Module - 1
Introduction to Infrastructure Economics

Brief Outline

- Introduction: Economics
- Meaning of Infrastructure
- Infrastructure Economics
- Infrastructure: Features
- Types of Infrastructure
- Indicators of Infrastructure Development

Introduction: Economics

- ☐ Economics is a science which studies human behavior as a relationship between ends and scarce means which have alternative uses (Robbins, 1932).

- ☐ Economics is the study of how societies use scarce resources to produce valuable commodities and distribute them among different people (Samuelson and Nordhaus, 2007).

- ☐ Economics is thus the 'study of scarcity' and analyzes the rational behavior- the choices made in micro frame work in allocation of scarce resources to alternative uses

- ☐ Household are constrained by individual budgets and businesses by technology and resources

Meaning of Infrastructure

- **Infrastructure** is the system of public works in a country, state or region, including roads, utility lines and public buildings (United Nations, 2000).

- Infrastructure refers to the substructure or underlying foundation or network used for providing goods and services; especially the basic installations and facilities on which the continuance and growth of a community, state, etc depend (U.S. EPA, 2009).

- Infrastructure is the basic facilities and services that are necessary for carrying out the economic activities and which help in the economic development of the country. These basic facilities do not produce goods and services but facilitate the production and distribution processes.

Infrastructure Economics

- Infrastructure economics attempts to study the infrastructure from economics view point
- The demand and supply of infrastructure in the economy
- The mismatch between demand for infrastructure finance and supply of investable funds: the infrastructure financing gap
- The cost-benefit analysis of infrastructure projects
- The returns on infrastructure investments
- Infrastructure and economic growth
- Models of infrastructure development

Types of Infrastructure: Broad Category

(a) Economic Infrastructure

Economic infrastructure is the basic facilities which directly benefit the process of production and distribution in an economy. Roads, railways, telecommunication systems, waterways, airways, financial institutions, electricity, water supply etc are the examples of economic infrastructure.

(b) Social Infrastructure

These are the basic amenities that do not directly influence the economic activities, but indirectly have an impact on the economy through achieving certain social objectives. For example, education does not directly influence economic activities like production and distribution but indirectly helps in the economic development of the country by spill-over effects. So education, health services and sanitation etc. are the examples of social infrastructure.

Types of Infrastructure: Detailed Category

Category	Name	Examples
Category 1	Rural Infrastructure	Irrigation, rural connectivity (roads, power, IT), cold chains and mandis
Category 2	Urban Infrastructure	Water, sanitation, sewerage, Telecomm, Internet
Category 3	Core Infrastructure	Roads, railways, airports, sea ports, inland waterways, energy
Category 4	Social Infrastructure	Healthcare, education, housing, hospitality
Category 5	Land- Intensive	SEZs, industrial parks, townships, IT parks

Economic Indicators of Infrastructure Development

Per Capita Electricity Consumption

Per Capita Energy Use (kg of oil equivalent)

Telephone Line Per 1000 Population

Rail Density Per 1000 Population

Air Transport, Freight Million Tons Per Kilometer

Paved Roads As Percentage of Total Roads

Social Indicators of Infrastructure Development

Number of Hospitals Bed Per 10000 Population

Number of Hospitals Per 1 Lakh Population

Number of Primary and Middle Schools Per 10000 Population

Number of High Schools Per 10000 Population

THANK YOU