

Geography Level 10

Chapter 6 — Skills: concluding, decision-making and communicating

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Contents

Section	Page
Conclusions you can defend: ethical values, perspectives and geographical concepts	2
From strategy to recommendation: judging options by environmental, economic and social criteria	16
Explaining and judging action with geographical knowledge — and crediting the research behind it	27

Conclusions you can defend: ethical values, perspectives and geographical concepts

Theory

Part 1 — What this section is for: conclusions you can defend

Geographical issues - who should carry the cost of sea-level rise, whether farming land should give way to suburbs, whether a seed vault is worth building - rarely have one obvious answer. What they have is evidence, values and points of view. The content description you are working to (VC2HG10S05) says you will learn to:

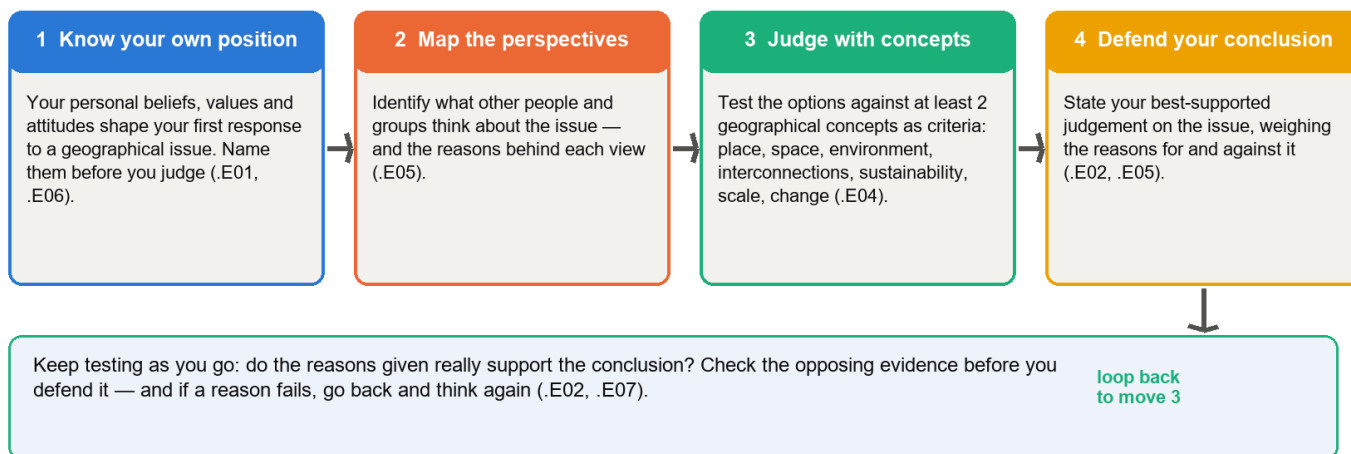
reach conclusions on geographical issues that you can defend - weighing ethical values and different perspectives, and testing your reasoning against geographical concepts.

Unpacked, that is four jobs (Figure 1):

1. **Know your own position.** Your **values** - the things you believe matter - and your **attitudes** - the way you feel and lean about something - shape your first response to an issue. Naming them stops them quietly deciding things for you.
2. **Map the perspectives.** A **perspective** is a point of view: the way a person or group sees an issue, shaped by their values and interests. Different groups see the same issue differently, and each has reasons.
3. **Judge with concepts.** Test the options against at least two of geography's seven concepts - place, space, environment, interconnections, change, sustainability and scale - used as **criteria** (standards for judging).
4. **Defend your conclusion.** A **conclusion** is the judgement you reach after weighing the evidence and the perspectives. To **justify** it means giving reasons that survive testing - not just repeating your view.

Making an ethical geographical conclusion: four moves

Geographical issues rarely have one right answer. A defended conclusion is one you can justify — by knowing where you stand, mapping other perspectives, judging with concepts and testing the reasons.



Model: original, for Victorian Curriculum 2.0 Geography VC2HG10S05 (elaborations .E01-.E07).

Flow diagram with four connected boxes - know your own position; map the perspectives; judge with concepts; defend your conclusion - and a feedback strip reading “keep testing: do the reasons given really support the conclusion?”

Figure 1. Making an ethical geographical conclusion: four moves (model).

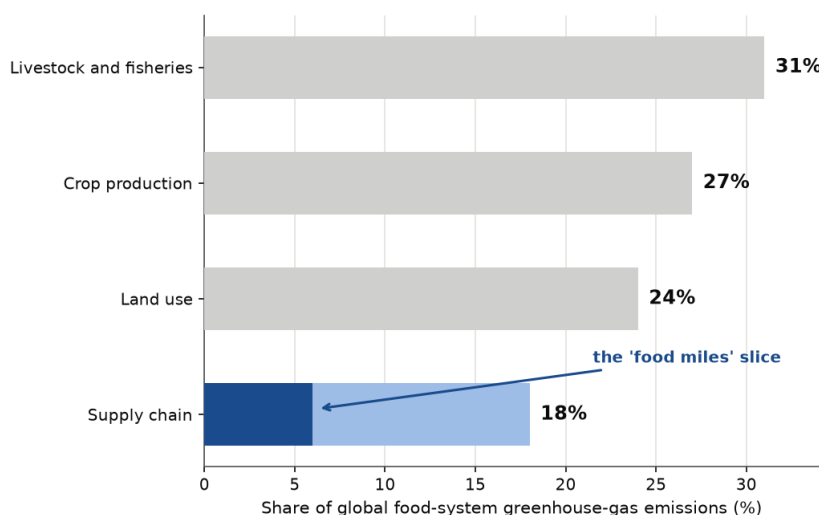
Ethical does not mean preaching. It means noticing that choices affect people, places and environments - sometimes unevenly - and taking responsibility for the reasons behind the choice you defend.

Part 2 — Your own values and attitudes (.E01, .E06)

Start with yourself. Two people can read the same facts about an issue and lean different ways, because their values differ. If you value local jobs, a new housing estate reads as opportunity; if you value food security, the same estate reads as loss. Neither leaning is wrong - but each is a value doing quiet work in the background, and VC2HG10S05.E01 asks you to recognise that influence in your own responses.

Values also shape what you *predict* will happen (.E06). The curriculum's own example is food: someone who prefers to buy locally produced food expects that choice to cut **food miles** - the distance food travels from producer to plate - and with it the greenhouse gases from transport. Figure 2 tests that prediction against the evidence.

Food miles in proportion: where food emissions really come from



Source: Poore & Nemecek (2018), Science 360(6392): 987-992, as compiled by Our World in Data (retrieved 25 August 2026).

Buying local: a values-driven prediction (.E06)

Preferring locally produced food cuts food miles and transport emissions - personal values do shape predicted outcomes.

But transport is only about 6% of food-related emissions: how food is produced usually matters more to the total than how far it travels.

A well-weighed prediction holds both sides of the argument.

Horizontal bar chart of global food-system greenhouse-gas emissions by stage - livestock and fisheries 31%, crop production 27%, land use 24%, supply chain 18% - with the transport “food miles” slice marked at about 6%, beside a panel weighing both sides of buying local

Figure 2. Food miles in proportion: where food emissions really come from.

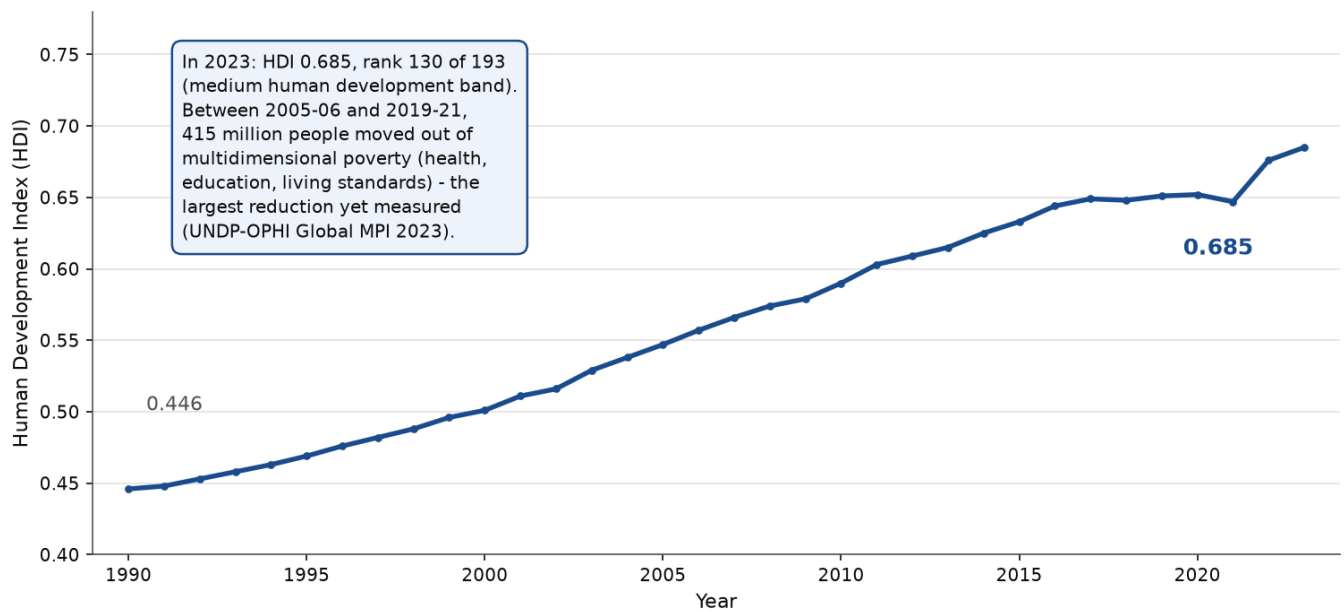
The values-driven prediction is partly right: buying local does cut the transport slice. But transport is only about 6% of food-related emissions - how food is produced usually matters more to the total than how far it travels. A strong geographer holds both facts at once, and this is the habit .E06 builds: notice the value, state the prediction it drives, then check the prediction. The same habit explains other values-driven choices the elaboration names - reducing, recycling and reusing goods to ease pressure on environments; sustainable design in urban redevelopment (Melbourne's Fishermans Bend renewal, planned for about 80,000 residents, commits to green, open public space and 20-minute neighbourhoods); and supporting non-government organisations (charities and aid groups outside government) whose work matches your values.

Part 3 — Defending actions and strategies: two wellbeing cases (.E02)

Now take the habit outward. VC2HG10S05.E02 asks you to defend appropriate actions and strategies for a selected issue - and the curriculum names two: improving human wellbeing in India, and lifting wellbeing across the Pacific Islands region. **Human wellbeing** is how well people's lives are going - their health, education and standard of living - and geographers often track it with the Human Development Index (HDI), a 0-to-1 score combining life expectancy, schooling and income.

India. Figure 3 shows India's HDI climbing for thirty straight years, alongside one of the largest poverty reductions ever measured.

Improving wellbeing in India: HDI climbed steadily for 30 years



Source: UNDP HDR 2025 (HDI series); UNDP-OPHI Global MPI 2023, India country briefing (NFHS data). Retrieved 25 August 2026.

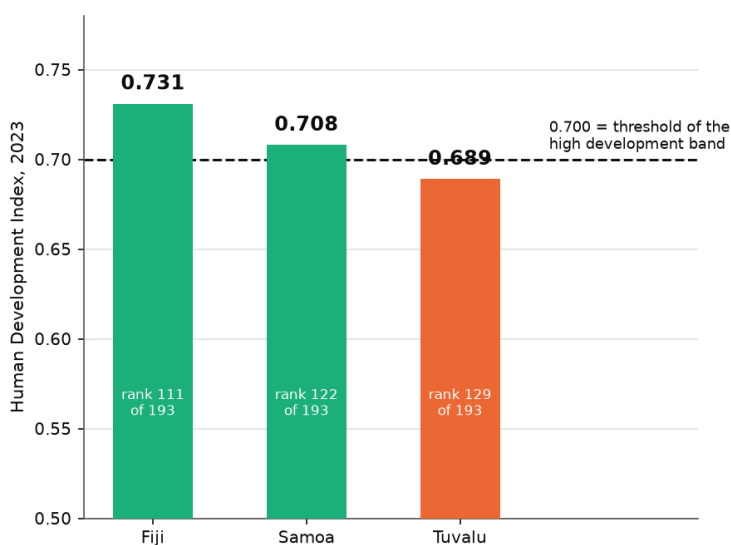
Line chart of India's Human Development Index rising from 0.446 in 1990 to 0.685 in 2023, with a callout noting rank 130 of 193 and that 415 million people moved out of multidimensional poverty between 2005-06 and 2019-21

Figure 3. Improving wellbeing in India: HDI climbed steadily for 30 years.

A defensible conclusion from Figure 3: strategies that lifted health, schooling and incomes in India worked at a very large scale - and the data supports it. Defending *which* strategies to keep funding is where values and perspectives enter: a health worker, a factory owner and a climate advocate will each point to a different driver of the climb, and each has some evidence. Testing the conclusion means examining opposing evidence - the third skill .E02 names - such as where progress has been uneven between regions and between women and men.

The Pacific Islands. At a regional scale, wellbeing in the Pacific looks different from country to country (Figure 4), and for one country it is tied to a hard ethical question.

Wellbeing at a regional scale: HDI in three Pacific Island countries



Tuvalu — the stakes of sea-level rise

Average elevation only about 2 m above sea level — one of the lowest-lying countries on Earth.

About 6,000 of its people live on the narrow islet of Funafuti.

Falepili Union with Australia (signed November 2023): a pathway for up to 280 Tuvaluans a year to live, work and study in Australia — migration arranged with dignity, not as last-resort flight.

The ethical question (.E02): who should carry the cost when a country's land itself is threatened?

Source: UNDP, Human Development Report 2025 (retrieved 25 August 2026); Tuvalu facts from government and UN reporting on the Falepili Union (signed November 2023, retrieved 25 August 2026).

Bar chart of 2023 HDI for Fiji (0.731), Samoa (0.708) and Tuvalu (0.689) against the 0.700 high-development threshold, beside a Tuvalu panel: average elevation about 2 m, about 6,000 people on Funafuti, and the Falepili Union pathway of up to 280 Tuvaluans a year to Australia

Figure 4. Wellbeing at a regional scale: HDI in three Pacific Island countries.

Tuvalu's average elevation is only about 2 m above a rising sea. The **Falepili Union**, signed with Australia in November 2023, creates a pathway for up to 280 Tuvaluans a year to live, work and study in Australia - movement arranged with dignity, before crisis forces it. Steelmanning both sides of that decision:

- **For:** it spreads risk while Tuvaluans choose, not flee; it builds skills and income that flow back as remittances; it accepts that a country that did little to cause emissions should not carry their worst cost alone.
- **Against:** it may let high-emitting countries off the hook ("people can leave, so we need not cut emissions or fund adaptation"); a nation is more than its people's location, and losing land, place and sovereignty is a harm no visa replaces.

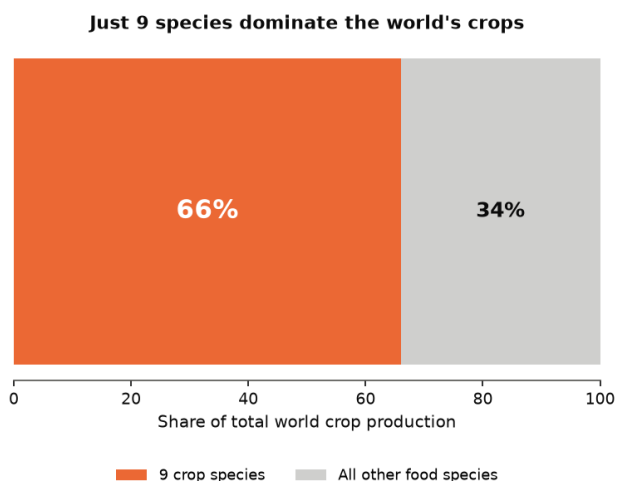
Both views are argued from reasons. .E02 does not ask you to pick the comfortable side; it asks you to defend an action *after* weighing views like these - and to say which geographical concepts your defence stands on.

Part 4 — Drawing conclusions from challenges: the seed vault and cybersecurity (.E03)

VC2HG10S05.E03 asks for conclusions about how a geographical challenge affects people, places and environments, and the curriculum names two challenges.

The decline in food species. Most of the world now eats from a narrow shelf. Of the thousands of plant species grown for food, just nine supply two-thirds of all crop production, and the FAO estimates that about three-quarters of the genetic diversity in crops was lost across the 1900s as local varieties were replaced (Figure 5).

A narrowing food supply: fewer species feed the world



About 6,000 plant species are grown for food.

Fewer than 200 contribute substantially to world production.

FAO estimate: about 75% of plant genetic diversity in crops was lost across the 1900s.

Why it matters: fewer varieties means fewer options when climate, pests or disease strike (food security, .E03).

Source: FAO, State of the World's Plant Genetic Resources for Food and Agriculture (1996; second report 2010), retrieved 25 August 2026.

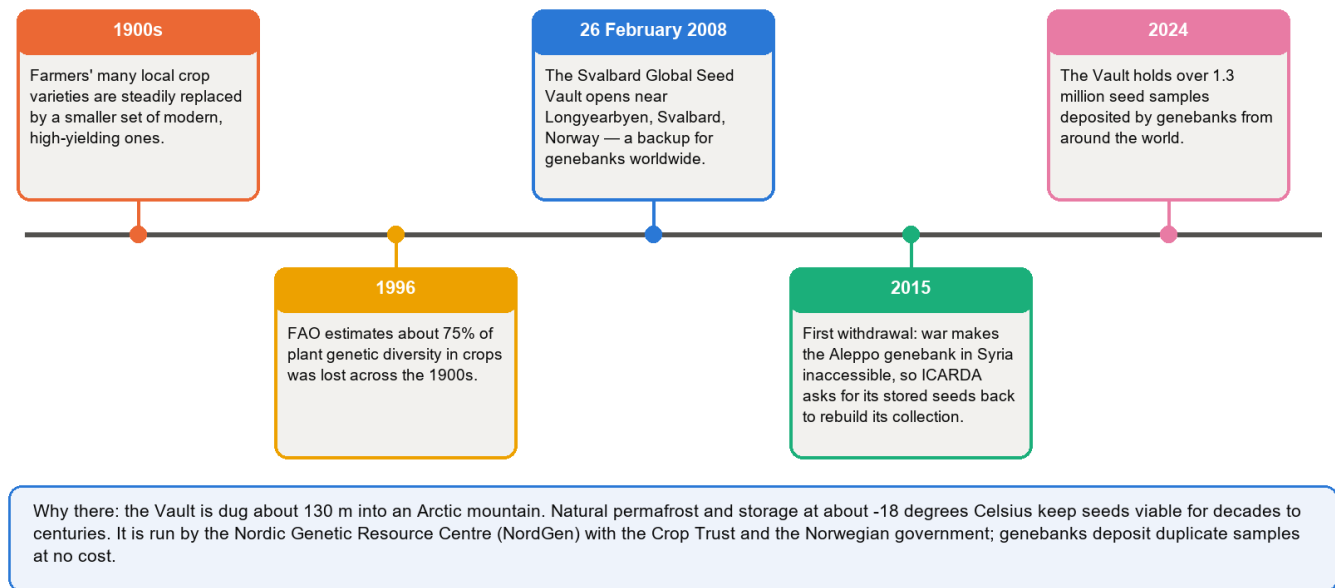
Two-panel chart: a 100% bar showing nine crop species supplying 66% of world crop production against 34% from all other species, and a panel stating about 6,000 food plant species are grown, fewer than 200 contribute substantially, and about 75% of crop genetic diversity was lost across the 1900s

Figure 5. A narrowing food supply: fewer species feed the world.

The impact conclusion: fewer varieties means fewer options when drought, pests or disease strike - food security rests on a thinner base than it did a century ago. The response conclusion is the **Svalbard Global Seed Vault** (Figure 6): a backup store, dug into an Arctic mountain in Norway, where genebanks - libraries of seeds and plant material - from around the world deposit duplicate samples.

The Svalbard Global Seed Vault: a backup for the world's food

Food security depends on having many crop varieties to fall back on. As that diversity shrank, the world built an insurance policy in the Arctic.



Sources: FAO, State of the World's Plant Genetic Resources (1996); NordGen/Crop Trust, Svalbard Global Seed Vault; retrieved 25 August 2026.

Timeline: 1900s crop varieties begin to be replaced; 1996 FAO estimates about 75% of crop genetic diversity lost; 26 February 2008 the Svalbard Global Seed Vault opens near Longyearbyen, Norway; 2015 first withdrawal, by ICARDA after war made its Aleppo genebank inaccessible; 2024 over 1.3 million seed samples stored

Figure 6. The Svalbard Global Seed Vault: a backup for the world's food.

The 2015 withdrawal is the test that proves the conclusion: when war made the genebank at Aleppo in Syria unusable, the stored duplicates were drawn back out to rebuild the collection. A conclusion about impact (diversity loss weakens food security) led to an action (store a backup), and the action was later shown to work. That chain - challenge, impact, response, test - is the shape .E03 wants you to be able to conclude.

Cyber attacks on technological interconnections. The second named challenge runs on cables rather than soil. Modern economies rest on technological interconnections - port systems, phone networks, health records - and attacks on them disrupt real places and people (Figure 7).

When connections are attacked: four cyber events

Modern life runs on technological interconnections — shipping systems, phone networks, health records, port computers. Cyber attacks test how well those connections hold, and what laws protect them.

When	What happened	Disruption to interconnections
June 2017	NotPetya malware, first hitting Ukraine, spreads worldwide through business software updates.	Total losses exceed US\$10 billion — the costliest cyber event on record. Shipping giant Maersk loses about US\$300 million; drugmaker Merck about US\$870 million.
September 2022	A breach at Australian telco Optus.	Personal details of up to 9.8 million people exposed — an attack on data interconnections between a company and its customers.
October 2022	A breach at health insurer Medibank.	Health data of 9.7 million customers stolen, including sensitive medical claims information.
November 2023	An attack on DP World Australia's port systems.	Operations suspended at four ports — Sydney/Port Botany, Melbourne, Brisbane and Fremantle — which together handle about 40% of Australia's container trade.

Responses: Australia's Cyber Security Strategy 2023-2030 aims to lift the security of businesses and essential services. Globally, states and legal experts are still working out how existing international law applies to cyber attacks (.E03) — an open ethical question about responsibility and rules.

Sources: company disclosures and government reporting; Australian Cyber Security Strategy 2023-2030; retrieved 25 August 2026.

Table of four cyber events: NotPetya, June 2017 (over US\$10 billion in losses; Maersk about US\$300 million, Merck about US\$870 million); Optus breach, September 2022 (up to 9.8 million people); Medibank breach, October 2022 (9.7 million customers); DP World Australia attack, November 2023 (four ports suspended, about 40% of Australia's container trade) - with a response strip on Australia's Cyber Security Strategy 2023-2030 and international law

Figure 7. When connections are attacked: four cyber events.

The impact conclusion: because these interconnections cross borders - a malware update released in one country can idle ports on another continent - no single government can manage the risk alone. That is why the response includes Australia's Cyber Security Strategy 2023-2030 *and* a slow, contested effort among states to work out how existing international law applies to cyber attacks. Whether that law is strong enough is itself a conclusion worth defending, with reasons, in your own words.

Part 5 — Concepts as your criteria (.E04)

A conclusion without criteria is a preference. VC2HG10S05.E04 requires conclusions drawn using **at least two** of the seven geographical concepts as criteria - place, space, environment, interconnections, sustainability, scale and change. Each concept supplies a different checking question (Figure 8), and naming the concepts you used is what lets someone else test your reasoning.

Use concepts as your criteria — pick at least two

A conclusion is only as strong as the criteria behind it. VC2HG10S05.E04 requires conclusions drawn using at least 2 of the seven geographical concepts as criteria.

Place What is this place like, and what would the decision mean for its character?	Space Where are things located — and are the patterns and distributions fair?	Environment What would the decision do to living things and life-support systems?	Interconnections Who and what is linked to this issue, near and far?
Sustainability Can this keep going without harming people or places in the future?	Scale Does the answer change from local to national to global?	Change What is changing, how fast — and who gains and who loses?	The rule (.E04): draw your conclusion using at least TWO concepts as criteria — and say which ones you used.

Worked issue: should vegetable-growing land at Werribee South, on Melbourne's fast-growing western edge, stay in farming while suburbs expand around it?

Test it with concepts: sustainability (long-term food-growing capacity versus housing need) - environment (soil, water and open land) - scale (a local paddock, but the city's vegetable supply). Stating which concepts you applied is what makes the conclusion defensible.

Concepts per Victorian Curriculum 2.0 Geography Levels 9-10; issue: City of Wyndham / Plan Melbourne reporting (retrieved 25 August 2026).

Grid of the seven geographical concepts, each with a checking question - place, space, environment, interconnections, sustainability, scale, change - plus a rule box ("draw your conclusion using at least two concepts as criteria") and a worked issue: should vegetable-growing land at Werribee South stay in farming while suburbs expand?

Figure 8. Use concepts as your criteria — pick at least two.

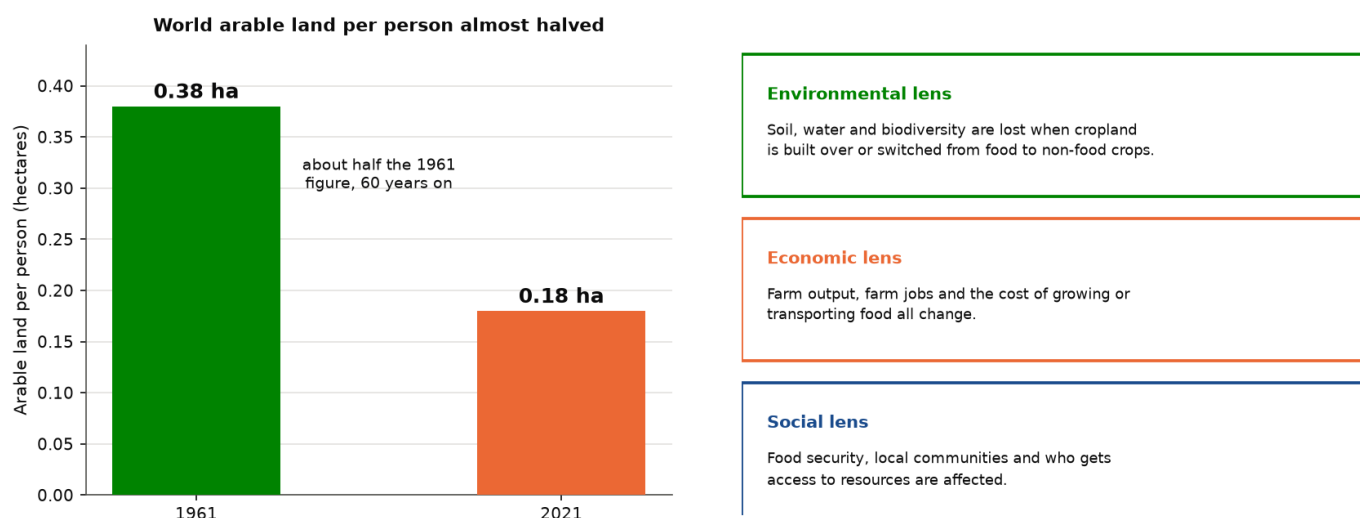
The curriculum's own examples show the move: discussing **sustainability** when human-induced change affects environments, or considering the implications of **spatial** (space-based) variations in human wellbeing - as Figure 4 shows, Pacific wellbeing varies by country, and that variation has implications for where aid and climate finance go. The worked issue in Figure 8 - vegetable-growing land at Werribee South, on the fast-growing western edge of Melbourne - will carry the same move in part 6.

Part 6 — Justifying conclusions by weighing perspectives (.E05)

Justifying is more than listing your reasons; it is reflecting on the perspectives you identified and the reasons *behind* them (.E05). Two cases, both from the elaboration.

Disappearing arable land. Arable land is land able to be used for growing crops, and the world's share per person has roughly halved in sixty years (Figure 9), as population grows and as cropland is converted - to suburbs, and from food crops to non-food crops.

Disappearing arable land: the trend and three lenses for weighing it



Source: World Bank, arable land per person (AG.LND.ARBL.HA.PC), retrieved 25 August 2026. Values rounded to two decimal places.

Bar chart of world arable land per person, 0.38 hectares in 1961 and 0.18 hectares in 2021, beside three weighing lenses: environmental (soil, water, biodiversity), economic (farm output, jobs, food costs) and social (food security, communities, access to resources)

Figure 9. Disappearing arable land: the trend and three lenses for weighing it.

At Werribee South, one of Australia's most productive vegetable-growing precincts sits inside one of Australia's fastest-growing cities. The perspectives, steelmanned:

- **A market gardener:** this soil and water supply feeds the city every day; once paved, it is gone forever, and food then travels further at higher cost.
- **A developer or growing family:** the city needs homes; land that can be serviced and built on close to jobs is scarce, and housing pressure is a wellbeing problem too.
- **An environment group:** irrigation, runoff and sprawl each carry environmental costs; the question is not farm *or* suburb but which design minimises harm.

Weighing those reasons with environmental, economic and social factors - the three lenses of Figure 9, and the criteria this book uses throughout - is precisely the justification .E05 describes. A defensible conclusion states which factors weighed most, and why.

Ecotourism. Ecotourism is tourism built around natural places, designed to conserve them and support local communities. At Phillip Island, Victoria, the evening Penguin Parade brings visitors to the world's little penguin colony, and the parks agency spends the revenue on rangers, research and habitat protection. Steelmanned:

- **For:** without paid visitors, conservation competes for scarce public money; visitors who meet the penguins become voters who protect them; the colony's protection and its tourism are interdependent.
- **Against:** visitors bring lights, noise, tracks and pressure to fragile dunes; the colony's value becomes tied to ticket sales; disturbance is a real cost to the very animals people come to save.

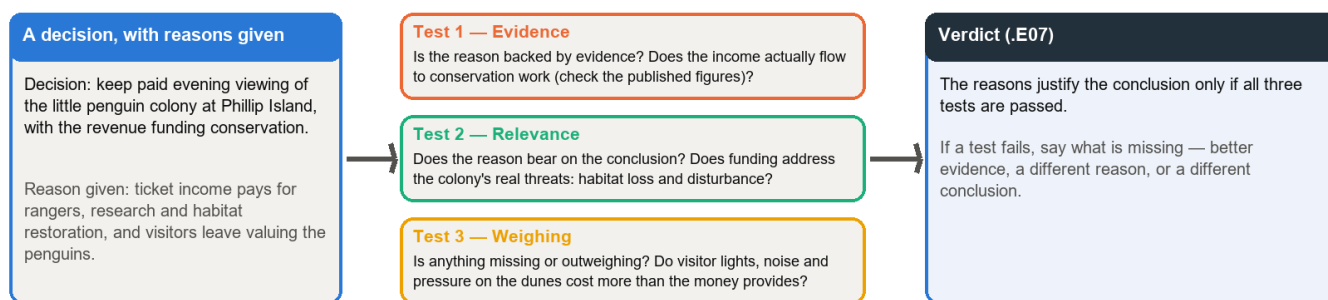
Again: the skill is not choosing the popular side. It is reflecting on each perspective's reasons, weighing them, and stating a conclusion you can justify.

Part 7 — The reasons test: do the reasons support the decision? (.E07)

The last skill is the sharpest. Decisions arrive with reasons attached; VC2HG10S05.E07 asks you to examine whether those reasons actually justify the conclusion reached. Three tests do most of the work (Figure 10): is the reason backed by **evidence**? does it **bear on** the conclusion (relevance)? and is anything **missing or outweighing** (weighing)?

Do the reasons really support the decision?

A decision is usually defended with reasons. Examining whether those reasons actually justify the conclusion means putting them through three tests.



The same three tests apply to any defended conclusion — a seed vault, a migration pathway, a cyber law, a food choice. Stating which test a reason fails is itself a geographical judgement.

Model: original, for VC2HG10S05.E07; example: Phillip Island Nature Parks (retrieved 25 August 2026).

Flow diagram: a decision with reasons given (keep paid penguin viewing at Phillip Island, revenue funding conservation) passes through three tests - evidence, relevance, weighing - to a verdict: the reasons justify the conclusion only if all three tests pass

Figure 10. Do the reasons really support the decision? (model, worked with Phillip Island.)

.E07 also names the wide lens to apply: the interconnections of environmental, economic, social, political and technological factors. Consider unequal access to water: about 2.2 billion people lacked safely managed drinking water in 2023 (WHO/UNICEF Joint Monitoring Programme). A government that concludes “building more wells has solved access” gives reasons that must be tested: do the wells still function after five years (evidence)? do they serve the households that lacked water, or the ones easiest to reach (relevance)? are climate, cost and maintenance outweighing the gain (weighing)? When a reason fails a test, saying *which* test it fails - and what would repair it - is the conclusion work this section builds.

Part 8 — Putting it together

By the end of this section you should be able to take any phenomenon, issue or challenge - the ones in this book or one you find yourself - and move through the four jobs: name your values, map the perspectives, judge with at least two concepts, and defend a conclusion whose reasons survive the three tests. That is the whole of VC2HG10S05, and it is the thinking behind every conclusion you will defend in section 6B and communicate in 6C.

Worked examples

Example 1 — scaffolded (defend an action for Pacific wellbeing, .E02/.E04)

Task: “Australia should honour and expand the Falepili Union pathway.” Defend or oppose this action using at least two geographical concepts as criteria and at least two perspectives.

Step 1 — Concepts as criteria. Choose **interconnections** (Australia’s emissions and economy are linked to Pacific sea-level rise and livelihoods) and **scale** (a local island’s loss is also a regional and global issue; responses differ at each scale).

Step 2 — Perspectives and their reasons. For: Tuvaluan families gain a dignified option and skills that flow home; Australia honours a neighbourly duty. Against: high-emitting countries may treat migration as a substitute for cutting emissions; Tuvalu’s existence as a place - not just a population - is at stake.

Step 3 — Weigh and conclude. Weighed with interconnections and scale, the pathway addresses the human scale of the problem now, while emissions cuts and adaptation funding address the cause at the global scale; one does not

replace the other. Conclusion: the action is appropriate *as part of* a wider response - defended with the two concepts and both perspectives, not with preference. (A reasoned opposite conclusion, using the same criteria, is equally acceptable - marking is on the weighing.)

Example 2 — scaffolded (the reasons test on the seed vault, .E03/.E07)

Task: a critic says “the Svalbard vault is a stunt; it cannot feed anyone.” Examine the reasons given for the vault and explain whether they justify the conclusion that it was worth building.

Test 1 — Evidence. The vault holds over 1.3 million seed samples; in 2015 ICARDA drew seeds back out after war closed its Aleppo genebank and rebuilt its collection. The reasons (a backup protects options) are backed by a real, dated use.

Test 2 — Relevance. The critic’s reason (“it cannot feed anyone”) attacks a purpose the vault never claimed: it stores *breeding options* for future crops, which is exactly the food-security purpose stated. The reason does not bear on the stated conclusion.

Test 3 — Weighing. Missing factors: the vault cannot replace farming diversity in fields (on-farm conservation still matters), and it depends on international cooperation. Neither outweighs the backup’s value; both qualify it.

Verdict: the reasons given for the vault - protecting crop options against loss - justify the conclusion that it was worth building; the critic’s reason fails the relevance test. Stating that, with the 2015 withdrawal as evidence, is .E07 done well.

Practice questions

Scaffolded

Q1. Using Figure 1: (a) name the four moves of an ethical geographical conclusion; (b) which move is skipped by a student who writes their own opinion as if no other view exists? (c) which move says “check the opposing evidence before you defend”?

Q2. Figure 3 (India): (a) state India’s 2023 HDI and its rank; (b) state the poverty reduction reported for 2005-06 to 2019-21; (c) write one conclusion the data supports about improving wellbeing in India; (d) name one value or attitude of your own that might make you more or less impressed by that conclusion (.E01).

Q3. Figure 4 (Pacific): (a) which two countries sit in the high development band? (b) give two reasons Tuvalu’s geography makes sea-level rise an urgent wellbeing issue; (c) state the Falepili Union pathway in one sentence; (d) pose one ethical question the Union raises (.E02).

Q4. Figures 5 and 6: (a) state the share of world crop production supplied by nine species; (b) explain in two sentences why the decline in food species is a food-security issue; (c) what did the 2015 ICARDA withdrawal show about the vault’s purpose? (.E03)

Q5. Figure 7: (a) name two technological interconnections disrupted by the listed attacks; (b) which event most clearly shows a cyber attack in one part of the world disrupting trade in another? give one reason; (c) why does the cross-border nature of these attacks support an international-law response? (.E03)

Q6. Figures 8 and 9: (a) choose two concepts from Figure 8 and, for each, write one checking sentence about the Werribee South issue; (b) give one environmental, one economic and one social factor in the disappearing-arable-land issue; (c) which lens would a developer likely weigh most heavily, and is that weighing legitimate? (.E04/.E05)

Un scaffolded

Q7. A shopper always buys locally grown vegetables, predicting this cuts greenhouse gases. Using Figure 2, explain what their value gets right, what it underweights, and one other reason local buying might still be worth doing (.E06).

Q8. Steelman both sides of ecotourism at the Phillip Island Penguin Parade (part 6), then state and justify your own conclusion about whether paid visitor viewing should continue. Name the concepts or criteria you weighed (.E05).

Q9. “The Falepili Union shows Australia taking responsibility.” “The Falepili Union lets Australia and other high emitters off the hook.” Examine the reasons behind each claim and explain how far they do or do not justify the conclusion each reaches (.E02/.E07).

Q10. About 2.2 billion people lacked safely managed drinking water in 2023. Draw one conclusion about this unequal access using at least two geographical concepts as criteria, and justify it by weighing at least two perspectives (.E04/.E05/.E07).

Inquiry task

One issue, concluded and defended. Choose one issue: (A) keeping vegetable-growing land at Werribee South in farming while Melbourne’s western suburbs expand; (B) the Falepili Union pathway for Tuvaluans; (C) promoting ecotourism at a wildlife site such as the Phillip Island Penguin Parade; (D) building a “seed vault” backup for something your community relies on (a data backup, a seed library, a water reserve). Write a 400-600 word justified conclusion that:

1. names one value or attitude of your own and the prediction or lean it creates (.E01, .E06);
2. maps at least two perspectives on the issue, each with its strongest reasons (steelman both - see part 6);
3. states at least two geographical concepts used as criteria, and applies each in at least one sentence (.E04);
4. draws your conclusion and defends it by weighing the perspectives against your criteria (.E02, .E05);
5. puts one reason on your own side through the three tests of Figure 10 and reports the result (.E07);
6. lists at least two real sources with the date you retrieved them.

Marking is on the reasoning, not the side you choose.

Answers

Q1. (a) Know your own position; map the perspectives; judge with at least two concepts; defend your conclusion (with the testing loop underneath). (b) Move 2, mapping perspectives. (c) The testing loop (“keep testing”), which belongs to defending - reasons that survive testing. **Q2.** (a) 0.685; rank 130 of 193. (b) 415 million people moved out of multidimensional poverty. (c) e.g. strategies improving health, schooling and incomes lifted wellbeing at a very large scale over 2005-21. (d) any named value with its lean, e.g. “I value what governments can do, so I credit public programs” or “I doubt big claims, so I want the opposing evidence”. **Q3.** (a) Fiji and Samoa. (b) Any two: average elevation about 2 m above a rising sea; much of the population on low islets such as Funafuti; land loss threatens homes, water and the country’s existence. (c) Signed November 2023, it allows up to 280 Tuvaluans a year to live, work and study in Australia. (d) e.g. who should carry the cost when a country’s land is threatened by emissions it did not create? **Q4.** (a) 66%. (b) Fewer varieties means fewer options when drought, pests or disease strike, so the food supply is more fragile. (c) It showed the backup works: stored seeds were drawn back out to rebuild a collection made inaccessible by war. **Q5.** (a) Any two: global shipping (Maersk; DP World ports); telco customer data (Optus); health-insurer records (Medibank). (b) NotPetya - malware first hitting Ukraine spread through business software to cost a global shipping giant about US\$300 million (or DP World - an attack on one company’s systems idled ports handling 40% of Australia’s container trade). (c) Attacks cross borders, so rules and responses must be agreed between countries, not set by one alone. **Q6.** (a) any two concept-questions applied to Werribee South, e.g. sustainability: can the city keep feeding itself if its food soil is paved? scale: a local paddock decision with city-wide supply effects. (b) environmental: soil, water and open land lost to paving; economic: farm output, jobs, food costs; social: food security and who the city houses. (c) The economic lens (housing supply and jobs); legitimate if weighed honestly - one lens among three, not a veto. **Q7-Q10.** See the fully-worked solutions below.

Fully-worked solutions

Q7. Right: local food skips long transport, so the transport share of its emissions is smaller - the value does cut food miles. Underweight: transport is only about 6% of food-related greenhouse-gas emissions, so how the food was grown (livestock, heated greenhouses, land use) usually matters more to the total than distance - a local hothouse tomato can beat an imported field-grown one on emissions. Another reason to buy local: money stays with nearby farms and the city keeps some food-growing capacity - an economic and food-security reason that holds even when the emissions reason is small. (Any answer holding both sides plus one extra reason is acceptable.)

Q8. For: visitor revenue pays for rangers, research and habitat work that would otherwise compete for scarce public funds; people who meet penguins become people who protect them; the colony’s protection and its tourism are interdependent. Against: visitors bring lights, noise, tracks and dune pressure; the colony’s fate becomes tied to ticket sales; disturbance costs the animals visitors come to see. Own conclusion (example): paid viewing should continue, capped and managed, because the funding and the public attachment it creates outweigh the disturbance - which the caps, lighting rules and boardwalks directly limit. Concepts weighed: interconnections (visitors fund conservation) and sustainability (can the colony keep thriving under visitor pressure?). (Any both-sides weighing with a stated, criteria-based own view is acceptable.)

Q9. Claim 1 reasons: Australia created a dignified pathway before crisis forced one; it accepts some cost of emissions its economy helped create; 280 places a year is real for a country of Tuvalu’s size. Tests: evidence (a signed treaty, a real pathway) and relevance (taking people in is a form of responsibility) pass; weighing shows the limit - 280 a year does not, alone, answer the loss of land. Claim 2 reasons: migration can be used to argue adaptation funding and emissions cuts are less urgent; the harm (lost land, place, sovereignty) is not fixed by visas. Tests: relevance passes (substitution is a real risk), evidence is conditional - it depends on whether governments actually treat the Union as a substitute or as an addition. Verdict (example): each claim’s reasons justify a *partial* conclusion - the Union is genuine responsibility-taking *and* a risk of letting bigger duties slide - so the fully justified conclusion joins both: honour the pathway *and* keep pressing on emissions and adaptation funding. (Any answer that tests both claims’ reasons and reaches a weighed conclusion is acceptable.)

Q10. Example conclusion using **space** and **interconnections**. Space: safely managed water is unevenly distributed - the gap follows geography, wealth and the urban-rural divide, so the access problem is spatial, not just technical. Interconnections: unsafe or distant water connects to health (waterborne disease), education (hours spent collecting water, often by girls) and incomes - so unequal water access reproduces unequal wellbeing. Perspectives weighed: a finance ministry stresses cost and wants the cheapest wells first; a rural household stresses reliability and safe water within reach; a health agency stresses that half-measures leave disease behind. Justified conclusion: expanding *safely managed* supply, prioritised to the places and people the spatial gap hits first, is the defensible response - cheapest-first fails the interconnection test because it leaves the health and schooling costs in place. (Any two-concept conclusion with two weighed perspectives is acceptable.)

Teaching sequence

Teacher-facing. Not vocabulary-gated.

1. **The model (part 1, Figure 1).** Open with one contested local question on the board and collect gut responses; use the contrast to introduce values and attitudes. Teach the four moves; stress that “justify” means reasons that survive testing.
2. **Values and predictions (part 2, Figure 2).** Run the food-miles prediction as a predict-then-check: poll the class expectation, then reveal the 6% transport slice. Introduce the check-the-prediction habit; note the other .E06 examples briefly.
3. **The two wellbeing cases (part 3, Figures 3-4).** Read both charts; define HDI and human wellbeing in one sentence each. Stage the Falepili two-views box as a structured debate; park the ethical question for Q9.
4. **Challenges and conclusions (part 4, Figures 5-7).** Teach the challenge-impact- response-test chain with the vault, letting the 2015 withdrawal land as the proof; then the cyber table, drawing the cross-border conclusion from students.
5. **Criteria and perspectives (parts 5-6, Figures 8-9).** Drill the “at least two concepts” rule on the Werribee South issue; run the three-lens weighing; teach steelmanning with the penguin-parade pair before Q8.
6. **The reasons test and inquiry (part 7, Figure 10).** Teach the three tests; run Example 2 together; launch the inquiry task, noting marking is on the reasoning, not the side.

Assessment notes. Example 1, Q8-Q10 and the inquiry task exercise “justify conclusions ... using geographical concepts” directly; Q1-Q6 exercise the component skills (values, perspectives, concepts as criteria, drawing conclusions from data). The inquiry task is the section’s source task per the volume calibration.

Scope note. VC2HG10S05 carries no section-2A exclusions and no First Nations disposition; nothing excluded is taught or required here, and example choice (India, Pacific, Svalbard, cyber, Werribee South, Phillip Island, Fishermans Bend) introduces none by design. There is no prior-knowledge assumption: values, perspectives, criteria, HDI and the seven concepts are each established in the section itself.

Sources

*Sources (real, checkable referents; all retrieved 25 August 2026): (1) United Nations Development Programme, Human Development Report 2025 - India HDI 0.685 (rank 130 of 193), Fiji 0.731 (111), Samoa 0.708 (122), Tuvalu 0.689 (129), and the 1990-2023 HDI series held in this build at [_4a_research/hdr25_composite.csv](#) (Figures 3-4). (2) UNDP and OPHI, Global Multidimensional Poverty Index 2023, India country briefing - 415 million people moved out of multidimensional poverty between 2005-06 and 2019-21 (National Family Health Survey data). (3) Australia-Tuvalu Falepili Union, signed November 2023 - pathway for up to 280 Tuvaluans a year to live, work and study in Australia; Tuvalu average elevation about 2 m and about 6,000 people on Funafuti (government and UN reporting). (4) FAO, State of the World’s Plant Genetic Resources for Food and Agriculture (1996; second report 2010) - about 75% of crop genetic diversity lost since 1900; about 6,000 food plant species, fewer than 200 contributing substantially, nine species 66% of crop production (Figure 5). (5) NordGen / Crop Trust, Svalbard Global Seed Vault - opened 26 February 2008 near Longyearbyen, Norway; first withdrawal 2015 (ICARDA, Aleppo genebank inaccessible due to war); over 1.3 million samples by 2024 (Figure 6). (6) NotPetya, June 2017 - total losses over US\$10 billion, Maersk about US\$300 million and Merck about US\$870 million (company disclosures and incident

reporting); Optus breach September 2022 (up to 9.8 million people) and Medibank breach October 2022 (9.7 million customers) (company and privacy-regulator reporting); DP World Australia attack November 2023 - operations suspended at Sydney/Port Botany, Melbourne, Brisbane and Fremantle, ports handling about 40% of Australia's container trade (company and media reporting) (Figure 7). (7) Australian Government, Cyber Security Strategy 2023-2030. (8) World Bank, arable land per person (indicator AG.LND.ARBL.HA.PC) - about 0.38 ha in 1961, about 0.18 ha in 2021 (Figure 9). (9) Poore & Nemecek (2018), Science 360(6392): 987-992, as compiled by Our World in Data - food-system emissions by stage; transport about 6% (Figure 2). (10) WHO/UNICEF Joint Monitoring Programme - about 2.2 billion people lacked safely managed drinking water in 2023. (11) Phillip Island Nature Parks - Penguin Parade revenue funding penguin research, rangers and habitat protection (penguinfoundation.org.au). (12) Victorian Government, Plan Melbourne 2017-2050 and Fishermans Bend Framework - about 480 hectares, target of about 80,000 residents, green open space and 20-minute neighbourhoods; City of Wyndham reporting on the Werribee South intensive agriculture precinct. Figures 1, 8 and 10 are original models built for this section; Figures 2-7 and 9 are computed from the sourced values they display.*

From strategy to recommendation: judging options by environmental, economic and social criteria

Theory

Part 1 — What it means to justify a response

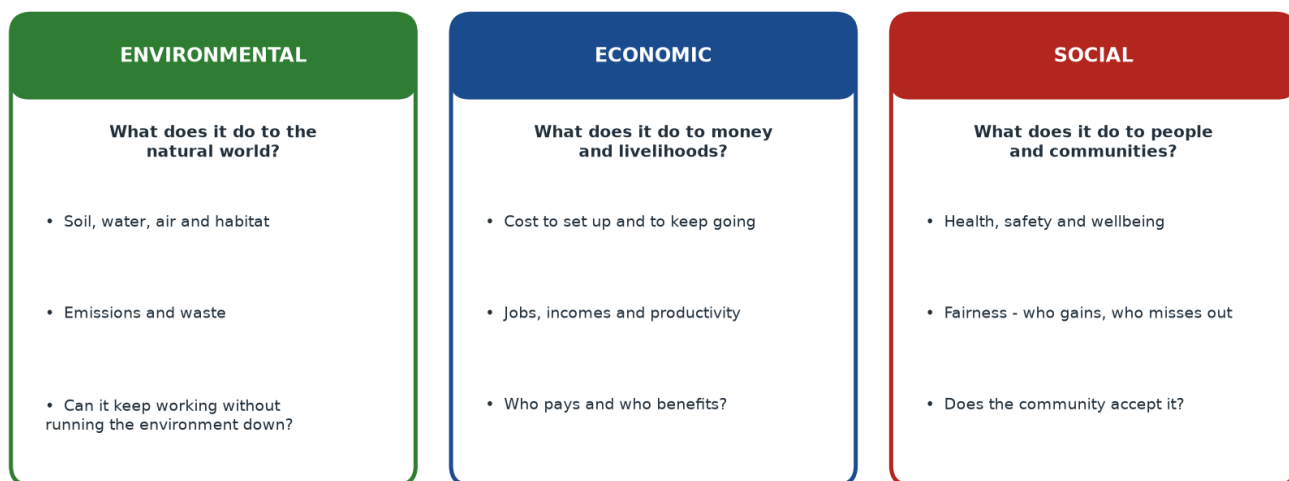
To **justify** a response is to give reasons for it that another person can test. A response is not justified because we like it; it is justified because the reasons and evidence behind it hold up when someone pushes on them. In geography the “responses” we justify are usually **strategies** — planned ways of dealing with a geographical issue — and the test we apply is a set of **criteria**. A *criterion* is a standard you judge against. This section uses the three criteria named in your curriculum: **environmental**, **economic** and **social**. The method is: give reasons, develop strategies, evaluate them against the criteria, recommend one, and explain the impacts you predict it will have (Figure 2).

Part 2 — The three criteria

The three criteria are the three dimensions of sustainability — the environment, the economy and society (Figure 1). Each asks a different question of a strategy, and a strategy that scores well on one can score badly on another. That is the whole point: evaluating means holding a strategy up against all three, not just the one you care about.

The three criteria for judging a strategy

A criterion is a standard you judge against. Most real strategies score differently on each.



The three criteria are the three dimensions of sustainability - environment, economy and society.

Three columns, one per criterion. Environmental (green) asks what a strategy does to the natural world: soil, water, air and habitat; emissions and waste; and whether it can keep working without running the environment down. Economic (blue) asks what it does to money and livelihoods: cost to set up and keep going; jobs, incomes and productivity; and who pays and who benefits. Social (red) asks what it does to people and communities: health, safety and wellbeing; fairness; and whether the community accepts it.

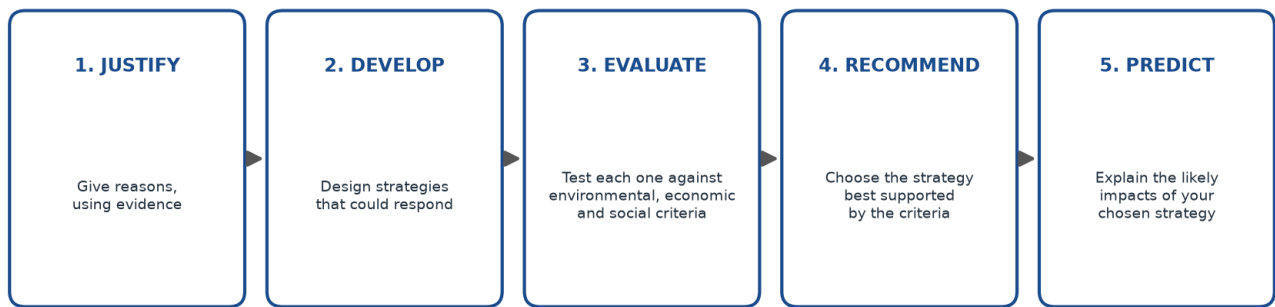
Figure 1. The three criteria for judging a strategy (model).

Notice the third question in each column. “Can it keep working without running the environment down?”, “Who pays and who benefits?” and “Does the community accept it?” are the questions that stop a strategy looking good on paper but failing in a real place. They are also the questions where people honestly disagree — and disagreement is fine, as long as the criteria are stated.

Part 3 — The method, and the case we will use

Figure 2 is the decision-making method this section teaches. It reads as five steps but works as a loop: new evidence at step 5 can send you back to step 3 to re-weigh the criteria.

The decision-making method of this section

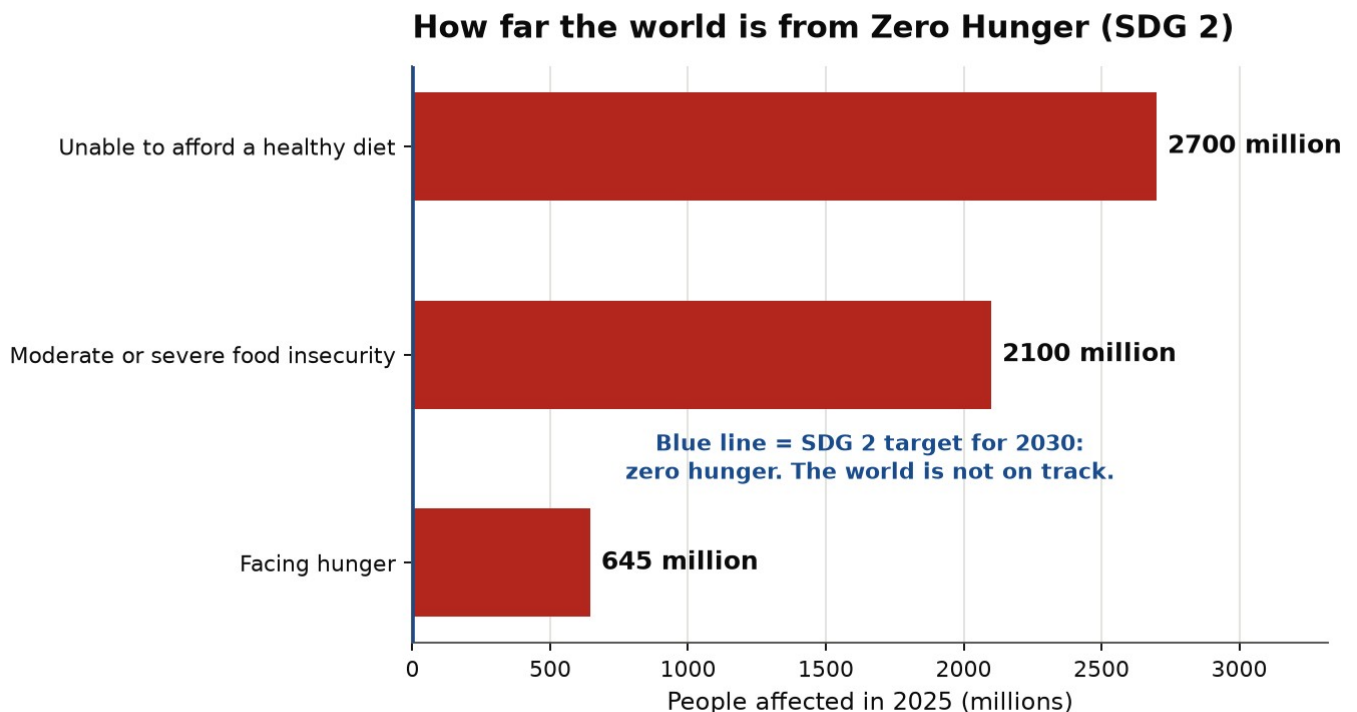


It is a loop, not a straight line: new evidence at step 5 can send you back to step 3 to re-weigh the criteria.

Five boxes joined left to right by arrows: 1 Justify (give reasons, using evidence); 2 Develop (design strategies that could respond); 3 Evaluate (test each one against environmental, economic and social criteria); 4 Recommend (choose the strategy best supported by the criteria); 5 Predict (explain the likely impacts of your chosen strategy). A note says it is a loop, not a straight line.

Figure 2. The decision-making method of this section (model).

We apply the method to one constant case: **food insecurity and hunger**. Section 1D defined *food security* in the FAO's sense — all people, at all times, able to get enough safe and nutritious food — and gave the 2025 picture. The world set itself a target for this problem: **Sustainable Development Goal 2** (Goal 2), “zero hunger”, which aims to end hunger by **2030**. Figure 3 shows how far the world is from that target.



Source: FAO SOFI 2026 (via section 1D); UN SDG reporting (off track), retrieved 25 August 2026.

Horizontal bar chart of people affected in 2025: facing hunger 645 million; moderate or severe food insecurity 2100 million; unable to afford a healthy diet 2700 million. A blue vertical line at zero is labelled as the Goal 2 target for 2030, with a note that the world is not on track to reach it.

Figure 3. How far the world is from Zero Hunger (Sustainable Development Goal 2). Data as used in section 1D (FAO SOFI 2026); UN reporting says the world is not on track for Goal 2 by 2030.

About 645 million people faced hunger in 2025, 2.1 billion lived with moderate or severe food insecurity, and about 2.7 billion could not afford a healthy diet — against a 2030 target of zero. So the first evaluation is already done for us: on the evidence, the world is **not on track** for Goal 2. That gap is the problem our strategies must respond to.

Part 4 — Developing strategies (E02)

A strategy is a planned response, and developing strategies means designing more than one so there is something to compare. For food insecurity, three plausible strategies are:

- **Strategy A — Emergency food relief.** Rescue surplus food and get it to hungry people now, through organisations such as food banks.
- **Strategy B — Sustainable intensification.** Help farmers — especially small farmers — grow more food from the same land through training, better varieties and careful irrigation, raising incomes and supply.
- **Strategy C — Reducing food waste.** Cut the food lost and wasted across the supply chain and in homes, so more of what is grown is actually eaten.

Each is a real family of action, and each is championed by serious people — which is exactly why we evaluate rather than pick by instinct.

Part 5 — Evaluating the strategies against the criteria (E01, E07)

Figure 4 is a worked scorecard applying the three criteria to the three strategies. Read the ratings as reasoned calls, not measurements — they are meant to be open to argument.

Scorecard: three strategies to reduce food insecurity, judged on environmental, social and economic criteria

Strategy	Environmental criterion	Rating	Social criterion	Rating	Economic criterion	Rating
Emergency food relief (food banks, food rescue)	Rescues edible food from landfill, but transport and packaging of parcels carry a footprint	Mixed	Feeds hungry people now - an immediate wellbeing gain	Strong	Low cost to recipients, but relies on donations and does not create stable incomes	Mixed
Sustainable intensification (training, drought-tolerant varieties, better irrigation for small farmers)	Lifts yield on existing land so less must be cleared, but poorly managed inputs can overdraw water	Mixed	Builds long-term food supply and farm livelihoods	Strong	Raises farm incomes and productivity, but needs upfront investment	Strong
Reducing food waste (supply chain and households)	Less waste to landfill and lower emissions; less pressure to clear new land	Strong	Leaves more food available, but alone does not guarantee it reaches the hungry	Mixed	Saves money for households and business and recovers value	Strong

No strategy scores 'strong' on all three criteria - that is why recommending is a judgement, not a lookup. Notice that the best environmental choice and the choice that most directly feeds people right now are not the same thing.

Scorecard table with one row per strategy and columns for environmental, social and economic criteria each with a rating. Emergency food relief: environmental Mixed (rescues edible food from landfill but transport and packaging carry a footprint), social Strong (feeds hungry people now), economic Mixed (low cost to recipients but relies on donations). Sustainable intensification: environmental Mixed (lifts yield on existing land but badly managed inputs can overdraw water), social Strong (builds long-term supply and livelihoods), economic Strong (raises incomes but needs upfront investment). Reducing food waste: environmental Strong (less waste to landfill, lower emissions, less pressure to clear land), social Mixed (more food available but alone does not guarantee it reaches the hungry), economic Strong (saves money and recovers value).

Figure 4. Three strategies to reduce food insecurity, judged on the three criteria (model).

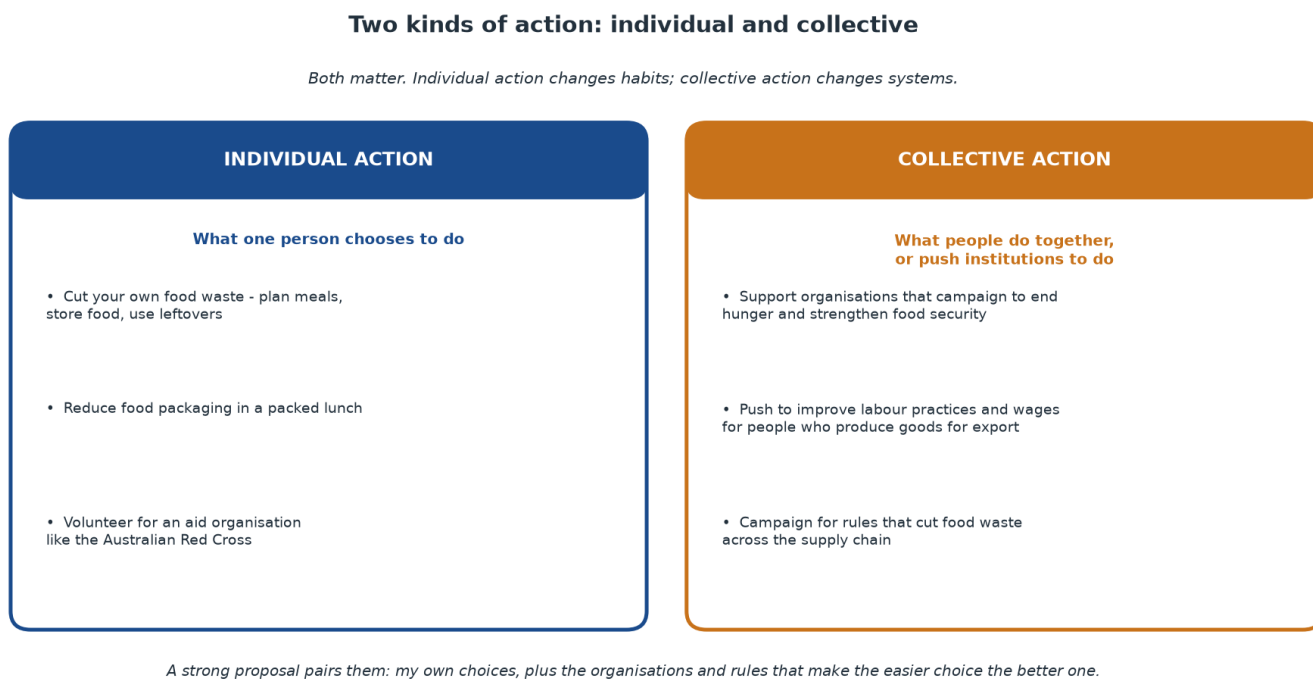
Two habits make a scorecard honest. First, **steelman**: put each strategy in its strongest form before you judge it — food relief genuinely feeds people *now*, intensification genuinely builds incomes, waste-reduction genuinely helps all

three criteria at once. Second, look for the mismatch: the strategy best for the environment is not the one that most directly feeds people today, so “which is best?” only has an answer once you say how you weigh the criteria. Evaluating is that weighing, made visible.

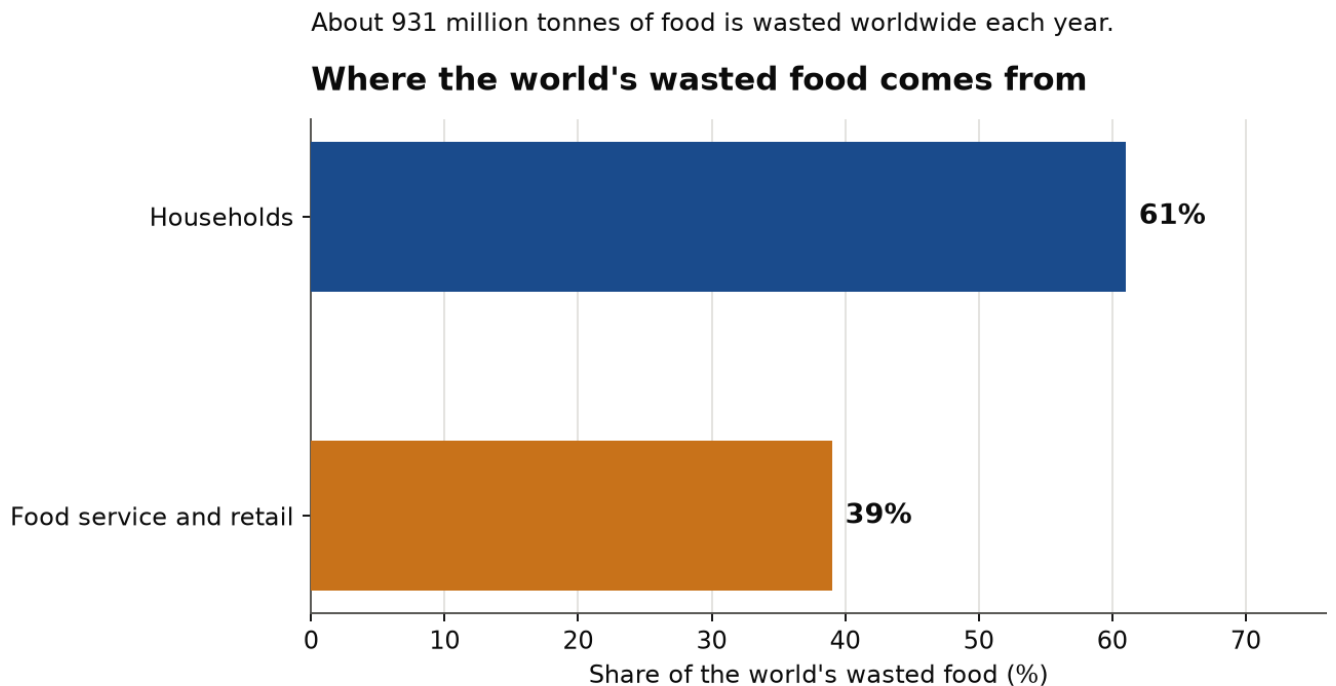
E07 adds the follow-up question for any strategy already running: has it actually reduced environmental damage and improved wellbeing? A strategy is not effective because it was announced; it is effective if, when you measure afterwards, the damage is smaller and people are better off.

Part 6 — Individual and collective action (E03, E04, E06)

Responses also split by *who* acts. **Individual action** is what one person chooses to do; **collective action** is what people do together or push institutions to do (Figure 5).



How big is the waste problem these actions target? Figure 6 gives the global picture.



Source: UNEP Food Waste Index Report 2021 (931 million tonnes; 61 percent from households), via Wikipedia 'Food loss and waste', retrieved 25 August 2026.

Horizontal bar chart of where the world's wasted food comes from: households 61 percent (blue), food service and retail 39 percent (orange), with a note that about 931 million tonnes of food is wasted worldwide each year.

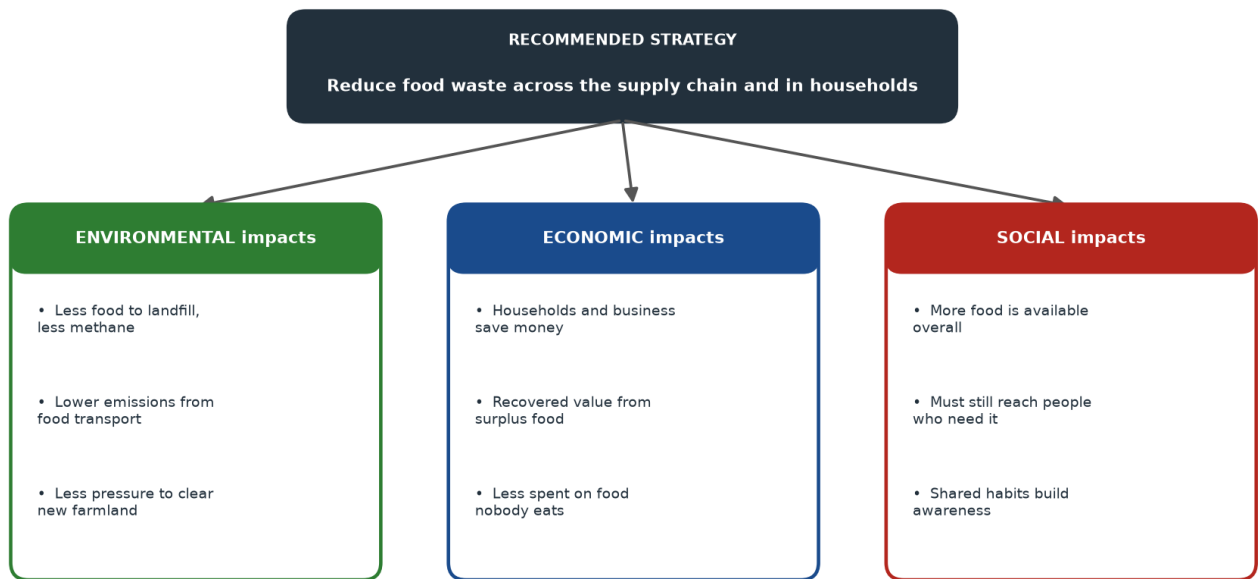
Figure 6. Where the world's wasted food comes from (UNEP Food Waste Index 2021).

About 931 million tonnes of food is wasted worldwide each year, and the largest single share — 61 per cent — comes from **households**. That is precisely why an individual action (wasting less at home) connects to a global criterion: households together are the biggest source of waste, so household choices are not a drop in the ocean.

Part 7 — Recommending and explaining predicted impacts (E05)

To **recommend** is to choose one strategy and say why the criteria support it. To **explain the predicted impacts** is to trace what you expect to follow, criterion by criterion. Figure 7 models this for Strategy C (reducing food waste), the strategy the scorecard shows as the only one to rate Strong on two criteria at once.

Recommending a strategy and explaining its predicted impacts



A prediction is a reasoned claim about what will follow - say why you expect each impact, and name what could weaken it.

Model diagram. A dark box at the top reads: Recommended strategy — reduce food waste across the supply chain and in households. Arrows lead to three boxes: Environmental impacts (less food to landfill, less methane; lower emissions from food transport; less pressure to clear new farmland), Economic impacts (households and business save money; recovered value from surplus food; less spent on food nobody eats), Social impacts (more food is available overall; must still reach people who need it; shared habits build awareness).

Figure 7. A recommended strategy with its predicted impacts, by criterion (model).

A prediction is a reasoned claim about what will follow, so each one needs a “because” and a weakness. Example: “less food to landfill means less methane, *because* rotting food in landfill releases methane, and the prediction weakens *if* waste is simply moved rather than reduced.” The social column also keeps an honest limit: more available food only helps the hungry if it is directed to them — which is where Strategy A (relief) and Strategy C (waste) need each other.

Part 8 — Explaining reasons for decisions: top-down versus grass-roots (E08)

Finally, a recommendation is only as good as the decisions behind it, and *who makes those decisions* changes the outcome. Figure 8 contrasts **top-down** aid (decided far away, then delivered) with **grass-roots** aid (local people identify the need and decide how to act).

Who decides? Top-down versus grass-roots aid projects



Why it matters: the same aid money works better when the people it is meant to help help make the decisions.

Two panels. Top-down (red): a distant agency chooses the project; it may not fit local needs or conditions; little local ownership so follow-through is weak; result, weaker implementation and effect. Grass-roots (green): the community identifies its own need; the project fits local conditions and culture; local ownership drives follow-through; result, stronger implementation and effect.

Figure 8. Top-down versus grass-roots decision-making in aid projects (model).

The grass-roots panel explains a well-known pattern in development: the same aid money tends to work better when the people it is meant to help help make the decisions, because they know the local conditions and have a stake in follow-through. Explaining *why* a decision was made — local knowledge, ownership, fit — is the same skill as justifying a strategy: give the reason, and the reason can be tested.

Worked examples

Example 1 — scaffolded (E01, E07: evaluating a strategy against the criteria)

Question: Using Figure 4, evaluate **Strategy B (sustainable intensification)** against all three criteria. Give one strength and one weakness for each, then state an overall judgement.

Step	Reasoning
1. Environmental	Strength: raising yield on existing land means less new land must be cleared. Weakness: badly managed fertiliser and irrigation can overdraw water and pollute.
2. Economic	Strength: higher yields raise farm incomes and productivity. Weakness: it needs upfront investment in seeds, training and equipment.
3. Social	Strength: it builds long-term food supply and farm livelihoods. Weakness: benefits may take years to reach the hungriest people now.
4. Overall judgement	Strong on economic and social, mixed on environmental — a good long-term strategy <i>if</i> inputs are carefully managed, weaker as an immediate response to hunger today.

Answer: Strategy B scores well where it builds incomes and long-term supply, and less well where its environmental side-effects and its slowness matter. Evaluating it meant holding it against all three criteria, not just the one it is best at.

Example 2 — scaffolded (E05: recommending and explaining predicted impacts)

Question: Recommend **one** strategy from Figure 4 and explain two predicted impacts of it, each with a “because” and one thing that could weaken the prediction.

Step	Reasoning
1. Choose and say why	Recommend Strategy C (reduce food waste): it is the only strategy rated Strong on two criteria (environmental and economic) at once.
2. Predicted impact 1	Environmental: less methane, <i>because</i> less rotting food reaches landfill. Weakens if waste is shifted elsewhere instead of reduced.
3. Predicted impact 2	Economic: households save money, <i>because</i> food they buy is eaten rather than binned. Weakens if saving food leads to buying more overall.
4. State the limit	Social: more available food only helps the hungry if directed to them — so pair C with relief (A).

Answer: Recommending C is justified by the scorecard (two Strong ratings), and its predicted impacts are stated as testable claims — each with a reason and a weakness — which is exactly what “explain the predicted impacts” requires.

Practice questions

Scaffolded

Q1. Define *criterion* as this section uses the term, and name the three criteria in Figure 1.

Q2. Figure 3 shows the 2030 target for hunger as zero. State the number of people facing hunger in 2025 and say whether the world is on or off track for Goal 2.

Q3. In Figure 4, which strategy is rated Strong on the environmental criterion, and which is rated Strong on the social criterion?

Q4. Give one example of individual action and one example of collective action from Figure 5.

Q5. Figure 6 shows households produce the largest share of wasted food. State that share and the total food wasted worldwide each year.

Q6. In Figure 8, give two reasons why grass-roots aid projects tend to be implemented more effectively than top-down ones.

Unscaffolded

Q7. Evaluate **Strategy A (emergency food relief)** against the three criteria using Figure 4. Is it effective? Say how you are weighing the criteria to reach your answer (E01, E07).

Q8. Explain why *who makes the decisions* in an aid project changes how well it works. Use the language of Figure 8 (ownership, fit, follow-through) in your reasons (E08).

Q9. Propose one individual action and one collective action to reduce food insecurity, and support each proposal with a reason (E03, E04, E06).

Q10. Recommend one strategy from Figure 4 and explain two predicted impacts of it, each with a reason and one thing that could weaken your prediction (E05).

Inquiry task

Apply the method to the case. Food insecurity is the issue; the three strategies are A (food relief), B (sustainable intensification) and C (reduce food waste).

- (a) Using Figure 1, write one evaluation question of your own for each criterion that is not already in the figure.
 - (b) Build your own scorecard for the three strategies, rating each Strong / Mixed / Weak on each criterion, with a one-line reason per rating.
 - (c) Recommend one strategy. Justify your choice by explaining how you weighed the three criteria.
 - (d) For your recommended strategy, explain two predicted impacts, each with a “because” and one weakness.
 - (e) Name one individual action and one collective action that would support your strategy, and say whether each is top-down or grass-roots, with a reason for your call.
-

Answers

Q1. A criterion is a standard you judge against. The three are environmental, economic and social. **Q2.** 645 million people faced hunger in 2025; the world is off track for Goal 2 (target zero by 2030). **Q3.** Environmental Strong: reducing food waste (C). Social Strong: emergency food relief (A) and sustainable intensification (B). **Q4.** Individual: e.g. cut your own food waste (or reduce packed-lunch packaging, or volunteer for the Australian Red Cross). Collective: e.g. support organisations that end hunger (or push for better labour practices and wages, or campaign for waste-cutting rules). **Q5.** Households 61 per cent; about 931 million tonnes a year. **Q6.** Local people know the conditions, and local ownership drives follow-through, so projects fit better and last longer. **Q7.** Any reasoned weighing: A is Strong socially (feeds people now) but Mixed environmentally and economically; a strong answer says it is effective *now* but not on its own long-term, and states how the criteria were weighed. **Q8.** Local knowledge gives fit; ownership gives follow-through; so the same money works better. Top-down lacks both, so implementation is weaker. **Q9.** Any two with reasons, e.g. individual: waste less at home because households are the biggest waste source; collective: support a hunger-relief organisation because it directs food to people who need it. **Q10.** Any strategy with two impacts each stated as a testable claim (reason + weakness), consistent with Figure 4.

Inquiry (a) One new question per criterion, e.g. environmental: “does it protect soil and water?”; economic: “does it create stable local jobs?”; social: “is it fair to the poorest?” **(b)** A completed scorecard with reasons. **(c)** A choice justified by stated weighing of the criteria. **(d)** Two impacts, each with a because and a weakness. **(e)** One individual + one collective action, each labelled top-down or grass-roots with a reason.

Fully-worked solutions

Q1. A *criterion* is a standard you judge against; judging a strategy “against criteria” means testing it on each standard separately. The three in Figure 1 are environmental (the natural world), economic (money and livelihoods) and social (people and communities).

Q2. The 2025 hunger figure is 645 million people, against a 2030 Goal 2 target of zero. UN reporting says the world is not on track, so the gap in Figure 3 is the problem strategies must close.

Q3. On the environmental criterion, Strategy C (reducing food waste) is Strong. On the social criterion, Strategies A (emergency food relief) and B (sustainable intensification) are Strong.

Q4. Individual action: cutting your own food waste (planning meals, storing food, using leftovers), reducing packed-lunch packaging, or volunteering for an aid organisation like the Australian Red Cross — any one. Collective action: supporting organisations that end hunger, pushing for better labour practices and wages for export producers, or campaigning for rules that cut supply-chain waste — any one.

Q5. Households produce 61 per cent of the world’s wasted food; the total wasted is about 931 million tonnes each year (UNEP Food Waste Index 2021).

Q6. Grass-roots projects work better because (1) the community identifies its own need, so the project fits local conditions, and (2) local ownership drives follow-through, so the project is maintained. Top-down projects tend to lack both, so implementation and effect are weaker.

Q7. Strategy A is Strong socially (it feeds hungry people immediately) but Mixed environmentally (rescued food avoids landfill, yet transport and packaging carry a footprint) and Mixed economically (low cost to recipients but reliant on donations, not stable incomes). Whether it is “effective” depends on the weighing: against the social criterion right now, yes; against long-term environmental and economic criteria, it needs B or C beside it. A good answer states the weighing rather than hiding it.

Q8. Who decides changes the outcome through three linked reasons. Fit: local people know the conditions, so a locally chosen project matches the real need. Ownership: when the community makes the call, it has a stake in the result. Follow-through: ownership plus fit means the project is looked after and adapted, so implementation holds. A top-down project, decided far away, tends to miss the need and lose the stake, so it under-delivers — which is why explaining the *reasons* for a decision is part of justifying it.

Q9. Model: individual — waste less food at home, *because* households are the single largest source of wasted food (61%), so the action hits the biggest lever; collective — support an organisation that works to end hunger, *because* it channels surplus food to people who need it, which an individual cannot do alone. Both proposals carry a reason that ties the action to a criterion (environmental for waste, social for relief).

Q10. Model (choosing C): predicted impact 1, environmental — less methane *because* less rotting food reaches landfill; weakens if waste is moved, not reduced. Predicted impact 2, economic — households save money *because* bought food is eaten not binned; weakens if cheaper food leads to buying more. Stating each as reason + weakness makes the prediction testable, which is the skill.

Inquiry. (a) Accept one new, distinct question per criterion. (b) A scorecard with a one-line reason per rating; ratings may differ from Figure 4 if reasoned. (c) A choice with the weighing stated (e.g. “I weight social first because hunger is urgent”). (d) Two impacts, each with a because and a weakness. (e) One individual and one collective action; top-down/grass-roots labels with reasons (e.g. volunteering is grass-roots because the person chooses in; a government rule is top-down because it is set centrally).

Sources

- Victorian Curriculum 2.0, Geography (VCAA) — content description VC2HG10S06 and elaborations .E01 –.E08, retrieved 25 August 2026.
- FAO, *The State of Food Security and Nutrition in the World 2026* (SOFI 2026) — 645 million facing hunger in 2025 (7.8%), 2.1 billion moderately or severely food insecure (25.8%), about 2.7 billion unable to afford a healthy diet (as used in section 1D), retrieved 25 August 2026.
- United Nations Sustainable Development Goals reporting — Goal 2 “zero hunger”, end hunger by 2030, world not on track (via Wikipedia, *Sustainable Development Goal 2*), retrieved 25 August 2026.
- UNEP, *Food Waste Index Report 2021* — 931 million tonnes of food wasted a year, 61 per cent from households (via Wikipedia, *Food loss and waste*), retrieved 25 August 2026.
- Figures 1, 2, 4, 5, 7 and 8 are original model diagrams built for this section; their ratings and impacts are reasoned calls for students to argue, not measured values. Figures 3 and 6 are data charts built from the values shown.

Explaining and judging action with geographical knowledge — and crediting the research behind it

Theory

Part 1 — What this section is for: the communication capstone

Everything in this book so far has built knowledge and skills. This section turns them into the finished product. The content description you are working to (VC2HG10S07) says you will learn to:

explain and judge proposed actions using your geographical knowledge and concepts, with the right methods — and bring in research findings with their sources acknowledged.

That sentence holds four things you must be able to do by the end:

1. **Explain** a proposed action — make clear what it is, why it is needed, and what it would change, using what geography knows.
2. **Evaluate** that action — judge it against criteria and evidence, and reach a supported judgement.
3. **Incorporate research findings** — bring in facts, measurements and results that others have gathered.
4. **Acknowledge** those findings — say where they came from, in the text and in a reference list.

A **proposed action** is something someone has suggested but not yet done — a plan on the table. It might be a council proposal to re-route a walking trail, a city's plan to charge day-trippers an entry fee, a farming group's push for a new water-saving practice, or a school's own plan to cut food waste. In each case the geographer's job is the same: explain why the action is being proposed, and then judge whether it is a good one.

The **appropriate methods** are the ones this book has built: the question-building of section 5A, the data collection and fieldwork of 5B, the maps and graphs of 5C, and the interpretation of 5D. This section adds the last skill of all: presenting the whole thing so a real audience can follow it, trust it, and check it.

Part 2 — Explaining with the seven geographical concepts

Geography's explanations are not just lists of facts. They are built on the seven geographical concepts the curriculum names for this band — **place, space, environment, interconnection, sustainability, scale and change** — and the concepts are the language you reach for when you explain a proposed action. Each one adds a question that sharpens the explanation (Figure 1).

The seven geographical concepts: a scaffold for explanations (VC2HG10S07.E01)

Concept	The question it adds to your explanation	Bass Coast sentence starter
Place	What is this place like, and what gives it character?	"Inverloch and Kilcunda are small coastal towns on the sandy surf coast of Bass Strait ..."
Space	Where are things located, and what patterns do they make?	"The rail trail, the road and homes all line the dune, within metres of the eroding edge ..."
Environment	What natural processes are at work here?	"Winter storm waves and surge cut back the dune, while sea level rises underneath every surge ..."
Interconnection	What links people, places and environments here?	"Greenhouse emissions far away help lift the sea that now attacks this coast ..."
Sustainability	Can this keep going? What must be kept for the future?	"At the measured rate of retreat, the dune cannot keep sheltering the road behind it ..."
Scale	What size are the causes and impacts - local, regional, global?	"Local building decisions meet a global rise in sea level on the same beach ..."
Change	What is changing, how fast, and what follows from it?	"Since 2012 the coast has retreated tens of metres, and the retreat keeps closing the gap to the road ..."

Model built for this section. Concepts as named in the VC2 Levels 9-10 Geography band description; Bass Coast facts sourced in section 3B.

Table of the seven geographical concepts — place, space, environment, interconnection, sustainability, scale and change — each row giving the question the concept adds to an explanation and a sentence starter about the Bass Coast erosion issue

Figure 1. The seven geographical concepts as a scaffold for explanations (model).

The issue used down the right-hand side of Figure 1 is a real one: coastal erosion on the Bass Coast surf coast of Victoria, at the towns of Inverloch and Kilcunda. The coast there is losing sand faster than the sand returns, so the dune is being cut back toward the road, the homes and the Bass Coast Rail Trail that run behind it. Notice how each concept adds a different sentence to the same story: *place* sets the scene, *space* says where things sit, *environment* names the natural processes, *interconnection* joins distant causes to local effects, *sustainability* asks whether things can keep going, *scale* sorts causes by size, and *change* tracks what is happening and how fast. When you explain a proposed action, you rarely need all seven — but you should always know which ones your explanation is standing on.

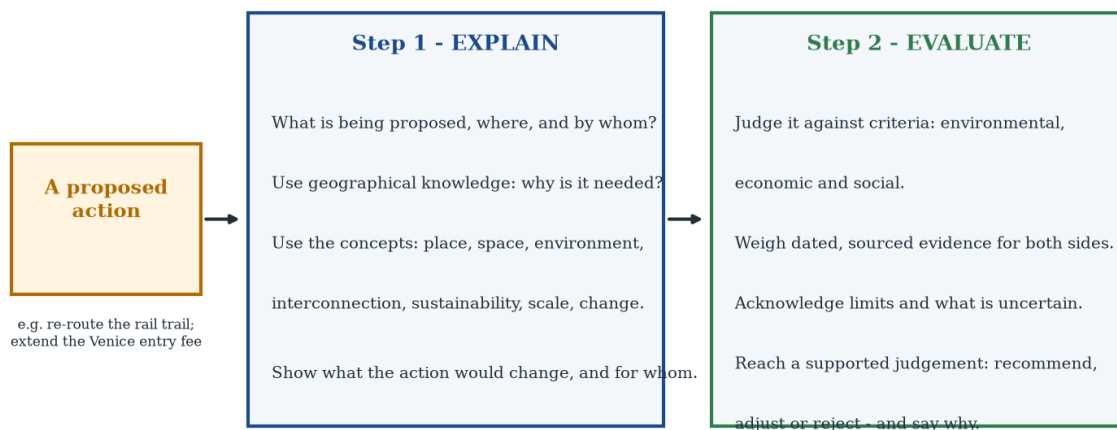
Part 3 — Evaluating a proposed action

To **evaluate** means to reach a judgement for stated reasons. In this section, an evaluation is not a gut reaction and not a vote for the popular side: it is a judgement against **criteria** — standards for judging. The three this book uses again and again, and that the achievement standard itself names, are:

- **Environmental** — what does the action do to the natural world: soils, water, air, plants, animals, and the work the environment does for people?
- **Economic** — what does it cost, what does it save, and who gains or loses money and work?
- **Social** — what does it do to people's daily lives, safety, health, recreation and sense of place?

Figure 2 shows the two moves of this section in order: first explain, then evaluate.

Explain, then evaluate: the two moves of this section



Model built for this section. The criteria echo the achievement standard and sections 2D and 6B.

Flow diagram: a proposed action feeds into Step 1, explain, using geographical knowledge and the seven concepts; that feeds into Step 2, evaluate against environmental, economic and social criteria and dated, sourced evidence; the end product is a supported judgement

Figure 2. Explain, then evaluate: the two moves of this section (model).

Three rules keep an evaluation honest.

Rule one: evidence must be real, dated and sourced. A judgement that rests on “everyone knows” is not an evaluation. Use measurements, dated events and published findings, and name where they came from. **Rule two: steelman both sides.** Before you judge, put the *strongest* case for each side — the version its own supporters would recognise — because a proposal judged only against its weakest defence has not really been judged at all. Two students who reach opposite conclusions after fair weighing have both evaluated well. **Rule three: admit limits.** Say what is uncertain, what could change, and what your judgement depends on.

Figure 3 is a worked evaluation of a real proposed action: re-routing the Bass Coast Rail Trail away from the eroding dune at Kilcunda. The trail section behind the Kilcunda car park has been closed since 26 August 2026 while re-route options are studied, so the question on the table is exactly this one.

Evaluating a proposed action: re-route the Bass Coast Rail Trail away from the Kilcunda dune (model)

Criterion	What the proposal would do	Evidence brought in
Environmental	Moves the trail out of the path of the eroding dune; works at the new route disturb a new site instead	The dune has retreated 33.5-35.6 m since 2012, about 2.4-2.5 m a year on average (Bass Coast Shire Council)
Economic	Keeps a visitor attraction open for the long term instead of losing it to the sea; the new route costs money to build	The trail section has been closed since 26 August 2026 while re-route options are studied (Bass Coast Shire Council)
Social	Keeps a safe recreation route for locals and visitors; works cause short-term disruption	The closure removed a recreation service; Kilcunda beach access was already fenced off in December 2025 (Bass Coast Shire Council)

Supported judgement (model): re-routing protects what the trail does - recreation and visitor access - by moving it where the dune cannot reach it. The measured retreat supports acting soon, and the main risk to weigh is disturbing a new site.

Model built for this section; measurements and dates as sourced in section 3B (Bass Coast Shire Council, retrieved 25 August 2026).

Table evaluating the proposal to re-route the Bass Coast Rail Trail away from the eroding Kilcunda dune: environmental, economic and social rows, each with what the proposal would do and the dated evidence brought in, and a supported judgement at the foot

Figure 3. Evaluating the trail re-route proposal against the three criteria (model; measurements and dates from Bass Coast Shire Council).

The judgement at the foot of Figure 3 is *supported* — it states the reasons and the evidence behind it. That is the standard. A reader who disagrees with the judgement should still be able to see exactly how it was reached, and where to look to challenge it.

Part 4 — Incorporating and acknowledging research findings

A **research finding** is a result someone has gathered or worked out: a measured retreat of a dune, a census count, a survey result, a reported decision and its outcome. Findings give your explanation its backbone — but only if the reader knows where they came from. Figure 4 shows the three moves, using real Venice findings.

Incorporating and acknowledging a research finding: three moves

Move 1 - The finding, as published (section 2D's sources, retrieved 25 August 2026)

Venice recorded 13,290,973 overnight stays in 2024 (ISTAT, Italy's statistics office). The historic centre is home to about 50,000 residents. Venice's 2024 entry fee for day-trippers on peak days did not succeed in reducing visitor numbers.



Move 2 - Incorporated into your sentence, with an in-text acknowledgement

"Venice's visitor pressure is extreme: in 2024 overnight stays reached almost 13.3 million against about 50,000 residents - roughly 266 stays per resident in one year (ISTAT, 2025). The 2024 entry fee did not reduce the numbers, so pressure on the city continues."



Move 3 - Listed in your references, so any reader can trace it

Wikipedia (2026) "Tourism in Italy", citing ISTAT overnight-stay figures for Venice, 2024, and the 2024 day-tripper entry fee. Retrieved 25 August 2026.

(Ratio of 266 stays per resident computed from the published ISTAT and resident values.)

Three stacked panels: Move 1, a research finding about Venice visitors as published; Move 2, the finding incorporated into a student sentence with an in-text source acknowledgement; Move 3, the matching reference-list entry with its retrieval date

Figure 4. Incorporating and acknowledging a finding: the three moves (model).

Venice's historic centre is home to about 50,000 residents, and in 2024 the city recorded 13,290,973 overnight stays — about 266 stays for every resident in one year. On peak days up to 85,000 day-trippers arrive on top. Those are the findings; the acknowledgement is what makes them usable in *your* work.

Incorporating means weaving the finding into your own sentence so it supports your point. **Acknowledging** has two halves: a short note in the text itself (in-text), and a full entry in a reference list at the end, like the ones in Figure 5.

A reference list you could hand in (author-date style, model)

1. Bass Coast Shire Council (2025) Bass Coast Rail Trail impacted by coastal erosion release, 17 August. Retrieved 25 August 2026.
2. Bureau of Meteorology and CSIRO (2024) State of the Climate 2024. Australian Government, Melbourne. Retrieved 25 August 2026.
3. United Nations Development Programme (2025) Human Development Report 2025: HDI time series, 1990-2023. Retrieved 25 August 2026.
4. Australian Bureau of Statistics (2024) Census of Population and Housing: 2021. Canberra. Retrieved 25 August 2026.

■ who wrote it ■ year ■ title / what it is ■ where published ■ when you retrieved it

Style note: this book uses author-date referencing. Your class may use another style - what matters is that every finding can be traced.

Model reference list with four real entries — Bass Coast Shire Council, Bureau of Meteorology and CSIRO, the United Nations Development Programme, and the Australian Bureau of Statistics — colour-coded to show who wrote it, the year, the title, where it was published and when it was retrieved

Figure 5. A reference list made of four real sources used in this book (model).

Why does acknowledging matter? Three reasons, and all three are geographical habits:

- **Traceability.** Any reader can find the source and check the claim. That is what separates a finding from an assertion.
- **Honesty about credit.** The measurements, counts and surveys were someone's work. Naming the source says so.
- **Judgement of reliability.** A reader who can see your sources can also see whether they are strong ones — a measured value from a council survey is stronger evidence than a rumour, and a dated source beats an old one.

The same rule applies to every figure you make. Maps, graphs and tables carry a title, a source line and a retrieval date; drawn maps follow the BOLTSS checklist (Border, Orientation, Legend, Title, Scale, Source — the map conventions this book uses). A figure with no source line is an unacknowledged finding.

Part 5 — Tone matched to purpose and audience

Tone is how your writing sounds to its reader — formal or relaxed, measured or heated, certain or cautious. Two things decide the right tone: your **purpose** (to inform, to persuade, to recommend) and your **audience** (who will actually read, hear or watch it). The same geographical content can be spoken as a script for a film, written as a report for a council, printed as a poster for the school canteen, or posted as a short article — each audience expects a different tone.

In this section, an **authoritative tone** is used in this operational sense: claims tied to dated, sourced evidence; measured wording rather than exaggeration; limits and uncertainties admitted. It is not about long words. Figure 6 says the same thing two ways.

Casual tone - a chat with a friend	Authoritative tone - a report for the council
"Venice is totally overrun and this entry fee thing is a joke. Tourists just keep coming no matter what they try, so honestly they should just ban everyone." What a reader notices: - sweeping claim, no evidence - slang: "a joke", "honestly" - no source named - extreme leap: from fee fails to ban everyone	"In 2024 Venice recorded almost 13.3 million overnight stays against about 50,000 residents (ISTAT, 2025). The entry fee charged to day-trippers on peak days raised money for the city but did not reduce visitor numbers, so the pressure it aimed to ease has continued." What a reader notices: - measured wording, no exaggeration - dated figures with the source named - says what the fee did AND did not do - leaves the reader able to check the claim

Both versions are about the same facts. The authoritative version is not longer words - it is claims tied to evidence, with limits admitted. Model built for this section; Venice figures as sourced in section 2D (retrieved 25 August 2026).

Two panels comparing a casual tone and an authoritative tone for the same conclusion about Venice's day-tripper entry fee, each with margin notes listing what a reader notices — sweeping claims and slang on the left, sourced figures and admitted limits on the right

Figure 6. Same facts, two tones (model). The authoritative version earns trust by tying claims to evidence.

The casual version is not *wrong* to use with friends — it is simply the wrong tone for a report, a submission to a council, or an assessment. The authoritative version does more work with fewer claims: it says what the fee did *and* did not do, and leaves the reader able to check it. When you present a proposed action to people who must decide on it, that is the tone that carries weight.

Part 6 — Three capstone products

The curriculum's own examples for this skill (E01-E06) point to three products you can now build. Each one is an exit ticket: a way of showing you can explain, evaluate, incorporate and acknowledge in one piece of work.

(a) A documentary scaffolded on the concepts (E01). Pick one geographical issue from this book — for example, the Bass Coast erosion issue used here — and plan a short film in which each scene is carried by one of the seven concepts, closing with your own proposed action and your evaluation of it. Figure 7 is a filled-in plan you could film from.

Documentary plan (model): 'The Moving Coast' - a 3-minute film on Bass Coast erosion (VC2HG10S07.E01)

Concept	Scene	What the scene shows	Evidence / data to use
Place	Meet the coast	The towns, beach, dune and trail; what makes this place worth protecting	Map of the Bass Coast; photos of the trail and dune
Space	The squeeze	The trail, road and homes line up within metres of the eroding edge	Measured gaps: building 16 m, road 6 m from the dune face
Environment	How the coast moves	Sand budget, winter storm surge, and a rising sea under every surge	Sea level rise rates (Bureau of Meteorology and CSIRO, 2024)
Interconnection	Threads that join	Emissions far away lift the sea that attacks this beach; visitors and locals both need the trail	A causes web, like Figure 5 in section 3B
Change	Retreat since 2012	The dated story: measurements, works, closures	33.5 m and 35.6 m of retreat; closure from 26 August 2026
Sustainability	Can it keep going?	The dune's shelter work and the trail's recreation work are shrinking	The four functions of the environment (section 3A)
Scale	Three sizes of cause	Local building decisions, regional storms and population growth, global sea level rise	The scale table from section 3B
Response	Your proposed action	Propose one response, then explain and evaluate it (this section's skill)	An evaluation table like Figure 3 here

Model scaffold built for this section. Facts it points to are sourced in sections 3A and 3B (retrieved 25 August 2026). The last row is the VC2HG10S07 move: a proposed action, explained and evaluated.

Table planning a three-minute documentary on Bass Coast erosion: one row per geographical concept plus a response row, each listing the scene, what the scene shows, and the evidence or data to use, such as measured retreat values, sea level rise rates and the closure date

Figure 7. Documentary plan scaffolded on the seven concepts (model).

(b) A fieldwork report (E02). Carry out — or plan in full — a fieldwork study on a topic from any knowledge chapter (Chapters 1-4). Write it up with geospatial technologies and the media of your choice, following the structure of Figure 8.

Fieldwork report structure (model) - VC2HG10S07.E02

Report section	What goes in it	Where the skill was built
1. Title and geographical question	A clear question built with a concept (place, space, environment, interconnection, sustainability, scale or change) and a stated scale	Developing questions (section 5A)
2. Hypothesis (what you expect)	A testable prediction that answers the question	Hypothesis-testing questions (section 5A)
3. Method	The site, what you measured or counted, how, when, safety, and ethical conduct	Primary research methods, including fieldwork (section 5B)
4. Data collected	Field notes, counts, photographs, sketches, aerial or street-view images	Collecting and processing data (section 5B)
5. Representations	Maps, graphs, tables and diagrams that follow the BOLTSS mapping rules	Representing data with geospatial technologies (section 5C)
6. Findings	Patterns, trends and relationships in the data; careful generalisations, not overclaims	Reading data critically (section 5D)
7. Conclusion and evaluation	Answer the question; judge the reliability of your evidence, including bias; state what you would change	Ethical values (6A); criteria (6B)
8. Sources	Every source used, acknowledged in text and listed at the end	This section (6C)

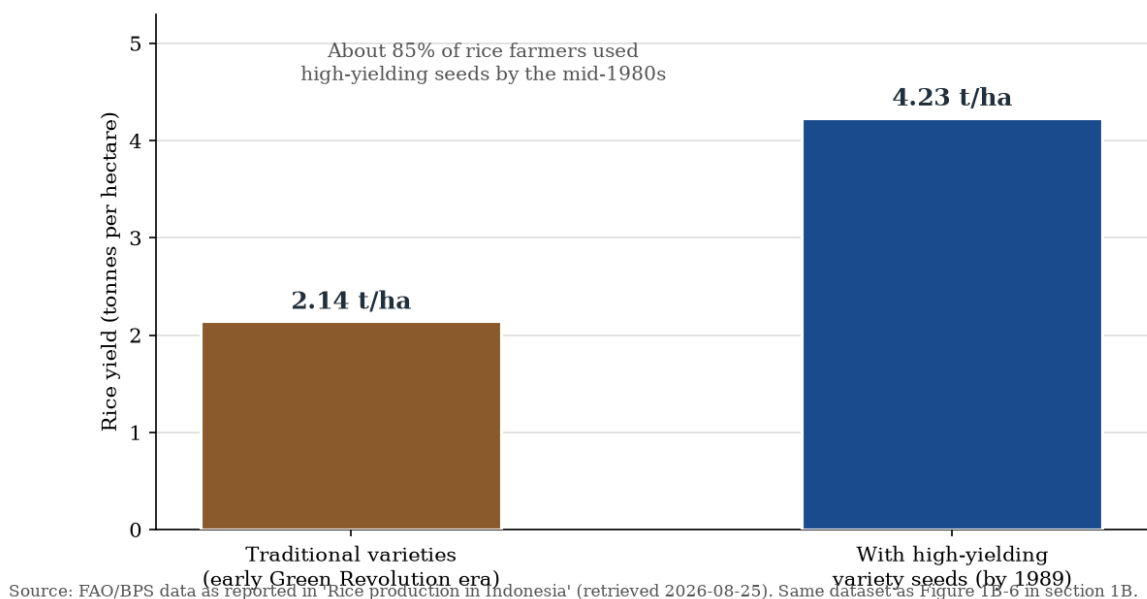
Choose a topic from any knowledge chapter (Chapters 1-4). Use geospatial technologies and the media of your choice for the representations.
Model scaffold built for this section; the skills chapters named are those of this book.

Table showing the eight sections of a fieldwork report — title and geographical question, hypothesis, method, data collected, representations, findings, conclusion and evaluation, and sources — each with what goes in it and the book section where the skill was built

Figure 8. Fieldwork report structure (model). Choose a topic from any knowledge chapter (Chapters 1-4).

(c) A data-based explanation of an issue (E03, E04, E05). Build an explanation from representations of data — maps, graphs, tables, photographs or satellite images — and from research findings, and present your conclusions with digital tools. Two examples of the kind of representation that carries an explanation:

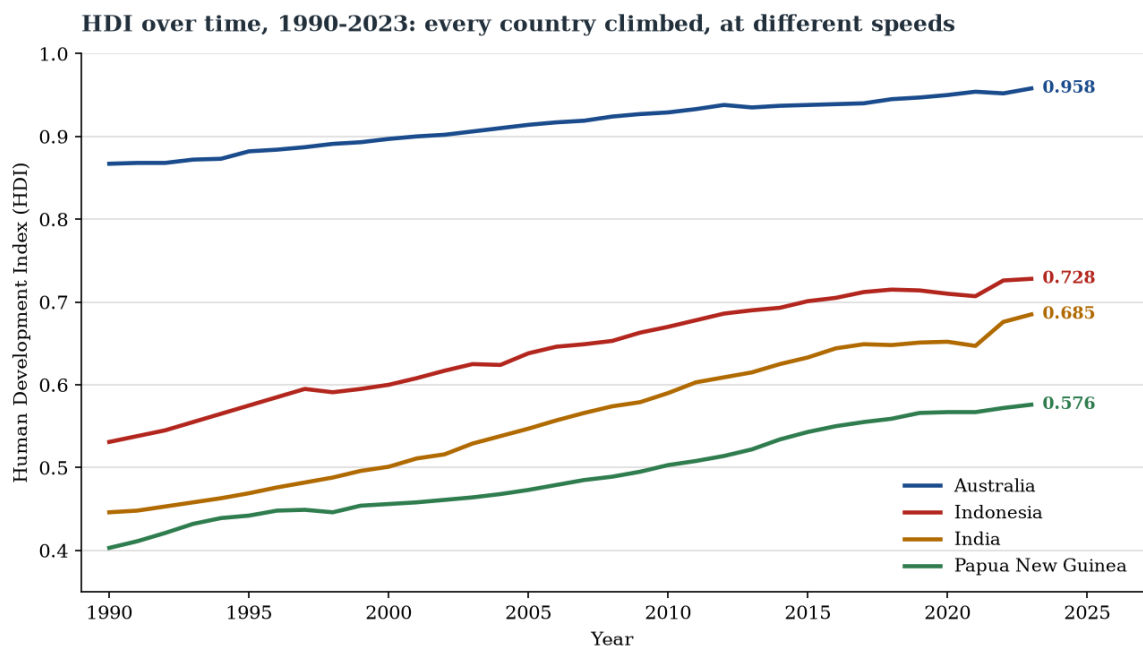
A technological factor lifts crop yields: rice in Indonesia (data example for VC2HG10S07.E04)



Bar chart of Indonesian rice yields rising from 2.14 tonnes per hectare under traditional varieties to 4.23 tonnes per hectare with high-yielding variety seeds by 1989, annotated that about 85 per cent of rice farmers used the new seeds by the mid-1980s

Figure 9. How a technological factor affects crop yields: Indonesian rice (real data).

Figure 9 shows how one factor — high-yielding variety seeds — changed rice production in Indonesia: yields rose from 2.14 to 4.23 tonnes per hectare by 1989, and by the mid-1980s about 85% of rice farmers were using the new seeds. A single chart like this can carry a whole paragraph of explanation about how technology can push food production up.



Line graph of the Human Development Index from 1990 to 2023 for Australia, Indonesia, India and Papua New Guinea: all four lines rise, Australia highest at 0.958 in 2023 and Papua New Guinea lowest at 0.576, with the 2023 ranks shown

Figure 10. HDI trends, 1990-2023 (real data).

Figure 10 tracks the Human Development Index — a combined measure of living a long, healthy life, being educated, and having an acceptable standard of living — for four countries from 1990 to 2023. A model conclusion drawn from it: all four countries climbed; the lower-HDI countries climbed furthest in points (India +0.239, Indonesia +0.197, Papua New Guinea +0.173) while Australia, starting near the top, added +0.091; and although the gap between Australia and each of the others narrowed, it remains large — Australia’s gap over Papua New Guinea in 2023 (0.382) is still bigger than Papua New Guinea’s entire 33-year gain. Where a person lives shapes their wellbeing; the map and the trend line are how geography shows it.

Worked examples

Example 1 — scaffolded (explain and evaluate a proposed action)

Question: The Bass Coast Rail Trail section behind the Kilcunda car park has been closed since 26 August 2026 while re-route options are studied. Propose that the trail be re-routed away from the dune, then (a) explain the proposal using two geographical concepts, and (b) evaluate it using environmental, economic and social criteria.

Step	Reasoning
1. State the proposed action plainly.	Re-route the closed trail section away from the eroding dune rather than rebuilding it on the same line.
2. Explain with <i>change</i> .	The coast has retreated 33.5 m since 2012 at the surf club site and 35.6 m at the road site (Bass Coast Shire Council) — about 2.4-2.5 m a year on average — so a trail rebuilt on the old line would keep being swallowed.
3. Explain with <i>interconnection</i> .	The retreat connects to bigger systems: storm surges on a rising sea, and a trail that locals and visitors both depend on for recreation and access. The action protects the link by moving it.
4. Evaluate against the three criteria (Figure 3).	Environmental: moves the trail out of the dune’s path, but works disturb a new site. Economic: keeps a visitor attraction open long term at a building cost. Social: restores a safe recreation route; short-term disruption during works.
5. Steelman the other side, then judge.	The strongest case against is that re-routing spends money now, disturbs a new site, and the coast may keep changing wherever the trail goes. The strongest case for is the measured retreat: staying put guarantees losing the trail again. Judgement: re-route, and pick the new line to avoid creating fresh environmental damage.

Answer (model paragraph): The proposed action is to re-route the closed Kilcunda trail section away from the eroding dune. Explained through the concept of *change*, the coast has retreated 33.5-35.6 m since 2012 (Bass Coast Shire Council), about 2.4-2.5 m a year on average, so rebuilding on the old line would repeat the loss. Through *interconnection*, the trail joins residents and visitors to the coast, and rising seas lift every storm surge that attacks it, so protecting the connection means moving it. Evaluated against the three criteria: environmentally the re-route escapes the dune’s path but disturbs a new site; economically it keeps a visitor attraction working long term at a building cost; socially it restores a recreation route that has been closed since 26 August 2026. The strongest objection is that money is spent now and the coast keeps changing; the stronger case is that staying guarantees losing the trail again. On balance, re-route — with the new line chosen to avoid new environmental damage.

Example 2 — scaffolded (incorporate and acknowledge research findings)

Question: You are writing about visitor pressure in Venice. Using the findings in Figure 4, write two sentences that incorporate the findings and acknowledge them in text, and add the matching reference-list entry.

Step	Reasoning
1. Pick findings that support your point.	Overnight stays in 2024: 13,290,973 (ISTAT). Residents of the historic centre: about 50,000. The 2024 entry fee did not reduce visitor numbers.
2. Incorporate the first finding with an in-text note.	“In 2024 Venice recorded almost 13.3 million overnight stays against about 50,000 residents (ISTAT, 2025).”
3. Say what the numbers mean, and add the second finding.	“That is about 266 stays per resident in one year; the entry fee charged to day-trippers on peak days in 2024 raised money but did not reduce the numbers (ISTAT, via ‘Tourism in Italy’, 2025).” The ratio is computed from the two published values — say so if asked.
4. Add the reference entry.	Wikipedia (2026) “Tourism in Italy”, citing ISTAT overnight-stay figures for Venice, 2024, and the 2024 day-tripper entry fee. Retrieved 25 August 2026.

Answer: the two sentences of step 2 and 3, followed by the reference entry of step 4. Notice that every number in the sentences can be traced to the reference entry, and that the computed ratio is flagged as computed. That is what incorporating and acknowledging looks like in finished form.

Practice questions

Scaffolded

- Q1.** (a) What is a *proposed action* as this section uses the term? (b) Give two examples named in this section.
- Q2.** Using Figure 1, match each question to its concept: (a) “What is changing, how fast, and what follows from it?”; (b) “What links people, places and environments here?”; (c) “What size are the causes and impacts — local, regional, global?”
- Q3.** Figure 2 shows the two moves of this section. Name the three criteria used in step 2.
- Q4.** In Figure 3, state the supported judgement and name one piece of dated evidence it rests on.
- Q5.** Figure 4 shows three moves for using a research finding. Name the three moves in order.
- Q6.** Using Figure 6, give two differences between the casual and the authoritative version.

Unscaffolded

- Q7.** Write one sentence that explains the Kilcunda trail re-route using the concept of *scale* — for example, by naming causes or impacts at more than one scale.
- Q8.** A city proposes that Venice make its day-tripper entry fee apply all year, not only on peak days between April and June. Evaluate the proposal: give one environmental, economic or social point for it and one against it, and reach a supported judgement. (In 2024 the fee raised money but did not reduce visitor numbers.)
- Q9.** Rewrite this sentence in an authoritative tone, tying the claim to the Venice findings of this section: “Tourism is killing Venice, nothing they do works, and honestly they should just close the city.”
- Q10.** Give two reasons why acknowledging research findings matters in a geographical explanation.

Inquiry task

Your capstone product. Choose ONE of the three products below. Whichever you choose, finish with the same closing reflection (part e).

Option A — a documentary plan (E01). Choose one geographical issue from this book. On a copy of the Figure 7 table, plan a short documentary scaffolded on the seven geographical concepts. Each scene must name its concept, say what it shows, and list the real evidence or data it would use. Close with a final scene: your proposed action, and your evaluation of it.

Option B — a fieldwork report (E02). Choose a topic from any knowledge chapter (Chapters 1-4). Either carry out a real fieldwork study (with your teacher's approval for the site and safety) or plan one in full. Write the report to the eight-section structure of Figure 8, with at least one representation built to the BOLTSS rules and at least one incorporated and acknowledged finding.

Option C — a data-based explanation (E03, E04, E05). Choose one real dataset from this book — for example, the Bass Coast retreat measurements, the Venice visitor figures, the Indonesian rice yields, or the HDI time series — or find one of your own with a named source and retrieval date. Write 150-250 words that (1) explain a geographical issue using at least two of the seven concepts, (2) propose one action in response, (3) evaluate it against the environmental, economic and social criteria, and (4) incorporate at least two acknowledged findings, with a reference list.

(e) Reflection, all options. In two sentences: name your purpose and your audience, and say how your tone was matched to them.

Answers

Q1. (a) Something someone has suggested but not yet done — a plan on the table. (b) Any two of: re-routing the Bass Coast Rail Trail; Venice’s day-tripper entry fee; a year-round Venice fee; a farming group’s water-saving practice; a school food-waste plan. **Q2.** (a) Change; (b) Interconnection; (c) Scale. **Q3.** Environmental, economic, social. **Q4.** Judgement: re-route, choosing the new line to avoid new environmental damage. Evidence: any one of the retreat figures (33.5 m or 35.6 m since 2012), the closure date (26 August 2026), or the beach-access closure (December 2025). **Q5.** The finding as published; incorporated into a sentence with an in-text acknowledgement; listed in the references. **Q6.** Any two of: the authoritative version names dated figures and the source; it uses measured wording instead of slang and exaggeration; it says what the fee did and did not do; it leaves the claim checkable. **Q7.** Example: “The re-route is needed because local building sits in the path of a process driven at global scale — emissions lifting the sea that attacks the dune.” **Q8.** For: spreading the fee across the year targets the pattern of visits, not just one peak window, and keeps raising money for management. Against: the 2024 fee did not reduce numbers, so a wider fee may take money from visitors without easing crowding, and it falls harder on visitors with less money. Judgement: any reasoned position, e.g. try the wider fee only if the money is tied to spreading visitors across the year and the results are measured. **Q9.** Example: “Venice’s visitor pressure is severe — about 266 overnight stays per resident in 2024 (ISTAT, 2025) — and the 2024 entry fee did not reduce visitor numbers, so stronger measures are being debated.” **Q10.** Any two of: traceability (a reader can check the claim); credit for others’ work; judging the reliability of the evidence.

Inquiry (e) Check: purpose and audience named; tone choice connected to both.

Fully-worked solutions

Q1. A proposed action is something suggested but not yet done — a plan that a person or group wants carried out, which can be explained and judged before any decision is made. Examples named here include re-routing the Bass Coast Rail Trail away from the eroding Kilcunda dune, and Venice’s entry fee for day-trippers on peak days.

Q2. “What is changing, how fast, and what follows from it?” is the question *change* adds. “What links people, places and environments here?” belongs to *interconnection*. “What size are the causes and impacts — local, regional, global?” belongs to *scale*.

Q3. The three criteria in step 2 of Figure 2 are environmental, economic and social — the same three the achievement standard names for evaluating strategies.

Q4. The judgement at the foot of Figure 3 is that re-routing protects what the trail does — recreation and visitor access — by moving it where the dune cannot reach it, with the main risk being disturbance of a new site. It rests on dated evidence such as 33.5-35.6 m of measured retreat since 2012 and the trail closure from 26 August 2026 (Bass Coast Shire Council).

Q5. Move 1: the finding as published. Move 2: the finding incorporated into your own sentence with a short in-text acknowledgement of the source. Move 3: a full entry in the reference list, including the retrieval date, so any reader can trace it.

Q6. The casual version makes a sweeping claim with no evidence, uses slang (“a joke”), and leaps from “the fee did not work” to “ban everyone”. The authoritative version gives dated, sourced figures (almost 13.3 million overnight stays against about 50,000 residents, ISTAT 2025), uses measured wording, and states what the fee did and did not achieve — which leaves the reader able to check the claim.

Q7. A scale-based explanation must name at least one cause or impact at a different scale from the trail itself. Model: “At the local scale the trail sits metres from an eroding dune, but the retreat is fed at global scale — greenhouse emissions lift the sea level that raises every storm surge attacking this coast — so re-routing treats the local effect of a process no local works can stop.”

Q8. For (economic/social): a year-round fee spreads the cost of management across the whole year instead of one peak window, and keeps raising money the city can use to manage crowding and protect the historic centre. Against (social/economic): Venice’s 2024 fee did not reduce visitor numbers, so widening it may simply take more money from visitors — falling hardest on those with least to spend — without easing the crowding it targets;

environmentally, the pressure of numbers would continue. A supported judgement (one of several defensible positions): introduce the year-round fee only if the revenue is tied to measures that spread visitors across the year, and only if the city measures and publishes whether numbers actually change.

Q9. Model rewrite: “Venice’s visitor pressure is severe: in 2024 the city recorded almost 13.3 million overnight stays against about 50,000 residents (ISTAT, 2025), and the entry fee charged on peak days that year did not reduce visitor numbers, so stronger measures are being debated.” The rewrite keeps the concern but ties every claim to a dated, sourced finding, drops the slang, and replaces “close the city” with a checkable statement about the debate.

Q10. First, traceability: an acknowledged finding lets any reader find the source and check the claim, which separates evidence from assertion. Second, reliability: a reader who can see the source can judge how strong it is — a measured council survey carries more weight than an unsourced claim. (Credit for the work behind the finding is a third acceptable reason.)

Inquiry. Option A check: one scene per concept with real evidence named, and a closing scene that proposes and evaluates an action. Option B check: all eight sections of Figure 8 present, at least one BOLTSS representation, at least one acknowledged finding. Option C check: 150-250 words; two concepts used; a proposal stated; the three criteria applied; at least two findings incorporated with in-text acknowledgements; a reference list with retrieval dates. Part (e) check: purpose and audience each named, and the tone choice explained against them.

Sources (real, checkable referents; all retrieved 25 August 2026): (1) Bass Coast Shire Council, “Foreshore Erosion Response” page and media release “Bass Coast Rail Trail impacted by coastal erosion” (17 August 2026) — retreat of 33.5 m since 2012 at the surf club site (building 16 m from the dune face) and 35.6 m at the road site (road within 6 m); Kilcunda beach access closed December 2025; trail section between the Kilcunda cemetery and the Bourne Creek trestle bridge closed from 26 August 2026 while re-route options are studied; wet-sand fencing works (as sourced in section 3B of this book). (2) Bureau of Meteorology and CSIRO, State of the Climate 2024 — global mean sea level rise rates (referenced in Figures 1 and 7). (3) Australian Bureau of Statistics, Census of Population and Housing 2016 and 2021 — Bass Coast Shire growth from 32,804 to 40,789 (as sourced in section 3B). (4) ISTAT overnight-stay figures for Venice 2024 (13,290,973), about 50,000 residents in the historic centre, and the 2024 peak-day entry fee that did not reduce visitor numbers, as reported in Wikipedia, “Tourism in Italy” and “Venice”; management measures (2018 turnstiles, 2021 cruise-ship ban) from Wikipedia, “Overtourism” (as sourced in section 2D of this book). (5) FAO/BPS data as reported in Wikipedia, “Rice production in Indonesia” — yields of 2.14 and 4.23 tonnes per hectare; about 85% of farmers using high-yielding variety seeds by the mid-1980s (as sourced in section 1B; same dataset as Figure 1B-6). (6) United Nations Development Programme, Human Development Report 2025 — HDI time series 1990-2023 and 2023 ranks (Australia 7th, Indonesia 113th, India 130th, Papua New Guinea 160th), held in this build at `_4a_research/hdr25_composite.csv`. Figures 1-8 are original models built for this section; Figures 9 and 10 are computed from the sourced values they display.