transformation of the status quo.

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Solving the Climate Emergency and Sustainable Development Challenges

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The global community is significantly off track in achieving the 2030 Agenda for Sustainable Development and the goals outlined in the Paris Agreement. Despite some progress, benefits are unevenly distributed, leaving many vulnerable populations exposed to increasing risks. The Sustainable Development Goals (SDGs) Report 2024 indicates that only 17% of SDG targets are on track, with rising extreme poverty and hunger in many regions. Global emissions have reached historic highs, and human displacement continues to escalate. Each increment of global warming exacerbates the impacts of climate-related hazards like storms, wildfires, and droughts. The next two years are critical; upcoming Nationally Determined Contributions (NDCs) due by early 2025 will shape global emissions trajectories and must align with limiting warming to 1.5 C above pre-industrial levels.

Seeking Synergy Solutions

The 2030 Agenda and the Paris Agreement are interconnected; neither can be realised without the other. The Paris Agreement emphasizes the necessity of addressing climate change within the context of sustainable development and poverty eradication. The United Nations Secretary-General has urged countries to enhance their climate actions, emphasizing that climate initiatives can drive progress across all SDGs. Integrated planning and coherent policies can mitigate trade-offs, reduce social disparities, and protect the global climate.

A Roadmap for Action

Since 2019, the United Nations Department of Economic and Social Affairs (UNDESA) and the UNFCCC have promoted synergies between climate action and the SDGs. The Fifth Global Conference on Climate and SDG Synergies, held in September 2024 in Rio de Janeiro, gathered policymakers and experts to discuss climate action and sustainable development. Dr. Kulwant Singh, former Regional Advisor, UN-Habitat was invited from India to participate as a panellist. He shared India's ambitious climate plans, including a commitment to achieving net-zero emissions by 2070 and has remained steadfast in its transition to renewable energy.

Outcomes of the Fifth Synergy Conference

The conference highlighted empirical evidence and case studies demonstrating the co-benefits of climate action and SDGs. Key discussions included facilitating climate finance, mitigating climate risks, and enhancing adaptation and resilience. Emphasizing public participation, particularly from vulnerable groups in Latin America and the Caribbean, the conference aimed to build capacity and advance understanding of these interconnected issues.

Key Recommendations

1. Urgent action is needed to tackle development and climate challenges, aiming for the SDGs and limiting global warming to 1.5 C.
2. Political commitment is essential for achieving synergistic solutions.
3. Evidence shows that the co-benefits of integrated actions outweigh potential trade-offs.
4. Breaking down silos and addressing fragmentation are crucial for holistic approaches.
5. Inclusive processes must guide adaptation, mitigation, and SDG implementation, prioritizing the voices of the most vulnerable.
6. Coordinated multi-stakeholder partnerships are vital for advancing synergies.

Bharatmala Pariyojana : Transforming India's Road Infrastructure

Bharatmala Pariyojana is an ambitious initiative launched by the Government of India in 2017, aimed at enhancing road connectivity across the country. With a focus on optimizing the efficiency of freight and passenger movement, the project seeks to address critical gaps in the road infrastructure and promote economic growth. Bharatmala Pariyojana envisages the development of about 26,000 km length of economic corridors, which -- along with the Golden Quadrilateral (GQ) and North-South and East-West (NS-EW) Corridors -- are expected to carry the majority of the freight traffic on roads. Bharatmala Pariyojana Phase-1 entails a total length of 34,800 km in 31 states and UTs and more than 550 districts.

Key Components of the Project

The Bharatmala Project is structured around several key components:

- ***Economic Corridors:*** The project includes the development of about 35,000 kilometers of economic corridors designed to enhance trade and commerce to connect major manufacturing hubs with consumption centers.
- ***Border and International Connectivity:*** Approximately 4,000 kilometers of roads are planned to be developed to improve connectivity in border areas and enhance trade with neighboring countries.
- ***Coastal and Port Connectivity:*** The project aims to develop about 7,500 kilometers of coastal roads and improve access to ports, facilitating smoother logistics and transportation.
- ***Expressways and Greenfield Projects:*** Bharatmala also includes the construction of expressways and greenfield projects, which are new highways built on undeveloped land, aimed at reducing travel time and congestion.

Financial Framework

Initially estimated for Rs 6.92 crore, the Bharatmala project is funded through various sources, including the Central Road and Infrastructure Fund cess, remittances, budgetary support, highway monetisation, internal and extra-budgetary resources, and private sector investments.

CONSTRUCTION AND HOUSING SECTOR IN INDIA: MANPOWER REQUIREMENTS AND SKILLING NEEDS

**RAMAKRISHNA
NALLATHIGA, PhD**

Construction and housing industry is a major contributor to the economic growth and development of the nation. India is experiencing a great upsurge in its economy and so also there is a growing demand for skillsets that match the industry requirement. The rising share of construction and housing sector in the overall economic output would require matching workforce availability with requisite skillsets. Personnel with different skillsets are required at levels for executing housing and infrastructure development projects. The structure of work force gives a clear indication that much of it is not even skilled in terms of basic education and much of it is not functionally skilled. Skilled work force is still in shortage in India and these shortages are only rising with increasing investments in the construction and housing sectors. Although there are some general initiatives of the government and industry specific initiatives, there is a large gap that needs to be filled through education, vocational training and skill building initiatives so that the young working force can contribute to economic

growth and the country reaps demographic dividend benefits.

1. Introduction

India is poised for a rapid growth since after the opening up of the economy through the pursuit of liberalisation policies in 1992. The economy has been growing steadily and the economic growth is expected to be around 7-7.5 per cent during the current fiscal year. This is particularly the case when structural changes have been taking place in the Indian economy in terms of the share of output or employment, with an increasing role played by the tertiary sector (or, services sector) along the corresponding decline of primary sector (or, agricultural sector). Manufacturing sector share has more or less remained the same in terms of the value of production (or, output) while the employment under it has decreased due to the modernisation and automation of production facilities. While some of the economists consider the output and employment shift towards services sector

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is a natural shift as the economy becomes poised for growth, there are some real issues that are daunting the economy, especially the availability of factor inputs to production – materials and resources, equipment and machinery, skilled labour and supervisors.

The growth in economic activity is a leading to a surge in the demand for resources, skills and production facilities. While the rise in economic output is fuelled by domestic and international investments, it is not matched by the availability of requisite skilled personnel, which gives rise to skill shortages in Indian economy. The shortage of skilled personnel is real as the country did not gear up its systems to make them available for industrial/ business firms, which cannot perform efficiently without these inputs. This might result in a ‘vicious cycle’– the shortage of factor inputs creating pressure on economic growth and poor economic

growth performance affecting the demand for these inputs and thereby affecting their supply. The shortage of skillsets and skilled personnel is being felt acutely not only by modern service sectors like the Information Technology (IT) or Finance and Banking (F&B) but also by traditional sectors like Construction and Housing.

1.1 Demographic Dividend

Demographic structure changes of India can potentially lead to achieving a higher economic growth in the form of demographic dividend. Demographic dividend refers to the advantage of having a greater share of working-age (15-59 years) population to total population that leads to greater amount of workforce. It comes from the potential of such younger and productive working population to attain high household/ personal income, which translate into higher amount of savings that can be channelled into

investments in production activities that in turn spurts economic growth. The demographic dividend can benefit national economies only once in their life. China’s demographic dividend may already have been over, whereas India’s demographic dividend is expected to extend up to 2041, when it is likely to peak (BT 2023).

Table 1 shows the projected working age population of India and its share in total population. It shows that the working age population is expected to rise from 735 million in 2011 at 61% of total population to 988 million at 65% of total population in 2036. The data trends, therefore, suggest that there is potential for reaping demographic dividend in the future, if the country’s resources are well channelled to accommodate the working population into production processes. However, in order to reap the full potential benefits of demographic dividend, the availability of

Table 1: Trends and Projections of Working Age Population in India

Year	Working Age Population (million)	Share of Working Age Population to Total Population (%)
2011	735.4	60.7
2016	810.7	62.8
2021	875.4	64.2
2026	923.9	64.8
2031	962.1	65.1
2036	988.5	64.9

jobs and matching skillsets of working population as well as their improvement are critical. Therefore, the skillsets of the young population in working age group need to be developed, augmented, and nurtured through appropriate education and skill training institutions as well as by undertaking appropriate skill development programmes.

1.2 Education and skill development

It is important to look at the structure of working age population or labour force of the country in terms of general education that they have received, which plays an important role in their employability, productivity, and income generation potential. It was estimated by Mehrotra et al (2013) that of the 431 million working age population in 2009-10, nearly

126 million (or, 29% of labour force) was not even literate. An additional 102 million (or about 24%) of labour force had received either below primary or primary level of education. In effect, half of the labour force did not have any level of skill acquired from the view point of educational compatibility required to perform any work in organised/ unorganised sectors. The remaining labour force had either middle level education (17.6%) or secondary level education (12%) or higher education (17%). Although the Right to Education (RTE) Act of the Government of India was expected to bring some change in the scenario to some extent, it may take some more time to have any effect; but it only enables general skill formation up to middle/ secondary level education.

Even though literacy and education are important in order to become useful and productive human resource, it is the functional skillsets or functional capability that is more important when it comes to working in industry and service sectors. Some would acquire them on their own through by working voluntarily or with the help/ support from within or outside the family, some acquire it through friends or relatives, and some acquire by referrals. Such acquired skills on job are not formally recognised, therefore they may get paid less or take very long time to get a recognition of their skills, all of which tend to perpetuate exploitative work conditions. Therefore, there is a need for having vocational and skill training institutions that impart skillsets to the population group within the working age.

Table 2: Vocational Training of Labour Force

<i>Vocational Training</i>	<i>Estimated numbers (million)</i>	<i>Per cent Share</i>	<i>Share in Total Working Population (%)</i>
1. Receiving formal vocational training	1.9	4.3	0.4
2. Received formal vocational training	9.0	20.6	2.1
3. Received non-formal vocational training	32.7	75.1	7.6
a. Hereditary	11.9	27.3	2.8
b. Self learning	7.13	16.3	1.7
c. Learning on job	11.5	26.4	2.7
d. Others	2.2	5.0	0.5
TOTAL	43.6	100	10.1

Source: Mehrotra et al

Table 2 shows an estimate of the training capacity of such skilling institutions imparting vocational training in the country. It clearly shows the inadequacy of conventional institutions, which cover only one-tenth of working age population. The scenario would not have changed as there has not been much addition of such training institutions.

2. Construction and Housing Sector – Size, Trends and Growth Drivers

2.1 Size and Importance

Construction and Housing (C&H) sector constitutes an important economic activity that drives the growth of emerging economies like India, which are in the process of achieving economic growth, infrastructure development and capital formation (both physical and financial). Construction sector contributes to 10.5 per cent of the gross economic output and its Housing (or, Real estate) counterpart contributes to about 7.3 percent. Table 3 shows the trends and projections of the output of both these sectors and their share in total economic output. The combined economic output share of these sector is estimated to increase from current 18 per cent to 21 percent by 2029-2030 (RICS – KF 2023).

India's Construction and Housing industry had grown in the past at a Compounded Annual Growth Rate (CAGR) of about 11.1% on the back of massive infrastructure investment and rapid rise in housing demand (NSDC 2012); it was expected to grow at the same rate subsequently and even at an exceeding rate since after 2020 and in the near future. The size of the C&H industry is estimated to rise from US\$650 billion in 2023 to US\$ 1 trillion in 2030 driven by huge housing gaps in the cities and large backlogs in infrastructure development (RICS – KF 2023). Construction and Housing is the second largest economic activity in terms of employment after agriculture by providing employment to about 71 million people.

It is held that Construction and Housing (C&H) investment accounts for around 52.4% of the Gross Fixed Capital Formation in India. Large amount of Foreign Direct Investment (FDI) s flow into the sector, which were estimated at US\$ 36 billion during 2012-22 (NSDC 2012), which continue to rise after liberal norms for capital remittance. Investments in Construction and housing have a positive domino effect on the supplier industries, thereby contributing immensely to economic development.

The C&H sector has strong linkages with various industries such as cement, steel, chemicals, paints, tiles, fixtures, and fittings. While in the short term it serves as a demand booster, in the long term it contributes towards boosting the infrastructure capacity (NSDC 2012). As a result, the C&H sector has a high employment elasticity of 1.12 (RBI 2015).

2.2 Growth drivers

Construction sector can be broadly classified into two segments: (i) Real Estate (ii) Infrastructure. Real Estate segment has been rapidly growing and, in terms of its contribution to the GDP, it is expected to rise from the current about 7-7.5 per cent to 13-15 per cent by 2030. The market size of the Indian real estate sector was estimated to be around US \$ 120 billion in 2017 that grew to US\$ 180 billion in 2020 (RICS KF 2023). Real estate sector has been growing at a CAGR of 12% and is expected to become market size of US \$ 1 trillion in 2030. The real estate sector constitutes of Residential, Commercial and Special Economic Zones (SEZs) and real estate activities. All these sub-segments are witnessing a rapid growth due to rapid economic growth.

Rapid urbanisation and rising income levels lead to a high demand for real

Table 3: Trends of Output Growth and Share of Construction and Housing Sector

Year	Total Economic Output (\$ bn)	Value of Output in Construction (\$ bn)	Value of Output in Real estate (\$ bn)	Share of Construction Sector (%)	Share of Real estate Sector (%)
2011-12	3683	447	168	12.14	4.56
2012-13	3387	396	163	11.69	4.81
2013-14	3243	365	180	11.26	5.55
2014-15	3441	382	215	11.10	6.25
2015-16	3392	363	240	10.70	7.08
2016-17	3541	373	273	10.53	7.71
2017-18	3863	411	249	10.64	6.45
2018-19	3905	411	269	10.51	6.88
2019-20	3947	410	288	10.39	7.30
2020-21	3550	368	272	10.37	7.66
2021-22	4018	423	307	10.53	7.64
2022-23	3927	408	316	10.39	8.05
2023-24*	4058	415	344	10.23	8.48
2024-25*	4194	423	374	10.09	8.92
2025-26*	4335	431	407	9.94	9.39
2026-27*	4480	440	443	9.82	9.89
2027-28*	4630	448	482	9.68	10.41
2028-29*	4785	456	525	9.53	10.97
2029-30*	4946	465	571	9.40	11.54

Source: RICS-KF (2023)

* Projections

estate in Indian cities. Large backlog housing shortages, further fuel the demand for housing through real estate development. The development of Smart Cities as well as new transportation corridors like Delhi-Mumbai Industrial Corridor (DMIC) are expected to give a major boost to real estate development in smart cities and towns adjoining the DMIC corridor. The rapid growth of the Indian economy has had a significant impact on the demand for commercial property to meet the needs

of business, by the way of offices, warehouses, hotels, and retail shopping centres. Growth in commercial office space requirement is led by the burgeoning Information Technology (IT) industry and organised retail trade.

Infrastructure is another area upon which the new Union government has given a thrust since after 2014. Infrastructure development capex allocation of the government has substantially increased from 1.4 per cent of GDP in 2011 to 2.5 per cent of GDP in 2024 (RICS KF

2023). With the government's focus on infrastructure development along with the active participation of the private sector, this segment is growing rapidly. Investments into all major infrastructure sub-segments - Power, Irrigation, and Transportation including Roadways, Railways, Airports, and Ports, Urban Transport, and Communications sectors. Spending on infrastructure sectors such as ports, power plants and roads is projected at more than Rs. 2.5 trillion annually and would require

92 million man years of labour.

3. Workforce and Skillsets in Construction and Housing Sector

With the rapid growth of construction and housing sector due to the demand for development activity driven by both public and private investments, there has been a great demand placed on the various factor input resources of housing and infrastructure production. Manpower is an important input resource (both Skilled and Unskilled) that is sought after in various construction activities – be it real estate or infrastructure development; the demand for it has only been growing over time. Based on the growth expected in the Real Estate and Infrastructure sectors, it was estimated that about 83-90 million persons would be required in the Construction sector by 2022 but the existing supply was about 42 per cent

of this demand, resulting in a 47 per cent shortage (CSCDI 2022). The incremental human resource requirement between 2008 and 2022 was expected to be about 47 million. Given the economic growth and sectoral growth trends, the skilled and unskilled manpower requirements would increase substantially in the near future.

3.1 Workforce structure

Table 4 shows the growing workforce requirements of construction and housing sector in India. The total workforce requirements of the construction and housing sector are expected to grow to more than three-fold in the during 2005-2030. These manpower requirements of the industry need a matching supply of skilled and unskilled workers with requisite functional skillsets. However, the educational and training institutions have

not been expanding enough to match the requirement. There is also a shortage of relevant education and training institutions – both the number of institutions and infrastructure i.e., trainers and facilities, in this sector.

Here, it is also important to examine the current structure of workforce/manpower in construction and housing sector. Figure 1 shows the employment pyramid in terms of the share of workers with different skillsets in C&H sector. The Pyramid is based on NSDC (2012) data. Interestingly, bulk of the employment (in terms of share of workers employed) has been in the unskilled manpower, which is required in almost every part of construction and housing activity. However, much of this workforce is contractual workforce, which constitutes temporary or seasonal workforce migrating from rural areas for working

Table 4: Skilled and Unskilled workforce in Construction Sector

Occupation	Number of Employed (in '000s)			
	2005	2011	2023**	2030**
Engineers	822	1,050	2,200	3,309
Technicians and Foremen	573	1,120	2,271	3,811
Clerical	738	930	1,916	2,908
Skilled Workers	3,267	3,730	6,554	10,530
Unskilled Workers	25,600	34,200	57,695	79,724
Total Workers	31,000	41,030	70,966	100,282

Source: RICS KF (2023)

** Estimates

in construction and housing activities. The skilled workers also constitute a sizeable population. However, the actual demand for such workforce may be higher in this segment but it is not matched by the supply due to the paucity of vocational and other skill training institutions as laid down earlier in Section 1.

3.2 Skill sets and profiles

The construction and housing development activity would also require a diverse set of people in order to execute the projects; therefore, the diverse range of skilled people as well as unskilled workforce are required for executing construction and housing projects. Even the unskilled workers need to have some basic requisite ability to perform the job through on-site training and background education. There are a large number of higher educational institutions that churn out management graduates without field experience; the number of project managers with work experience available is not enough. Likewise, the number of site supervisors and engineers with civil engineering background has not been rising to the requisite level, which is evident from the shortfall of admissions. The figure is based on NSDC (2012) data.

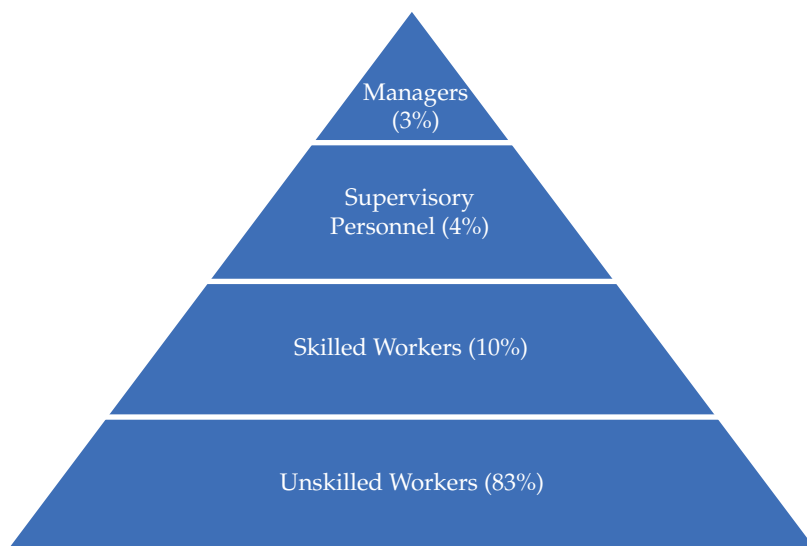


Figure 1: Employment Pyramid in Building, Construction, and Real Estate Sector

Here, the unskilled workforce in construction needs to be looked upon as those people who are employable to work in the sector (functionally ready to do the job) rather than simply unemployed workers awaiting the job. This essentially means some amount of skill training is needed to be given to such workers in order to make them more productive and useful to the industry. Likewise, skilled workers require education and appropriate skillsets e.g., bar-bending, electrician, welding, crane operation, plumbing, carpentry etc in order to render the services more effectively to the construction activity. Up gradation of skills to match the changing job requirements is also necessary. Therefore, skill training and skill set development

constitute an important input that can make the skilled and unskilled workforce more productive. Here, skill building/skill development education can play a major transformative role to the individuals and communities by empowering them with the key inputs which matter in employability as well as (life-time) earning capacity.

4. Skill Training and Skillset Development Initiatives

Given the emergent trends of economic growth of the country, the construction and housing sectors have been witnessing a rapid growth and the investments into construction and housing projects are also rising rapidly. These investments and activities into the sector need to be matched by the

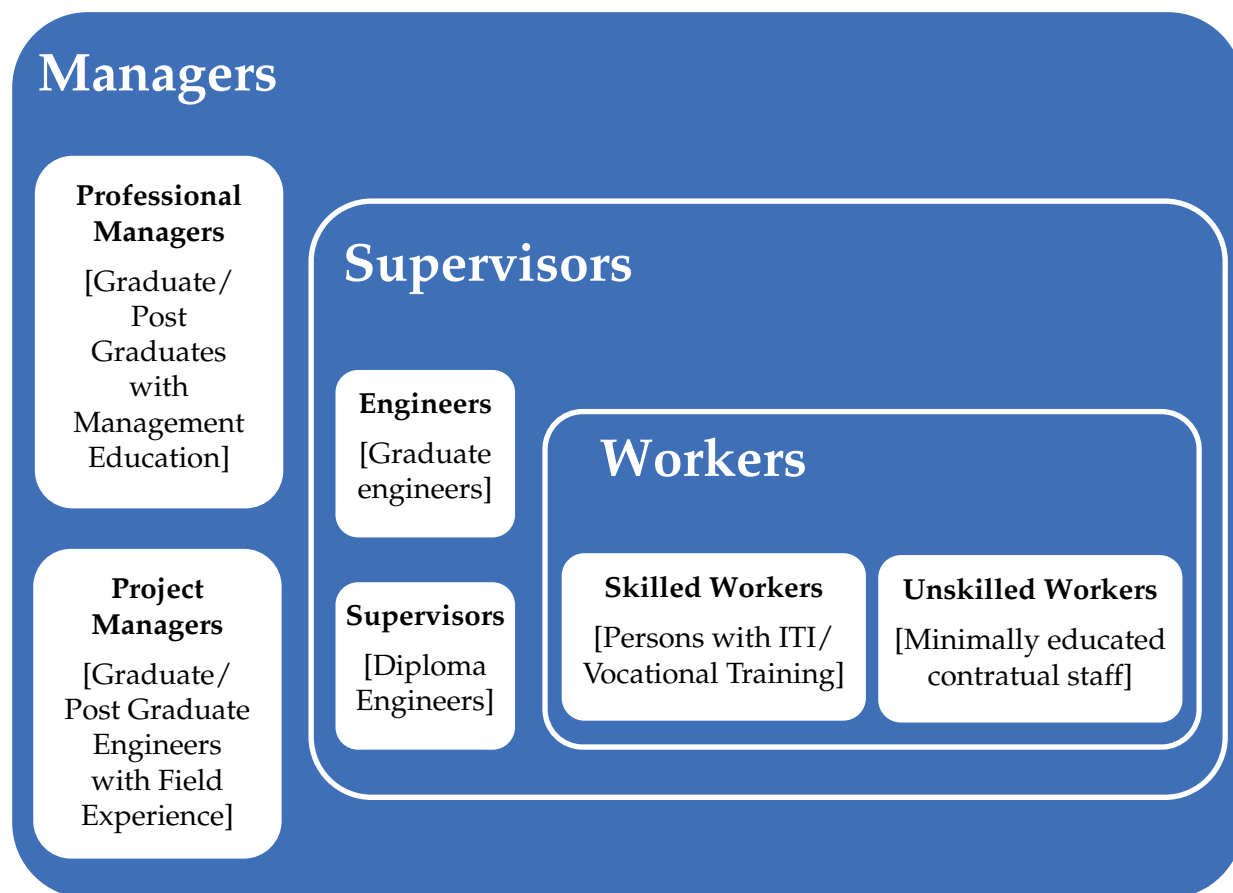


Figure 2 Employment Profiles and Education in Construction and Real Estate Sector

availability of manpower with appropriate skillsets in order to sustain them. However, there are large gaps between the manpower requirements and the availability of working population with such skillsets in the current scenario. The development of manpower or workforce with appropriate skillsets is essential for clocking higher economic growth; the construction and housing industry will also stand to gain from such

trained/ skilled workforce due to better productivity.

4.1 Broader initiatives of the Government

Figure 3 shows the approach taken by the government in terms of the initiatives towards making the workforce with requisite skillsets.

4.2 Industry Specific Initiatives

There have been few

voluntary initiatives towards developing skillsets in construction and housing sector in India. Consortium of Real Estate Developers Association of India (CREDAI) has taken steps to impart skill training through its network of CREDAI chapters in India. Construction Skill Development Council of India (CSCDI) also lends its hand to training skilled personnel. The National Academy of Construction (NAC) is one

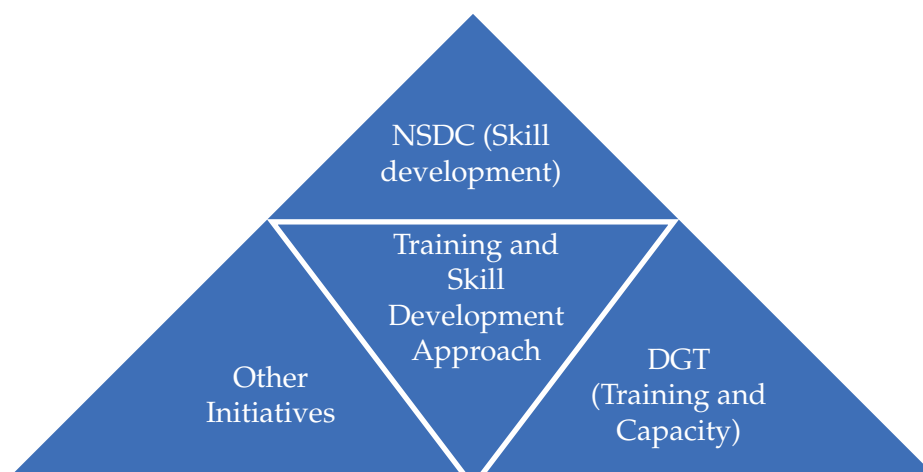


Figure 3 Government approach to Skill Training and Development

Table 5 Government Initiatives towards Skill Development

<i>NSDC</i>		<i>DGT</i>	<i>Other Initiatives</i>
Prada Kaushal Yojana (PMKVY)	Mantri Vikas	Craftsmen Training Scheme (CTS)	Skill Loan Scheme
Rozgar Mela		Crafts Instructor Training Scheme (CITS)	Indian Institute of Skills(IISs)
Pradhan Kaushal Kendras (PMKK)	Mantri	Apprenticeship Training under the Apprentices Act, 1961	SANKALP
Capacity Building Scheme	Udaan	Advanced Vocational Training Scheme (AVTS)	Academic Equivalence to Vocational Qualifications
		Vocational Training Programme For Women	Aspirational Districts
School Initiatives and Higher Education		Schemes for Up gradation of ITIS	Swachh Bharat Abhiyan
India Skill Centres (IISCs)	International	Flexi MoUs	Technology Initiatives
Pre Departure Orientation Training (PDOT)		STRIVE	
		Initiatives in the North East and LWE Regions	
		Trade Testing	
		Current Initiatives in the DGT Landscape	
		Dual System of Training (DST)	
		Polytechnics	

Source: Ministry of Skill Development and Training

Box 1***Construction Workers Training at NAC Centres***

The National Academy of Construction (NAC) was established by the Government of Andhra Pradesh to organise the state-of-the-art high-end training for eligible youth in construction engineering supporting trades, like masonry, bar bending, plumbing, carpentry, painting and decoration, sanitation plumbing, civil work supervision and operating earth movers. Municipal Commissioners identify the youth from the poorest settlements with preference given to the school drop outs and unemployed youth. This led to the kick-start of the skill development programmes across the State by the NAC through its centres.

After a process of screening and short-listing, the selected candidates are given training for 3 months in the classroom and in the field. The trainees were also given a lump sum amount as incidental charges in order to prevent them from dropping out. At the end of the training, an appropriate skill certificate was issued by the NAC, which would enable the trained youth to seek employment with firms operating in construction and housing sector. A toolkit would be given to each trainee. After the basic training and skill certification, the candidates are given apprenticeship for the duration of 12 months in the industry firms, with the option of permanent absorption later.

such initiative catering to construction and housing industry through skill development programmes. Box 1 shows the initiative made by it.

5. Conclusions

India is on the cusp of reaping the benefits of demographic dividend for next few decades, which requires the availability of jobs and matching skillsets of working age population. Indian economy is poised for greater growth but is not matched by the necessary input resources like skilled labour force. Construction and housing sector is an important economic activity that contributes to almost one-fifth of the economy. This sector is important

and growing over time and, therefore, it requires a large amount of workforce for its operations. Much of the workforce in construction and housing sector as well as other sectors have poor levels of skills – both education and functional. Therefore, skill development of this workforce is going to play a major transformative role to the individuals, communities and the economy of the country. It is to be noted that, while a large proportion of the workforce falls in the lower portion of the pyramid, there would be skill building required at a workplace and construction-site level. It is also required to examine models in which such skills can be delivered to the skilled and minimally

educated workforce near to construction sites.

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UNLOCKING THE FULL POTENTIAL OF URBANISATION: WHY SKILL DEVELOPMENT HOLDS THE KEY?

OJASVI GOYAL

India's urban landscape is transforming exponentially, driven by a blend of rapid urbanisation, technological advancements, economic expansion, environmental concerns, and social change. This transformation paints a compelling vision for the future of urban living thereby shaping cities into engines of economic development and growth. One of the distinguished features of India's urban transformation story is the favourable demographic shift that the country is experiencing. According to the estimates given by Vision@2047 Report- "India's population is expected to surge to 1.7 billion in 2047 with close to 51% of the individuals residing in urban areas." Another optimistic estimate relates to India's demographic dividend which will peak around 2041, when the share of working-age population, (i.e. 20-59 years) is expected to hit 59 per cent. Coupling both the estimates together underscores the importance of capacity building and skill development amongst youth as a critical piece in solving the jigsaw puzzle of shaping a better urban future. As urbanisation

gains momentum and cities continue to expand, the associated challenges of urbanisation such as unemployment, underemployment, social segregation, inequality, and limited access to infrastructure can be strategically addressed by equipping the youth with the right set of skills at the right point of time.

To meet the needs of future cities, it is essential to identify and cultivate the skills that will drive this new urban paradigm. The article explores the critical role of future and emerging skills in unlocking the potential of urbanisation and smart cities. Through a comprehensive review of literature and expert insights, the paper chalks out the key skills areas that will be essential for thriving in future cities. The article asserts that investing in future skills development is crucial for building resilient, adaptable, and inclusive urban communities. This article provides a framework for policymakers, educators, and industry leaders to collaborate in developing the human capital necessary to power the cities of tomorrow.

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1. Need to establish convergence between Urban Development and Skill Development Policies:

The changing dynamics of urban spaces create a plethora of opportunities and challenges for workforce development. To ensure sustainable urban growth and to address the complex needs of an urban population, it is essential to establish a convergence between urban development and skill development policies. This integrated approach is crucial for creating resilient, inclusive, and thriving urban environments. There is an urgent need to follow a hand-in-hand approach between urban development and skill development policies because of the following reasons.

- a) **To meet the future demands for new and emerging skills:** The growing industrialisation in urban areas has led to shift from agrarian economies to industrial and service-oriented economies. Urbanisation leads to spurring up of new industries and sectors such as green and sustainable technologies, cyber security etc. which creates the demand for new skills related to such emerging fields.
- b) **Cater to the burgeoning needs of workforce transformation:** With

an increased focus on tertiary-sector and knowledge-based job roles, urbanisation has substantially altered the job landscape of urban areas. The booming gig and platform economy in urban areas requires necessary skills for working on digital platforms.

- c) **Enhanced access to infrastructure:** One of the key features of urbanisation is the availability and accessibility to infrastructure. Urban areas are characterised by a wider prevalence of airports, hotels, flyovers, metro, public transportation, water supply etc. There is a need to develop necessary skills to fully leverage the infrastructural requirements of urban spaces.
- d) **Building resilience:** Urban spaces adapt to urban challenges and bring in resilience with respect to issues such as climate change, disaster management. There is a requirement to develop skills related to disaster risk reduction, sustainable practices etc.
- e) **Global connectivity:** Urban areas and smart cities have a

greater connectivity to global networks which facilitates international trade, knowledge transfer, and cultural exchange at an international level.

By harnessing skill development, urbanisation can be transformed into a powerful force for creating thriving, adaptable, and inclusive cities. As urban India evolves, its cultural landscape is being reshaped by the convergence of diverse influences and global perspectives, giving birth to new subcultures and lifestyles. Emerging trends like wellness, sustainability, and social media are redefining urban living. India's urban transformation is a complex, dynamic narrative of cities transitioning from traditional centres to vibrant hubs of innovation, culture, and sustainability. To ensure a bright future, India must balance economic growth, environmental stewardship, and social equity. As the country moves forward, its cities are undergoing a transformative evolution, promising a future that is more sustainable, inclusive, and vibrant.

2. Key Future Skills for Urban Development:

- a) **Technological Integration, Data Driven Governance, and Digital Transformation:**
 - With an increase in the number of smart cities, a sound understanding of working

with latest technologies such as Internet of Things (IoT), Artificial Intelligence, Big data becomes quintessential for managing the overall infrastructure, public utility services etc. Empowering the workforce with skills such data analytics is important for the development and implementation of smart city solutions such as smart grids, e-governance, and smart transportation systems. The analysis and interpretation of big data sets of urban settings such as migration flows, traffic movements, and resources will enable informed decision making and optimisation of operations.

- As the reliance on digital infrastructure deepens, there exists a dire need to develop expertise in shielding the digital infrastructure from cyber threats.
- The applications of drones across cities are wide-ranging and multifaceted that spans across fields such as public surveillance and safety, environment parameters monitoring, and urban management. It becomes imperative to inculcate the required skillsets related to remotely piloting drones and controlling/ manoeuvring height, direction, and speed. Further, the skills are also required to be developed in assembling, repairing, maintenance, and troubleshooting of issues to

ensure the operationalisation of drones.

b) Sustainable and Green solutions:

- Green buildings hold integral place in urban development as these structures help in minimising the environmental impact thereby contributing towards sustainable urban development. As the cities strive towards reducing their carbon footprint, the necessary skills associated with sustainable architecture, urban planning will play a pivotal role. A knowledge of basic green design principles including solar design, energy optimization, installation, and maintenance & repair of solar energy related equipment, designing Heating, Ventilation and Air Conditioning (HVAC) systems is the need of the hour to achieve better energy efficiency in green buildings.
- Addressing the challenges of water scarcity also pose a significant threat for urbanised clusters and cities. The plumbing technicians or water supply technicians should be imparted with the relevant skills on installing water-preservation technologies such as low-flow fittings, grey water recycling, and rainwater harvesting systems to solve the challenge of water shortage.

c) Urban Mobility Solutions and Transportation:

- Urban mobility solutions are a distinguishing feature of urban areas which shape the sustainability and liveability of cities. With an ever-increasing urban population, robust public transport systems facilitate seamless mobility of passengers & goods, reducing congestion and curbing emissions. The requisite skills related to real-time analysis of transportation data obtained from CCTV cameras, sensors and GPS can be helpful in the optimisation of traffic, foresee traffic snarls, reduce crimes, and improve the efficiency of systems.
- Electric vehicles have taken the world by storm which has entirely revolutionised the global mobility landscape. Therefore, it becomes important to provide the necessary skillsets related to planning and deployment of workforce on charging stations, repairing of batteries etc.
- The requisite skills for managing the design of MaaS platforms and sustainable transport options such as public transport system, vehicle-sharing platforms also hold utmost importance.

d) Health initiatives and ensuring well-being:

- Urbanised areas prioritize health and well-being by integrating data-driven solutions, technological

advancements, and urban planning with an overarching objective of improving the quality of life of citizens.

- In order to ensure the good quality of life, it is important to develop multidisciplinary skillsets amongst the workforce which combine medical/ clinical knowledge coupled with data management and technology integration. Development and management of telemedicine platforms and patient portfolios, usage of remote diagnostic devices can prove to be the required skillsets to enhance accessibility of telemedicine.

e) Resilience, Crisis Management, and Climate Adaptation:

- Smart urban areas demonstrate adequately preparedness to fight against natural and man-made hazards ensuring the safety of urban citizens. This requires necessary skills in emergency response planning, assessment of risks, analysis of vulnerabilities, post-disaster needs assessments, and disaster risk reduction.
- A sound knowledge of Incident command System (ICS) is a mandatory skill to mitigate the adverse effects of disasters through clear emergency response operations, emergency rehabilitation camps etc.

- Skillsets related to protection and restoration of urban infrastructure such as healthcare facilities, water and sanitation systems, and power grids holds pivotal importance.

3. Strategies to Foster Skill Development Efforts in Alignment with Urban Development

a) Educational Initiatives:

- Integrate urban planning, sustainability, and community development into school curriculum
- Offer vocational training in trades like construction, energy efficiency, and green infrastructure
- Provide technical training in urban-focused fields like transportation management, public health, and environmental science

b) Public - Private Partnerships:

- Collaborate with private sector companies to develop training programmes in emerging technologies
- Partner with educational institutions to create customised training initiatives
- Leverage government funding and resources to support workforce development programmes

c) Continuous Learning and

Up skilling:

- Offer online courses, workshops, and certification programmes for urban professionals
- Provide mentorship opportunities and networking events
- Encourage interdisciplinary learning and knowledge sharing across sectors

d) International Collaboration:

- Participate in global urban development networks and conferences
- Engage in international capacity-building programs and training initiatives
- Collaborate with foreign universities and research institutions on urban-focused research projects

4. Future of Work and its Impact on the Development of Urban Areas

Urbanisation and future of work are closely intertwined concepts, each having significant impact on one another. On one hand, the growth of urban areas shape the future of employment and on the other hand, changes in future of work significantly impact the growth and development of urban areas. In this section, the focus is entirely on the latter interlink age. The future of work is set to transform the way cities are designed, managed, and inhabited. With the advent of

technology, shifting workforce landscape and changing economic dynamics, the urban areas must be flexible to adapt to the new opportunities and requirements posed by Future of work.

a) The shift towards remote work and flexible working models, driven by technological advancements, is transforming the way we approach office spaces. As companies adopt more flexible working arrangements, the demand for large office spaces in city centres is declining. Instead, there is a growing need for:

- Co-working spaces
- Satellite offices

These alternative workspaces offer employees the flexibility to work in a professional environment while remaining close to their homes. From an urban development perspective, this shift can lead to: more evenly distributed urban layouts and reduced concentration of professional and economic activities in specific areas. This, in turn, can result in more balanced and sustainable urban planning, with benefits such as reduced congestion and commuting times, increased local economic activity, more vibrant and diverse neighbourhoods.

b) Technological advancements are transforming the

economy, and urban planning must adapt to accommodate new infrastructure needs. These necessities will support the growing demand for digital services and ensure seamless connectivity. Key considerations for urban planning include:

- Creating data centre hubs
- Ensuring reliable and fast internet connectivity
- Developing smart city infrastructure
- Fostering innovation districts
- Addressing the digital divide

The future of urban planning is closely tied to the integration of technology and innovation, requiring a forward-thinking approach to meet the demands of a rapidly changing world.

c) The rise of non-traditional employment is indeed transforming the way cities function and plan for their residents. With more people engaging in gig work and freelancing, cities will need to adapt to provide support and infrastructure for this growing segment of the workforce. Some potential ways cities can adapt include:

- Co-working spaces and incubators for freelancers and start-ups

➤ Flexible zoning laws to allow for pop-up businesses and markets

➤ Public spaces that can be easily repurposed for events and gatherings

➤ Access to affordable healthcare and social services for gig workers

➤ Education and training programs to help workers develop new skills

➤ Streamlined regulations and permits for short-term businesses

➤ Inclusive and affordable housing options for workers who may experience income fluctuations

➤ Digital platforms and tools to connect workers with resources and opportunities

d) Adapting to job market changes requires a proactive approach to education and training. Cities can play a crucial role in supporting the urban workforce by investing in programs that focus on:

➤ Digital literacy: Basic computer skills, online safety, and digital tools training

➤ Emerging technologies: AI, data science, cyber security, and other in-demand skills

➤ Sustainability: Green technologies, environmental management, and eco-friendly practices

- Soft skills: Communication, collaboration, creativity, and critical thinking
- Industry-specific training: Tailored programs for growing sectors like healthcare, tech, or renewable energy

Lifelong learning initiatives can include:

- Online courses and certification programs
- Community education centres with flexible scheduling
- Partnerships with local universities, industries, and start-ups
- Apprenticeships and on-the-job training
- Mentorship programs and networking events
- Accessible and affordable education options for underserved populations
- Emphasis on continuous skill updates and professional development

e) The future of work will likely lead to changes in commuting patterns, with less emphasis on peak-hour travel to and from central areas. Cities will need to adapt their transportation systems to accommodate more flexible and decentralized travel needs, including enhanced public transportation, cycling infrastructure, and

pedestrian-friendly streets.

f) As work becomes more digital and less location-dependent, there is a risk of exacerbating social and economic inequalities. Cities will need to implement policies that ensure access to digital tools, training, and opportunities for all residents, including marginalized communities.

g) The blurring of boundaries between work and home life, especially with remote work, will require urban areas to prioritise the mental and physical well-being of their residents. This includes access to green spaces, recreational facilities, and mental health services. As urban workers spend more time in home or remote office setups, cities may need to promote standards for healthy work environments, including ergonomic design, adequate lighting, and air quality.

5. Conclusion:

The future of work will significantly shape the urban landscape, requiring cities to be adaptable, innovative, and inclusive in their planning and development. By anticipating these changes, urban areas can create environments that not only accommodate new ways

of working but also enhance the overall well-being and prosperity of their population. Cities that successfully integrate the future of work into their development plans will be better positioned to foster social cohesion, reduce inequality, and improve the quality of life for all residents. As work becomes more flexible and less centralized, cities may evolve into polycentric regions, with multiple hubs of economic activity rather than a single central business district.

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UNION BUDGET 2024 AND INCLUSIVE CITIES: AN APPRAISAL OF INDIA'S URBAN DEVELOPMENT SCHEMES & POLICIES

**SOUMYADIP
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In quest of building sustainable and inclusive cities, the Budget 2024 has identified urban development as one of the nine priority areas with the budgetary allocations for MoHUA increased by almost 19 percent. This paper analyses their implications for inclusive urban transformation. PMAY-U accounts for 62 percent of the total budgetary allocations but the schemes have benefitted middle- and high-income group people more than the urban poor. Revised eligibility norms, increased financial assistance and better credit risk guarantee under the PMAY-U 2.0 could ensure greater incidence of benefits reaching the 'deserving' beneficiaries and slum dwellers. The allocations for addressing urban service deficits indicate neglect of smaller towns. Even the big-ticket metro projects have continued to attract sizable budgetary allocations, albeit, they hardly benefit the majority of people both in terms of accessibility and affordability. Given such exclusionary trend, this paper argues for rethinking urban policies through empowerment of the city government and integration of urban poor's needs in urban

planning and governance mechanisms so as to achieve the mission of Viksit Bharat – Developed India by 2047.

The Backdrop

India is urbanising rapidly with an expectation of adding more than 416 million people to its cities by 2050, almost doubling its size. Urban policy makers are facing two uphill challenges for managing this massive urban transformation. First, to capitalise on the benefits of agglomeration economies towards creation of greater employment opportunities and sustainable economic growth. And second, to make the cities inclusive and livable. However, availability of urban infrastructure has been inadequate and of poor quality, jeopardising the prospect of Indian cities to emerge as the 'growth hubs' as envisaged by the Union Budget 2024-25. Importantly, these deficiencies pervade both large and small cities in India but tend to be more severe in smaller cities and poorer regions and informal & slum settlements within the cities.

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Considering universal application of service delivery norms set by the Ministry of Urban Development in 2008, the HPEC (2011) estimated urban infrastructure investment deficit of \$827 billion at 2009-10 prices for the period 2012-2031. Urban roads and transport accounted for about two thirds of this deficit and about one-fourth of this total was for water and sanitation services. Persistence of such investment deficits in our cities is evident from the World Bank study that highlights the urban investment requirements of \$840 billion in the next 15 years till 2036 (Athar et al., 2022). Of this total, \$450 billion is needed for addressing

the deficits in provision of basic municipal services like water supply, sewerage, waste management, roads, street lights and storm water drainage while about \$300 million is required to build mass transits. Given the huge investment deficits, the annual budgetary provisions for urban development are unlikely to offer any magic solution. Yet, they reflect on the future course of urban policy making. This paper decodes the budgetary allocations under urban schemes and analyses their implications for making the cities inclusive as well as livable so that they transform into growth hubs.

Cities & Union Budget 2024-25

The Union Budget of the last few years recorded increasingly higher allocations for urban development and housing. The Union Budget 2024-25, which was presented by the Finance Minister on July 23rd, was the first budget by the third NDA government, which presented interim budget 2024-25 in the month of February. Identification of urban development as one of the nine priority areas by the Budget 2024 is in line with that trend and also with the NDA government's continued rhetoric of building sustainable and inclusive cities.

<i>Centre's Expenditure</i>	<i>Actual Estimate</i>	<i>Budget Estimate</i>	<i>Revised Estimate</i>	<i>Interim Budget</i>	<i>Budget Estimate</i>
(in INR crores)	2022-2023	2023-2024	2023-2024	2024-2025	2024-2025
Gross Recoveries Receipts Net Total	77310	76431	69270	77523	82577
Revenue component	50432	50434	42737		53948
Capital component	26878	25997	26533		28628
Total MRTS and Metro Projects	23603	23175	23104	24931	24932
PMAY U- 1. Credit Linked Subsidy Scheme (CLSS) - I for Economically Weaker Section (EWS)/Lower Income Group (LIG)	10820	0.01	0	0	3000
PMAY U 2. Credit Linked Subsidy Scheme (CLSS)-II for Middle Income Group (MIG)	1000
Pradhan Mantri Awas Yojna Urban (Total)	28652	25103	22103	26170	30171

Deendayal Antyodaya Yojana-National Urban Livelihood DAY-NULM	547	0.01	523	0.02	300
Pradhan Mantri's Street Vendor's Atmanirbhar Nidhi (PM - SVANIDHI)	405	468	468	326	326
AMRUT (Atal Mission for Rejuvenation and Urban Transformation)	6499	8000	5200	8000	8000
Smart Cities Mission - Mission for Development of 100 Smart Cities	8479	7665	7718	2237	2237
Smart Cities Mission - City Investment to Innovate, Integrate and Sustain (CITIIS)	233	334	281	163	163
Total- Smart Cities Mission	8652	8000	8000	2400	2400
Swachh Bharat Mission Urban	1926	5000	2550	5000	5000

Source: www.indiabudget.gov.in

The Ministry of Housing and Urban Affairs (MoHUA) receives an allocation of INR 82577 crore equaling almost 19 percent increase over the revised estimates of INR 69270 crore in 2023-24 (the allocation for interim budget 2024-25 was INR 77523 crore) (Table 1). However, the same allocation as a percentage of GDP has declined from 0.45 percent in 2021-22 to 0.25 percent in 2024-25 (Rana et al, 2024). Going by the allocation trend since 2021-22, revised budgetary allocation would be about 8- percent of the budget estimate for the FY 2024-25. Funds have been allocated broadly under central sector schemes and

centrally sponsored schemes. For both the schemes, there are increases in budgetary provisions in 2024-25 of about 9.5 percent and 26 percent respectively. Although, the increased budgetary allocations seems to be promising, but would these be helpful in facilitating inclusive urban transformation? Following sections attempt to address this concern.

The Budgetary Allocations and the Primacy of PMAY-U

Among the centrally sponsored schemes, the Prime Minister Awas Yojna (Urban) (PMAY-U) accounts for 62 percent of the total budgetary

allocations. The PMAY-U has been given INR 30171 crore as against INR 22103 crore in 2023-24 (and INR 26170 crore in the interim budget 2024-25). Since inception of PMAY-U in 2015, as on 29th July 2024 - a total of about 11.86 million houses have been sanctioned based upon the housing demand survey by the municipalities, of which 11.43 million houses have been grounded for construction and 8.54 million houses are completed. The overall investment approved is INR 8.07 lakh crore, of which the contribution of centre, state & beneficiaries was 2, 1.23 & 4.85 lakh crore respectively. The major

thrust on housing was the outcome of the government mission of Housing for All by 2022. This physical progress falls way short of urban housing shortage of 29 million in 2018 as estimated by the Indian Council for Research on International Economic Relations (ICRIER) Report 2020. The Report also estimated the housing inadequacies separately for slum and non-slum areas of Indian cities. Almost 44 per cent of slum households live in inadequate houses while the incidence of inadequacies is about 20 per cent for the non-slum households. Moreover, 99 percent of the urban residents experiencing housing shortages belonged to the lower income groups.

In-Situ Slum Redevelopment Scheme (ISSR)

Among the four verticals of the PMAY-U, the ISSR aims to provide in-situ houses to the marginalised households in slum settlements lacking ability to access houses through formal housing markets. However, the number of housing units sanctioned under the ISSR is only about 3 lakh units. In-Situ Redevelopment of slums uses government land or private land and involves participation of multiple agencies including government departments, private landowners, private

developers, and, in some cases, slum dwellers' associations. Apart from the financial provision of Rs 1 lakh per housing unit, there are provisions of extra floor space index (FSI) or transferable development rights (TDR) to incentivise the private developers.

However, the implementation of ISSR schemes is constrained by legislative and administrative difficulties in accessing land, lukewarm private sector response owing to limited scope of profit making, procedural delays in tendering as well as approvals of projects. Neither the developers possess knowledge about the needs of slum dwellers nor do they find opportunities to get involved in different stages of housing projects under the ISSR. In many redevelopment cases, the poor households have been uprooted from their livelihood sources leading to deterioration in their quality of life. The success of JAGA Mission in Odisha entails important lessons for rethinking supply driven top-down approaches inherent in the implementation of ISSR. The Mission combines the granting of non-transferable land title to the slum dwellers with the provision of improvement in basic amenities and infrastructure through community participation. Replicating similar approaches in other

cities would make the ISSR more effective in addressing the housing inadequacies of the urban poor.

Credit Linked Subsidy Scheme (CLSS)

The re-introduction of the CLSS component with budgetary provisions of INR 3000 crores for the economically weaker sections/lower income group people and INR 1000 crores for the middle-income group is the other notable feature of the current budget. The CLSS scheme was discontinued since last two years, after focus given the intense during the government mission of Housing for All by 2022. This Scheme has its precursor in the form of Rajiv Rin Yojna (RRY) with provision of interest subsidy for improving housing affordability of the urban poor in 2013. It functions as a central sector scheme for providing interest subsidy on home loans taken by eligible beneficiaries of Economically Weaker Sections (EWS)/ Low-Income Groups (LIG) and later extended for the middle-income group (MIG) for purchase or re-purchase or construction of houses or incremental housing (Table 1). The interest subsidy of 6.5% is available for loan amount up to Rs.6 Lakh for EWS (with annual household income up to 3 lakh)/ LIG (with annual household income between 3

to 6 lakh) while MIG-I group (with annual household income between 6 to 12 lakh) is eligible for interest subsidy of 4% for loan amount up to 9 lakh and for MIG-II group (with annual household income between 12 to 18 lakh) is eligible for interest subsidy of 3% for loan amount up to 12 lakh. Primary lending institutions (PLIs) credit the interest subsidy of Rs. 2.67 lakh (against loan amount of 6 lakh at 6.5% interest rate); Rs. 2.35 lakh (against loan amount of 9 lakh at 4% interest rate) and Rs. 2.30 lakh (against loan amount of 12 lakh at 3% interest rate) upfront to loan account of EWS/LIG, MIG-I and MIG-II groups respectively. This is estimated to reduce the Equated Monthly Installment (EMI) for EWS/LIG, MIG-I and MIG-II groups by Rs. 2579, Rs.2268 and Rs. 2211 respectively (Kundu and Kumar, 2017).

As on 12th August 2024, 6.08 lakh MIG households have been benefited from CLSS out of a total of 25.04 lakh CLSS beneficiaries, which is about 24% of total beneficiaries. The specified carpet areas of the dwelling units for the EWS and LIG groups remain unchanged at 30 sqm and 60 sqm respectively while the same for the MIG I and MIG II groups have been increased from 120 sqm to 160 sqm and from 150 sqm to 200 sqm

respectively in 2021. These changes were introduced to widen the scope and coverage of the scheme as increased carpet areas would cater to the MIG groups' preferred categories of housing and provide a fillip to the sale of ready built affordable housing units (Kundu and Kumar, 2017).

However, an analytical examination of the CLSS guidelines and beneficiary reveals that the scheme has not been responsive to the housing needs of the economically marginalised EWS/LIG groups. Receipt of the subsidy under the CLSS is linked to the beneficiaries' eligibility to secure a home loan from the PLIs which, in turn, depends on the creditworthiness of the home loan borrowers. This latent conditionality practically excludes the low-income households with uncertain income stream as the PLIs check their creditworthiness from business perspectives (Khaire, 2023). Even after becoming eligible for the interest subsidy, the urban poor could find it difficult to pay the balance EMI.

Kundu and Kumar (2017) estimated that repayment of loan amount with interest generally exceeds half of the earnings of the EWS and LIG groups. Moreover, on the pretext of promoting affordable housing the

inherent objective of the CLSS schemes seems to be of enhancing the uptake of housing stocks. Various reports of the property consultancy firms have indicated a distinct deceleration in demand for housing units priced under Rs 50 lakh over the last five years (The Hindustan Times, 2024). Housing developers with better access to policy making circles have been successful in extending the scheme benefits to MIG groups having relatively better repayment capacities that also suit the financial interests of the PLIs. Such alignment of business goals of housing developers and PLIs has, in practice, facilitated affordable housing demand catering to the needs of MIGs and developers (Khaire, 2023).

Rental Housing

Given the majority of the urban resident's lack of affordability to own a house, rental housing can potentially cater to the increasing demand for housing. Majority of the urban poor engaged in the informal sector or being self-employed prefer inexpensive rental accommodation with greater flexible housing options. So, the budget proposal of rental housing, specifically the dorm-like accommodations in PPP (Public-Private Partnership) mode for the industrial workers, appears to be a

timely intervention. Earlier, in 2020, the central government experimented with the Affordable Rental Housing Complexes (ARHCs) as a sub scheme under PMAY-U to respond to the housing needs of the urban poor, especially the migrants who were hard hit by COVID 19. There were provisions for repurposing the vacant houses in the cities to rentals through PPPs and developing rental housing by public or private entities on their own available vacant land. This indicates over-reliance on the private sector for building rental housing units.

However, in spite of the concessions including tax rebates, project loan at lower interest rate, additional Floor Area Ratio (FAR)/ Floor Space Index (FSI), provision of trunk infrastructure, the private sector response to this scheme was lukewarm. Even in case of the housing units being constructed under the ARHC scheme, there are multiple problems in terms of poor location and non-availability of basic urban services, making the rental housing units inhabitable. Moreover, affordability remains a key concern as rents of the units under the ARHC have often exceeded the prevailing private rental market rent (Harish, 2021). Absence of specific income criteria for eligibility and implicit

binding of rental housing access to the beneficiaries' ability to pay rent put the most vulnerable urban poor in a disadvantageous position. Further, the experiences of Mumbai Metropolitan Region Development Authority led rental housing scheme revealed two crucial implementation challenges – first, lack of capacity of the public agency to manage rental housing stock and second, improper assessment of needs and capacities of the beneficiaries (Tandel et al., 2016). Given these complexities, the budget document's emphasis on the enabling policies and regulations for efficient and transparent rental housing markets is praiseworthy. Fast tracking the implementation of the Model Tenancy Act with provisions for safeguarding the interests of the vulnerable sections and setting up of professional rental management committees to manage the rental properties can be helpful in bringing efficiency and transparency in the rental housing market in India.

The Union Cabinet, chaired by Hon'ble Prime Minister Shri Narendra Modi, approved Pradhan Mantri Awas Yojana-Urban (PMAY-U) 2.0 on 9th August 2024, under which financial assistance will be provided to 1 crore urban poor and middle-class

families through States/ Union Territories (UTs)/PLIs to construct, purchase or rent a house at an affordable cost in urban areas in 5 years. The central government assistance of INR ₹ 2.30 lakh crore will be provided under the Scheme. The PMAY-U 2.0 will have four verticals: Beneficiary-Led Construction (BLC), Affordable Housing in Partnership (AHP), Affordable Rental Housing (ARH), & Interest Subsidy Scheme (ISS). In order to seek benefit under PMAY-U 2.0, States/ UTs will have to formulate "Affordable Housing Policy" containing various reforms and incentives for ensuring active participation of Public/ Private entities and promote an Affordable Housing Ecosystem. 'Affordable Housing Policy' will include such reforms which will improve the affordability of 'Affordable Housing'. Technology & Innovation Sub-Mission (TISM) will be set up under PMAY-U 2.0 to guide and facilitate States/ UTs and other stakeholders in adoption of modern, innovative and green technologies and building material for faster and quality construction of houses. Under TISM, States/UTs/ Cities will be assisted through innovative practices and projects in challenge mode focused on disaster resistant and environment friendly technologies for climate

smart buildings and resilient housing.

In essence, it seems that the PMAY-U scheme has benefitted middle- and high-income group people more than the urban poor. On a positive note, the PMAY-U 2.0 envisages certain changes to make the program inclusive (The Times of India, 2024). Under the CLSS scheme, the households with annual income up to 9 lakh are eligible for interest subsidy for dwelling units of up to 120 sqm. carpet area. Households opting for a house costing maximum Rs 35 lakh can avail loan up to Rs 25 lakh although the 4% interest subsidy is provided only for Rs 8 lakh loan amount over a repayment period of 12 years.

Under the Beneficiary Led Construction (BLC) vertical, the financial assistance for the EWS group (with annual income less than Rs. 3 lakh) is increased from Rs.1.5 lakh to Rs. 2.5 lakh per house. The other important vertical – ISSR is subsumed within the AHP vertical with higher financial assistance of Rs. 2.5 lakh per house as compared to the previous provision of Rs. 1 lakh per house. Credit Risk Guarantee Trust Fund (CRGFT) offers credit risk guarantee to the urban poor taking housing loans from the PLIs. Recent increase in the CRGFT's corpus from Rs 1000

crore to Rs 3000 crore would ease the processing of housing loans for the urban poor. Strict adherence to these revised norms could ensure greater incidence of benefits reaching the 'deserving' beneficiaries and help them to manage the increasing costs of housing construction. This must be backed up by regulatory measures to control housing prices, especially targeted for the EWS/LIG households. In this context, the digitalisation of land records with GIS mapping, if implemented properly, would ease the administrative difficulties in providing land titles to the poor. Proper urban planning coupled with reforms in land development regulations, as envisaged in the Budget, would also facilitate adequate supply of urban land for housing.

Budgetary Allocations for Urban Basic Services and Urban Transport

Cities in India continue to experience significant urban service deficits. The NSSO (2019) report shows that almost one-fifth of households in urban India lack access to water within their homes and 6 percent of them collect water from sources situated more than 200 meters away from their homes. In case of sanitation, about 16 percent of the urban households rely on shared facilities while 8 percent and 4 percent urban

households lack access to bathroom and latrine facilities respectively (NSSO, 2019). Inadequate access to basic services affects every part of people's lives – greater the service deficits, higher is the negative impact on productivity and prosperity of people.

Among the different government programs for addressing service deficits, the proposed outlay for AMRUT scheme has registered an increase of about 54 percent from the revised estimate of INR 5200 crores in 2023-24 to INR 8000 crores for 500 cities.

In case of Swachh Bharat Mission (Urban), the current budget has proposed Rs 5000 crores as compared to the revised allocation of Rs 2550 crores in 2023-24 (Table 1).

On the other hand, the outlay for the Smart Cities Mission has decreased from revised estimate of INR 8000 crores in 2023-24 to budget estimate of INR 2400 crores in 2024-25 (also same in interim budget 2024 as the scheme's tenure is over). Notably, two budgetary heads namely City Investment to Innovate Integrate and Sustain 2.0 (CITIS 2.0) and National Urban Digital Mission (NUDM) – erstwhile component of SCM – have received separate allocations of Rs 225 crore and Rs 1450 crore respectively. The Budget has also proposed

augmentation of basic services (water, sewerage and solid waste management) for 100 large cities in partnership with the State Governments and Multilateral Development Banks.

The Budget has continued its focus on MRTS and metro rail projects with budgeted allocation of Rs 24932 crore, accounting for 83 percent of the central sector schemes in urban development. The Budget also envisions the Transit Oriented Development plans for 14 large cities with a population above 30 lakh.

These programs with specific allocations have two important implications. First, they indicate the neglect of smaller towns at the expense of improving the availability of urban basic services in very few cities/towns only. This would make Indian urbanisation more unbalanced and exclusionary as the incidences of service deficits are higher in rapidly growing smaller towns. Even in case of 100 smart cities, out of total proposed investment of Rs 2.05 lakh crore, 80 percent of the fund is earmarked for Area Based Development (ABD) projects while the rest is for the Pan City Development (MoHUA, 2024). The ABD projects have covered only a fraction of the city areas, for example, in case of the New Delhi Municipal

Council (NDMC), the ABD project coverage is only 2.2 sq km out of total geographic area of 1,483 sq km.

Over-reliance on commercially viable projects has resulted in concentration of such projects in city areas inhabited by the economically better off sections of the city's population. Second, projects undertaken have failed to cater to the needs of majority of urban people. For example, the big-ticket metro projects, although appealing to the popular imagination, hardly benefit the majority of people both in terms of accessibility and affordability. Inadequate public transport infrastructure and absence of multi-modal transport facilities has made the cities congested and polluted. In the smart cities, there are some evidences of preference given for costlier infrastructure projects over the basic infrastructure required for majority of the urban residents.

Under the SCM, projects related to water, sanitation and health account for only 18 percent of the total completed projects while the corresponding share for 'smart mobility' is 20 percent and only 2 per cent of the entire transportation budget is focused on buses (Rana et al., 2024; Taraporevala, 2018). Moreover, the needs and priorities of urban poor

fail to find representation in SPV led formulation of city development plans in the SCM. All these have made the urban policies increasingly exclusionary in nature.

Aspects of Urban Livelihoods

One concerning aspect of the current budget is that the livelihood of urban poor has received less attention. Budgetary allocation for the National Urban Livelihoods Mission (NULM) programme has been reduced to INR 300 crore from the revised estimates of INR 523 crore in 2023-24 (allocation in interim budget 2024 was 0.02 crore). The DAY-NULM program was introduced in 2013 to provide gainful employment to urban poor, thereby reducing their poverty and vulnerability. Although about 8.7 lakh SHGs have been formed in the cities, but lack of adequately diversified income generation activities has crowded the gainful employment opportunities for the urban poor. However, instead of reducing the budgetary allocation, repurposing of the NULM with focus on entrepreneurship development is urgently needed.

Even the PM SVANidhi (Prime Minister Street Vendor's Atma Nirbhar Nidhi) sees a cut of Rs. 141.68 crore in 2024-25. IGSSS (2021)

study indicated that, in spite of the scheme's poor coverage and small short term financial assistance of Rs. 10000, the scheme beneficiaries utilised the money to ease their business losses during COVID and to avoid debt trap of the private moneylenders. Provision of 100 weekly 'haats' or street food hubs in select cities, as declared in the budget, would hardly be able to address the livelihood challenges of millions of urban informal workers including the street vendors. There is a strong need for extending the outreach of PM SVANidhi with higher limit of credit, awareness campaigning, simplification of loan application process and involvement of the city government to meet the livelihood challenges of the street vendors.

Summing Up

With the limited availability of urban infrastructure investment in India, it is crucial to augment the scale of urban investment. Annual budgetary allocations can, at best, partly contribute to that endeavor. State and local governments are required to complement the central allocations for urban investment. Availability as well as utilisation of market-based financing mechanisms can be useful for trimming the investment deficits. This requires rethinking the urban

policy making in India. This budget has acknowledged the importance of formulating a framework for enabling policies, bankable projects and market-based mechanisms. Empowerment of the city government in terms of functions, finances and functionaries should centrally feature in that framework. Empowered city governments can better conceive bankable projects and leverage the market-based financing instruments. Finally, the foregoing discussion reveals exclusionary trend and perspective in-built in the urban development program as well as policy design. So, instead of focusing on the needs of the urban poor in isolation, it is imperative to integrate their needs through participatory urban planning and governance so as to achieve the mission of Viksit Bharat – Developed India by 2047.

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i Inadequate houses refer to either non-pucca houses or obsolete houses (housing units being more than 60 years old and between 40 and 60 years with bad condition) or congested houses (housing units lacking a separate room for a married couple).

ii This scheme was launched in 2008 in PPP mode to construct half a million single-roomed tenements within a span of five years.

YOUTH-DRIVEN CLIMATE RESILIENCE AND DISASTER PREPAREDNESS: GRASSROOTS LESSONS FROM MAHARASHTRA

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India has experienced an increase in the intensity and frequency of extreme weather events in recent years. Maharashtra is not only the economic hub of India, but it also hosts megacities such as Mumbai with the highest population density in India. Maharashtra's vulnerability to climate-induced disasters compels a detailed analysis for a nuanced understanding of its varied geography, socio-economic landscape, and the escalating effects of climate change. Effective disaster management hinges on the active participation of the communities, with the youth emerging as pivotal players.

We present two case studies from the coastal cities of Mumbai and Thane, where targeted efforts of technological innovation and community engagement have been successfully implemented for disaster risk reduction. The case studies of the Thane Heat Action Plan and YUVA's intervention in Community Climate Action Planning highlights effective disaster management through a combination of technology and community engagement. Active participation of youth

in disaster risk reduction reveals enormous potential that needs to be harnessed for strengthening resilience. Efforts are required to mainstream the active engagement of youth in bringing together communities to strengthen climate resilience at the local scale. This helps build in the communities a sense of ownership, empowerment, and resilience in developing disaster management operations.

1. Introduction: Disaster and Climate Intersection

1.1 Overview of Climate and Disaster Nexus

The Intergovernmental Panel on Climate Change (IPCC) characterises "climate change" as a "significant alteration in climate conditions, identifiable through shifts in average climate properties or their variability, and that endures over an extended duration, generally spanning several decades or more." (UNDRR 2012). Disasters such as cyclones, floods, droughts, landslides, hailstorms, lightning, forest fires, heat waves, cold waves, glacial lake outburst floods (GLOFs), local lake outburst

floods (LLOFs), as well as land erosion and submergence, often result in substantial economic losses, loss of life, displacement of populations, and casualties.

Climate change is altering India's disaster landscape by increasing the frequency, intensity, and unpredictability of extreme weather events. More than 80 percent of India's population lives in districts highly vulnerable to extreme hydro-met disasters (CEEW 2021). Moreover, 55 per cent of tehsils in India witnessed an increase and 11 per cent witnessed a decrease in southwest monsoon rainfall in the past decade (2012-2022), by more than 10 per cent each compared to the climatic baseline (1982-2011). A statistically significant rainfall increase was observed in the traditionally drier tehsils of Rajasthan, Gujarat, central Maharashtra, and parts of Tamil Nadu (CEEW 2024). Shifts in rainfall patterns are leading to more severe floods in previously dry areas and exacerbating droughts in regions with reduced precipitation.

With the global sea rise predicted by one meter by 2100, coastal cities face peculiar and urgent challenges of climate change (Glavovic et. al. 2022). So far, governments have been treating flooding as a natural

disaster, absolving them of any responsibility to reduce the chances of flooding (Cook, 2022). Heat waves, which are one of the most direct impacts of a warming climate, in particular, have also emerged as one of the most severe meteorological hazards during the last decade, leading to high mortality and morbidity rates worldwide (NIDM 2021).

1.2. Climate Justice

In recent years, several climate advocates have declared that while the effect of climate change is universal, the responsibility lies exhaustively with those who are most vulnerable to climate change impacts (Schlosberg & Collins, 2014). The concept of climate justice holds at its core the understanding that developed countries contribute disproportionately to global warming, while it is the least developed and developing countries that suffer the brunt of extreme weather events. Hence, the onus of reducing fossil fuel emissions, and paying for losses and damages that poorer countries are already facing due to climate change, lies on wealthier governments.

It is widely acknowledged that the climate crisis is the result of a rapid increase in global fossil fuel emissions. However, policy-makers

and practitioners are now recognizing that it is as much a by-product of unequal distribution of resources and unjust systems of production.

The injustice of the climate crisis is that marginalised people contribute minimally to the emissions, yet are forced to bear the brunt of climate vulnerabilities (Islam & Winkel 2017). Further, there is almost no support for the impacts on their mental health, as their broader physical environment degrades (Parmar et al. 2022).

Heat waves, in particular, have emerged as one of the most severe meteorological hazards during the period from 2015 to 2019, leading to high mortality and morbidity rates worldwide, specifically impacting the most vulnerable groups (NIDM 2021). Further, on studying the impacts of climate change, it is clear that flooding will only worsen, more so in coastal cities, due to increased cyclone frequency, tidal action leading to prolonged inundation, along with industrial pollution; exacerbating risks for vulnerable populations living in climate sensitive locations (Glavovic et. al. 2022).

1.3. Legal Frameworks and Routes

There are interlinkages in plans and policies in India

towards climate change and disaster management. Post the adoption of the Hyogo Framework for Action at the World Conference on Disaster Reduction in 2005, the Government of India took a defining step by enacting the Disaster Management Act of 2005 to address disaster management and climate adaptation in India by creating a structured approach to disaster preparedness and response. It emphasises proactive measures, capacity building, and community involvement in managing disaster risks (NPDM 2009).

Moreover, The National Action Plan on Climate Change or NAPCC, introduced in 2008, sets forth a national approach designed to help India adapt to climate change while promoting ecological sustainability in its development trajectory. It underscores the importance of sustaining a high growth rate as a means to improve the living standards for the majority of India's population and to mitigate their vulnerability to climate change effects (NAPCC 2018).

Building on national strategies, many states have developed their own State Action Plans on Climate Change and Disaster Management. In addition, numerous cities and districts have introduced localised

plans addressing climate change, disaster management, and interconnected issues such as extreme heat through Heat Action Plans. Notable examples include cities like Mumbai, Thane, Ahmedabad, and New Delhi.

In March 2021, Mumbai joined a few Indian cities that released their climate action plan (MCAP). However, we identified potential areas of intervention in the MCAP and scope for improvement in enhancing participatory planning in the implementation of the plan (Wagh & Indorewala, 2021). Maharashtra has established a State Climate Action Cell (SCAC) in October, 2023, which will guide the implementation of the district level and city level climate action plans. The Government of Maharashtra has formally approved the development and implementation of climate action plans by passing a Government Resolution (Hindustan Times 2024). We propose two case studies in this paper, which can provide pathways of enhancing the youth engagement for accelerating climate action.

1.4. Risk

The United Nations International Strategy for Disaster Reduction (UNISDR) terminology for Disaster Risk Reduction (DRR) defines risk as “the combination of the

probability of an event and its negative consequences” (UNISDR 2009). Risk is typically understood in terms of probability or uncertainty regarding potential outcomes. As such, risk is inherently multidisciplinary and can be approached from various perspectives. However, the notion of risk with the current scenario of rapid urbanisation and climate change comes across. Under U. Beck's concept of “radicalized modernisation” (Beck 1992), risk highlights the critical need for enhanced governance.

In the realm of disaster studies, risk is examined through a range of definitions, reflecting the diverse ways it can be understood and analysed. United Nations Development Programme (UNDP) puts down disaster risk as “the probability of harmful consequences, or expected loss of lives, people injured, property, livelihoods, economic activity disrupted and environment damaged resulting from interactions between natural or human-induced hazards and vulnerable conditions” (GoI-UNDP 2007). Additionally, in the fifth assessment report of IPCC (Intergovernmental Panel on Climate Change 2014), the focus shifted towards a more risk-centric approach from a vulnerability approach. This new approach introduced new terminology

and concepts that aligned more closely with risk assessment, diverging from the previous vulnerability-centric understanding presented in the fourth assessment report. This shift implied a redefinition and separation of exposure and a reconceptualisation of vulnerability as a function of sensitivity and capacity to cope and adapt, whereas risk was defined as a product of hazard, exposure and vulnerability.

Grassroots studies show that the urban poor also lack access to climate risk-reduction information and are less prepared for adaptation (Dodman and Satterthwaite, 2008; Driver and Shankar, 2024; Krass et al. 2016). Additionally, the urban poor living in informal settlements are also often informal workers. Their livelihoods depend on insecure jobs and uninsured goods and assets that can be highly impacted by climate hazards. Moreover, the work conditions of many informal workers such as construction workers and street vendors get worse due to severe climatic conditions, leaving them more at risk. Infrastructure projects and climate mitigation projects often impact the urban poor adversely more than other groups through forced evictions, loss of livelihood and so on (HLRN 2021 &

YUVA 2021).

2. Case Study on advancing heat resilience in Thane City, Maharashtra (CEEW's story)

2.1 Impact of heat waves on vulnerable populations in urban areas

Heat wave creates differential vulnerabilities depending upon various social, economic, and physical factors. Vulnerability to extreme heat events varies based on exposure levels, sensitivity, and the ability to adapt to extreme heat. Groups at higher risk include the elderly, young children, and individuals with pre-existing conditions such as heart, kidney, lung, or liver diseases. Furthermore, individuals residing in substandard housing or experiencing economic difficulties are also at increased risk of health issues related to extreme heat (NIDM 2016).

Apart from this, there is also differential vulnerability in terms of socio-regional vulnerability. According to the ILO report, "the countries most affected by heat stress are Africa and South Asia." According to the report, these areas are expected to see around 5 per cent of their working hours lost by 2030. This is equivalent to approximately forty-three million jobs in Southern Asia and nine million jobs in

Western Africa (ILO 2019).

Heat stress also impacts the livelihood of the people as it significantly decreases the efficiency of workers, particularly those engaged in industries such as construction, manufacturing, and agriculture, which require manual labour outdoors (Mohanasundaram Mourougan et al 2024).

The impact of heat is also felt differently by men and women. With existing climate conditions and accessible data, it is approximated that an average of 27,000 women succumb to heat-related excess mortality annually. Projections indicate that this figure could surpass 73,500 in India alone by 2050 (Adrienne Arsht-Rockefeller Foundation Resilience Centre 2023).

2.2 Case study of Thane Heat Action Plan 2024

The Thane Municipal Corporation, in collaboration with the Council on Energy, Environment, and Water (CEEW), developed the Thane Heat Action Plan 2024, aiming for zero mortality from extreme heat, minimising heat-related illnesses and stress, and reducing economic impacts. A multidisciplinary approach was employed, integrating technical tools, scientific analysis, policy evaluation, and stakeholder engagement to formulate

Thane City's HAP (TMC and CEEW 2024).

2.2.1 Background

Building on the foundation provided by the NDMA guidelines of 2019 for HAPs and the National Disaster Management Plan 2019, a comprehensive framework for effective heat action was established. This framework comprises of the following three critical components: i) when to take action, ii) where to take action, and iii) who

will and how to take action.

2.2.2 Framework

To enhance the information for decision-making, a ward-level heat risk index was specifically developed for Thane City which adhered to the standardised methodology outlined in the IPCC Fifth Assessment Report (AR5) of 2014 (Intergovernmental Panel on Climate Change 2014). The risk assessment framework comprises of three components that define

the risk to the systems (in this analysis, the Prabhag Samitees). The sub-indices are hazards, exposure, and vulnerability (consisting of adaptive capacity and sensitivity) as defined in Figure 1

2.2.3 Methodology

The approach to developing the Thane HAP involved rigorous data collection and validation through extensive stakeholder consultations (Figures 2 and 3). Various stakeholders, including line departments, scientific experts, and policymakers crucial to the plan's implementation, actively participated. The consultations centered around presenting climatological analysis, the heat risk index with its indicators, and the locally developed heat thresholds, which was done using openly accessible climate and geospatial datasets.

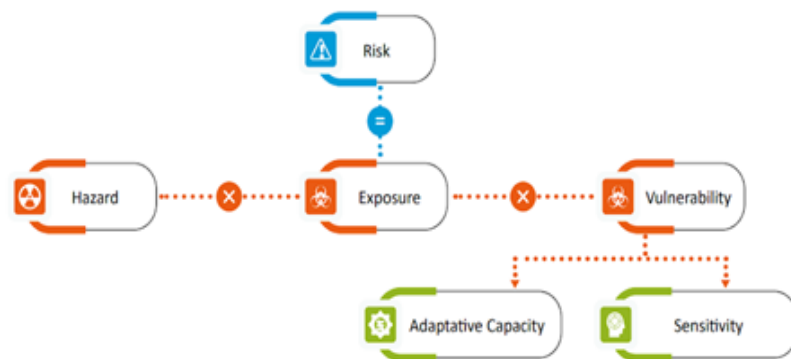


Figure 1: Risk assessment equation

Source: TMC and CEEW 2024

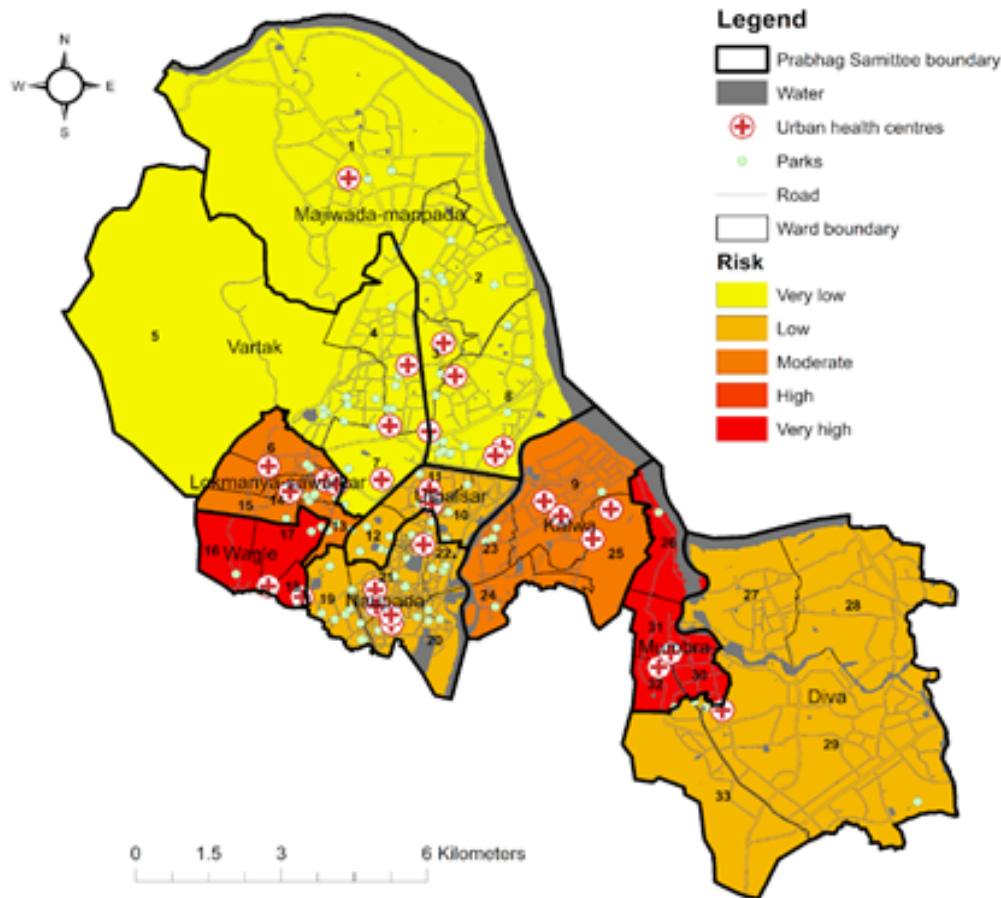


Fig 3: CEEW team in discussion with relevant line departments validating the heat risk assessments

Source: TMC and CEEW 2024

2.2.4 Results

As per Thane City's heat risk index seen in Figure 3, Wagle and Mumbra Prabhag Samitees have the highest risk, followed by Kalwa and Lokmanya Savarkar Nagar Prabhag Samitees which fall in the moderate risk category. Furthermore, Diva, Naupada, and Uthalsar show low risk whereas, Vartak Nagar and Majiwada-manpada show very low risk.



A key component of the Hazard Action Plan (HAP) is the responsibilities matrix. This matrix details the strategies for mitigation, preparedness, and response, clearly defining the roles of various departments, the supportive functions of the District Disaster Management Authority (DDMA), State Disaster Management Authority (SDMA), and other stakeholders, to ensure effective coordination during the execution of the plan.

2.2.5 Impact

Post the development of a heat action plan to ensure inter-departmental and inter-agency coordination for successfully implementing the strategies outlined in the plan. A heat wave task force committee has been established in the Thane Municipal Corporation under the control of the Thane Municipal Commissioner.

A joint initiative of household survey was conducted in

collaboration with the health department and CEEW. Starting in the Wagle and Mumbra wards, AASHA Workers conducted household surveys across both slum and non-slum areas by utilising a questionnaire designed by CEEW's team based on the CDRI 5*5*5 matrix. (Jonas and Shaw 2011).

2.2.6 Way forward: youth involvement in future HAPs

India's population is one of the youngest worldwide, with

an average age of 29 years (Ministry of Statistics and Programme Implementation 2019). While the youth are at risk of extreme heat, they themselves can act as the change agents. Youth play a critical role in making changes in the community and are the pioneering force that implements new policies. Youth involvement in recent years has been spread over vast horizons and has been a prominent part of the field of disaster management.

Thane Heat Action Plan's comprehensive ward-level assessment model has set a precedent for other cities and state governments, prompting them to adopt similar frameworks adapted to their specific districts and cities. These models aim to improve early warning systems, community outreach, and the integration of heat mitigation strategies into urban planning. Given that India has over 4,800 cities, developing localised heat action plans is essential for strengthening resilience against the increasing risks of extreme heat and humidity, which can be achieved by engaging youth in various ways.

While the youth can play a significant part in data collection, awareness generation, and acting as support to the first respondents during extreme

heat, involving youth in data collection and decision-making processes promotes a sense of responsibility and accountability. This approach not only deepens their understanding of heat-related issues but also improves the identification of gaps. For instance, college students and young adults could take over the ground-level surveys previously conducted by AASHA workers. Additionally, youth are central to spreading awareness about the do's and don'ts outlined in the heat action plan, therefore, they can play a key role in implementing the policy at the grassroots level, thus, enhancing its outreach and impact.

3. Case Study on Community Climate Action planning in an urban poor community in Mumbai (YUVA's story)

3.1 Flooding and YUVA's climate hazard mapping

The Maharashtra State Adaptation Action Plan on Climate Change predicts that as compared to other districts in Maharashtra, Mumbai residents will experience maximum discomfort in the 2030s because of high felt temperature and will experience maximum warm nights. Also, the city is highly prone to flash floods, high-intensity rainfall, coastal

salinity, and severe soil erosion (TERI, 2014).

Due to inadequate affordable housing in the Mumbai Metropolitan Region (MMR), a large population of the working class is compelled to reside in informal settlements. These individuals, who build and run the city, are denied their right to adequate housing and are forced to construct their homes on the fringes of the city, often in vulnerable areas such as low-lying marshy lands or hill slopes. These locations prove to be hazardous, particularly during periods of heavy rainfall and cyclonic events. Moreover, the lack of recognition of these settlements results in them being inadequately provided with basic services, infrastructure, and security of tenure, thereby increasing their vulnerability to the impacts of climate change and related disasters (Satterthwaite and Mitlin, 2014).

To map these complexities, in 2021, Youth for Unity and Voluntary Action (YUVA) began Climate Hazard Mapping (CHM) in the Mumbai Metropolitan Region, a crucial tool for identifying climate and social vulnerabilities (YUVA, 2023). YUVA is a non-profit working with the marginalized to empower them and help them access their rights. YUVA

partners with marginalized urban populations in climate-sensitive regions, focusing on understanding climate change impacts from their perspectives. YUVA's approach emphasises that addressing climate action through a justice lens means tackling the root causes of vulnerability, not merely the economic impacts. It calls for considering social inequalities, such as the disproportionate exposure of marginalised communities to climate risks and their limited access to recovery resources. This ensures that climate resilience efforts are inclusive and tailored to the needs of those most affected.

The initial phase of the CHM involved mapping the most vulnerable groups, particularly informal settlements known as bastis. This was followed by pinpointing climate hotspots through a detailed analysis of hazards such as flooding, landslides, sea-level rise, and air pollution.

Findings from CHM revealed that areas like Bhayander and Malvani-Ambujwadi, located along Mumbai's western coast, are especially prone to tidal flooding due to their proximity to the sea and the high density of informal settlements. Similar vulnerabilities are observed in Worli, where

neighbourhoods near Haji Ali face regular inundation, particularly during monsoons and high tides. In Trombay and Govandi, the situation is worsened by nearby industrial zones, which exacerbate drainage problems due to inadequate Solid Waste Management. Eastern suburbs like Diva and Kalwa experience recurrent flooding from river overflows during heavy rains, with low-lying areas, often reclaimed land or riverbank developments, at risk from both natural and human-induced changes such as blocked waterways and reduced green spaces.

In addition to this, a participatory approach to city-level flood mapping was initiated by YUVA in partnership with the Interdisciplinary Program in Climate Studies at the Indian Institute of Technology Bombay, addressing gaps in traditional flood maps that often exclude slums (Tripathy et al. 2024). Approximately 40 YUVA staff and volunteers were trained to collect real-time flood depth and hotspot data using WhatsApp and Google Forms. This real-time data validated other sources and provided a comprehensive representation of flood impacts in Mumbai's bastis. The study also incorporated data from Automatic Weather Stations set up by

the Municipal Corporation of Greater Mumbai (MCGM) and included a survey of key flood hotspots, enhancing the accuracy and inclusivity of flood dynamics and disaster management strategies.

While acknowledging the geographical and physical implications of flooding is critical, it is equally important to recognise the heightened impact of climate-induced flooding on mental health. As highlighted by YUVA in The Mariwala Health Initiative Journal and the REFrame article on environmental health, flooding, exacerbated by climate change, causes significant psychological distress, including anxiety, depression, and post-traumatic stress disorder (PTSD) (Parmar et. al. 2022). This is particularly severe in marginalised communities, especially amongst youth, in Mumbai and other flood-prone areas of India. In Ambojwadi, for example, the ongoing stress fuelled by constant eviction threats and rebuilding from climate impact each season exacerbates mental health issues (YUVA, 2018). The article underscores the need for nuanced approaches that integrate mental health support into disaster response and recovery plans, ensuring that services address the specific needs of affected regions effectively.

3.2 Community based vulnerability assessment: understanding localised climate risks

In 2022, following the CHM process; Ambojwadi, an urban settlement along the west coast of Mumbai, stood out due to the basti's social and climate vulnerabilities and intensity. YUVA responded by initiating a community-based Vulnerability Assessment (VA), involving five young residents, aged 18 to 23, from various parts of Ambojwadi. With YUVA's support, these individuals—dedicated to addressing local challenges through a climate justice perspective—engaged in a series of comprehensive knowledge sessions. These sessions deepened their understanding of climate change's root causes and helped them formulate their definitions of climate justice, linking social and climate justice.

These young residents played a key role in tailoring the VA to Ambojwadi's specific context. They incorporated their personal experiences with climate impacts into the assessment, refining its focus and methodology. This collaborative approach led to the creation of a comprehensive and objective map of vulnerable stakeholders, informed by their lived experiences. The VA tools were co-developed

to capture the nuances of local conditions. Training sessions provided the young residents with a foundational understanding of mapping, including the translation of three-dimensional objects into two-dimensional maps, mapping history and standards, and GIS software use.

This training resulted in detailed maps created using mobile applications like Map Marker. Once data was collected, the team analysed it and shared the findings with the community. For data collection, Focused Group Discussions (FGDs), conducted between December 2022 and March 2023, were integral to the VA. Eighteen FGDs engaged various social groups—children, women, the elderly, and informal workers—across five areas, offering insights into the community's climate vulnerabilities and perceptions.

The data analysis, including geotagging of vulnerabilities, revealed ten key themes in Ambojwadi: Housing, Open Space, Water, Toilets and Sewage, Storm Water Drains (SWD), Solid Waste Management, Transport and Road Network, Livelihood, Education, and Health. These themes underscored systemic issues where inadequate infrastructure and service provision exacerbated

existing vulnerabilities. Further, the qualitative, people-led VA revealed that extreme heat and flooding are the most significant climate hazards affecting Ambojwadi. For example, poor waste management and inadequate storm water drainage worsened flooding, affecting health and livelihoods. The lack of piped water led to groundwater depletion and contamination, while transportation challenges impacted education, health, and safety, particularly during climate-related emergencies. Insufficient infrastructure, such as poorly maintained storm water drains and inadequate street lighting, further compounded these issues.

3.3 Community Climate Action Plan: empowering vulnerable communities

The Climate Change Adaptation Plan (CCAP) adopts a bottom-up approach, emphasizing the inclusion of voices from those most impacted by climate change. The CCAP is crafted to integrate findings from the Vulnerability Assessment (VA), connect climate and social issues, and enable community advocacy. By centering the experiences of affected populations of Ambojwadi, the CCAP aims to create an actionable plan for climate adaptation and coping mechanisms to be



Figure 6: Young residents brainstorming together on mapping database analysis
Source: YUVA 2023

adopted in the community.

The CCAP advocates for an alternative approach to the top-down action plan, emphasising the inclusion of voices and demands from those most affected by the climate crisis. By doing so, it seeks to hold accountable the existing power structures. It aims to assess the key findings of the VA and to establish connections between climate issues and social challenges with the community. By doing so, it aims to generate demands and promote advocacy from bottom up. Overall, the plan strives to integrate climate justice into mainstream discourse and actions, in the following ways:

I. Awareness Sessions:

It was essential to focus on building awareness about the climate crisis and

justice before moving on to adaptation discussions. The youth involved in the VA data collection led these awareness efforts, identifying key areas, scripting, and facilitating the sessions. These sessions aimed to enhance

community engagement with the development plan, address everyday climate impacts, and underscore state responsibilities. Tailored for specific groups, such as women and children who are less likely to participate in mixed settings, the sessions were held in their own neighbourhood. This approach ensured that the knowledge was relevant to the community, especially the most marginalised, and highlighted the urgent need for climate justice.

II. Identifying priority areas for interventions:

To address the community's needs and aspirations effectively, a rigorous prioritisation process was implemented. This process aimed to address immediate



Figure 7: Climate justice awareness session conducted by the young resident in Shanti Nagar area in May 2023
Source: YUVA 2023

need for basic services while enhancing the community's adaptive capacity and holding the state accountable for past damages. Key issues were identified and were classified based on their severity and risk according to climate projections. Engaging relevant stakeholders was crucial for these discussions and implementation. The community meetings were conducted in two stages: the first focused on immediate actions, while the second developed a comprehensive adaptation plan requiring a longer design timeframe.

For instance, the Sant Nirankari area of the basti, which emerged as highly vulnerable to flooding in the VA, was identified as one of the priority areas for intervention. When engaging with the community, it was found that this was an issue because of the absence of SWM. Moreover, the presence of a toilet lacking a connected sewage system exacerbated the vulnerabilities, especially during rains. Thus, in CCAP, the provision of SWM along with an outlet became a priority adaptation intervention.

At a systemic level, in CCAP addressing habitat issues through a climate lens highlights the profound impact of secure housing on climate resilience. The lack of tenure security emerged as a

critical vulnerability, with the push to spearhead housing as a key climate adaptation strategy proving essential for protecting communities.

III. Coalition formation: In the CCAP, coalition formation at the community level is a central strategy for advancing advocacy focused on people's rights and promoting governance accountability. YUVA's approach emphasizes grassroots coalition-building to help vulnerable groups access their rights. These coalitions are crucial for highlighting specific concerns, such as inadequate access to services, lack of tenure security, and insufficient infrastructure. The CCAP prioritizes establishing relationships with relevant government officials from departments like maintenance, water, and SWM at the BMC. To facilitate this, YUVA engaged local leaders and Mohalla

Committee members, who hold influence in their areas, and involved community members to build trust and ensure broad representation.

For instance, the VA and its findings were presented at the P North ward office in the BMC to the Additional Municipal Commissioner and officers from several departments. Possible collaboration between BMC and the community was discussed along with the corporation's future plans for the basti. Advocacy engagements like these become key to implementing the CCAP.

4. Conclusion

The impacts of climate change are evident across the world; however these impacts vary across the regions and are experienced by the different sections of the community differently. Additionally, the involvement of youth in



Figure 8: Area-level meeting on the CCAP in Ambojwadi

Source: YUVA 2024

climate action and disaster management is crucial for integrating the next generation's perspectives and needs into environmental decisions (Mishra 2023).

By engaging young people in data collection, awareness generation, and decision-making processes, the Thane HAP not only leverages their energy and enthusiasm but also fosters a sense of ownership and accountability. This approach aligns with the growing recognition of the importance of youth participation in disaster management, particularly in the context of climate change. The emphasis on youth involvement illustrates a crucial shift in disaster management, thereby recognising that effective resilience strategies are as much about empowering future leaders as they are about deploying advanced technologies. By actively including young people in every phase from data gathering to implementation, the plan not only prepares them to tackle future climate challenges but also reinforces the importance of their role in shaping adaptive, forward-thinking responses to extreme heat and other hazards.

On the other hand, YUVA's case study on the Community Climate Action Plan underscores the pivotal role of youth in spearheading

grassroots community action for climate adaptation. This case is also highlighted as a best practice in the Youth ACT Framework by the National Institute of Urban Affairs and in the "Enabling Youth-Led Urban Climate Action: A Framework for Engagement and Impact" by Youth Ki Awaaz (Driver and Shankar, 2024). If macro-level urban processes align with Ambojwadi's grassroots initiatives, systemic solutions can be developed to address climate vulnerabilities comprehensively. The TAPESTRY project highlights the importance of such collaboration among communities, civil society, and governance (Mehta et. al 2021). YUVA has initiated local adaptation efforts, focusing on urban greening, place making, and nature-based solutions in Rehabilitation and Resettlement colonies and educational institutions. These efforts, part of piloting the CCAP, are also being implemented in Vasai-Virar, Navi Mumbai, and Guwahati, while also advocating for mainstreaming climate mitigation through land use planning in their respective city development plans.

In summary, youth comprise nearly 2/3rd of India's population and can play a pivotal role in enhancing climate resilience efforts in India. However, there is a

need for policy guidelines and frameworks to mainstream the engagement of youth in disaster risk reduction. Future research should assess the effectiveness of current policies in engaging youth and propose necessary interventions to scale and mainstream youth involvement, aiming for accelerated climate action and achieving a Viksit Bharat by 2047.

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National Urban Learning Programme:

The National Urban Learning Platform (NULP) was launched on June 25, 2020 by the Ministry of Housing and Urban Affairs (MoHUA) in collaboration with the National Institute of Urban Affairs (NIUA). The NULP aims to empower India's urban functionaries, administrators, elected representatives, civil society, industry actors and other ecosystem players to build smart, inclusive, sustainable and resilient cities.

This program encompasses key aspects of a capacity building and leadership development initiative in the city ecosystem at this scale. The primary underlying approach for the program was co-creation through participation from cities and identification of areas where skill building is required. The program adopted a participatory approach to foster a sense of ownership and contribution among city officials towards the development of their respective cities. It aimed to create opportunities for public and peer recognition while empowering officials for leadership development across various roles. It assessed the readiness of participating cities to tailor onboarding plans effectively. A governance structure was established to align with the city's development goals, and high-quality urban resources were sourced through strategic partnerships. The platform was continuously enhanced to meet evolving user needs, and key performance indicators were tracked to support data-driven decision-making. Additionally, the program drove participation and adoption among learners through ongoing content curation, management, engagement, and knowledge exchange.

The National Urban Learning Platform (NULP) operates by enrolling a diverse array of training institutions, schools, civil society organizations, and other knowledge creators to ensure a broad spectrum of content is accessible. It fosters partnerships between cities, facilitating the exchange of knowledge and best practices among them. NULP supports responsive, data-driven governance by working closely with city stakeholders to align and scale their programs effectively. Additionally, it collaborates with the Ministry of Housing and Urban Affairs (MoHUA) missions and integrates with existing capacity-building ecosystems to ensure that the content meets the practical needs of various missions. To evaluate the effectiveness of its offerings, NULP provides telemetry frameworks, assessment mechanisms, and tools to measure content usage, engagement, and completion levels.

The National Urban Learning Programme (NULP) has made significant strides by selecting 19 cities reflecting a commitment to urban innovation and collaboration for the programme. Two Cities have been designated as pilot cities for new initiatives, with active support from the UK government's Foreign, Commonwealth & Development Office (FCDO). The Ministry of Housing and Urban Affairs has a target of reaching one lakh users with 75 courses across 15 domains by end of 24.

GENERAL GUIDELINES: CHECKLIST FOR SUBMISSION OF ARTICLES

The following checklist should be used when preparing an article for submission. Please be sure to follow the specifications exactly and completely to ensure that your article is reviewed in a timely manner and any delays avoided further along in the publishing process should your article be accepted for publication.

1. The paper should be created using a word-processing programme (such as Microsoft Word) and should be between 3,000 and 5,000 words in length. The file may be in .docx or .doc format.
2. The paper is typewritten, double-spaced, and formatted to print on 8.5"x11" (or A4) size paper. It is written in the third person in a clear style, free of jargon.
3. The first page of the article includes the following :
 - i. the paper's title; and;
 - ii. an approximately 200 word abstract that emphasises the paper's contribution to the field and its practical architectural/planning/ social / economic implications.
 - iii. the name(s), position(s), professional or academic affiliation(s) and email address(es) of the author(s) as well as the full postal address of the corresponding
4. The body of the paper should include the following:
 - i) An introduction to the subject;
 - ii. background information;
 - iii. discussion of procedure;
 - iv. results;
 - v. conclusions;
 - vi. implications for practice and advancement of research.
 - vii. references;
 - viii acknowledgements (Optional), if funding for the research was received from non-personal sources, the sources must be identified in this section), and;
 - ix. an autobiographical sketch.
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 - i. References are complete, have been arranged alphabetically by author surname and checked for accuracy.
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 - iii. References contain the following information, in the order shown : names of all contributing authors (last name followed by first initial), date of publication, title of article, names of editors (edited books only), title of author journal or book, volume and issue numbers (journals only), location and name of publishing company (books only),and inclusive pages (journals and articles in edited books).
- iv. Figures/pictures/graphs submitted are :
 - a. Large enough to be readable when reduced to fit the journal page size (approximately 5.25" x 8.25").
 - b. A brief caption is provided for each figure/picture graph.
 - c. The figure is cited in the text.
 - d. Please ensure that scanned images are of a high resolution to ensure good quality printing (not less than 640 x 480).
- v. All tables are included either in the original manuscript file or as a separate Microsoft Word document and have been checked to ensure that they can be easily reproduced on the journal page size approximately 5.25" x 8.25".
 - a. A brief caption is provided for each table.
 - b. The table is cited in the text.
6. If your paper is accepted for publication, you will be provided with information on where to send the hard copies of any figures if required.
7. The manuscript and any table/ picture files should be sent via email to hsmishelter@gmail.com ONLY original works neither published nor under review elsewhere will be considered.

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