URBANIZATION, TRANSPORT & INDUSTRIALISATION WITH REFERENCE TO ENVIRONMENT PERSPECTIVE

Is India becoming more Urban?

Focus areas

- **Urbanization** creates enormous social, economic and environmental changes, which provide an opportunity for sustainability with the potential to use resources more efficiently, to create more sustainable land use and to protect the biodiversity of natural ecosystems.

- **Industrialization** is the process by which an economy is transformed from a primarily agricultural one to one based on the manufacturing and services

- **Transportation** means the movement of goods and persons from place to place

Multi pronged strategy

Land Zoning Policy

Zoning is a method of urban planning in which a municipality or any other tier of government divides land into areas called zones, each of which has a set of regulations for new development that differs from other zones

- Residential
- Commercial
- Industrial
- Institutional
- Agriculture
- Agro Industrial
- Forest
- Parks and other recreational
- Tourism
- Water

Agency

- Urban Development Authority or Municipality Board

Disaster Resilience

A **disaster** is a destructive event that occurs suddenly and involves loss of life and property **e.g.** Earthquake, Tsunami, Floods, Cyclones, Chemical and Industrial accidents, biological disasters

- Major Disasters in India- 1. Bhopal Gas Tragedy 2.Gujrat Earthquake 3.Tsunami 4. Covid 19

- **Action points**

  - Train disaster volunteers (NSS, NCC, Home Guards)

  - Anticipatory Governance- Simulation exercise, Mock Drills

  - Most disasters are Predictable – Community Must be involved in disaster preparedness

  - Documentation and dissemination of good practices

  - Local Help line Number Should be established

  - Indigenous knowledge system and coping practices

  - Disaster resilient infrastructure

  - Evolve code of conduct for all stakeholders (especially for biological disasters)

- **Agencies**

  - District disaster management authority

  - Local NGOs

  - Fire services/Police/Home guards

  - Integrated approach

Sustainable Transportation
Zero emissions, Smart Technology, Incentive for Eco-sensitive Behavior

- Justification :
  - ➢ Reduced traffic congestion
  - ➢ Reduced air pollution and related risks such as asthma
  - ➢ Reduced greenhouse gas emissions
  - ➢ Reduced dependence on non-renewable energy sources
  - ➢ Reduced transportation costs

- Strategy : Sustainable Transport :
  - ➢ Means of transportation that is green and has low impact on the environment
  - ➢ About balancing our current and future needs

- Modes
  - ➢ Electric Vehicle, Car Pooling, Pedestrian Pathways, Cycling Tracks
  - ➢ Transit-oriented development (TOD)-maximizes the amount of residential, business and leisure space within walking distance of public transport
  - ➢ Biofuel

- Agencies-
  - ➢ PWD
  - ➢ Ministries (Road Transport and Highways, Aviation, Railways, Petroleum and Natural Gas, Science and Technology, New and Renewable Energy) and Municipal authorities etc.

Sustainable Industrialization

Sustainable industrialization promotes minimizing or eliminating production and processing wastes through eco-efficient practices, and encourages adopting new environmental technologies

Action points

➢ Switch from toxic to non-toxic materials, including lead-free gasoline and degradable pesticides.

➢ Switch from coal and oil use to gas and solar energy use.

➢ Utilize waste materials from one industry or one stage of manufacturing as raw material in another.

➢ Use materials which consume less energy, such as bulbs or refrigerators which use less electricity.

➢ Design products which may be reused or upgraded rather than thrown away as waste, such as modular computers.

➢ Manufacture products from recyclable materials, such as aluminum beverage cans or recycled plastic cans.

➢ Create products which are degradable and whose byproducts are non-toxic.

➢ Design products which will have a minimal impact on the environment during their life cycle and which will be recyclable at the completion of their life cycle

➢ Continuous monitoring (Environmental auditing, Publication of emission data

➢ Green labels - eco-labelling sensitize consumers to choose the ecofriendly product

Solid Waste Management

Waste management (or waste disposal) includes the activities and actions required to manage waste from its inception to its final disposal

- **Action points**
  - 3 R framework (Reduce, Reuse, Recycle) *Vellore Srinivasan Model*
  - 100% waste segregation in hotels, restaurants, mandis, houses
  - Waste to energy
  - Institutionalizing waste collection mechanisms (e.g. formalizing Rag pickes communities)
  - Incentives for segregation
  - Waste collection infrastructure
  - Expansion of public utilities
- Agencies
  - Municipal/panchayat Board
  - Urban Development Authority

Sustainable Energy

Any naturally occurring, theoretically inexhaustible source of energy, as biomass, solar, wind, tidal, wave, and hydroelectric power, that is not derived from fossil or nuclear fuel in addition to clean thermal energy

- **Justifications**
  - Reduced greenhouse gas emissions
  - Improve public health
  - Diversify our energy supply
  - Creates Job opportunity
  - Reduced Energy Costs (Solar Panels)
  - Avoidance of Climate Impacts

- **Action points**
  - Solar panel expansion
  - Integrated grid
  - Biofuel – 20% mandatory in fuels
- **Agencies**
  - Ministry of New & Renewable Energy (MNRE)
  - State Nodal Authority/Department/Corporation

Pollution Control

➢ **Justification**

▪ Indian metros among the most polluted cities

▪ High incidence of non communicable diseases such as asthma, lung problems etc

▪ Affects bio diversity

▪ Affects normal social life

➢ **Action points**

▪ Greening of roads

▪ In situ waste management in industries

▪ Green building (ecologically suitable urbanization)

Slum upgradation and management

► Densely populated area of substandard housing, usually in a city, characterized by unsanitary conditions and social disorganization

► Action Points

  ➢ Installing or improving basic infrastructure Constructing or rehabilitating community facilities such as nurseries, health posts, community centers

  ➢ Home improvement, including material upgrading, new construction and expansion of existing structures ((e.g. retrofitting)

  ➢ Improving access to health care and education as well as social support programs to address community issues of security, violence, substance, crime and substance abuse

  ➢ Training and credit for enhancement of income-earning opportunities

  ➢ Building social capital and the institutional framework to sustain improvements

  ➢ Crime control

Eco sensitive integrated policy approach

- Announcement of new industrial policy integrating green technologies

- Incentive approach rather than Enforcement (Eg. Solar Pump)

- Promoting Innovation through competitions and funding – Vertical Jungles, MIYAWAKI

- Cheap green technologies, green start-up policy

- Measuring environmental impact of economic growth

- Campaign like Harit Bharat can be initiated on the lines of Swachh Bharat

- Corporate Environment Responsibility

- Community driven approach (e.g. Bhagidari model, Social audit, Feedback mechanism)

Resource generation

- Green bonds and municipal bonds
- Leveraging of CSR fund
- Utilization of CAMPA funds
- Green budgeting (green cess on industries having emission beyond a threshold etc)
- Green sensex (trading of eco credits)
- Credit Rating participation
- GST

Be the change you want see………