

## **Chapter 7(How can we build sustainable cities)**

### 1)Cities

Cities are places with

- Built up area (e.g lots of skyscrapers, offices and infrastructure)
- Have a large population size and density (definition may change depending on area)
  - Formula for density:  $\text{population} \div \text{land area}$
- Range of functions (e.g Location of High court, CBD, Location of corporations, Capital)

### 2)Relationship between Cities and Rural areas

Rural areas are defined as areas with

- Lower population density
- Less functions
- Less built-up
- Usually somewhat remote (don't take my word for it)

People migrate from rural areas to urban cities due to a series of reasons, categorized as push and pull factors

Push factors are reasons that want to make migrants leave their rural areas

Examples include

- War
- Drought
- Lower quality of life
- Famine
- Lesser wages
- Lack of facilities

On the other hand, Pull factors are reasons that migrants want to migrate to urban areas

Examples include

- Quality education
- Better job opportunities
- Better living conditions
- Better infrastructure

Cities and rural areas can also benefit from each other

Cities can benefit through

- More labour
- Business with rural businesses
- Food products from rural farmers

Rural areas can benefit through

- Amenities in the city
- Purchasing of products either only found in the city or internationally

### 3)How do cities affect their inhabitants and the environment

Inhabitants have many opportunities in the city, like

- Education and employment (schools and famous companies are often located in the city)
- Technological innovation (e.g advanced transport systems, urban planning)

Inhabitants also face challenges in the city, like

- Increased air pollution (e.g the stupid haze from indonesia)

- Water pollution due to improper dumpage of waste (examples include the Ganges, the Yangtze and the Yellow rivers)
- Environmental pollution due to burning of fossil fuels and exhausts
- Competition for resources such as water and land

#### 4)How can cities be sustainably built and managed

Cities can be sustainably built through

- Environmental management strategies, such as
  - Regulating the use of natural resources
  - Using water treatment ponds to purify water reservoirs
- Government intervention like
  - Reducing air pollution using laws

Cities can also manage hazards like natural disasters through measures such as

- Using better building materials (earthquakes)
- Planning land use (rising sea levels)

Quality of life refers to a person's well being, and can be improved through strategies such as

- Providing safe housing
- Providing a variety of transportation modes
- Considering the needs of different groups

## **Chapter 8(Housing and its spatial distribution)**

### 1)Different types of housing

Housing are structures that people build to shelter themselves from the elements. There are 2 main types of housing: Formal and Informal

Formal housing is housing that is

- Built on land that is either owned by the builder or the government with permission from them
- Built by private developers
- Have common amenities such as
  - Running water
  - (legal) electricity
- Built using strong materials such as
  - Concrete
  - steel

Informal housing is housing that is

- Built on waste land illegally
- Built by themselves
- Lack common amenities
- Built using salvaged materials
  - Tarpaulin
  - Lumber
- Not planned for

## 2) Factors that affect the location of housing

Multiple factors affect the location of housing built. Some of the factors include

- Land-use planning by the government (with restrictions placed around certain areas)
- Choices made by private developers

- Land prices going up
- Financial support to pay for said housing

## **9) Sustainable development of housing**

### 1) How does housing affect the natural environment

Housing affects the natural environment in multiple ways, like

- Usage of natural resources to build said houses
  - Minimised through using materials from sustainable sources
- Environmental pollution from land clearing and construction of housing
  - Can be minimised through control of construction I guess
- Irresponsible discharge of sewage from housing
  - Minimised through proper discharge or recycled to the literally shitty NEWater

### 2) How does housing affect people

People are affected by housing in multiple ways, mostly positively, such as

- Provision of the basic human need for housing through construction
- Presence of amenities through construction near preexisting amenities
- Presence of communities in neighborhoods

### 3) How can housing be sustainably managed

Housing has been sustainably managed through multiple ways, such as

- Integrated land use planning through using land for multiple purposes
- Provision of inclusive housing for everyone (big house for big family, small house for small family, playground for children, exercise corner for elderly for example)
- Environmental features in buildings (the blue bin, the 10 cent machine)
- Improvement of slums

## **Chapter 10(transport of systems and their spatial distribution)**

### 1)What are transport systems

Transport systems are systems that transport people and goods, made out of networks, infrastructure and modes of transport.

Transport networks are made of routes and nodes

- Nodes: are stops or stations in a transport network, kinda like a station in a train network
- Network: The actual roads and tracks between nodes

Transport infrastructure are buildings making up a transport system. They can be measured through several indicators

|                                                                          |                                                                                                                                                                        |
|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Coverage</b><br>Availability and reach of infrastructure              | What is the percentage of population living within one kilometre of the transport node?<br>How long or far must passengers travel to reach the nearest transport node? |
| <b>Capacity</b><br>Number of people or amount of goods that can be moved | How many passengers can be picked up at the station?<br>How many trucks can use the unloading bay at the same time?                                                    |
| <b>Frequency</b><br>Number of occurrences of a service                   | How long does the next transport service take to arrive?<br>How often is maintenance carried out?                                                                      |
| <b>Convenience</b><br>Ease of movement                                   | Is access to the infrastructure barrier-free?<br>How easy is it to pay for a trip or for parking?<br>How easy is it to transfer from one transport mode to another?    |
| <b>Environmental sustainability</b><br>Environmental impact              | What is the environmental impact of building the infrastructure?<br>How has the use of transport infrastructure affected the air quality?                              |

Transport modes are ways which one can travel along a transport network. Examples include

- Buses
- Trains
- planes

## 2) Where are transport nodes located within a city

There are many places in a city where transport nodes can be located. Considerations include how accessible it is and how much it is going to be used. Notable places are

- Business districts
- Near residential areas
- Near other nodes for other modes of transportation (e.g Airport, Port)

### 3) Why are transportation systems located in cities

Transport systems play many roles in cities. Some of them are

- Facilitating the movement of people , goods and services
- Supporting connections between different transport systems.

There are 2 types of transport connections. These are

- Point to point, where all cities in a system are connected to one another
- Hub and spoke, where a central city (Hub) connects to all the other cities

## **Chapter 11(sustainable management of transport systems)**

### 1) How do transport systems impact the environment in cities?

Transport systems affect the environment in multiple ways, such as

- Destruction of habitats and the physical environment (like how Hong Kong leveled a mountain to build an airport)
- Increase in carbon footprint (like everything else)
- Pollution

### 2) How do transport systems affect people in cities

Likewise, transport systems affect people in many different ways. These ways include

- Improved mobility for the elderly and people with disabilities (silver zone, lifts and ramps)

- Congestion (causing people to get pissed)
- Noise pollution (from all the transport )

### 3)How can transport systems be sustainably managed.

Transport systems can be sustainably managed through laws and regulations on transport . Examples include

- COE discouraging most people from buying a car
- ERP taxing those who bought a car and limiting congestion on roads