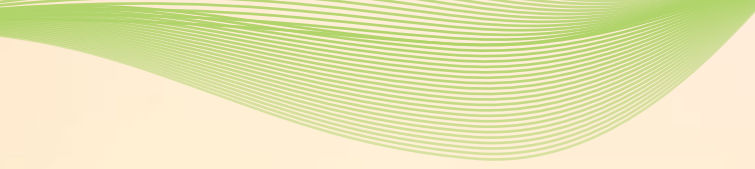# Dilli ki Soch

Sustainable Development for Delhi Mega City:
Challenges and Innovative Solutions

November 2021

Foreword

Delhi is the capital of the largest democracy in the world and would be the focus of India's socio-economic and political life. Being the growth driver for the Indian economy, the city will be a prime mover and currently acts as the seat of national governance and a centre of business, culture, education, health, and sports.

Being the National Capital, Delhi is a gateway where overseas visitors first arrive in India and then go to other places - people often see India through Delhi. This pushes us to develop Delhi as a global city. The Delhi Government has been working hard to approach stakeholders for their ideas, expertise, participation, and partnership to realise the dreams for a vibrant, global city. We have to prepare a roadmap of how the city will be in 2047 when the country completes 100 years of Independence. These plans set the high-level vision for the landscape, are implementable over the medium and long-term, and balance stakeholders' social, environmental, and economic interests.

In realising the urban city to be more sustainable, it is essential to look into the current state of affairs in Delhi. This includes looking at the brief history of Delhi, transport patterns, water use and management, nature and biodiversity, climate change etc. We need to focus on broader issues such as waste, water, transport and energy supply and their interface with citizens, whilst at the same time reducing our impact on the environment.

Delhi serves as a major industrial centre with 33 planned industrial estates, four flatted factory clusters, 1.75 lakh MSMEs (more than 90% micro-enterprises) and 23 notified nonconforming industrial clusters. These industries, along with household industries, continue to generate employment for both skilled and unskilled workforces.

The Government of Delhi has been committed to creating a progressive business environment. The new Industrial Policy of Delhi 2010 – 2021 focuses on promoting knowledge-based industries with priority for skill development. Its vision is to make Delhi a hub of clean, high technology & skilled economic activities by 2021.

In the above context, we are delighted to share this report which presents our endeavour towards Sustainable Development for Delhi Mega City. Through this report, we aim to assist in the government's vision for the growth of Delhi.

We hope that this will open new avenues of sustainable growth in the state.

Mr Vineet Agarwal
President
ASSOCHAM

Foreword

Today urbanization is the most echoing word for all the cities around the globe. The capital of India, New Delhi, has been experiencing one of the fastest urban expansions globally. Vast areas of croplands and grasslands are being turned into streets, buildings, and parking lots, attracting an unprecedented number of new residents. By 2050, the United Nations projects India will add 400 million urban dwellers, the most extensive urban migration globally for thirty-two years. The increased urbanization has had several challenges: roads, telecommunications, water networks, pollution & waste management, and power and electricity grids. Therefore,

there is a need to create efficient, sustainable plans to overcome the challenges covered in this report.

Three plans and 60 years later, the Master Plan of Delhi 2041 is the first to showcase the location of unauthorized colonies and their expanse on the map.

For the 1,700-odd colonies in Delhi, this acknowledgement on a public map indicates that they are finally on the road to regularisation.

The Delhi Development Authority's Master Plan of Delhi 2041 will act as a framework for the city's development for the next two decades, offers a new set of guidelines for the regularisation and improvement of these colonies.

In Electricity, Education, Health & Skill Development, a lot has been done by the Delhi government. The report covers these sectors' development and recommends a few areas where further improvement can be made.

To realize Delhi@2047 - a vision of how Delhi will look when the

country completes its 100 years of Independence, many things need to be looked after. A collective effort of all agencies involved in the development of Delhi, including the Central Government, concerned departments of the Government of the NCT of Delhi, service providers, regulators, and local bodies, among others, is required to achieve this vision. This study reveals that certain things require immediate intervention (within two years), and some long-term solutions are given to achieve the vision of Delhi@2047.

This report aims to assist the government's vision of Delhi @ 2047 and make our National Capital the best place to live in the world.

Mr Deepak Sood
Secretary General
ASSOCHAM

Foreword

"Delhi has to be turned into a global city". said honorable chief minister Shri Arvind Kejriwal with his vision on how we see Delhi in 2047 – with the country completing 100 years of Independence.

Delhi the fastest growing city in the world is today looking at a self-sustainable growth model. Delhi, city and national capital territory, consists of two components: Old Delhi, in the north, the historic city; and New Delhi, in the south. It is the center of international politics, trade, culture, and heritage and with a multi-layered administrative structure so, Today do we look at it as a problem? Or is that an obstruction? Let's look at it as a

welcome move.

Over a period, we have been able to see Delhi with a perceptible improvement with improved Socio-economic status of people &development of state-of-the-art infrastructure. Delhi is seeing a positive change in the Sectors like education, especially in the state-run schools, utility's with 24&7 power & Water supply, citizen friendly and improved Health services with an added "safety ring" of Mohalla clinics and free medical services including the essential medicines. Today women of Delhi are finding a safe environment only because of CCTV coverage in most parts the city.

After all these efforts, there still is a need to address fundamental issues and challenges which ought to be focused by the Delhi Administration. This is doable with the corporates/business community participation and support of Public–private partnership to make the city of Delhi self-sustainable.

Delhi Government has set its vision for 2047 which aims to foster collaboration with corporate houses and

philanthropic organisations to help the city government realise its long-term goals across various sectors for the development of its people.

The Delhi Government is taking a lead role in implementing the framework, monitoring the progress, and bringing on board various stakeholders in the journey towards achieving the targets.

This report depicts the road ahead for Delhi as it makes strides towards Sustainable development. & encompasses the numerous aspects to promote "Green Growth" and achieve Delhi's vision to **"Foster a Sustainable, Livable and Vibrant Delhi"** by 2041. Further scenarios, development implications, and strategies have also been discussed in the report.

The challenges are immense but inter-agency coordination, as well as multi-sectoral action, is the key to achieving the vision of making Delhi a Mega City by 2047.

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1.1 Need of Urban Planning

Urban planning is the art of giving shape, design, and structure to cities and towns. It involves numerous processes such as arrangement and designing of buildings, transport systems, public spaces as well as basic urban amenities. The need for Urban planning has been arisen due to the rising health issues because of overpopulation, poor sanitation, and pollution. It had become tough for the citizen to reside, walk, or use public transport in the cities that are in-efficiently designed or grown organically. That's why urban planning has become significant as it helps in finding the solutions to use the land and infrastructure in the best possible way.

By utilizing the resources through Master planning for the city, it would have a strategy to develop its economy as well as improve its liveability conditions. Not only the expansion of residential areas, but urban planning also ensures good transportation, health care, and judicial system. Thus, the city will grow rapidly without having negative impacts on its economy and citizens.

Background of Urban Planning of Delhi

Delhi is the capital city of India and home to a population of almost 16 million people. It remains part of the largest urban agglomerations in the world and is expected to top Tokyo by 2030. This large population of Delhi makes the planning of immense importance for providing good quality of life to its citizens. The history of planning for Delhi is centuries-old much before India got independence and after independence, the planning has been done by the Delhi Development Authority (DDA) which prepared Master Plans for the planned growth of the city.

The master plan of any city is a vision document for the city. Previously, the Master Plan of the Delhi was prepared for the period of 1982, 2001, and 2021 is under progress the explosion of urban population, improve from successive master plans, and to develop Delhi as a world class. The Delhi Development Authority (DDA) in July 2017 Initiated the preparation of the master plan for the city's development till 2041 including the special area — Walled City and its extension — with the help of the National Institute of Urban Affairs (NIUA).

Timeline of Urban Planning of Delhi

- **1638: Shahjahanabad (Old Delhi)**

  Delhi is a city that has witnessed both glory and destruction in its long history. In 1638, Emperor Shahjahan of the Mughal empire established Shahjahanabad at Delhi as the capital city centered around Lal Qila. The site of the Capital city of Shahjahnanbad was ideally suited as a convergence point of land routes, being centrally located geographically on the western bank of river Yamuna where a natural projection formed a triangle with the land and the river. The urban spatial structure of Shahjahnanbad was different from that of the other Mughal Capitals because it was planned and built by one concentrated planning effort. The city shows traces of both Persian and Hindu traditions of town planning and architecture with the Persian influence largely accounting for the formalism and symmetry of the palaces gardens and boulevards. The designed infrastructure of Shahjahanabad comprised- Red fort, Jama masjid, The Bazaar areas, Bagh (gardens), and the elaborate system of water channels.

- **1911: Delhi became the Capital of British India**

  The walled city of Shahjahanabad remained one of the most beautiful cities in the Orient. After the War of 1857, one-third of the city was razed to the ground, it became a useless maze of streets, unhealthy and congested. The transfer of capital from Calcutta to Delhi in 1912 furthered the devaluation of the walled city of Shahjahanabad.

- **1914: Lutyens Plan of New Delhi**

After Delhi became the capital of India in 1911, Emperor King George V commissioned two English architects—Ar. Edwin Lutyens and Ar. Herbert Baker—for the task of preparing a plan for New Delhi.
Ar. Edward Lutyens had initially designed Delhi with all the streets crossing at right angles, much like in New York. However, Lord Hardinge told him of the dust storms that sweep the landscape in these parts, insisting on roundabouts, hedges, and trees to break their force, giving him the plans of Rome, Paris, and Washington to study and apply to Delhi.
The layout of Lutyens Delhi was governed by three major visual corridors, linking the government complex with Jama Masjid, Indraprastha, and Safdarjung Tomb. The plan offered a "garden-city pattern, based on a series of hexagons separated by broad avenues with double lines of trees".
(Source: http://www.archinomy.com/case-studies/1158/changing-image-of-lutyens-delhi)

Major Highlights of the Lutyens plan were zoning of the Government complex, Bungalows zone, and Commercial districts. Also, no provision of housing was premeditated for the large number of skilled and unskilled workers who migrated for the construction

work of New Delhi. This negligence of the planners towards Old Delhi resulted in its transformation to a large slum area through deterioration and dilapidation.

- **1936: Establishment of Delhi Improvement Trust**

The Delhi Improvement Trust was set up in 1936, and it built areas like Daryaganj South for wealthy Indians. Houses were grouped around parks. Within the houses, space was divided according to new rules of privacy.

- **1947: Sprawl of Delhi due to Immigration**

The partitioning of India brought its own set of problems. Delhi witnessed one of the largest immigration in human history. Approximately half a million sought refuge in Delhi; which was not prepared for doubling of its population within 2 months. A total of 36 rehabilitation townships were planned and developed all around Delhi. These included Nizamuddin, Lajpat Nagar, Malviya Nagar, Patel Nagar, etc. These were emergency projects with no time available for immaculate planning.

- **1955: Delhi Development Authority was established**

The Delhi Development Authority (DDA) is a planning authority created in 1957 under the provisions of the Delhi Development Act "to promote and secure the

development of Delhi". The DDA is responsible for planning, development, and construction of Housing Projects, Commercial Lands, Land Management as well as providing public facilities like roads, bridges, drains, Underground water reservoirs, Community Centres, Sports Centres, Green Belts, etc. within the area of National Capital Territory of Delhi, India.

- **1962: 1st Master Plan of Delhi- 1982**

1982: 2nd Master Plan of Delhi-2021 (Improvement under Section 11-A)
The Second Master Plan envisaged expanding the urban area of Delhi to 688 sq. km. To accommodate the 12.2 million urban population by the year 2001.

2001: 3rd Master Plan of Delhi- 2021
The Third Master Plan envisaged expanding the urban area of Delhi to 978 sq. km. To accommodate the 23 million urban population by the year 2021.

2021: Proposal of 4th Master Plan of Delhi 2041
The Fourth Master Plan envisaged expanding the urban area of Delhi to 978 sq. km. To accommodate the 30 million urban population by the year 2021.

1.2 Delhi's global and regional positioning

"The national capital placed second among union territories (UTs) in the Niti Aayog's SDG India Index 2020-21. The Index for Sustainable Development Goals (SDGs) evaluates the progress of states and union territories on social, economic and environmental parameters."

Delhi is a globally competitive, thriving urban centre as well as a historic world city with unparalleled cultural wealth. As the capital of India, it is the seat of the National Government and at the same time functions as a union territory with a special status designated as the National Capital Territory of Delhi.

Delhi is quite prominent and one of the **fastest growing megacities** in the world, and according to international studies, it is the second highest performer and the fastest growing economy in Asia-Pacific. Delhi is also one of the leading start-up ecosystems in the world. It is one of the most important trade centres in India and Asia and the biggest and busiest logistics and trade hub in North India. Delhi needs to build on this potential and **address issues** such as pollution, degraded built environment, congestion, lack of safety and disparate living conditions, which are a **threat to its market potential and global attractiveness.**

Delhi lies at the heart of the National Capital Region (NCR) (approx. 55,083 sq.km. in area), surrounded by four important cities from the states of Uttar Pradesh and Haryana. This urban agglomeration acts as the consumption and distribution centre for North India. The GSDP of Delhi for FY 2019-20 was 4.09% of all states' GDSP. Delhi also has a growth rate of 7.70% in terms of GSDP which is substantially higher than the national average of 4.2%.

There are two approved SEZs in Delhi and FDI inflows (From October2019 to September 2020) stood at **US$ 8,192.61 million** for the state. Investments in the region grew by 95% in 2019.

Proposed Investments

Figure-1: Proposed Investment   Source: IBEF
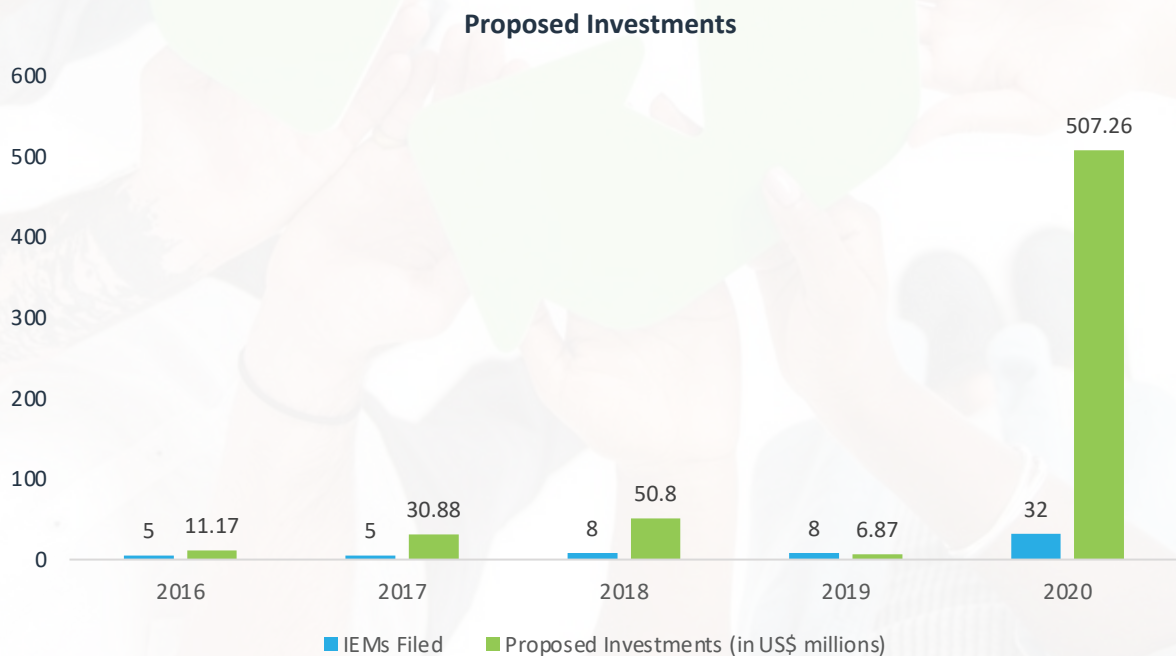
Delhi is the key redistribution centre due to the seamless connectivity and robust infrastructure. In future, functions of distribution and re-distribution may migrate from Delhi to the upcoming dedicated freight corridors and nodes. However, Delhi will retain its economic prominence as front for business, trade and digital logistics, and as the primary driver of the regional economy.

1.2 Delhi's demographic profile, population projections and development needs

Delhi is a highly preferred city in terms of employment, higher education, and residence. The population of Delhi has grown at a high rate for the past seven decades.

Decadal Growth Rate of Population in Delhi
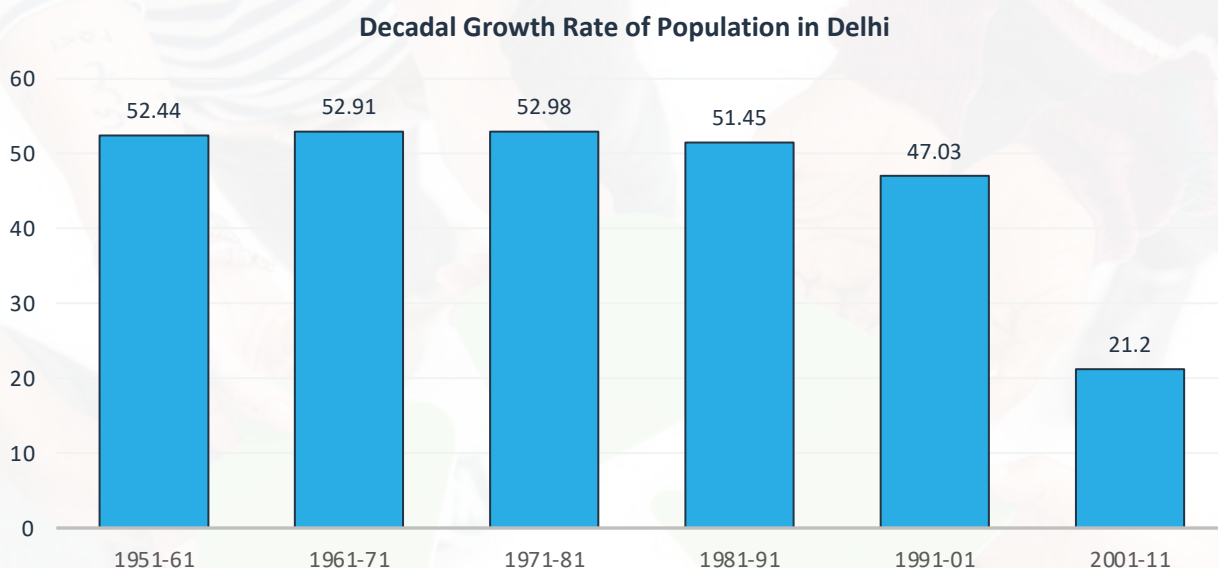
Figure-2: Decadal Growth Rate of Population in Delhi

Source: Census of India*

Five-year growth projections for Delhi

YEAR	MALE (IN MILLION)	FEMALE (IN MILLION)	TOTAL (IN MILLION)
2021 (BASE YEAR)	11	9.5	20.6
2026	12.2	10.4	22.6
2031	13.4	11.4	24.8
2036	14.6	12.3	26.9
2041	15.9	13.3	29.2

Table-1: Five Year Growth Projection for Delhi

The growth rate has dropped in the last two decades both in terms of natural growth and migration. However, in absolute numbers, NCT Delhi accounts for about 1.39% of India's population and is one of the most populous cities in the world.

Delhi's overall sex ratio and child sex ratio are below the national average although both have shown improvement since the last decade. While the share of women population in the working age has increased since the last decade, the female labour participation rate is just 14.3%, five times lower than male workforce. The city has to focus on facilitating more women to join the workforce by providing safe and gender-friendly streets, public spaces and workplaces with adequate childcare facilities. It can be expected that financially independent women becoming a norm in Delhi may help improve the sex ratio, albeit indirectly.

Close to 30% of Delhi's population comprises of children and young people of 0-18 years age group indicating the need for Delhi to become a more child friendly city. Globally, holistic early development of children is considered **paramount as an indicator of good quality of life**, pertinent for children to grow up to be healthy and productive adults. It is thus imperative to provide infrastructure for children of all age groups and abilities in the city.

Delhi, like most megacities of its size, has its potential and opportunities **offset by issues** of unsustainable urban form, degradation of built environment, mismatch between land use and transportation leading to unsustainable mobility patterns, proliferation of unplanned development, differential access to civic services across space and class, and a growth pattern that is in disharmony with the natural environment. The 2041 planning framework endeavors to address these issues in a holistic manner, build on Delhi's inherent strengths and harness opportunities to realise the real potential of the city.

1.3 Master Plan Delhi @ 2041

The vision 2041 for Delhi focuses on **"Fostering a Sustainable, Livable and Vibrant Delhi"**. The goal is to become an environmentally sustainable city that is future ready and offers good quality, affordable and safe living environment with efficient mobility systems with the aim to emerge as a dynamic place for economic, creative and cultural development.

The Plan also acknowledges diversity and works towards creating an inclusive city that facilitates accessibility and opportunity for all.

The proposed vision is to make Delhi environmentally sustainable, livable, and economically and culturally strong. The vision will be achieved through six broad goals (or enabling policy areas): environment protection; local economic development; preservation of heritage and culture; improved quality of life; low carbon mobility; and resilient infrastructure. Two sets of spatial-planning strategies will be applied—catalysing urban regeneration (brownfield improvement), and smart and sustainable development of new areas (greenfield development).

The Master Plan focuses on the following key areas for development (as per DDA report):

Environment: The city is quite green but these greens are inequitably distributed. The quality of greens also needs to be improved at many places. Moreover, Delhi suffers from consistently high levels of air, water and noise pollution. The Yamuna is also severely polluted. This is not only threatening the environmental assets and local biodiversity, but also the health of citizens.

Water: Delhi is a water scarce city and yet, the resource gets wasted due to systemic losses, lack of a conservation and reuse strategy. This has serious implications on growth prospects of Delhi as well as the basic need of water for day-to-day activities.

Critical resources: Delhi's consumption of power and generation of waste need to be reduced, both of which are one of the highest in the country. Existing efforts towards recycling of waste and shift to renewable energy have to be mainstreamed.

Mobility: There is availability of good quality public transport but the city has large number of private vehicles leading to congestion, unorganised parking, air pollution, etc. Last mile connectivity and infrastructure for walking and cycling to be provided for improving the mobility of citizens especially for persons with disabilities, the elderly and children.

Housing: High land prices in the city have resulted in a mismatch between housing needs and housing supply. A large part of Delhi is unplanned with unauthorized colonies that fulfil the housing need by providing lesser expensive options of owned as well as rental housing. Due to poor quality construction and high built densities, these developments are unsafe. There is a requirement for different typologies and tenures of housing.

Built environment and public spaces: Facilities and open spaces in the city have become inadequate with steady growth in population. The existing built stock in many areas is old and dilapidated. Public spaces have to be made universally accessible and safer. Therefore, there is a requirement of regeneration as well as strategic interventions to unlock latent potential of certain areas in the city.

Heritage assets: Delhi is a cultural capital and has a large number of heritage assets. Preservation of assets and their adaptive reuse are to be promoted for preventing degradation and loss of historic assets and fabric.

Vulnerability: Delhi falls in seismic zone four and is under high risk of earthquake incidents of fire outbreaks and flooding. High built densities, poor quality and age of built stock further increases the vulnerability. The COVID-19 pandemic brought into focus the need to create self-contained and mixed-use areas with decentralized infrastructure.

Economic potential: Delhi has to fully realise its niche role and potential as an economic hub. Specialty health and higher education are focus areas. Cleaner production, start-ups, innovation, and cyber economies have to be promoted by providing a variety of flexible and shared spaces to entrepreneurs in addition to opportunities and good working conditions. Niche sectors such as specialty health, higher education, tourism and MICE, modern logistics, and specialized trade also need to be promoted.

Monitoring and evaluation: A common database needs to be established at the city level with multi-agency coordination and an integrated monitoring protocol needs to be set up. This will help monitor progress of the city and different sectors. This is imperative for the city and the Plan to enable periodic evaluation of progress and become adaptable to change and course correction. All agencies and stakeholders need to converge efforts to achieve good quality development.

Source: ITPI-DRC Webinar

Global Goals for Sustainable Development

2.1 Global Perspective Scenario

During the UN Sustainable Development Summit between 25-27 September 2017, 193 member countries of the United Nations collaboratively committed to adopting Sustainable Development Goals (SDGs – frequently referred to as the "Global Goals") and committed themselves as stakeholders to meet the 2030 agenda for sustainable development. The 17 SDGs and 169 interlinked targets within these range, from ending poverty to stemming climate change, and that altogether provide a pathway for a sustainable and more prosperous world.

It also reflects the complex and interrelated nature of social, economic and ecological well-being parameters. The SDG framework also provide an opportunity to renew and integrate efforts in order to meet, to a significant degree, national and global aspirations in a defined time frame. As a part of this aspirational agenda, the UN also put out a strong call to action for the Private sector to play an important role in achieving these goals.

Figure : UNWTO SDG Goals

Globalization in the last decades although has brought economic and societal benefits across the globe, it led sometimes to fail in addressing the adverse social and environmental and even economic impacts. In order for states to become a 'sustainable engine' one approach that seems to be increasingly used is to internalize social, economic and environmental concerns in international trade. This can be done by many different means and policy instruments and tools.

The SDG Index is an assessment of each country's overall performance on the 17 SDGs, giving equal weight to each Goal. The score signifies a country's position between the worst possible outcome (0) and the best, or target outcome (100). For example, Finland's overall index score (85.9) suggests it is, on average, 86 percent of the way to the best possible outcome across the 17 Goals.

The 2021 SDG Index Scores

Rank	Country	Score
1	Finland	85.9
2	Sweden	85.6
3	Denmark	84.9
4	Germany	82.5
5	Belgium	82.2
6	Austria	82.1
7	Norway	82.0
8	France	81.7
9	Slovenia	81.6
10	Estonia	81.6
120	India	60.1

Table-2: The 2021 SDG Index Score

Source: Sustainable Development Report 2021*

The SDGs cover a large number of social and economic development issues including energy, urbanization, water, environment and social justice, but also poverty, hunger, health, education, climate change, gender equality. Achieving the SDGs requires success in realizing six major transformations: quality education (SDG 4); access to good quality and affordable health care (SDG 3); renewable energy and a circular economy (SDGs 7, 12, and 13); sustainable land and marine management (SDGs 2, 14, and 15); sustainable urban infrastructure (SDGs 6, 9, and 11); and universal access to digital services (SDG 9). Each of the six transformations requires a significant scaling-up of public investments. Yet the financing needs for these SDG investments are far greater than the fiscal space available to the governments of low-income developing countries (LIDCs).

The SDGs are first and foremost a public investment program – in core infrastructure (roads, power), digital, water and sanitation, human capital (health, education) and the environment. To achieve the SDGs, the LIDCs will have to scale up public investment outlays by another 10–15 percent of GDP per year for the coming decade. The needed financing should come through higher domestic revenues combined with significantly greater levels of international borrowing. Success will require a high level of global cooperation and solidarity: in monetary policy (for example, Special Drawing Rights), in domestic and international tax policy, in development financing through the Replace it to Multilateral Development Banks (MDBs), and in debt relief. In essence, the LIDCs will need fiscal space comparable to that enjoyed by the HICs.

Estimates suggest that **US$5 to US$7 trillion per year is required for financing these goals worldwide** and **US$3.9 trillion per year in developing countries.** However, the current investment in developing countries is around US$1.4 trillion leading to a shortfall of US$2.5 trillion per year (UNCTAD, 2014). Global action of this scale requires strong coordination between different governments, development institutions, private sector and financial institutions for the effective financing and implementation across the globe.

Clearly, a considerable amount of theoretical and practical challenges need to be tackled in order to assist policy- and decision-makers in their effort to translate theory into practice.

The COVID-19 pandemic has also impacted all three dimensions of sustainable development: economic, social, and environmental. On SDG 1 (No Poverty), after several years of significant reduction, extreme poverty increased in 2020 in sub-Saharan Africa and in other parts of the world. The COVID-19 pandemic has pushed an estimated 120 million people into extreme poverty over the past year (defined as living on less than $1.90 a day), mostly in low- and middle-income countries. The pandemic has also impacted access to food and increased food insecurity, covered under SDG 2 (Zero Hunger), while the slowdown of economic activity and the global recession saw significant increases in unemployment in 2020, impacting SDG 8 (Decent Work and Economic Growth).

Global challenges, including pandemics but also climate change and the biodiversity crisis, require a strong multilateral system. Damages to ecosystems and nature may lead to the emergence of other zoonotic diseases and pathogens; possibly with a much higher case fatality rate next time. Climate change has already led to a sharp rise in natural disasters, including droughts, typhoons, the impact of rising sea levels, and heat waves. The digital revolution has moved many supply chains online but also increased the risk of widespread cyberattacks. No country can singlehandedly prevent, respond, and recover from these global shocks. Now more than ever, the multilateral system must be supported to work effectively. Strengthening preparedness, coordinated responses, and resilience to critical risks are key to supporting the Decade of Action for the SDGs launched by the UN Secretary-General in 2019.

2.2 Benchmarking Studies

A. London Borough of Camden, UK

Aim: To achieve an efficient, equitable and safe transport system which improves the quality of life of people living within the local authority by reducing traffic on the roads and supports air quality targets. Promoting healthy life styles - 'Green transport plans' are developed jointly with the private sector and schools that ensure local transport needs are met, along with reduced car use and promotion of walking, cycling, public transport, and use of electric or gas vehicles. The transport strategy establishes 'Clear Zones' which will be 'low emission' areas that prioritize car-free lifestyles via walking, cycling and public transport to promote healthier living, Awareness raising - The authority celebrates the international car-free day which promotes greater understanding and awareness of the impacts of transport. It also holds other promotional campaigns and events such as 'Don't Choke Camden' day.

B. Government of Bangladesh

Aim: Provide energy to a remote community where there is no electricity. Replace kerosene lamps with more energy efficient, less fire prone, and healthier energy sources and provide sustainable trade and income for women in the community.
It provides lighting and indoor air quality for rural households by replacing the traditional kerosene lamps with modern fluorescent battery-powered lamps, which have a reduced risk of fire and do not give off smoke and other emissions harmful to human health. The fluorescent lamps are produced and marketed by a women in an area where an extension of the electricity grid is not likely in the next 20 years. If a woman makes and sells two lamps a day, she earns wages equivalent to a skilled labourer, which benefits both her family and improves her social status. The remote community also benefits from the lamps, which are highly efficient and have low energy consumption.

C. Government of Brazil

Aim: Promote the use of bioethanol and flexi-fuel cars.

- Ensure that flexi-fuel cars are affordable
- Ensure that bioethanol and biofuels are available at regular petrol stations

In Brazil, bioethanol has been used as a commercial liquid fuel for many years, with the Government being the first to initiate the promotion of bioethanol in the 70s. In the last two years, with rising oil prices and search for cleaner and renewable energies, the government has re-focused on bioethanol and flexi-fuel cars, which can be powered by both petrol and ethanol.

D. Government of USA

Aim: To convert waste methane (a greenhouse gas) at Vermont's largest landfill site into a renewable energy resource used to produce electricity for the regional power grid.
In Coventry, Vermont, the Washington Electric Cooperative, Inc. (WEC) successfully established a landfill gas-to-electricity generating plant. This team approach to regional planning and coordination incorporated resourcefulness and a determination to serve the community's and the waste plant's members best interests in turning landfill methane gas into useful electricity over the next 25 years, while reducing the health risks of methane gas emissions.

E. Government of Kolkata

Aim: Integrating electric buses in public transport to combat air pollution from transports.

Kolkata also has recorded the highest amount of particulate matter (PM) and Nitrogen Oxide (NOx) emissions per 0.1 million of vehicular population despite having fewer on-road vehicles than other metropolitan cities in the country. This is primarily due to operation of fleets of older vehicles. Road transport in the city contributes to almost 4.6 tonnes of PM per day. Kolkata has 80-85% shared mobility access (highest in India) wherein public transport options (comprising of buses, metro, and tram network) are being used in large numbers.

The implementation of the electric buses programme in Kolkata has had a great impact on all aspects related to public mobility. The reliability of electric bus operation has seen to be improved up to 98% despite several initial challenges. It is expected that annual CO2 emissions will reduce by 3,094 tonnes, considering daily round trip of 100 kms per bus and an emission factor of 1.19 Kg CO2 emissions/km per bus.

F. Government of Karnataka

Aim: Lighting up homes and making cooking cleaner in Karnataka

A pilot project in Karnataka's Chamarajnagar district brought solar lighting and clean cooking to the homes of the disadvantaged, saving fuel costs, reducing women's health risks, and providing employment opportunities. This reduced the usage of kerosene and consumption of firewood also decreased in the area as well as addressed the issue of how underprivileged communities will purchase refill cylinders.

G. Government of Assam

Aim: Solving the dual problems of flooding and water scarcity in Dhubri district
Farmers in Jhapusabari Pt. III village in Dhubri district of Assam faced dual problems of flooding and water scarcity. Their fields were rainfed but with no infrastructure to regulate the flow of rainwater, their crops would first be flooded with water, and then suffer from water scarcity as the rainwater would drain out quickly. Both these situations were damaging to the crops, hence reducing productivity and consequently incomes.

A Check Dam was constructed under the Integrated Watershed Management Programme (IWMP) that effectively resolved the problem by regulating rainwater and retaining optimum water level for crop growth.

Delhi approach to attain Sustainable Development

3.1 Schemes and Polices introduced by Delhi Government for Industries

(I) Development and Maintenance of Industrial Areas

Delhi has 29 Industrial estates maintained by DSIIDC / MCD / PWD/ other agencies given the ageing and usage of infrastructure facilities in these industrial estates, need for infra up-gradation and its maintenance. Four states have been selected as pilot projects - Okhla, Patparganj, Bawana & Narela for maintenance under PPP Model. The estimated Project cost is Rs. 440 Crores

Objective

- Up-gradation / augmentation, managing, operating and maintaining of infrastructure facilities in an integrated manner

- Efficient and Sustainable Operation & Maintenance of Infrastructure Facilities

- Ensuring high level of performance standards

(ii) Consent-to-establish (CTE) certificate

The Delhi government here has done away with the need to secure crucial permits for setting up small-scale industries in the national capital. Now, micro, small and medium enterprises (MSMEs) will not require a consent-to-establish (CTE) certificate from the Delhi Pollution Control Committee (DPCC) and a trade license from the Municipal Corporation of Delhi (MCD) to obtain an acknowledgment letter under the Micro, Small and Medium Enterprises Development (MSMED) Act, 2006

(iii) Amnesty scheme

The state government has reduced the interest percent on percent on pending dues from 18% to 10%, and under the amnesty scheme announced on Saturday, factory owners will get 50% off on interests if they deposit all outstanding dues within 60 days from August 14, 2020.

They will also get an additional 30% discount on interest towards ground rent during the 45 days thereafter (of the first 60 days). The order of the amnesty scheme was issued by Delhi State Industrial and Infrastructure Development Corporation, with the move being welcomed by city-based fact.

The broad vision of this Industrial Policy is "To make Delhi a hub of clean, high-technology and skilled economic activities by adhering to following basic principles: Infrastructure Development Decongestion, promoting 'Walk to Work', Simplifying Business Industry Consultation in Decision Making & Sustainability."

Objectives of Industrial policy

- Promote non-polluting and clean industries.

- Promote high-technology and skilled industries in Delhi, to keep immigration of unskilled labor to a minimum.

- Develop world-class infrastructure within planned industrial estates and regularized industrial clusters.

- Promote cluster approach and walk-to-work concepts, wherever possible.

- Facilitate business through procedural simplifications and e-governance measures.

- Promote a transparent and business-friendly environment.

S.N.	Scheme Name	Objectives	Link to SDGs
1	Prime Minister Rozgar Yojana(PMRY)	To provide assistant to the educated unemployed persons by setting up self-employment ventures through industry services and business routes	1 8 9
2	Swaran Jayanti Sahari Rozgar Yoyana (SJSRY)	To provide loans to persons under BPL for setting up gainful self-employment.	1 8 9
3	Pradhan Mantri Kaushal Vikas Yojana (PMKVY)	To provide grant and outcome-based skill training scheme of the Ministry of Skill Development and Entrepreneurship (MSDE), Government of India (GoI).	1 8 9 12
4	Stand Up India Scheme	To promote entrepreneurship among people from SC/ST and women through loans	1 8 9 10 12
5	Atal Innovation Mission and SETU In NITI AAYOG	To give a substantial boost to the innovation ecosystem and to catalyze the entrepreneurial spirit in the country.	1 8 9 12
6	Pradhan Mantri Jan Dhan Yojana (PMJDY)	To give financial services to the weaker section of society.	1 8 9
7	Skill India	To create jobs for youth of the Country	1 8 9 12
8	Make in India	To encourage multinational, as well as domestic, companies to manufacture their products in India.	1 8 9 12
9	Entrepreneurship and Skill Development Programme (ESDP)	To provide skill training and create jobs for youth.	1 8 9 12
10	Prime Minister's Employment Generation Programme (PMEGP)	To create jobs for youth of the Country	1 8 9 12

3.2 Identified Opportunities- innovation and global tested and tried initiatives

(i) AamAadmi Mohalla Clinic (AAMC)

The AamAadmi Mohalla Clinic has been conceptualized as a mechanism to provide better primary health care services in Delhi at their doorstep. The setting up of AAMCs has been envisaged in the form of pre-engineered insulated box type re-located Structures which are to be manufactured and installed through PWD or rented buildings. Delhi Government has decided to set up 1000 such PHCs/ Mohalla clinics in such localities which are not properly covered by existing hospital/dispensary in 2020-2021.The budget allocation for 2020-21 is Rs 7000.00 Lakhs.

AIM and Objectives:

• Create capacity to service at least 2.4 crore out patient consultations per year at multiple locations in Delhi at clinics located close to the community.

• The consultations should address the duress and anxiety of patients and their family members/attendants.

• The consultations should be affordable, rational, supported by appropriate diagnostics and lead to precise management of health condition.

• The AAMC prescribe appropriate therapies including medicines which are available at the clinic itself. Situations that are beyond

the capacity of basic services of AAMC are referred to higher level facility.

• One stop service to all patients and whenever referral services are required, complete handholding is provided till the patient gets the required services.

• Own up the community and maintain preventive, promotive linkages with them at all times.

• Ensure attainment of goals of State and National Health Programs by maintaining appropriate registries of consumers of services of the programs.

Bio-Medical Waste Management in Delhi

As per DPCC report, Delhi is generating approximate 14 tons of bio-medical waste per day from various hospitals, clinics, and clinical laboratories. The Govt. Hospital and some private hospitals have their own arrangement for treatment of bio-medical waste. The treatment of bio-medical waste and their disposal has paramount importance for prevention of environmental pollution and hazardous diseases arising out of these substances. Small Govt. dispensaries, private nursing homes/clinics cannot make their own arrangement for treating of bio medical waste due to high cost involved in treatment facilities. Keeping in view the difficulties faced by these smaller health institutions, Govt. took initiative to establish Centralized Bio Medical Waste Treatment Plant had been

established at Okhla and Nilothi through Joint Venture Plant with the private sector/NGO.

(ii) Skill Development Cell

To inculcate the skills and update knowledge of all Health care providers (HCW) of Hospitals/ Health care facility working under Govt. of NCT of Delhi by means of trainings at Institutional level and DGHS (HQ) level. The targets for 2020-21 are as follows -

• Conducting at-least one skill training session of around 50 health care workers per month.

• Procurement of mannequins for skill training.

(iii) YAMUNA REJUVENATION & WATER BODIES

A scheme of "Yamuna Rejuvenation" has been taken up by DJB. In this scheme, the drains flowing into River Yamuna are being taken up in a integrated environmental framework. The comprehensive cleaning of drains along with other stake holders is being attempted for the first Time. A stretch of 14 km of Supplementary Drains is taken up a pilot for management of sewage, solid waste, sludge and septage. The development is being planned in such a manner that the entire efforts remain sustainable for the years to come. The rejuvenation of drains being planned in such a manner that it becomes relevant in day to day life of the residents living in the area adjoining the drains. The changing efforts, therefore, should result into creation of a recreational place for the people to enjoy the benefits of this restored environmental place.

Delhi Jal Board initiated the proposals to rejuvenate 159 water bodies and creation of 5 new water bodies. The schemes have been approved. The consultants have been appointed and proposals are being processed for implementation on ground in phased manner. The schemes will help to recharge the depleting ground level. DJB has also taken up revival and rejuvenation of some of the existing water bodies and also for creating new water bodies, wherein adequately treated effluent will be utilized for the purpose of ground water recharge. The scheme will help to recharge the depleting ground level.

3.3 Environmental and Urban Challenges & solutions for the national capital

- **Limited Area -** Land is the biggest constraint in Delhi. With the existing urban areas, Delhi will have the capacity to accommodate 153 lakh people by 2021. However, the projected population for Delhi by 2021 is 230 lakhs. The MPD-2021 plans to accommodate die balance 77 lakh people in urban extensions. About 4%-5% of the urban extensions will be earmarked for industrial use, as per the MPD-2021.

- **Immigration problems from nearby states** - Immigration is a major cause of population increase in Delhi, causing strain on the available infrastructure in Delhi. According to Economic Survey of Delhi 2007-08, the share of in-migration in total population has gone up from 47.6% in 2005 to 50.9% in 2006. The Regional Plan of NCR 2021 points out that 68% of the migrants to Delhi belong to the neighboring States of UP, Haryana and Rajasthan with UP alone accounts for half the migrants in Delhi. The MPD-2021 aims at limiting the share of in-migration in population growth to 50%. Given this goal, the industrial policy for Delhi, proposes to keep the migration from neighboring cities to the minimum.

- **Unorganized technology -** Majority of industries in Delhi are of low-skilled nature, which attract the unskilled migrants from neighboring cities. If Delhi wants to transform into a world-class city befitting the stature of being the capital city of one the promising emerging economies of the world, it is important that high-technology)' and high-skilled industries are promoted in the State.

- **Connectivity and facilities** - Delhi has excellent overall infrastructure but the state of infrastructure and facilities available within the industrial estates is poor. The industrial estates suffer from bad quality roads, poor drainage, encroachments, and lack of parking facilities.

- **Water Bodies:** Elixir of life Water bodies are crucial for sustainable urban eco-hydrology. Total area under water bodies has considerably declined from 14.41 km2 (1970) to 8.51 km2 (2008), mainly lost to urban growth. In addition, the groundwater level declines for 2m every year. Diminishing water bodies has deep impact on environmental health. Pollution load in the river Yamuna added from various sources like industries and domestic and long dry season, has virtually converted it into a nala. Najafgarh drain along with its 70 sub-drains is the biggest polluter of the river.

- **Air Quality:** Menace to Human Health The air pollution levels in Delhi are strikingly high and the transport sector is major contributor. Nearly 421.84 tonnes of CO, 110.45 tonnes NOx , 184.37 tonnes HC and 12.77 tonnes particulate matter is released in Delhi's atmosphere per day (Department of Environment and Forests, 2010). The CO has dipped drastically post-CNG use (i.e. 1999); SPM and RSPM have increased, SO2 has declined marginally and NO2 is still high over 1997-2011(Department of Planning, 2013). The composition of pollutants have changed with the introduction of CNG, new pollution standards and phasing out of old vehicles. The concentration of CO, SO2 and PAHs has declined, while NOx and SPM increased. The rise in NOx is attributed to CNG use and SPM to the diesel vehicles' growth.

- **Vehicular Growth:** Regulate, Restrict, Restrain the vehicles in Delhi have doubled from 1999- 2000 to 2011-12. The highest growth rate is 707.08% for taxis, whereas private cars and jeeps experienced an increase of 168.74%. Over 90% vehicular population of the city comprise of private vehicles (cars, jeeps, motorcycles and scooters). In 1980-81, the total road length was 14,316 kms that doubled to 28,508 kms in 2000-01 and increased to 32,663 kms by 2011.

- **Urban Built-up Land:** Moving Towards Global City The urban land use has increased tremendously with 4.17 sq.km. till 2003 and further 66.33 sq.km. added from 2003 to 2011 at the cost of fallow land, agricultural area; shallow water bodies and scrub land

- **UHI:** Localized 'Global Warming' The land surface temperature (LST) is a critical indicator of UHI assessment. UHI is a phenomenon, whereby city experiences elevated temperature in comparison to the surrounding hinterland due to trapping of insolation by atmospheric gases, high rise buildings and concrete surfaces of asphalt, metal, tiles and bricks. It causes heat waves in summers and leads to heat stress and mortality. It changes the micro climate, hence, changes in transmission and life cycle of many diseases.

Solutions for the National Capital

Prioritizing Environmental Sustainability

The city has a lot of green spaces but are inequitably distributed. The quality of greens spaces also needs to be improved at many places. Moreover, Delhi suffers from consistently high levels of air, water and noise pollution. The Yamuna is also severely polluted. This is not only threatening the environmental assets and local biodiversity, but also the health of citizens.

- Comprehensive framework to treat green and blue assets (natural and planned) as green-blue infrastructure to facilitate better continuum and strategies for tackling pollution

- Protection and enhancement of natural assets with public interface

- New city-level assets - greenways along natural drains, repurposing underutilized sites and wastelands as green- blue assets

- Greening of plots/buildings and introduction to Green-Blue Factor (GBF) for plan approval

- Improvement of parks and provision for special abilities parks

- Dedicated Green Development Area for incentivizing large-scale implementation of green economies, clean energy generation and promoting green developments.

Facilitating Economic Development

Delhi has to fully realize its niche role and potential as an economic hub. Specialty health and higher education are focus areas. Cleaner production, start-ups, innovation and cyber economies have to be promoted by providing a variety of flexible and shared spaces to entrepreneurs in addition to opportunities and good working conditions. Niche sectors such as specialty health, higher education, tourism and MICE, modern logistics and specialized trade also need to be promoted.

- Incentives for setting up clean economies

- Support for conversion of strategic industrial estates and District Centres into specialized clusters of knowledge, finance, services, culture or creative industries

- Facilitative norms for ancillary facilities like serviced apartments, working women's hostels, start-up hubs, shared workspaces, e-commerce, etc.

- Modernization of work centres through regeneration incentives

- Promoting entry points of the city as hubs of hospitality, logistics and freight, health and education hubs

- Support for unorganized economies including waste workers, household industry, street vending, etc.

Enhancing Heritage, Culture & Public life

Delhi is a cultural capital and has a large number of heritage assets. Preservation of assets and their adaptive reuse are to be promoted for preventing degradation and loss of historic assets and fabric. Facilities and open spaces in the city have become inadequate with steady growth in population. The existing built stock in many areas is old and dilapidated. Public spaces have to be made universally accessible and safer. Therefore, there is a requirement of regeneration as well as strategic interventions to unlock latent potential of certain areas in the city.

- Identification of culturally significant areas in the form of heritage zones, archaeological parks and cultural precincts

- Provisions for preservation, regeneration and adaptive reuse within identified zones and cultural precincts

- Introduction of Heritage TDR

- Implementation of active frontage, squares and plazas, street improvement, walkable plans for public spaces and safety

Improving Housing & Social Infrastructure

High land prices in the city have resulted in a mismatch between housing needs and housing supply. A large part of Delhi is unplanned with unauthorized colonies that fulfil the housing need by providing lesser expensive options of owned as well as rental housing. Due to poor quality construction and high built densities, these developments are unsafe. There is a requirement for different typologies and tenures of housing.

- Regeneration of planned and unplanned areas

- Promotion of rental, small format and affordable housing (particularly close to mass transit)

- Provision of, condominiums, hostels, student housing, worker housing, etc. close to work or education centres

- Simplification of norms and categories for social infrastructure allowing for new uses and needs that may emerge. Mix use, vertical mixing and multi facility plots for improving availability and access

- Introduction of tools like Amenities FAR and reduced norms to improve availability of facilities in dense areas

Moving toward Low Carbon Mobility

There is availability of good quality public transport but the city has large number of private vehicles leading to congestion, unorganised parking, air pollution, etc. Last mile connectivity and infrastructure for walking and cycling to be provided for improving the mobility of citizens especially for persons with disabilities, the elderly and children.

- Unified institutional framework for mobility management

- Transit-oriented development aligned with mass transit

- Identification of strategic mobility corridors.

- Focus on Improvement of walking & Cycling path

- Promote the use of electric vehicles and other green mobility options

- Variable parking norms linked to availability of public transport, earmarking space for electric vehicles, parking and parking management.

- Multi-modal integration (including development of multi-modal hubs) and facilitation of first and last mile connectivity.

Developing Resilient Physical Infrastructure

Delhi is a water scarce city and yet, the resource gets wasted due to systemic losses, lack of a conservation and reuse strategy. This has serious implications on growth prospects of Delhi as well as the basic need of water for day-to-day activities.

- Integrated water resource management (combined policy for water supply, wastewater management and storm water management) for long term water security

- Rationalization of supply norms for water

- Norms for decentralization of wastewater treatment, recycling of wastes and maximum reuse of recycled water and solid waste

- Production and use of clean energy

- Provision for community level water harvesting and aquifer recharge facilities

- Promotion of green buildings

- Provisions for digital and telecommunication infrastructure

- Disaster Management (earthquakes, fire and floods)

Emerging Challenges

4.1 The Industrial Policy of Delhi 2010 - 2021

Delhi serves as a major industrial centre with 33 planned industrial estates, four flatted factory clusters, 1.75 lakh MSMEs (more than 90% micro enterprises) and 23 notified nonconforming industrial clusters. These industries along with household industries continue to generate employment for both skilled and unskilled workforces. The scale of industry has undergone fragmentation and a large proportion of the workforce is employed in small and micro enterprises and household industries. Over the past two decades, Delhi has experienced a shift towards the tertiary sector. Close to 83% of Delhi's income is from the tertiary sector and about 15% is from the secondary sector.

Delhi ranked on the top in the country in Sustainable Development Goal (SDG)-9 i.e. "Inclusive Sustainable Industrialization, Foster Innovation" as per the assessment made by NITI Aayog in its report on SDG India Index 2.0 released on 30th December 2019. Under the scheme Business Reform Action Plan, Delhi has ranked 12th in 2019 among 36 states/UTs.

The Industrial Policy for Delhi 2010-21 aims to promote a transparent and business-friendly environment, promotion of non-polluting and clean industries, promotion of high-technology and skill industries to keep in-migration of unskilled labor to minimum, to develop world-class infrastructure within planned industrial estates and regularized industrial clusters, promotion of cluster approach and walk to work concept, wherever possible, to facilitate business through procedural simplifications and e-governance measure.

According to the Department for Promotion of Industry and Internal Trade (DPIIT), Foreign Direct Investment (FDI) inflow in Delhi stood at US$ 9,443.83 million between October 2019 and March 2021. In 2020, 32 IEMs with proposed investments worth Rs. 3,710 crores (US$ 507.26 million) were filed in Delhi.

The Government of Delhi has been committed towards creating a progressive business environment. The new Industrial Policy of Delhi 2010 – 2021 focuses on promotion of knowledge-based industries with priority for skill development and its vision is to make Delhi a hub of clean, high-technology & skilled economic activities by 2021 by adopting the following strategy:

The Industrial policy for Delhi 2010-2021 aims to:

- Promote non-polluting and clean industries.

- Promote high-technology and skilled industries in Delhi, to keep in migration of unskilled labor to minimum.

- Develop world-class infrastructure within planned industrial estates and regularized industrial clusters.

- Promote cluster approach and walk to work concepts.

- Facilitate business through procedural simplifications and e-governance measures.

- Promote transparent and business friendly environment.

Industrial Policy 2010-2021 mainly focus on development of following Sector -

Handicrafts, Handlooms, Khadi – The handloom sector has a unique place in the Indian economy and plays a vital role in terms of providing employment, cloth production and value addition while at the same time preserves India's rich cultural heritage. Through sustained efforts of the Delhi govt., there has been significant development of handloom sector which is now able to sustain the competition with machine made fabrics.

Skill Development – Skill Development is the process of identification of the skills gap in youth and providing skilling training & employment benefits to them. Skill development is critical for achieving faster, sustainable, and inclusive growth on the one hand and for providing decent employment opportunities to the growing young population on the other, therefore state governments are continuously making efforts to provide skill development to the youth with their skilling partners.

Promote Industry Academia Linkages, Innovation & Entrepreneurship – Industrial-academia linkage (IAL) is a crucial mediator and modulator of skill development, adoption of knowledge and promotion of entrepreneurship. Innovation is creating something new; it always doesn't create a business opportunity and Entrepreneurship identifies the opportunities in great innovations and creates opportunity, add values and keep the value improving over a period of time

Trade and Commerce – Trade and commerce have played a pivotal role in promoting the growth of Delhi's economy by making a significant contribution in terms of tax revenues and providing gainful employment to a large section of society. Delhi is the biggest trade and consumption centre in North India. Delhi distinguishes itself as a centre for entry port of trade which means that large part of its economic activity is concerned with the redistribution of goods produced elsewhere and imported for local sales as well as for export to other states i.e. interstate sales. It has attained the status of a major distribution centre by virtue of its geographical location and other historical factors,

availability of infrastructure facilities etc.

Industrial Waste Management – Industrial waste management includes segregation, land application (composting), landfill, and recycling of waste. Delhi Govt. had imposed ban on manufacture, sale, storage, usage, import and transport of all kinds of plastic carry bags in NCT of Delhi.

Cluster Development – Cluster Development approach as a key strategy for enhancing the productivity and competitiveness as well as capacity building of Micro and Small Enterprises (MSEs) and their collectives in the State. A cluster is a group of enterprises located within an identifiable and as far as practicable, contiguous area or a value chain that goes beyond a geographical area and producing same/similar products/complementary products/services, which can be linked together by common physical infrastructure facilities that help address their common challenges.

Objectives of the Scheme:

- To support the sustainability and growth of MSEs by addressing common issues such as improvement of technology, skills & quality, market access, etc.
- To build capacity of MSEs for common supportive action through formation of self-help groups, consortia, upgradation of associations, etc.
- To create/upgrade infrastructural facilities in the new/existing Industrial Areas/Clusters of MSEs.
- To set up Common Facility Centres (for testing, training, raw material depot, effluent treatment, complementing production processes, etc.)
- Promotion of green & sustainable manufacturing technology for the clusters so as to enable units switch to sustainable and green production processes and products.

How Industrial Development is growth driver for Sustainable Development –

Inclusive and sustainable industrial development (ISID) is the primary source of income generation, allows for rapid and sustained increases in living standards for all people, and provides the technological solutions to environmentally sound industrialization. Technological progress is the foundation of efforts to achieve environmental objectives, such as increased resource and energy-efficiency. Without technology and innovation, industrialization will not happen, and without industrialization, development will not happen.

In the face of a rapidly changing global economic landscape and increasing inequalities, a strategy for sustained growth must ensure a form of industrialization that makes opportunities accessible to all people and broadly distributes income and non-income gains across society. The inability of a state to fully integrate solutions to social issues into targeted industrial and economic policies undermines the developmental potential of industry, thus widening income inequality gaps.

Industrialization is a driver of development. Industry increases productivity, job creation and generates income, thereby contributing to poverty eradication and addressing other development goals, as well as providing opportunities for social inclusion, including gender equality, empowering women and girls and creating decent employment for the youth. As industry develops, it drives an increase of value addition and enhances the application of science, technology, and innovation, therefore encouraging greater investment in skills and education, and thus providing the resources to meet broader, inclusive and sustainable development objectives.

Emerging Challenges

- Shifting of wholesale and warehousing activities from the city centre to outskirts is an important concern for Delhi to reduce freight-linked congestion within the city. While some of these involving hazardous substances have shifted,

other activities still continue to operate.
- The industrial areas in the Nation Capital needs better basic infrastructure, including roads, sanitation, light, sewer lines and water supply. There is an urgent need for upgradation, redevelopment, operation, and maintenance of existing industrial areas.
- The privatization of power distribution system has brought improvements, but a lot more needs to be done for regulating Discoms. The Delhi Electricity Regulatory Commission (DERC) needs to act as watchdog and bring more transparency. Tough the transmission and distribution losses are reduced, the benefit has not passed on to honest consumers, who still pay higher tariffs.
- The industrial wastewater generated in Delhi is about 70 MGD. Although some industrial units have provided facilities to treat wastewater, most small-scale industries do not have such facilities.
- NEERI estimates indicate that about 8000 M. Tonnes of Solid waste is being generated each day in Delhi at present. In addition, industrial hazardous and non-hazardous waste, such as fly ash from power plants, is also generated. MCD and NDMC could manage to clear about 5000-5500 M. Tonnes of garbage each day resulting in accumulation of garbage in the city area.
- There are 28 industrial areas in Delhi. Most of the small and tiny industries do not have individual facilities to treat liquid waste.

Some of the major initiatives taken by the Government to promote Delhi as an investment destination are:

- The state government, under budget 2021-22 has allocated Rs. 8,944 crores (US$ 1.23 billion) towards developing road transport.

- According to State Budget 2021-22, Government allocated Rs. 3,225 crores (US$ 443.75 million) towards energy sector for providing subsidies to customers through DISCOMs.

- The state government, under budget 2021-22 has allocated Rs. 15,707 crores (US$ 2.16 billion) towards education.

- Delhi Government has set up a Business Facilitation Council (BFC) to facilitate single-window clearances from various departments for establishing industrial enterprises in a time-bound manner.

- Small-scale industries registration has been simplified and replaced by memorandum under MSMED Act 2006. Further, filing of the memorandum is optional for micro, small and medium manufacturing enterprises, and micro and small service enterprises.

- Housing and Urban Development are the priority sectors in the development planning process of Delhi. In January 2021, Delhi Development Authority (DDA) launched its 2021 housing scheme for the sale of 1,354 flats, mostly in the High-Income Group (HIG) and Middle-Income Group (MIG) categories.

- Delhi Development Authority has approved a new land pooling policy, which is expected to result in five more sub cities, such as Dwarka, Rohini and Narela, in other urban extension areas. The new policy would ensure that the private sector is involved in the development of new urban extension areas in the cities.

- In the state budget 2021-22, the government has proposed an allocation of Rs. 521 crores (US$ 71.69 million) for the implementation of schemes, programmes, and projects of the sectors of Tourism, Art and Culture. Two new schemes, namely Delhi Heritage Promotion and Delhi Tourism Circuit will be introduced to boost tourism.

Current Status of Industrial Development in Delhi: -

• Delhi has a workforce of approximately 33%; the unemployment rate in Delhi is one of the lowest in the country-about 5%

• Construction, Power, Telecommunications and Real Estate is the pillars of Delhi's economy. The retail industry in Delhi is one of the most thriving in India.

• The presences of a considerable consumer market along with a large pool of skilled labor have helped Delhi in its industrialization. The rise in disposable incomes has also led to the growth of the retail industry.

• Delhi serves as a major Industrial Centre with 33 planned industrial estates, four flatted factory clusters, 1.75 lakh MSMEs (more than 90% micro enterprises) and 23 notified nonconforming industrial clusters

• Manufacturing in Delhi is small scale and low-skilled which has made it attractive to the migrants from neighboring areas, putting strain on the state's resources and infrastructure. On the other hand, skilled people residing in Delhi arc travelling every day to work in other cities like Gurgaon and Noida. Further, being small scale in nature, the units in Delhi are not investing enough in upgrading technology and installing pollution control equipment.

• Delhi's industrial areas include those located in Narela, Bawana, Rani Khera, Bapraula, Jhilmil, Patparganj, Wazirpur, Rohtak Road, Mangolpuri, Rani Jhasi Road, Mayapuri, Tilak Nagar, Najafgarh Road among others. These areas need better basic infrastructure, including roads, sanitation, light, sewer lines and water supply. There is an urgent need for upgradation, redevelopment, operation and maintenance of existing industrial areas.

• Manufacturing sub-sector is the largest contributor in the secondary sector in the economy of Delhi. GSVA from manufacturing is estimated at ₹32364 Crores at current prices during 2019 respective annual growths of 5.03%.

• DSIIDC is developing Knowledge-Based Industrial (KBI) Park at Baprola in an area of approximately 55.20 acres. The estimated project cost is about 2575 crore. The project will cater to the specific needs of Information Technology, ITeS Industry, Media, Research & Development, Gems & Jewellery and other business services. The project is expected to provide direct employment to about 01 lakh persons and indirect employment to about 1.70 lakh persons.

Vision Delhi @2047

5.1 Dialogue and Development Commission (DDC) vision

The Dialogue and Development Commission (DDC) is a brain-trust of the Government of NCT of Delhi and assist the government in their vision to attain their objectives.

The objective of the commission is to provide a unique model of collaborative and inclusive sustainable development in Delhi. The commission act as to bridge the knowledge and capacity deficit in the government, and to take advantage of the vast pool of domain expertise that lies outside the government. The Commission was tasked with the role to consider ideas, identify the best practices and policies from around the world, and translate these into concrete recommendations to the Government of NCT of Delhi.

ABOUT DELHI 2047

The dialogue "Delhi@2047" hosted by the Dialogue and Development Commission (DDC), is a platform for fostering partnerships with the private sector/CSR initiatives and philanthropic organizations to achieve the vision for Delhi by 2047.

"Delhi@2047" initiative was launched recently by **Arvind Kejriwal**. The aim of this initiative is to build partnerships with the private sector, CSR initiatives and philanthropic organisations to achieve the vision for Delhi by 2047 and make Delhi as the Global city in the world. The main objectives under this initiative are Increasing Delhi's per capita income to Singapore's level, providing 24*7 water supply before the upcoming elections, to bid for the 2048 Olympics, making roads as per the European standards and many other facilities.

The Delhi Government has committed to building a Delhi by 2047 that is:

• **Per Capita Income** - Equitable with per capita income of Delhi being equal to Singapore and every person, rich or poor, having a high standard of living.

• **Olympic games 2048** - Modern with world-class infrastructure and public services. Delhi shall bid for hosting the 2048 Olympic games.

• **Sustainable development -** Sustainable in providing clean air and water to all its residents and resilient in fighting disasters. Delhi will have transitioned 100% to electric vehicles

OBJECTIVES OF DELHI@2047

• Guide spending by CSR and philanthropic initiatives into high-impact areas aligned with the long-term priorities for Delhi@2047.

• Promote innovation that can serve as proof of concept for the government to scale and address the complex problems facing the national capital.

• Create a conducive environment for attracting cutting edge technology, talent, skills, and the best management practices to address developmental challenges.

5.2 Sector Focus:

5.2.1 Infrastructure Development

The primary focus of Delhi government is to provide world class infrastructure in term of quality and accessibility. With this aim, there are many projects which are initiated by the Delhi government. The data for the preceding years is as follows -

PUBLIC WORKS DEPARTMENT WORKS LOAD OVER THE YEARS (IN CRORES)

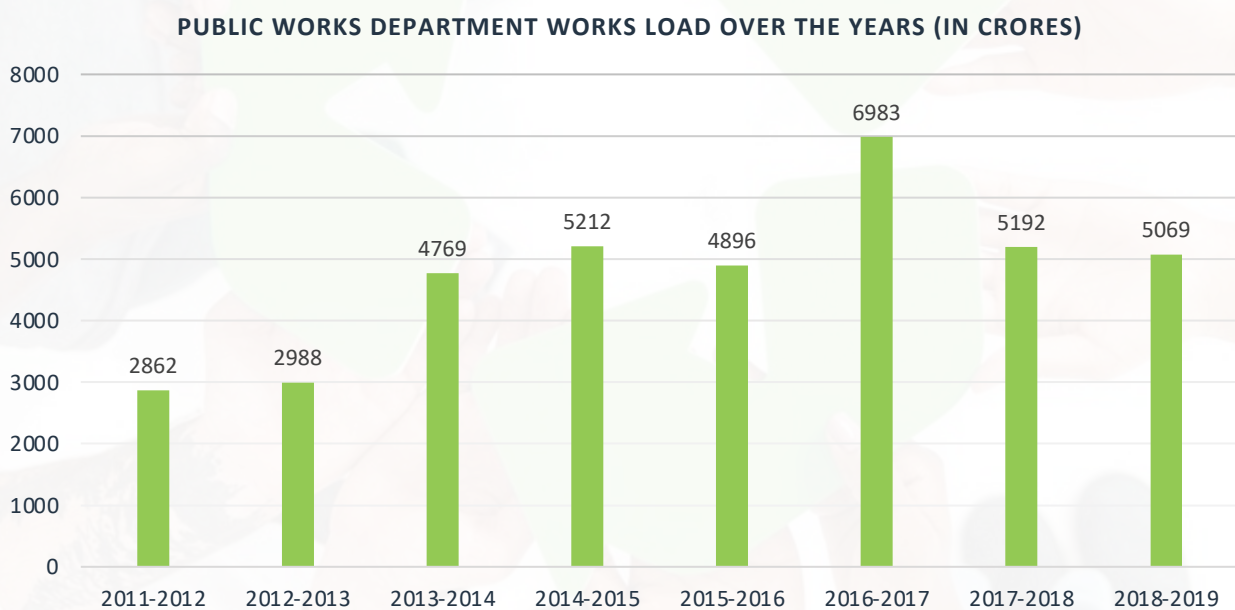| Year	Value
2011-2012	2862
2012-2013	2988
2013-2014	4769
2014-2015	5212
2015-2016	4896
2016-2017	6983
2017-2018	5192
2018-2019	5069

Figure 3 - Public Works Department works load over the years (in crores)

Source - Public Works Department

The Public Works Department works load over the years has been rising at the consistent rate of more than 20% per year. The sustainable infrastructure boost with respect to construction of roads, flyovers and building will help the UT of Delhi to go one milestone ahead to achieve the vision@2047. The critical accessibility in term of accommodation and transport regarding Olympics 2048 will be addressed this infrastructure development.

5.2.2 CSR Initiatives

1. Delhi State Industrial & Infrastructure Development Corporation Limited (DSIIDC)

DSIIDC, for last several years has focused its activities on providing low-cost houses for urban poor, slum dwellers & industrial workers (Rajiv Ratna Award), construction of Community Work Centres to provide self-employment opportunities to the weaker sections of the society, relocation of industries, development work in unauthorized colonies, construction of old age homes and renovations of schools etc. Being committed to its contribution to the society as a whole, DSIIDC's activities have constantly been guided by its Corporate Social Responsibility.

The CSR activities of DSIIDC need to align with the business objective and its mandate. Hence the core requirement for each project to be undertaken under CSR would be its relevance to the objectives of DSIIDC and to help in improving the quality of life of the citizens. The main objective of the CSR Policy shall be the Corporation's continuous commitment to operate in economically, socially and environmentally sustainable manner to ensure upliftment of the marginalized and under-privileged sections of the society to promote inclusive socio-economic growth, empowerment of communities, development of backward regions by specially focusing on the projects relating to habitat sector & benefit of poor.

2.Tata Power-DDL in association with the Directorate of Education

The Govt. of NCT of Delhi distributed E-Tablets to 1059 students of Classes XI & XII from 52 Government schools associated with its Tata Affirmative Action Program and different CSR initiatives in its area of operation. The event was conducted in adherence to the COVID-19 safety guidelines.

3. Delhi Tourism & Transportation Development Corporation Limited (DTTDC)

The DTTDC, has been, since its inception, focusing its activities on providing tourism and catering services at affordable cost to tourist and citizens, constructing flyovers and bridge, running training institute for developing trained manpower for tourism and travel industry, developing Haats for providing opportunity to artisans to showcase their product and also give opportunity to visitors to buy their produce at reasonable price without involvement of middleman etc. Being committed to its contribution to the society as a whole, DTTDC's activities have constantly been guided by its Corporate Social Responsibility.

5.2.3 Innovation and Digitalization

1. Project of Digitization & Microfilming of Archival Records

The management of electronic records is recognized as one of the vital underpinning elements in the government's modernization programme and is a key to the government target for online service delivery. It will also be facilitating in helping organizations to meet the requirements of the Right to Information Act.

To achieve the goal and to make the department more modern & scientific; to keep the archival records intact for a longer period; and for prompt access and retrieval of information/records by the users, the department is converting all its archival collection into digital/ micro-film format in a phased manner on out-sourcing basis. The department is also uploading the digital records on e-Abhilekh portal from time to time through customized software with a vision to give quick access to the users. Under the project, 4 crore pages of records has to be digitized and microfilmed. The project was inaugurated by the Hon'ble Deputy Chief Minister. Till August 2020, approximately 3.70 crore pages of archival records have been digitised, out of which 2.16 crore pages are available on the e-Abhilekh portal for the users.

2. e-District Implementation Society for e-District Project: -

To eliminate possible corruption and delays in issuance of various certificates at the SDM"s offices a new "e-District" project has been launched for ensuring delivery of certificates/documents to the public through single window system in time bound manner. The entire process of issuing certificate has been computerized. The system for verification, which has been a major source of corruption, will henceforth be carried through E-systems. In order to make these services user friendly, the department in e-district project is giving options to the public to file documents through system only and they will be informed about the status of the application on daily basis, as well as through SMS alert. The Executive Magistrate will issue the certificate through digital signature. Citizens can take authenticated copies of certificates any number of times

3. Implementation of e-Prisons projects (CSS)

CSS scheme "Implementation of E-prisons project" aimed at computerization of the functioning of all prisons in the NCT of Delhi including digitization and availability of prisoner's data in an electronic platform. The objective of this project is to create end-to-end IT solution for automation of prison operations. The Central Govt. will provide financial assistance and technical support to States and UTs for implementation of the project in the form of software application, IT hardware, connectivity, customization etc.

4. Digital payments

The Delhi government has asked all its departments to make electronic payments to suppliers, contractors, and institutions if the order value exceeds Rs 5,000.
The Finance Department of the Delhi government has issued an office memorandum deciding to implement the recent order of the Union Finance Ministry in this regard to promote e-payments.

5. Centre for Health Market Innovations

The Center for Health Market Innovations is coordinated by the Results for Development Institute (R4D) and relies on a broad network of in-country institutions and other partners to collect and disseminate information, conduct analytical work, and form and maintain relationships and networks. The benefits of using CHMI for the healthcare program, academic research, investment strategy, and more.

6. Delhi Skill and Entrepreneurship University (DSEU)

The Delhi Skill and Entrepreneurship University (DSEU) was established in August 2020 by the Government of NCT of Delhi to equip students with world-class skill education to enable access to aspirational jobs and inculcate entrepreneurial mindset and entrepreneurship.

5.2.4 Olympic 2048

Delhi chief minister Arvind Kejriwal on said it is his government's dream to host the 2048 Olympics. The Delhi government will take initiatives and for that all have to come together for it. The national capital will bid to be the host of the Olympics in 2048, adding that a vision has been provided for the same in the Delhi budget. Government of Delhi will take up whatever infrastructure and other necessities that are needed to be created for it. In the 2021-2022 budget of Delhi, the government is more focused on the infrastructure, transport and urban development which clearly emphasize on the goal of Olympic of 2048. The financial data of the focused sector in the following chart –
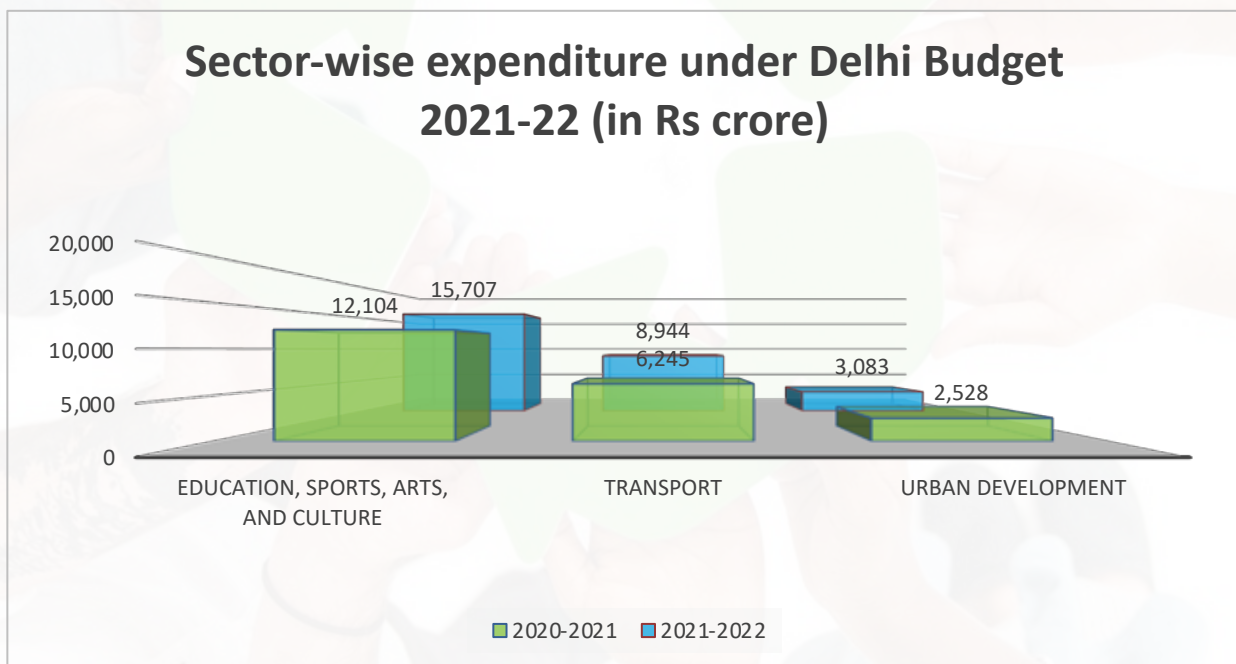

Figure 4 - Sector-wise expenditure under Delhi Budget

Source – The Finance Department Govt. of NCT of Delhi

The new infrastructure can be used to open the cultural, heritage and sports academy at national level to generate the revenue out of it. The mega projects for the Olympic should be designed in a way so that it can use after the Olympic in term of Museum, organizing cultural festival etc. to boost the cultural aspect in the society. Sports infrastructure will also help the Delhi to become the Sports capital of India. The accommodation that can be used as revenue for the government to sell it under affordable housing scheme and as CSR activities by providing subsidy on it.

5.3 Focus Projects

1. SUSTAINABLE DEVELOPMENT

(A) CITY OF LAKES

Once upon a time, Delhi used to have more than 1000 waterbodies and lakes. These waterbodies act as buffer to store floodwater, recharge ground water levels, reduce ambient temperatures and urban heat island effect. Delhi being a landlocked city, these waterbodies also act as natural reservoirs to store excess water during rainfall and prevent the urban flooding scenario.

In addition, Delhi also produces 500 MGD of recycled water which is currently being wasted. This recycled water can be stored in the proposed lakes which can further be used to reduce the deficit of 200 MGD water annually faced by Delhi. Waterbodies also have social and cultural significance for various festivals like the Chat Puja.

Delhi government has launched a dedicated initiative called ''City of lakes'' to rejuvenate water bodies. In the first phase, 250 waterbodies and 15 lakes have been identified. 50 of these would be rejuvenated by December 2021.

Results of completed projects are very promising and have led to an increase of up to 2 meters in groundwater levels. Lake revival also includes the planting of trees and providing appropriate infrastructure. We have seen in Dwarka and Rajokri that these rejuvenated lakes are providing much needed green public spaces for the local communities.

2. SPORTS

(A) KHELO DILLI

With a vision to host the Olympics in 2048, the Delhi Government has endeavoured to develop world-class sports facilities across the city and create a conducive ecosystem for sports to flourish. As part of this vision, the government has also set up a Sports university to train and prepare outstanding sportspersons who will represent the country at the international level.

The culture of sports and fitness has to be cultivated at a young age. Several developmental studies also talk about the importance of sports for the all-around development of children. Traditionally, Government schools have lacked the necessary infrastructure required to train world-class athletes. Delhi Government has for the past several years been investing in upgrading the sports infrastructure. However, many of the schools, despite having adequate space, still do not have well-developed playgrounds. The provision of well-equipped and levelled playgrounds is a basic and immediate necessity to enable athletes from Delhi to win medals at the national and international level.

In collaboration with Delhi@2047 the Delhi Government is planning to develop world-class playgrounds across several Delhi Government Schools. Playgrounds so envisioned will be equipped with innovative play areas and interactive units that allow students to engage in group activities and will facilitate peer-to-peer learning.

The development of innovative sports facilities and playgrounds in schools will create a consistent stream of motivated and enthused athletes who will move from Delhi Government schools to Delhi University and then eventually represent the country at the international level.

EDUCATION SECTOR

(A) BRIDGING THE DIGITAL DIVIDE

The 'Digital Divide' in Education caused by COVID-19 is an issue that has been overshadowed by the human devastation that has been witnessed. However, it is a potential catastrophe that could leave an entire generation of children (particularly those from economically vulnerable communities) with insurmountable learning gaps and stunted emotional growth.

Ensuring equitable access to digital devices and the internet is the only realistic solution that can help alleviate this injustice. All students from Grade 9-12 must be provided laptops/tablets with a preloaded 4G SIM Card so that they may benefit from the abundance of high-quality online content and stay connected to their teachers and peers even if schools remain closed for the foreseeable future.
In collaboration with Delhi@2047 partners, the Delhi Government is planning to provide tablets (with 10' screens & a wireless keyboard) to all students in Grades 10 & 12 (approximately 400,000 in number). These grades have been specifically chosen as they have to necessarily appear for the CBSE board examinations at the end of the year and therefore a good quality device that is exclusively available to them is necessary for their preparation.

To supplement this, the Department of Education is providing high-quality academic online content; sourced from renowned partners such as Khan Academy or created in-house by our teachers in our state-of-the-art studio. Teachers will be conducting their classes via Google Classroom to ensure that students are able to understand the lessons in these online modules. Additionally, all grades will also be receiving regular academic exercises and worksheets via a semi-online medium such as Whatsapp.

A permanent move towards the blended mode of learning will be a certainty in the post-COVID world. In such a scenario, the collaboration with Delhi@2047 partners will empower students from Delhi Government schools to continue learning in the same manner as their peers in private schools and develop the necessary skills to be competitive in a world where the lines between online and offline have been blurred.

(B) PROVIDING NURTURING ENVIRONMENT FOR CHILDREN HOMES

Children homes are established by the State Government for children in need of care and protection. This can be during the pendency of an inquiry and subsequently for their care, treatment, education, training, development and rehabilitation. Children residing in these homes have usually faced extreme tragedies at an early stage of their lives. They may have witnessed parental death, parental incarceration, abandonment, physical or/ and emotional violence, sexual abuse, and/ or substance use. It is critical to develop an inclusive ecosystem focusing both on their emotional health as well as education.

Accessing online education has particularly been a serious challenge for these children. The past eighteen months have been especially more challenging due to COVID. The learning needs of these children have suffered due to the closure of physical schools.

The past few months have made it clear that going forward all educational institutions would need to have a hybrid mode of education. Keeping this in mind, the digital infrastructure of these homes needs to be upgraded.

Through the collaboration with Delhi@2047, new computer labs would be set up in Children Homes. The Delhi government has already developed very high-quality education content for online learning. Children would have access to this content along with other remedial classes.

This would serve the needs of nearly 1000 children currently residing in Children Homes, who will be able to access their online classes and explore the digital world with much greater ease.

4. HEALTH SECTOR

(A) DELHI CARES

The past year has been very tough due to COVID especially for children. All school-going children have been cooped up in their homes and several have lost loved ones. Lack of psycho-social support, particularly in the second wave of the COVID-19 pandemic, has left many children isolated in their homes, which may result in mental health issues including anxiety, depression, among others. There are several children who have been orphaned as a result of losing both their parents, Delhi Government is documenting all such cases and providing the required support. Even these kids need long term mental health support.

Children can benefit immensely from consistent psycho-social support, through trained professionals addressing their concerns and assisting them to work through it. This would create a safe space for all children and help them better cope with the challenges of the pandemic.

DCPCR (Delhi Commission for Protection of Child Rights) has initiated a mental health initiative that was launched in June 2020 for school students who have been impacted by COVID-19 and are under mental stress. This was done in collaboration with Sangath (NGO) in order to provide them with the requisite professional counselling support. Sangath maps each case of mental distress in children to their counsellors who then provide tele-counselling support to these students. The results of this initiative have been very promising and need to be scaled up. We would like to set up a mental health support unit with a required number of counsellors, therapists and other experts where children can reach out for psycho-social support.

(B) REHABILITATION OF CHILDREN VULNERABLE TO SUBSTANCE ABUSE

Every year thousands of children run away from their homes due to abuse, violence, and neglect. Sometimes forced labour and grinding poverty also force these children to come to urban areas like Delhi, hoping for a better life. However, these innocent children are oblivious to the risks and vulnerabilities of crowded urban spaces which may range from sexual abuse, economic exploitation, violence, or drug abuse. Several studies have found that substance abuse is disproportionately higher among street children. This includes tobacco, alcohol, inhalants, cannabis, heroin, opium. Delhi Government has been constantly working to rehabilitate children through prevention, care and support. Many awareness programs have been launched by the government among school children. Delhi Government also operates 11 de-addiction centers.

However, regular deaddiction - programs that require institutional care have their limitations. Delhi Government would like to pilot a community-based program targeted at prevention-treatment-rehabilitation for children living in the Yamuna Pushta area. A community-based approach is needed as most of these children are without adult supervision. The project will work on the issue of substance abuse and at the same time also provide long-term rehabilitation for these children.

(C) SCHOOL CLINICS IN GOVERNMENT SCHOOLS

Children studying in schools often require first-aid or emergency help as they may get injured during sports and other activities. Besides this, we also notice that there is no culture of screening children for deficiencies both physical and cognitive. Screening children at an early stage can help with the diagnosis and organizing the required support.

Children in Delhi Government schools come from a stratum of society where the parents may not have the resources to take them to the doctors for regular check-ups. Several studies have exhibited a positive correlation between the health of children and learning outcomes. Following the philosophy of Mohalla Clinic, Delhi Government would like to set up School Clinics in all Government Schools. These clinics will have well-qualified medical staff including mental health professionals. They will conduct regular screening of children for vision, hearing, vitamin deficiencies, dental issues, learning disabilities and provide early intervention.

Delhi Government in cooperation with Delhi@2047 is looking to partner for the Module Development, tools for performance indication, digital infrastructure and other aspects of the school clinics.

5. WOMEN EMPOWERMENT

COVID has impacted livelihoods of millions in India. The impact is even greater among the skilled/semi-skilled workers, women being the worst hit. According to a McKinsey report women's jobs are 1.8 times more vulnerable in times of crisis. Our surveys in Delhi have also shown that a larger number of women have lost their livelihoods as compared to men. This has tremendously increased the vulnerability of poor women.

In the light of this crisis, Delhi Government has embarked on a skilling programme for women. 'Saheli Samanvay Kendras" (SSKs) which will be housed in Anganwadi Centres.

Delhi has around 10,700 Anganwadis spread all over the city. Mothers from the local community come to Anganwadis with their children for the ICDS program. 500 of these Anganwadis will work as skilling centres. Women from the local communities would be encouraged to enroll in skill development programs. These programs would be designed in partnership with private sector organizations. The idea is to provide the right kind of skills that would enable them to get better employment opportunities. We are cognizant of the fact that there have been several skilling initiatives by various governments with limited outcomes. Therefore, the design of this program would only be finalized by involving the best experts in this area. We are also looking to partner with large employers and take their inputs while designing these programs.

In order to support women's participation in the training programs and beyond, these centers would also have the day care facilities for young children.

5.4 Fostering Partnership, Private Sector Investments and Stakeholder Consultations

1. Upgradation of Industrial training Institutes (ITIs) under Public Private Partnership (PPP)- The programme for upgradation of Industrial training Institutes (ITIs) to create a Public Private Partnership in order to keep pace with the technological demands of the industry and produce manpower of world standard. Accordingly, DGE&T has formulated a scheme to upgrade the ITIs into **"Centre of Excellence"**. Following schemes under Public Private Partnership formulated by DGE&T from time to time has been implemented successfully by the Department of Training & Technical Education, Government of NCT of Delhi:

A.   In the first phase, the Department has set up a Centre of Excellence in the **"Automobile Sector"** in collaboration with **Maruti Udyog Limited at ITI Pusa** under Domestic Funding.

B.   In the second phase, three Centre of Excellence have been set up under Vocational Training Improvement Project (VTIP) Scheme with World Bank Assistance in the following ITIs: -

*   At ITI Arab-Ki-Sarai, Nizamuddin in **"Production & Manufacturing Sector"** with **Hindustan Machine Tools (HMT) Limited**

*   At Sir C. V. Raman ITI, Dheerpur in **"Electrical Sector"** with **North Delhi Power Limited (NDPL)**

*   At ITI jail Road, Tilak Nagar in **"Information Technology Sector"** with **Educomp IT Solution Limited**

2. National Capital Region Transport Corporation (NCRTC)

A joint venture company of Govt of India and States of Delhi, Haryana, Rajasthan, and U.P, under the administrative control of Ministry of Housing and Urban Affairs, is mandated for implementing the Regional Rapid Transit System (RRTS) project across the NCR of India, ensuring a balanced and sustainable urban development through better connectivity and access.

Way Forward

Since Agenda 2030 came into effect in 2016, India has adopted a variety of institutional, policy-level, programme-oriented, and monitoring initiatives to drive the SDGs at the national and local levels. As a result of these focused efforts, assignment of responsibility and leadership, and review mechanisms have been set up at various levels. The National Development Agenda has been designed in alignment with the SDGs, priority areas and enablers have been identified and outcome-based actions have been undertaken, and monitoring systems and tools have been set up at the national level which are vigorously pursued at the local level.

Cities are the engines of growth and indicators of progress. Besides, they have widespread implications on environment and human society. There is large scale incidence of urban poverty and slums in cities of developing countries. This has resulted in mismatch between infrastructure, resources and population, leading to degraded and unsustainable urban environments. The unprecedented urban growth is also referred as pseudo-urbanization for the reason that this growth is exceptionally unbalanced. The footprints of urbanization, concretization and land use conversion are visible in the form of urban heat island (UHI) formation that poses threat to human health and wellbeing.

The realisation of the 2030 Agenda calls for state-of-the-art reporting and monitoring tools to measure progress under a framework and enable course-

correction. Twentieth century approach and solutions cannot effectively address twenty-first century challenges. As SDGs is a time-bound framework, periodic monitoring of progress, covering all aspects of the nationally adopted SDG framework is critical. Delhi, in order to attain its vision for Master Plan Delhi @ 2041, needs to focus on creating an enabling environment and an integrated plan to realise its vision of **"Sustainable, Livable, and Vibrant Delhi"** by 2041.

There is wide array of problems faced by NCT Delhi. Therefore, there is need for creating efficient sustainable plans to overcome the challenges. The extent to which its economy will "grow green" will depend on its ability to reduce the quantity of resources required over time to support economic growth that leads to enhancement of social equity and job creation. Green growth could play an important role in balancing these priorities

Therefore, as Delhi accelerates its development journey towards a more sustainable future, the challenge before it is to provide improved quality of life to their citizens within the ecological space and constraints. **NAL proposes the following key solutions to propel the vision for "Green Growth" highlighted above:**

- The industries should be relocated to the periphery and need widespread implementation.

- Further, green buildings and eco-roofs along with wall gardens need to be promoted.

- The improvements in living conditions like improved transportation, sanitation, clean drinking water, improved sewage and solid waste management and well-managed infrastructure lead to preventive measures. These preventive measures are also proposed under Jawaharlal Nehru National Renewal Mission.

- In addition, super specialty government aided hospitals that provide treatment at low cost need to be established in every town for better coverage.

- Introduce State Funded Programmes such as the Grand Challenges for Development of the United States Agency for International Development (including initiatives such as Scaling Off-Grid Energy, Securing Water for Food and All Children Reading) and the seven-year Horizon 2020 research programme of the European Union. Such programmes support innovators, largely through calls for international research collaboration to solve challenges in sectors such as health, energy, water, food, education and governance and accountability.

- Education initiatives that cater to children who are unsuccessful in mainstream institutions.

- Models of finance that provide credit to people not included in mainstream banking systems.

- Encourage participation from people at grass root level. Examples include community-based renewable energy initiatives, low-cost and low impact self-build housing, developments, home-based nurse training schemes, farmers' markets and open-source energy monitors.

To maintain the resources for use of future generations, **strict policy and planning implementation is required.** The 3R's- reuse, recycle, reduce **need to be asserted and reflected in all policy plans**.

- Corporate social responsibility should be integral service condition.

- Plastic should be banned with the provision of availability of low cost substitutes of plastic.

- The general public should be involved in urban sustainable development. This can be done by asking youth and children to list the problems with solutions. The behavioral changes and a sense of belonging to the city need to be inculcated.

- Public transportation shall be made more affordable, efficient and safe. Car pooling and training of drivers on air pollution and fuel use may be promoted. Besides this, strict policy control measures like polluters pay and firm inspection of vehicles and industries needs stringent implementation.

- It is important to abolish the burning of garbage and biomass and focus on less-polluting better ventilated kitchens. The indigenous pollutant tolerant tree species like Mangifera indica (Mango), Ficus religiosa (Peepal), Azadirachta indica (Neem), Vachellia nilotica (Babool) etc. should be planted. This will help maintain green cover, control pollution and also lead to health, happiness, wellbeing and sustainable city.

6.2 Post Covid Revival Strategy

Delhi confirmed over 1.4 million cases of the coronavirus (COVID-19) as of October 25, 2021, with over 25 thousand fatalities and over one million recoveries. The pandemic affected millions of people in Delhi region. Thousands of migrant workers were stranded in the city due to the sudden nation-wide lockdown. Hunger and Joblessness were the most pertinent issue in the national capital. Pre-pandemic, Air Pollution was the major focus areas for Delhi area. However, after the breakout of the coronavirus disease, the current challenges and scars left by the virus on the economy needs to be considered as well. The need to the hour is to rethink about the future development in Delhi keeping in mind the post-Covid norms and the emerging situation. The state will have to take into account post-Covid social norms in public spaces, mobility, workplaces and housing while laying out guidelines for city planning.

Housing, commercial spaces, environment, transport or mobility, disaster management, including pandemics, are some of key areas that need to be re-examined in view of the new challenges posed by the Covid pandemic.

NAL proposes the following key interventions to foster green growth and development in Delhi post the Covid-19 Pandemic:

Mainstreaming in decision-making processes: Climate-resilient green growth strategies need to be looked at as a cross-cutting issue that requires policy coherence and interdepartmental coordination. For further mainstreaming of environmental sustainability in decision-making processes, the government can adopt green budgeting for India wherein all departments can prepare environmental budget statements highlighting key 'green' activities undertaken in their respective departments.

Addressing data gaps: Collection and analysis of both existing and new data, is needed to facilitate preparation of strategies as well as evaluation of existing policy initiatives. Data for other parameters can be collected using existing management information systems.

Mobilizing finance: Financing is critical to the implementation of climate-resilient green growth interventions. In addition to public finance, private sector, banking institutions, and development agencies also becomes important.

Capacity building: Enhancing financial, technical, and institutional capacities of government as well as the voluntary sector is essential for the implementation of climate-resilient green growth strategies. A detailed assessment of Capacity building approach, needs sector by sector interpretation. A greater engagement between government, research and academia, nonprofit organizations, and the private sector is needed to support implementation.

Benchmarking Health Infrastructure: Apart from making disaster management strategies for Flood and Earthquake, we need to make the city pandemic resilient so that we are not nab in such situation in the future. There are dispensaries and then tertiary care centres. There is a need to integrate secondary level of health care facilities that can take the load off tertiary centres. The uneven distribution of Hospitals in the Delhi region needs to be addressed on priority basis.

Transit Oriented Development: Transit Oriented Development is the exciting fast growing trend in creating vibrant, livable, sustainable communities. It is otherwise known as TOD, it's the creation of compact, walkable, pedestrian-oriented, mixed-use communities centered around high quality train systems. This makes it possible to live a lower-stress life without complete dependence on a car for mobility and survival. Transit oriented development is also a major solution to the serious and growing problems of climate change and global energy security by creating dense, walkable communities that greatly reduce the need for driving and energy consumption. This type of living arrangement can reduce driving by up to 85%.

Understanding emerging issues: There is a need to better understand and plan for impending socio-economic transitions, such as urbanization and changes in the structure of the economy (such as increase in manufacturing). Skill development and vocational education need priority action to create opportunities in key green growth related sectors, especially RE, buildings, and industry.

The impact of pandemics on economy and livelihood has become more evident now. Healthcare infrastructure has to be integrated with city planning for better and effective management during pandemics. There is a need to have dedicated setup for outbreak management centres in cities which in normal times can work as regular hospitals.

More new viruses and outbreaks are likely to appear as urbanization and deforestation bring humans and animals into closer contact. There are steps that can be taken to reduce the risks of future pandemics, mainly involving the reduction of human interaction with wildlife. Hence, there is an urgent need to promote sustainability in our development prospect going forward.

While the Sustainable Development Goals are universal, specific priorities are set at regional, national and local levels through a combination of technical and democratic processes Coordinating efforts across the Goals and recognizing the interactions between them are a key challenge. . Rather than agenda-setting in sectoral isolation, this requires interaction across nexus issues such as energy, agriculture and water (Stirling, 2015), a diversity of innovation options and policy mixes to foster multiple outcomes.

About ASSOCHAM

ASSOCHAM initiated its endeavour of value creation for Indian industry in 1920. Having in its fold more than 250 Chambers and Trade Associations, and serving more than 4,50,000 members from all over India. It has witnessed upswings as well as upheavals of Indian Economy, and contributed significantly by playing a catalytic role in shaping up the Trade, Commerce and Industrial environment of the country.

Our legacy has helped build a strong foundation for future endeavors wherein we serve as the Knowledge Chamber for the industry and become the conduit between them and the Government to foster development of a New India. Seen as a proactive and forward looking institution, ASSOCHAM is fully equipped to meet the aspirations of Corporate India in the new world of business. ASSOCHAM has emerged as the fountainhead of Knowledge for Indian industry, which is all set to redefine the dynamics of growth and development in the technology driven cyber age of 'Knowledge Based Economy'. We aim to empower Indian enterprise by inculcating knowledge that will be the catalyst of growth in the technology-driven global market and helps them upscale, align and emerge as formidable player in respective business segments.

Aligned with the vision of creating a New India, ASSOCHAM works as a conduit between the industry and the Government. ASSOCHAM is seen as a forceful, proactive, forward looking institution equipping itself to meet the aspirations of corporate India in the new world of business. ASSOCHAM is working towards creating a conducive environment of India business to compete globally.

As a representative of Corporate India, ASSOCHAM articulates the genuine, legitimate needs and interests of its members. Its mission is to impact the policy and legislative environment so as to foster balanced economic, industrial and social development. ASSOCHAM derives its strength from its Promoter Chambers and other Industry/Regional Chambers/Associations spread all over the country.

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