

Exercise walk-through

5.11

Challenges of Contemporary Agriculture

AP Human Geography

Environmental effects: explain the pathway

Change	Possible mechanism
Fertiliser runoff	Nutrients enter water, encourage algal growth and can contribute to oxygen depletion.
Irrigation without drainage	Evaporation can leave salts in soil and reduce productivity.
desertification	Dryland degradation can involve land pressure and climatic conditions; not every dry place is degraded.
Land-cover change	Deforestation and wetland drainage can reduce habitat and change water flows; assess the place and practice.

Land management: benefits with conditions

Practice	Mechanism and limit
Terracing	Can reduce downslope runoff and erosion; needs suitable design and maintenance.
Conservation tillage	Can retain cover and reduce erosion; effects depend on soil and management.
Shifting cultivation	Adequate fallow can support recovery; shortened fallow may increase pressure.
Suburban expansion	Can remove farmland near markets. Do not assume every affected parcel was the most productive.

Food security: four connected dimensions

Dimension	Question
Availability	Is enough food supplied?
Access	Can people obtain suitable food physically and economically?
Utilisation	Do safe food, health and care allow adequate nutrition?
Stability	Are these conditions maintained over time?
food security	is not measured by harvest size alone.

Full warehouses, hungry households: attempt

Original scenario

A district has full grain warehouses. Low-income households cannot afford safe, nutritious food and have costly transport to shops.

Identify the problem that increased national production alone may fail to solve. Suggest an intervention and explain the mechanism.

Food access: worked reasoning

The scenario gives evidence of an access problem: food exists, but affordability and transport constrain households' ability to obtain it.

Income support or affordable distribution could improve access through purchasing power or lower travel costs. Assess whether the intervention reaches affected households.

A food desert concerns limited access to suitable food outlets in context; location, affordability and transport all matter.

Exercises 2.1-2.2

2.1 Define a food desert.

[2]

2.2 State one argument for and one against GMOs.

[2]

Exercises 2.1-2.2

2.1 Define a food desert.

[2]

2.1

- an area with poor access to affordable fresh, healthy food, often relying on convenience stores

2.2 State one argument for and one against GMOs.

[2]

2.2

- for: higher yields / pest resistance / less chemical need; against: health, environmental, or corporate-control concerns

Exercise 2.3 (a)

2.3 City residents grow vegetables on rooftops and vacant lots.

(a) Name this practice.

[1]

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[1]

(a)

- urban farming/agriculture

Exercise 2.3 (b)

2.3 City residents grow vegetables on rooftops and vacant lots.

(b) State one benefit it offers a food desert.

[1]

Exercise 2.3 (b)

2.3 City residents grow vegetables on rooftops and vacant lots.

(b) State one benefit it offers a food desert.

[1]

(b)

- local access to fresh, affordable produce

Exercises 3.1-3.2

3.1 A neighbourhood with only convenience stores and no fresh-food shops is a [1]

☐

- A food desert
- B commodity chain
- C greenbelt
- D relict region

3.2 A common argument in favour of GMO crops is that they can [1]

☐

- A always lower yields
- B resist pests and raise yields
- C remove the need for any farming
- D end all pollution

Exercises 3.1-3.2

3.1 A neighbourhood with only convenience stores and no fresh-food shops is a [1]

- ☐ **A** food desert
B commodity chain
C greenbelt
D relict region

3.1 A

- poor fresh-food access defines a food desert

3.2 A common argument in favour of GMO crops is that they can [1]

- ☐ **A** always lower yields
B resist pests and raise yields
C remove the need for any farming
D end all pollution

3.2 B

- GMOs can resist pests and raise yields

Exercise 3.3 (a)

3.3 A community starts a local-food, organic cooperative.

(a) State one benefit of buying local, organic food.

[1]

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3.3 A community starts a local-food, organic cooperative.

(a) State one benefit of buying local, organic food.

[1]

(a)

- fresher food, fewer chemicals, lower transport emissions, support for local farmers

Exercise 3.3 (b)

3.3 A community starts a local-food, organic cooperative.

(b) State one challenge of the movement.

[1]

Exercise 3.3 (b)

3.3 A community starts a local-food, organic cooperative.

(b) State one challenge of the movement.

[1]

(b)

- higher cost, smaller scale, or limited availability