

Exercise walk-through

Consequences of Population Distribution ■ 2.2

eXercise

You must be able to

- define **carrying capacity** 环境承载力
- explain economic effects of dense or sparse population
- explain political effects (representation, services)
- explain social and environmental effects of clustering

Method — Carrying capacity

Carrying capacity is the number of people an area can support with its resources. Exceeding it strains water, food, and the environment.

Method — Economic and political effects

Dense areas concentrate labour, markets, and services but strain housing and transport. Distribution also shapes **political power** — where people live decides representation and where governments invest.

Method — Social and environmental effects

Clustering raises pressure on land, water, and air, and can cause crowding — but also supports services (schools, hospitals) that need a large local population.

Practice 2.1 ■ 2 marks

Define carrying capacity.

Solution 2.1

Method: Carrying capacity

Worked steps

the maximum population **B1** an area's resources/environment can support sustainably **B1**.

Practice 2.2 ■ 2 marks

State one economic advantage and one disadvantage of a densely populated area.

Solution 2.2

Worked steps

advantage: large labour force/market, services viable **B1**; disadvantage: strain on housing/transport/resources **B1**.

Practice 2.3 ■ 1 mark

A remote region has a very sparse population.

- (a) State one difficulty of providing services there.
- (b) Explain why this region may have little political influence.

Solution 2.3

Worked steps

(a) services (schools, hospitals) are costly per person / far apart **B1**. (b) few people means fewer representatives/votes, so less political weight **B1**.

Exam-style 3.1 ■ 1 mark

If a region's population exceeds what its resources can sustain, it has exceeded its

A arithmetic density

B carrying capacity

C dependency ratio

D sex ratio

Solution 3.1

A arithmetic density

B carrying capacity 

C dependency ratio

D sex ratio

Worked steps

B. the sustainable maximum is the carrying capacity.

Exam-style 3.2 ■ 1 mark

A benefit of a concentrated population for public services is that

A services are cheaper to provide per person

B the environment is always protected

C carrying capacity rises automatically

D migration stops

Solution 3.2

Method: Social and environmental effects

A services are cheaper to provide per person



B the environment is always protected

C carrying capacity rises automatically

D migration stops

Worked steps

A. concentration makes services viable at lower cost per person.

Exam-style 3.3 ■ 1 mark

A crowded coastal city keeps growing.

- (a) State one environmental consequence of this concentration.
- (b) Explain one reason people still move there despite crowding.

Solution 3.3

Method: Social and environmental effects

Worked steps

(a) pressure on water/air/land, pollution, loss of green space **B1**. (b) jobs, services, and opportunities outweigh the crowding for migrants **B1**.