Conquer Mains Challenge - Day 8

GS 1

Urbanization in India:

Flow of Thoughts:

- Trends- Increased migration, reasons for this trend, inter- region migration, intra-region migration and gender- wise migration.
- Challenges- for migrants, on Urban Local bodies, on policymakers, on resources and on dependants.
- Urban Development policies- challenges, present policies, corrections needed and the need for reforms.
- Challenges faced by ULBs and the need for financial autonomy.
- Role of Smart Cities Mission AMRUT Mission.
- Examples from other countries.

Why in News?

The 2018 Revision of World Urbanization Prospects, released by the UN Department of Economic and Social Affairs, projects India's urban population to rise to 52.8 million in 2050.

Highlights of the Report:

- Future increases in the size of the world's urban population are expected *to be highly concentrated in few countries*.

· *Together, India, China and Nigeria will account for 35% of the projected growth* of the world's urban population between 2018 and 2050.

- By 2028, Delhi would surpass Tokyo *as World's most populous region*.

Fast Facts: Urbanization Scenario in India:

According to Census 2011:

- Total Urban Population: 377 million.
- Level of Urbanization/ Percentage of Urban Population: 31.1%
- Rate of growth of urban population: 2.76% per annum during 2001-2011.
- Most Urbanized state: Goa (62%), Mizoram, Tamil Nadu. Delhi (97.5%) most urbanized among the UTs.
- Least Urbanized state: Himachal Pradesh (10%) followed by Bihar, Assam and Odhisa.
- Number of urban agglomerations/towns: 5161.

Nature of urbanization in India:

- Substantial increase in urban population due to *rural-to-urban migration*.
- *Distorted urbanization:* Urbanisation has been directed towards large cities; there has been an increasing concentration of population in million plus cities.
- On the contrary the concentration of population in medium and small towns either fluctuated or declined. This has resulted in *top-heavy structure of urban development in India*.

Wide variation in levels of urbanization across Indian states:

Levels of urbanisation in the states with high per capita income are generally high, the opposite being the case in less urbanised states.

What is Hidden Urbanization?

- According to a 2015 World Bank report, the urban sprawl accounts for 55.3% of the country's total population and that official census figures understate it as only 31%- 'Hidden Population'.
- This discrepancy is due to the fact that in major cities like Delhi, Mumbai, Hyderabad and Kolkata, population growth has been largest outside the fringes of the official administrative boundaries.

- These areas have urban characteristics but do not fulfil the criteria to be designated as urban

Issues and Challenges w.r.t Urbanization:

The built environment: the supply of both land and infrastructure is falling behind demand.

- *Out of date and static master plans* immobilize the supply of serviced land and buildable space, blocking efficient and productive development. While important laws have been revoked to remove land restrictions and rent controls, many of the legal instruments to operationalize those reforms are still lacking.
- *Inappropriate FSI, zoning and development control regulations* inhibit development and trunk infrastructure.
- *Fractured planning structures* are incapable of integrated planning for land use, infrastructure planning, and finance across metropolitan areas.
- *The legal, regulatory and institutional basis for land management is generally lacking*, hindering the capacity of the private sector to be competitive and the ability of the public sector to use land based financial instruments to finance infrastructure investments.
- *Urban services, including water & wastewater, and solid waste, do not reach many residents*, and those they do serve receive sporadic, unreliable services. And, in the case of non-notified slums, service providers are prohibited from serving residents.
- *Public transport services provide inadequate services*, and non-motorized transit for pedestrians, bicycles, and handcarts is limited, forcing this traffic to compete with cars, trucks and motorcycles for space on the streets.
- *The proliferation of slums* is largely the result of failures in land markets and regulations, compounded by limited access to housing finance.
- *Rigid master plans and restrictive zoning regulations* limit the land available for building, constricting cities' abilities to grow in accordance with changing needs.

Weak and unpredictable financing frameworks limit the ability of ULBs to manage their resources effectively.

- *Overlapping institutions* across three tiers of government diffuse accountability across agencies, parastatal bodies and elected governments. This situation undermines India's robust democracy, clouds issues of responsibility, and blocks the development of coherent regulatory frameworks and sustainable service delivery models.
- *Dominance of state governments:* India's states are often on the scale of countries. These state governments cannot effectively provide service or good

governance at the local level. Even India's mega-cities do not have control over their own policies, planning, finances, assets, or institutions.

- *ULBs and local service entities* have neither clear responsibility nor the fiscal and operational autonomy to deliver adequate urban services.
- *Weakness of local governments:* ULBs lack capacity, i.e. systems and trained human resources in areas such as financial and organizational management; land use and infrastructure planning; asset management; and project identification, design and management.

Urban poverty:

- With increasing urban population the urban poverty has also become widespread.
- As the India Urban Poverty Report, 2009 suggests, there is *"urbanization of poverty"* with the ratio of urban poverty in some of the larger states being higher than that of rural poverty
- High urban unemployment.

Growth of slums:

- According to 2001 Census, the total slum population is 42.6 million representing 15% of the total urban population in the country and 23.1% of the population of cities and towns reporting slums.
- 38% of the total slum population reside in the million plus cities.
- The main reasons for slum proliferation is uncontrolled, unplanned and non inclusive pattern of urbanization.
- Inappropriate planning has led to high costs of housing and office space.
- Critical infrastructure shortages and major service deficiencies: erratic power and water supply, poor solid waste management system, poor sewerage system.
- Inadequate transport systems: Poor investment in transport sector has led to unsustainable levels of private vehicle use.
- Deteriorating environment: Example: According to the recently released data by World Health Organization, 14 Indian states are among Top 20 worldwide with worst air quality profiles.
- Poor urban governance.

Why is urban governance poor in India?

- Lack of financial and administrative autonomy.
- Lack of funds.
- Lack of accountability and transparency.

- Lack of coordination between different agencies (such as water, transport).
- Lack of consistent urban development policy, improper urban planning and poor implementation of projects.

Policy issues:

Between 1978 and 2018, China's urbanisation rate jumped up from 18% to 58%. In the process, over 500 million people were lifted out of poverty and the country attained middle-income status. India's present level of urbanisation (34%) is far lower than China (58%) or even Indonesia (55%). Naturally, there is huge scope for growth.

1.Shadow urbanisation:

In public perception, rapid urbanisation is associated with large-scale migration of the rural masses to the cities. But the Indian reality is rather different, and migration accounted for just about 20% of urban growth over the past two census decades. ***Much growth is happening in the shadows***, through in situ processes, and without any significant movement of people.

Between 2001 and 2011, the number of 'census towns', had jumped from 1,362 to 3,894 and account for 32% decadal urbanisation rate. These are essentially big villages, which had crossed the Census criteria to define what is 'urban' in terms of population size, density and occupational structure of the people – but are yet to be reclassified by the state governments

2. Rural-urban disconnect:

It is important to recognise spatial structures and settlement hierarchies, which link rural and urban areas through flows of people, products, money and knowledge.

3.Strengthening supply-chain linkages:

Mandi towns, such as Sri Ganganagar (flour and mustard oil mills) or Machlipatnam (fishing), are the nodal points of the rural economy. These are the places which provide market access to the farmers for their agricultural produce, where tractors are sold and serviced, where cooperative banks, credit societies, colleges and clinics are located.between these mandi towns, their rural hinterlands and bigger market towns can stimulate growth at the grassroots and ought to be part of any local economic strategy Integrated Development of Small and Medium Towns (IDSMT) – India's first major urban initiative launched during the socialist seventies attempted just that –

albeit with a minuscule budget.

4.The 74th amendment envisaged establishment of District Planning Committees, to coordinate urban and rural plans. Many states had constituted such committees, but barring Kerala, integrated planning had remained a non-starter.

5.Urbanisation beyond urban boundaries:

Outer peripheries of big cities are growing faster than inner cities. Areas once considered distant suburbs, such as Whitefields and Electronic City of Bangalore, and Gurgaon and Noida in the NCR, have now become hotspots of the globalised economy.

6.A fragmented landscape is emerging at the outer edge of the cities – where the lives of the globally mobile software elites, locally rooted farmers and the uprooted construction labourers daily intersect. Intelligent business parks, smart residential condominiums and luxury hotels are sprouting up on fields which produced crops till just the other day. Speculative real estate investment is rapidly expanding its concrete footprint, engulfing peri-urban lands and lakes.

Need for Centre-state coordination:

Two takeaways emerge from the issues discussed above in the context of the National Urban Policy.

- First, *planning should be done at a regional scale* and not constrained by administrative boundaries to effectively address bigger issues, such as rural-urban linkages or mobility in mega agglomerations. Apart from strengthening existing institutional mechanisms for regional planning such as District Planning Committee and Metropolitan Planning Committees, we also need to have state and national level spatial planning framework.
- Second, *state governments need to be taken on board*. Urban development is a state subject under the constitution. The role of the Central government is primarily direction-setting. Therefore, for effective implementation of the urbanisation roadmap, the Centre should take the lead to sensitise states and encourage them to frame their own urban policies. The state policies – informed by their specific demographic and economic contexts – could then be plugged into the overarching national framework.

Sadly, however, at the present juncture, **there is not much evidence of Centre-state collaboration** on taking forward the development agenda.

What needs to be done?

- *Create employment in rural areas:* Diversification of rural agrarian economy to reduce distressed migration. In this case, the MGNREGA has played a vital role in reducing rural-urban migration.
- *Development of infrastructural facilities in rural areas:* Focus on PURA (Provision of Urban Amenities in Rural Area), Shyama Prasad Mookherji RURBAN Mission.
- *Modern framework for spatial planning of cities* and standardized designs for public utilities.
- *Inclusive urbanization:* There should be focus on the needs of the urban poor and other vulnerable groups for housing, education, health care, decent work and a safe environment.
- *Environmentally Sustainable urbanization:* Successful management of urban growth, integration of green spaces, wetlands, proper waste management.
- *Proper transport planning;* Investment in public transport sector.
- *Ensuring better infrastructural facilities-* water, sewage power
- *Proper implementation of major urban government policies* like AMRUT, JNNURM, Housing for All by 2022, Smarts City Mission, National Urban Livelihood Mission.
- *Ensuring Good urban Governance* by:
    - Fiscal decentralization and flow of adequate funds; proper regulation of municipal bonds.
    - Empowerment of municipal corporations and municipal councils.
    - transparency and accountability.
    - Citizen participation.

GS 2

Women in Politics:

- Facts and figures- their participation in India and across the world.
- Need for political participation of women.
- Challenges.
- Government initiatives, both by Centre and states, in this regard.
- Constitutional provisions and statutory provisions in this regard.

- Other reforms necessary for the overall empowerment of women.

Why in News?

In India, women suffer substantially greater socio-economic disadvantages than Western democracies.

B.R. Ambedkar once said that **"political power is the key to all social progress"**. However, women have been deprived of this power.

Status of women representation:

- The proportion of women in the Lok Sabha has seen only a paltry increase since independence—from 4.5% in the first Lok Sabha to the current 12% in the 16th Lok Sabha.
- The 73rd and 74th amendments to the Constitution in 1993 made it mandatory to earmark 33% of all positions in Panchayati raj institutions for women.

Constitutional provisions for women in Political Participation:

The **Constitution of India guaranteed justice-social, economic and political, liberty of thought, and equality to all citizens**. Constitution provided for equality of women and called State to take measures to neutralize the socio-economic, educational and political disadvantage faced by women.

Article 14: It guarantees equality before law and equal protection of law with in the territory of India.

Article 15: It prohibits discrimination on the basis of religion, race, caste, sex, place of birth. According to article 15(3), State can make special provisions for the benefit women and children.

Article 16: Equality of opportunity for all citizens in matter relating to employment. No citizen can be denied employment on grounds of religion, race, cast, sex, decent, place of birth residence or any of them.

Article 39: Article 39(a) provides for an adequate means of livelihood for all citizen. Article 39 (b) has provisions for equal pay for equal work for both men and women. Article 39 (c) has provisions for securing the health and strength of workers, men and

women, and not to abuse the tender age of children.

Article 42: It guarantees just and humane condition of work and maternity relief. Article 42 is in accordance with Article 23 and 25 of Universal Declaration of Human Rights.

Article 325 and 326: They guarantee political equality, equal right to participate in political activity and right to vote, respectively.

Article 243 (D): It provides for the political reservation to women in every panchayat elections. It has extended this reservation to elected office as well.

What limits women representation?

- Political parties in India tend *not to follow provisions in their constitutions reserving seats for women* in different committees.
- The second barrier is *the lack of education and leadership training*.
- Additionally, since women are *not integrated in any local political process* initially, and, unlike men, are not part of the relevant social and power networks, women leaders are prone to inefficiencies.

Why participation of women in politics is important?

- A *concentration of political power tends to lead to extractive economic institutions.Inclusive economic institutions and growth*—both necessary for and dependent on social empowerment—require inclusive political institutions.
- *Observing a member of their own group in charge of a public office changes attitudes and infuses confidence in the minority group*. This may be referred to as the reporting channel.
- *It leads to an increase in the responsiveness of the official towards the pleas of disadvantaged groups*. This is termed as the recording effect.

Political participation of Women in other countries:

At the global level also, only a few countries have equal participation of women in par with men in politics. In countries like Germany, Sweden, Norway, Denmark and Finland, women's participation in the decision-making process is substantial.

Sweden with 47% female participation has almost equal participation of women in Parliament followed by Cuba and Iceland.

Women's presence in parliament is highest in Nordic countries (42.5%),

followed by America (22%), Europe (19.5%), Asia (18%), Sub-Saharan Africa (18%), the Pacific (15%) and lastly in Arab states (9.4%).

Way ahead:

Socio-economic disadvantages lead to **reduced opportunities for women** to participate in the political process, leading to a weakened representation. There is a pressing **need for education and leadership training to familiarize** them with the local government functioning and instill in them a sense of agency.

GS 3

Digitization:

- What is Digitization? Significance of Digitization.
- Usefulness of digitization for- people, governments, economy, health and disaster management.
- Government policy initiatives, Digital India- growth and challenges.

What is Digitization?

Digitizationis **the process of converting information into a digital (i.e. computer-readable) format**, in which the information is organized into bits.

Why is Digitization significant?

Digitization is of crucial importance to **data processing, storage and transmission**, because it "allows information of all kinds in all formats to be carried with the same efficiency and also intermingled".

How is it different from analog data?

Unlike analog data, which typically suffers some loss of quality each time it is copied or transmitted, digital data can, in theory, be propagated indefinitely with absolutely no degradation. This is why it is a favored way of preserving information for many organisations around the world.

Usefulness of Digitization:

Digitalization involves exploring business models and platforms using digital technologies, devices or techniques to yield several benefits in various aspects of life. Digital solutions can simplify a country's security and intelligence systems, and its economy and infrastructure, to name a few.

For citizens, digitalization promises much needed improvement both in the delivery of public services, such as Government/Bank issued certificates, and other services, financial or otherwise. Digital solutions and services can facilitate trades and settlement between different countries, as well as defend against malpractices such as embezzlement and money laundering.

The impact of instant money availability for individual/corporate for activities /workflows cutting across multiple departments in varied spheres will help in assessing cash flow and utilization of funds efficiently.

For business customers, any improvement in the efficiency of liquidity and cash flow management would make a positive impact on their overall working capital lifecycle and profits.

The checks and balances instituted by Government or regulatory departments can be streamlined using a digital platform, which would also enable the concerned authorities to issue approvals online.

Digitalization of banking services would also open up avenues for other sectors to leverage digital solutions. Banking has always led from the front in terms of providing new services using technology . The current revolutionary practice of integrating banking and telecom can be extended to other fields thereby providing exemplary customer experience.

The Digital India programme:

- It is a flagship programme of the Government of India with a vision to transform India into a digitally empowered society and knowledge economy.
- Digital India is a dream to ensure that government services are made available for all citizens electronically by improving online infrastructure and by increasing the effectiveness of Internet connectivity with one mission and one target that is to take nation forward digitally and economically.
- This initiative was taken to ensure that the citizens are getting engaged in the innovation process which is necessary for the economic growth and sustainable development of the country.

Reforms necessary:

Data protection laws to be act as Firewall for personal and Privacy issues-Seven key principles:

Justice B.N. Srikrishna Committee suggest that the seven key principles should guide the data protection framework in the country.

- *Technology agnostic:* The data protection law must take into account the continuous change in technology and standards of compliance.
- *Holistic application:* The law must cover both the private sector and the government sector, maybe with different obligations though.
- *Informed consent:* The consent should be not just consent but "informed and meaningful".
- *Data minimisation:* The data collected or being processed should be minimal — only that data which is necessary for the purpose for which it is being sought.
- *Controller accountability:* The committee is clear on fixing accountability of data controllers. It says, "The data controller should be held accountable for any processing of data, whether by itself or entities with whom it may have shared the data for processing."
- *Structured enforcement:* The committee proposes to set up "a high-powered statutory authority", which "must co-exist with appropriately decentralised

enforcement mechanisms."

- *Deterrent penalties:* It proposes for "adequate" penalties for "wrongful processing" to ensure deterrence.

Conclusion:

Digitalization is gradually enabling the transformation of unorganized sectors in many parts of the globe; this is slowly generating a regular income stream for the people working in these sectors. With more and more services getting chained through digitalization, many sectors are witnessing consistent development. Take agriculture for instance, where digital platforms are connecting buyer and seller directly, eliminating the middleman.

In order to realize the full potential of this programme, it is necessary to address certain challenges in the way of its successful implementation like digital illiteracy, poor infrastructure, low internet speed, lack of coordination among various departments, issue pertaining to taxation etc.

If implemented properly, it will open various new opportunities for the citizens of the country and therefore it requires a lot of efforts and dedication from all departments of government as well as private sector considering the current status of the programme.

Artificial Intelligence:

Flow of Thoughts:

- What is AI?
- Significance of AI for India and for the world.
- Challenges posed by AI.
- Concerns about AI.
- NITI Aayog observations on AI.
- How can AI be utilized in judiciously for the overall development of a country.

What is Artificial Intelligence?

Artificial Intelligence pursues creating the computers as intelligent as humans. Artificial Intelligence is *a way of making a computer or a software think intelligently, in the similar manner the intelligent humans think*.

AI is associated with *superlative memory, calculative power, decision-making capacity, high speeds of action*.

Applications of AI:

- *AI plays crucial role in strategic games* and it is being used in games such as chess, poker where machine can think of large number of possible positions based on empirical knowledge.
- *It is possible to interact with the computer that understands natural language* spoken by humans. E.g. Sophia is an AI based social humanoid robot.
- *AI is being used by Doctors* as clinical expert system to diagnose the patient.
- *AI based Robots are able to perform the tasks given by a human.* They have sensors to detect physical data from the real world such as light, heat, temperature and movement etc. They are capable of learning from their mistakes and they can adapt to the new environment.

Here are four issues that need Artificial Intelligence companies need to address as the technology evolves and invades even more domains:

Jobs: Automation has been eating away at manufacturing jobs for decades. Huge leaps in AI have accelerated this process dramatically and propagated it to other domains previously imagined to remain indefinitely in the monopoly of human intelligence.

Bias: Machine Learning, the popular branch of AI that is behind face recognition algorithms, product suggestions, advertising engines, and much more, depends on data to train and hone its algorithms.The problem is, if the information trainers feed to these algorithms is unbalanced, the system will eventually adopt the covert and overt biases that those data sets contain. And at present, the AI industry is suffering from diversity troubles that some label the "white guy problem," or largely dominated by white males.

Responsibility: Who's to blame when a software or hardware malfunctions? Before AI, it was relatively easy to determine whether an incident was the result of the actions of a user, developer or manufacturer.But in the era of AI-driven technologies, the lines are not as clear- cut.ML algorithms figure out for themselves how to react to events, and while data gives them context, not even the developers of those algorithms can explain every single scenario and decision that their product makes.

Privacy: AI and ML(Machine Learning) feed on data — reams of it — and companies that center their business around the technology will grow a penchant for collecting

user data, with or without the latter's consent, in order to make their services more targeted and efficient.In the hunt for more and more data, companies may trek into uncharted territory and cross privacy boundaries.

NITI Aayog on AI and its significance:

In a recent discussion paper, NITI Aayog has chalked out an ambitious strategy for *India to become an artificial intelligence (AI) powerhouse*.

- NITI Aayog envisions AI solutions for India on a scale not seen anywhere in the world today, especially in five key sectors — agriculture, healthcare, education, smart cities and infrastructure, and transport.
- In agriculture, for example, machines will provide information to farmers on the quality of soil, when to sow, where to spray herbicide, and when to expect pest infestations. It's an idea with great potential: India has 30 million farmers with Smartphone's, but poor extension services.
- If computers help agricultural universities advise farmers on best practices, India could see a farming revolution.

Issues and challenges: (India)

There are formidable obstacles. AI start-ups already offer some solutions, but the challenge lies in scaling these to cover the entire value chain, as NITI Aayog envisions.

- *The first problem is data*. Machine learning, the set of technologies used to create AI, is a data-guzzling monster. It takes reams of historical data as input, identifies the relationships among data elements, and makes predictions.
- *Another problem for AI firms today is finding the right people*. NITI Aayog's report has bleak news: only about 50 Indian scientists carry out "serious research" and they are concentrated in elite institutions such as the Indian Institutes of Technology and the Indian Institutes of Science.

What are the concerns about AI?

AI is an attempt to create super intelligent machines that can do things far better than humans. But the real worry about these technologies is the emphasis on intelligence rather than other characteristics of human beings.

- *AI has not been used to get rid of poverty*, to have more equitable distribution of wealth, or to make people more content with what they have.
- *The types of AI we have, including war machines*, will primarily be dictated by profit for the companies that make them.

- Being human is about living with others and learning to live within our limitations. Vulnerability, decay and death characterise any living form. *Super intelligent AI machines may harm this balance*.
- These thinking machines may know how to manipulate humans to the extent that *humans will not be able to see their negative effects*.
- *All technologies come with a cost* (not just economic but also social and psychological) and we have very little idea of the cost that AI will extract from us.

What needs to be done?

- *Better collection and digitisation of data* under existing programs.
- *To close the skill gap, NITI Aayog suggests setting up a network of basic and applied AI research institutes*. These institutes must collaborate closely with agricultural universities, medical colleges and infrastructure planners for better results.
- *NITI Aayog's ambitious road map does not mention deadlines or funding*. Without these, it lacks accountability. The government must make haste and specify its commitments on these fronts.

What is the need of the hour?

Ethical norms regarding uses of AI and our ability to regulate them in an intelligent and beneficial manner should keep pace with the fast changing technological capabilities. That is why we need AI researchers to actively involve ethicists in their work.

Some of the world's largest companies like Baidu, Google, Alibaba, Facebook, Tencent, Amazon, Microsoft are cornering the market for AI researchers. They also need to employ ethicists.

Additionally, *regulators across the world need to be working closely with these academics and citizens' groups* to put brakes on both the harmful uses and effects of AI.

For governments to regulate, we need to have clear theories of harms and trade-offs, and that is where researchers really need to make their mark felt: by engaging in public discourse and debate on what AI ethics and regulation should look like.