

Mathematics Level 7

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

This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/4.0/> or send a letter to Creative Commons, PO Box 1866, Mountain View, CA 94042, USA.

Attribution: Classbasics Pty Ltd, vwx.au

Curriculum codes refer to the *Victorian Curriculum F–10 Version 2.0*, published by the Victorian Curriculum and Assessment Authority (VCAA). Classbasics is not affiliated with the VCAA; the VCAA does not endorse this resource and makes no warranties regarding it.

Distribution note: this document may be distributed, and whole pages may be removed from it, provided only WHOLE pages are removed (never part of a page). This allows teachers to remove tests, exams and subtopics they do not want to issue.

Aboriginal and Torres Strait Islander content has been excluded as accuracy cannot be guaranteed, and it is better to be respectful than cover the entire curriculum inaccurately.

Significant effort has been made to ensure this content is legal. Please send any areas of concern to admin@vwx.au with appropriate document/legal references so errors can be verified and changes be made.

Contents

Section	Page
Reaching and defending conclusions: values, perspectives and concepts	2
From response to recommendation: judging strategies on three criteria	20
Communicating your inquiry: explaining, evaluating and crediting research findings	35

Reaching and defending conclusions: values, perspectives and concepts

Theory

1. What this section asks of you (E01)

The content description asks you to weigh ethical values and perspectives when you justify conclusions about a phenomenon, an issue or a challenge, using geographical concepts. That is one long sentence, so pull it apart. A **phenomenon** is something that happens in the world and can be studied — a drought, a disease outbreak, a city growing. An **issue** is a phenomenon people disagree about. A **challenge** is an issue that calls for action. And a **conclusion** is your answer to a question about any of them — reached after evidence, not before it.

Four more words carry the section, and the curriculum does not define them, so this section defines them before using them:

- **Ethics** — here used in the sense of reasoned inquiry into how people ought to act and what they ought to value. Ethics in this sense is a process of testing reasons, not a fixed list of rules. Other definitions exist; this one is the one every question here can be answered on.
- **Values, beliefs and attitudes** — a *belief* is something you hold to be true; a *value* is something you hold to be important; an *attitude* is a settled leaning towards or against something. Together they pull your first response to any issue, usually before you have looked at a single fact.
- **Perspective** — a view of an issue from a particular standing point: who you are, where you live, what you depend on. A rice farmer, a city student and a fuel-company manager do not see the same issue the same way, and none of them is seeing it from nowhere.
- **Justify** — to show that your conclusion is carried by reasons and checked evidence, so that anyone can follow the path from evidence to claim. A justified conclusion can be wrong; an unjustified one cannot even be checked.

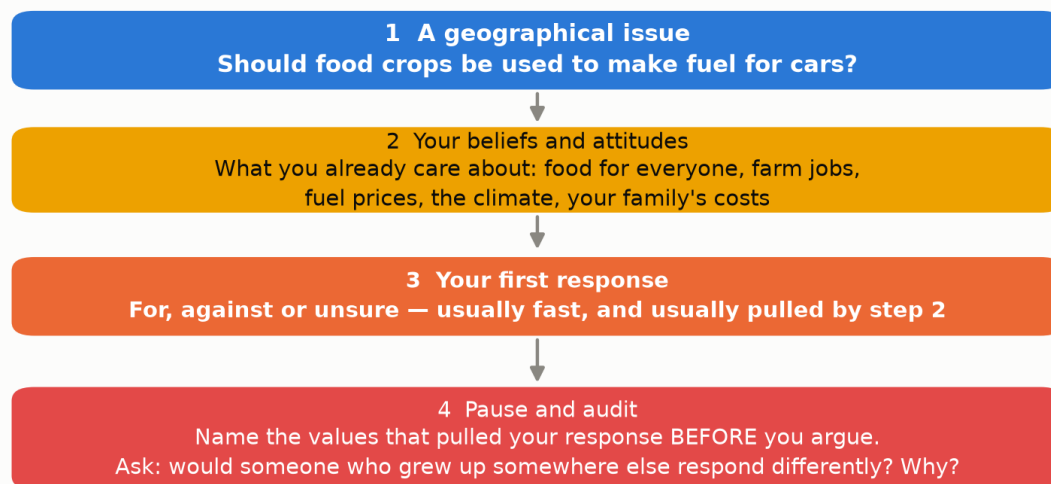
One habit matters before all the others. Some words in this subject are **contested**: different groups define them differently, and the definition chosen changes the conclusion. *Fair*, *sustainable*, *progress* and *development* are all like this. The house rule is simple: say whose meaning you are using. Not every word works that way — it helps to know which kind of word you are arguing about:

Kind of word	Example	How it behaves
Measurable	rainfall, distance, yield	one agreed meaning; disputes are about the measurement
Frame-dependent	near, remote, <i>down</i>	exact once the frame is stated (<i>down</i> in Australia and <i>down</i> in England point in opposite directions, and both are right)
Stipulated	<i>arable land</i> in a farm survey	defined by an authority for a purpose; other authorities may define it differently
Contested	<i>fair</i> , <i>sustainable</i>	competing definitions; the choice changes the conclusion
Response-reporting	<i>beautiful</i> , <i>disgusting</i>	reports the speaker's reaction; sincere, but not a fact about the object

Most geographical arguments are really about the last three rows. There is one old test for the strategies this section weighs, the **universalisability test** from Immanuel Kant's *Groundwork of the Metaphysics of Morals* (1785): *would it still work if everyone did it?* It is philosophy, not science, and it has a known limit — a rule can look universalisable at one level of description and not at another — but it is a quick, honest first check on any strategy.

Now the personal part. Your beliefs and attitudes are already in the room before the evidence arrives, and they keep pulling while you read (Figure 1). Recognising that pull is the first skill of this section — not to shame it, but to name it before it does the arguing for you. And one rule frames everything that follows, including the marking: **marks in this section go to the quality of the reasoning, never to the conclusion reached**. Two students can reach opposite conclusions and both earn full marks.

The values chain: where do your conclusions really start?



Two students can hold different values and still both reason well. Marks go to the quality of the reasoning, never to the conclusion reached.

Figure 6A.1 Recognising the influence of personal beliefs and attitudes on your response to a geographical issue.

A values chain with four boxes: a geographical issue (should food crops be used to make fuel for cars), your beliefs and attitudes, your first response, and a pause-and-audit step that names the values before arguing

Figure 1. The values chain. The audit step comes before the argument, not after it.

2. The toolkit: five moves that justify a conclusion (E04)

A personal reaction becomes a justified conclusion when it survives five moves (Figure 2). They are the working tools of the rest of the section, and Rule 4 of the house applies to all of them: use them on positions you favour as strictly as on positions you oppose.

A five-step toolkit for ethical conclusions

1 Define contested words

Say whose meaning you are using. 'Fair', 'sustainable' and 'progress' are contested: different definitions lead to different conclusions.

2 Surface the hidden assumption

Every question smuggles in claims. 'How do we stop X?' assumes X exists, that X is a problem, that it can be stopped, and that 'we' should do it.

3 Test with a swap

Swap the key word and see if the claim survives. If it does, the swapped word was doing the work; if it breaks, say why this case is genuinely different.

4 Steelman the other side

State the opposing view in the strongest form its own supporters would recognise. If you can only beat a weak version, you have not won.

5 Test the reasons

Are the reasons true? Are they relevant? Are they enough? Did anyone check for evidence that points the other way? Only then is a conclusion justified.

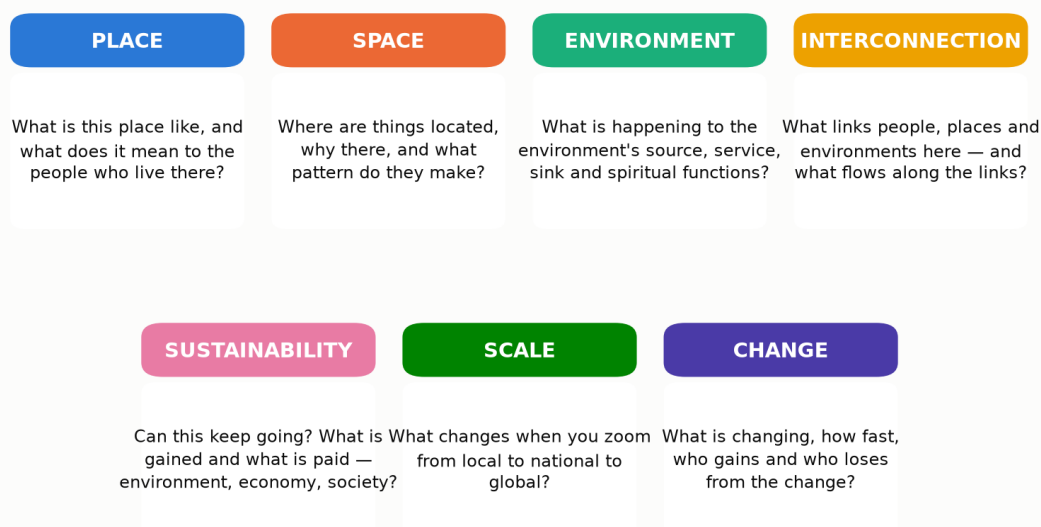
Figure 6A.2 Five habits that turn a personal reaction into a justified conclusion. Apply them to positions you favour, not only to ones you oppose.

A five-step toolkit: define contested words, surface hidden assumptions, test with a swap, steelman the other side, and test the reasons

*Figure 2. The toolkit. **Steelman** means stating the opposing view in the strongest form its own supporters would recognise — the opposite of arguing against a weak version.*

The curriculum also names seven geographical concepts — place, space, environment, interconnection, sustainability, scale and change — and this section uses them as **criteria**: tests a conclusion must pass (Figure 3). The content description asks for **at least two** concepts as criteria for every conclusion you draw here, and for a reason: the concepts can pull apart. A strategy can look good at the scale of one farm and bad at the scale of the world's food supply, or good for the economy this year and bad for the environment in twenty. When the concepts pull apart, that is not a fault in the question — it is the weighing you have to show.

Seven geographical concepts: use at least two as criteria



A conclusion tested against two or more concepts is stronger than one tested against none — and the concepts can pull apart, forcing you to weigh.

Figure 6A.3 The seven geographical concepts named by the curriculum, each with one question that puts it to work as a criterion.

Seven concept tiles, each with one test question: place, space, environment, interconnection, sustainability, scale and change

Figure 3. The seven concepts as criteria. Pick at least two; report honestly when they disagree.

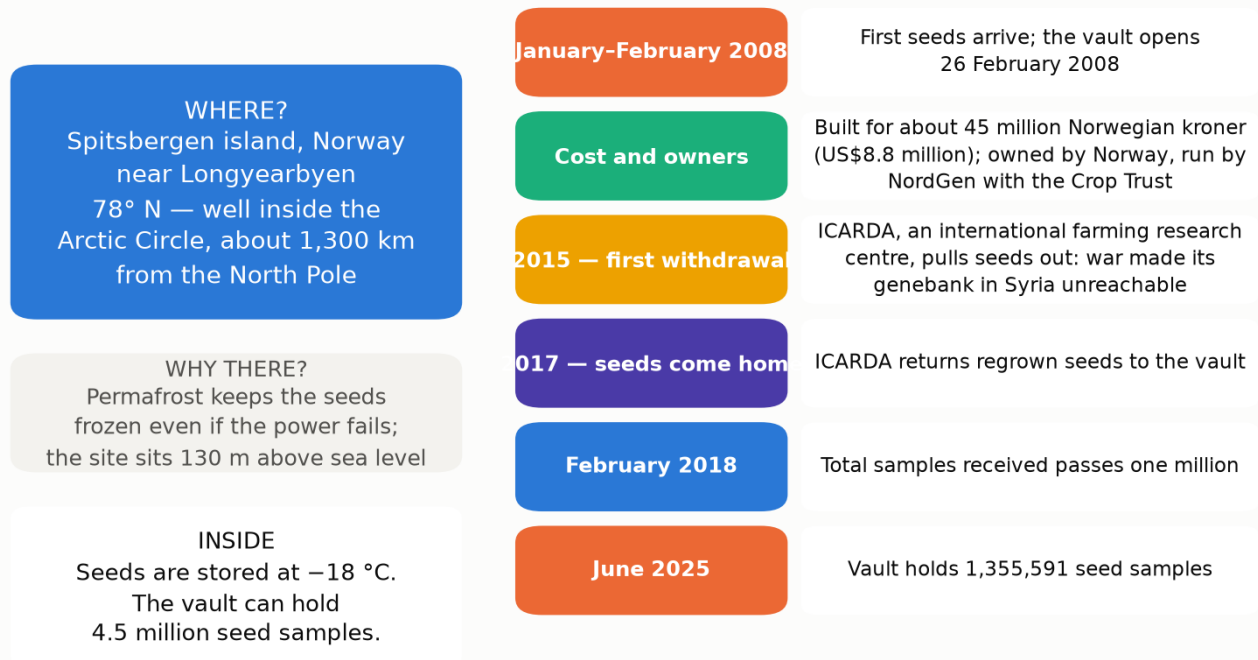
3. Drawing conclusions about a challenge: food species and the Seed Vault (E03)

In 2015, with war making its home genebank in Syria unreachable, an international farming research centre called ICARDA asked for copies of its own seeds back — and got them, from a vault built into a mountain near the top of the world (Figure 4). The growers planted the seeds out, harvested new seed, and returned fresh copies to the vault by 2017. The vault had done exactly the job it was built for.

The **Svalbard Global Seed Vault** opened on 26 February 2008 on Spitsbergen, the main island of Norway's Svalbard island group, at about 78° north — roughly 1,300 kilometres from the North Pole. Norway built it for about 45 million Norwegian kroner (around US\$8.8 million) and runs it with the Crop Trust and the Nordic genebank NordGen. Inside the rock, about 130 metres into permanently frozen ground, seed samples are stored at -18°C . The vault holds duplicates — spare copies — of the crop varieties kept in genebanks around the world. A **genebank** is a place that stores seeds so crop varieties are not lost; a **seed vault** is a genebank for spare copies. By June 2025 the vault held 1,355,591 seed samples, with room for 4.5 million.

Why does such a place exist? Because the world's food rests on a narrowing base (Figure 5). The FAO's 1995 world assessment of the plants used in food and farming found that just 15 crops provide 90% of the world's food energy from plants, and that rice, wheat and maize alone supply two-thirds of what people eat. Thousands of plant species have been grown for food in the past; far fewer feed the present. **Food security** — people having reliable access to enough food — depends on that base, and a narrow base is a risk: when disease, drought or war strikes one of the main crops, there are fewer backups. The Seed Vault is the backup of the backups. The conclusion writes itself in the form this section asks for: *the decline in the number of food species grown is a challenge to people, places and environments, and the Seed Vault is a response designed to outlast war, disaster and time.*

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

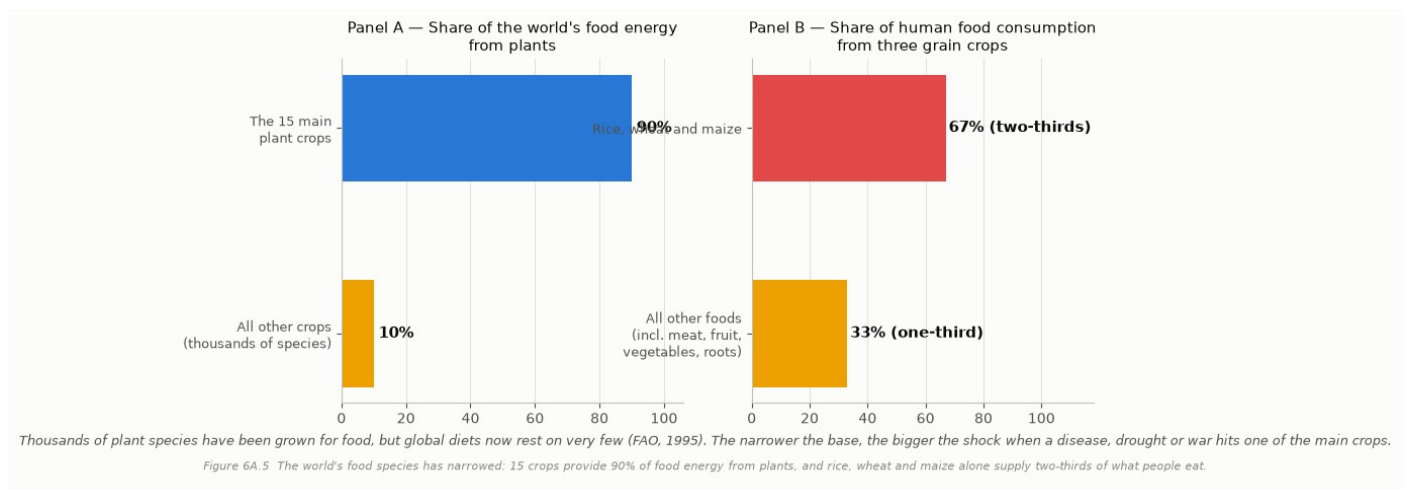


A genebank is a place that stores seeds so crop varieties are not lost. Countries keep their own genebanks; Svalbard is the shared backup — like a spare copy of a file, stored where cold and rock protect it.

Figure 6A.4 The Svalbard Global Seed Vault, opened 26 February 2008. First withdrawal: ICARDA, 2015; regrown seeds returned by 2017.

A panel on the Svalbard Global Seed Vault: location at about 78 degrees north, opened 26 February 2008, built by Norway, run with the Crop Trust and NordGen, minus 18 degrees Celsius, capacity 4.5 million samples, 1,355,591 held by June 2025; and a timeline including the first withdrawal by ICARDA in 2015

Figure 4. The Svalbard Global Seed Vault. ICARDA, an international farming research centre, was the first to withdraw seeds (2015) and to return regrown copies (by 2017).



Two bar panels: 15 crops provide 90 per cent of the world's food energy from plants, and rice, wheat and maize alone provide two-thirds

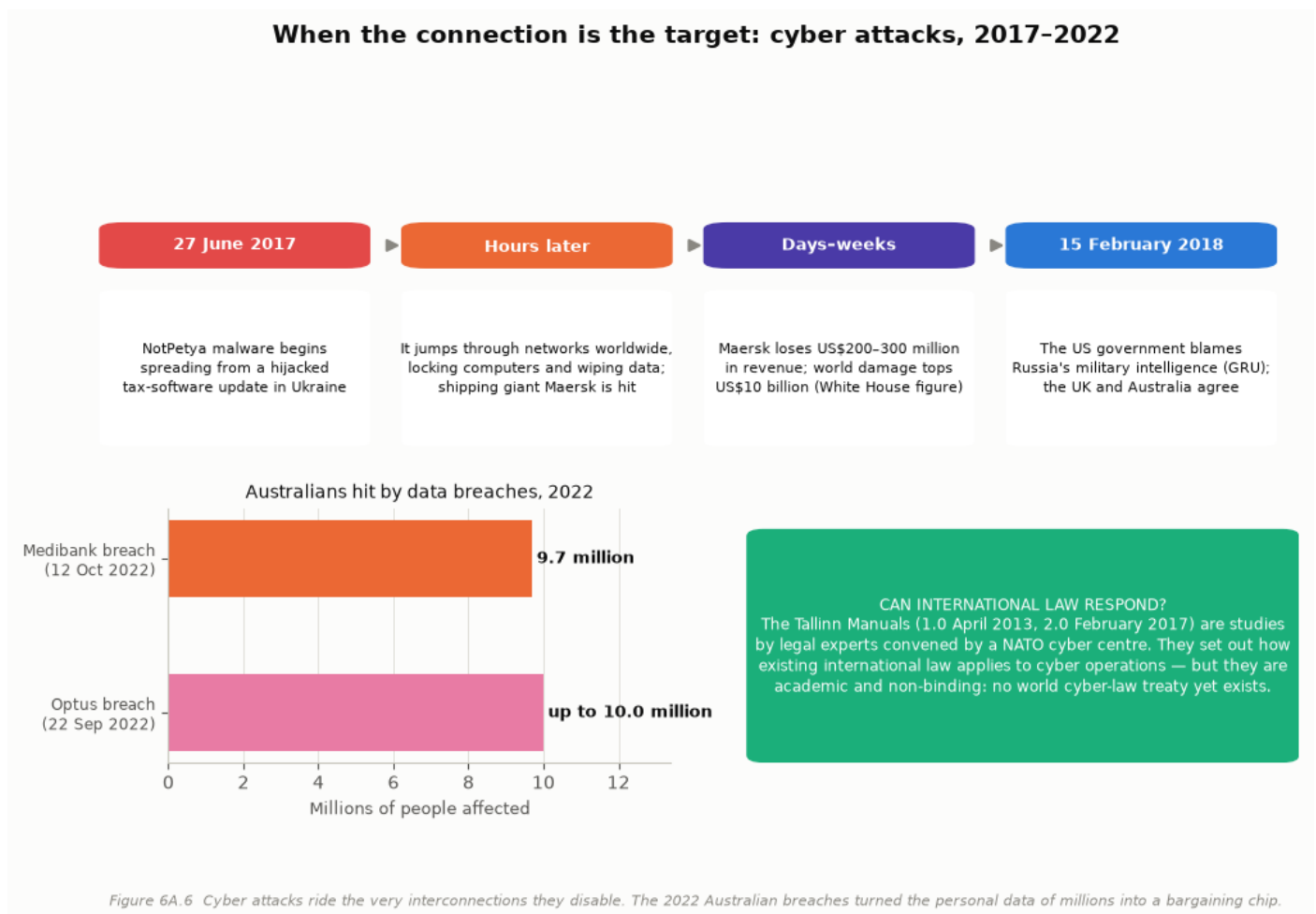
Figure 5. The narrowing base of the world's food (FAO, 1995). Narrow base, bigger shock.

4. A second challenge: cyber attacks on the connections we run by (E02, E03)

Geography's interconnections — shipping routes, power grids, phone networks, payment systems — are now carried by computer networks, and cyber attacks travel along those same connections. On 27 June 2017 a malicious program called NotPetya began spreading from Ukraine. It had entered through a hijacked update to tax software that Ukrainian businesses were required to use, and it then copied itself across networks. The Danish shipping company Maersk lost an estimated US\$200–300 million in revenue as ports and systems went down; the White House later put total world losses above US\$10 billion and called it the most damaging cyber attack in history. On 15 February 2018 the United States formally blamed Russia's military intelligence service, the GRU; the United Kingdom and Australia made similar statements.

Australia has felt this challenge directly (Figure 6). On 22 September 2022 the phone company Optus disclosed that the personal records of up to 10 million customers had been taken; on 12 October 2022 the health insurer Medibank disclosed that the data of 9.7 million people had been copied, and it refused to pay the ransom demanded for it. In both cases, the private details of millions of people became bargaining chips.

Can international law respond? The **Tallinn Manuals** (1.0 in April 2013, 2.0 in February 2017) are studies by legal experts convened by a NATO cyber-defence centre, setting out how existing international law applies to cyber operations. But they are academic and **non-binding** — they state how the law applies, yet no world court can force a country to follow them, and no world treaty on cybersecurity exists yet. So the conclusion here has two halves. First: cyber attacks are a geographical challenge because they ride, and break, the technological interconnections that people and places depend on. Second: the law has not kept up with the technology — attribution (working out who did it) is slow and disputed, and the rules are not binding. Testing a conclusion against opposing evidence is part of defending it (E02): someone who claimed “cyber attacks only damage computers” would have to answer Maersk's lost revenue, the Optus and Medibank breaches, and the hospitals and councils those systems serve.



A four-box chain for the NotPetya attack of 27 June 2017, a bar chart comparing the Optus breach of up to 10 million records with the Medibank breach of 9.7 million, and a panel on the Tallinn Manuals

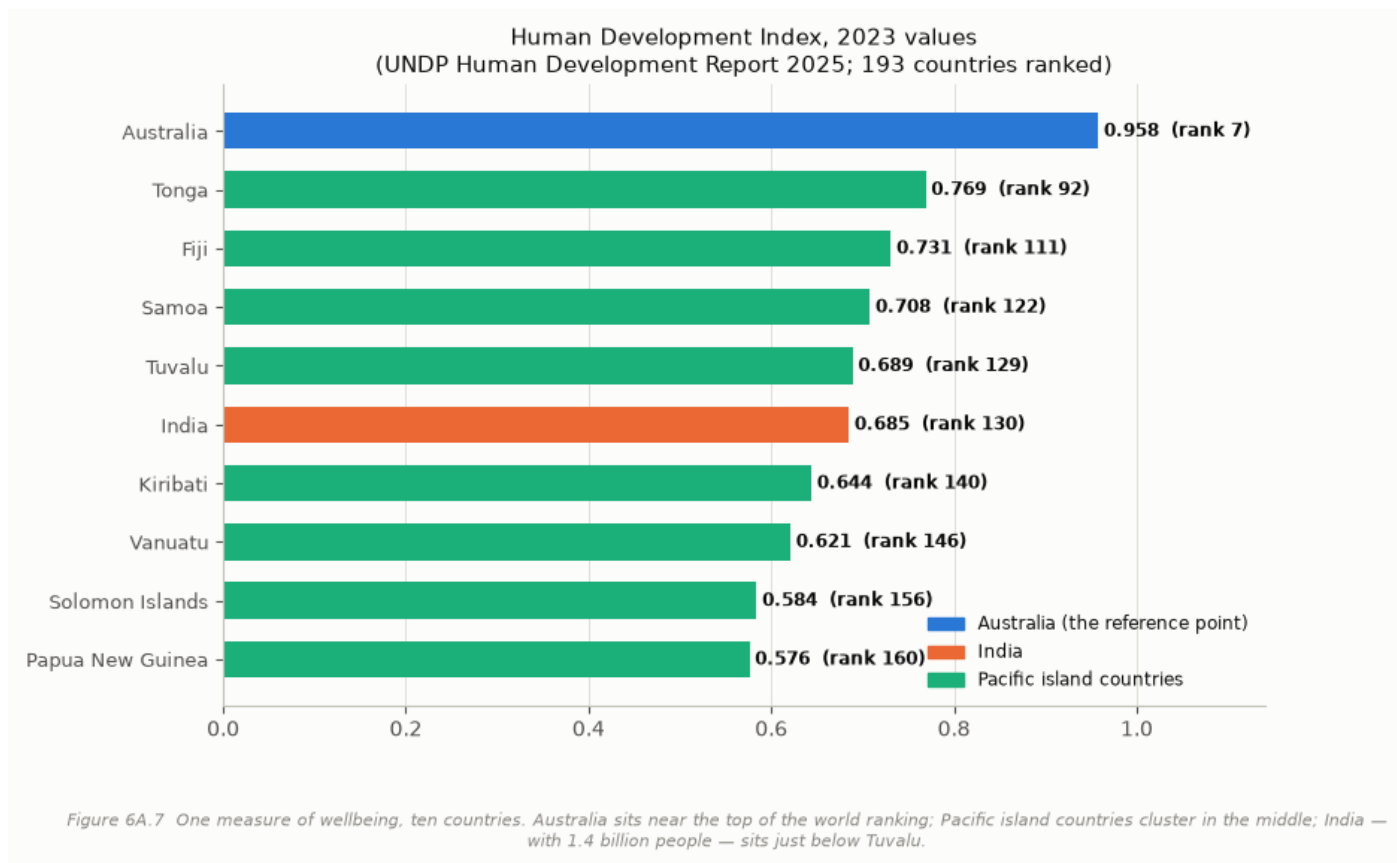
Figure 6. Cyber attacks ride the interconnections they disable; the law so far is academic, not binding.

5. Defending strategies: two real cases (E02)

To **defend** a strategy is not to cheer for it. It is to make a claim, give dated evidence for it, answer the strongest evidence against it, and admit limits. Two real cases follow — one national (improving human wellbeing in India), one regional (improving human wellbeing across the Pacific Islands) — and both are tested at their strongest on both sides.

India: the Swachh Bharat Mission. Figure 7 first sets the scene with one measure of wellbeing — the Human Development Index (HDI) of Section 4A — for Australia, India and a set of Pacific island countries. Australia (0.958, ranked 7 in the world) sits near the top; India (0.685, ranked 130) sits just below Tuvalu, with 1.4 billion people pulling the average across enormous internal differences — Kerala and Bihar, for example, sit at opposite ends of India's poverty spread (Section 4B). One response to those differences was **Swachh Bharat** (“Clean India”), launched on 2 October 2014 to eliminate open defecation — people going to the toilet in the open, rather than in a toilet. Figure 8 steelmans both sides: about 90 million toilets built by 2 October 2019 at a cost of about US\$28 billion, a survey finding that 96% of Indians who have a toilet use it — and critics' evidence that some households kept avoiding them, that pressure was used, and that only about 1% of the spending went to education and awareness. India was declared open-defecation-free within the mission's five-year window (2019–2020). A defended conclusion names its measure: by the measure of toilets built and declared usage, the mission achieved its goal inside its timeframe; by the measure of long-run habit change and dignity without pressure, the evidence is thinner, and a honest defence says so.

The Pacific: labour mobility and the Falepili Union. At the regional scale, Section 4D taught the PALM scheme: people from ten Pacific countries and Timor-Leste work in Australia — 30,805 workers in August 2024 — and send home remittances that reached about \$184 million over the four years to 2022, about 34% of Samoa's GDP in 2022. The strongest case against it is also in Section 4D: workers tied to one employer can be exposed to poor treatment, and families pay the cost of separation. A second, newer strategy responds to a harsher challenge. Tuvalu is a low coral nation whose land rises only a few metres above sea level, and rising seas threaten the islands themselves. On 9 November 2023 Australia and Tuvalu signed the **Falepili Union** — in force from 28 August 2024 — under which Australia offers a pathway of 280 Tuvaluans a year to live, study and work in Australia, and supports Tuvalu's trust fund and coastal adaptation works. Defending either strategy means the same four moves: claim, evidence, strongest objection, limits.



A horizontal bar chart of Human Development Index 2023 values for Australia, seven Pacific island countries, Papua New Guinea and India, with world ranks, Australia near the top and Papua New Guinea and India lowest

Figure 7. One measure of wellbeing, ten countries (UNDP, 2025 report; 2023 values). Spatial inequality is visible between countries — and, as Section 4B showed, inside them.

Defend or deny? Steelman both sides of the Swachh Bharat Mission (India)

India's sanitation mission, launched 2 October 2014 to eliminate open defecation; about US\$28 billion budgeted.

WHAT A JUSTIFIED CONCLUSION NEEDS

1. A clear claim: 'The mission improved human wellbeing in India' — by which measure? Health? Dignity? Usage?
2. Evidence on both sides, dated and counted (above).
3. An answer to the strongest objection — not silence about it.
4. A limit: one survey, five years and one country do not settle the question for all time.

STRONGEST CASE FOR

- About 90 million toilets built by 2 October 2019 — a huge build in five years
- Survey evidence: 96% of Indians who have a toilet use it
 - Open defecation spreads disease; ending it protects health, dignity and safety, especially for women and girls
- India was declared open-defecation-free within the mission's five-year window (2019–2020)

STRONGEST CASE AGAINST

- Building a toilet does not guarantee it is used — some households kept avoiding them
- Critics report pressure and coercion, not persuasion
- Only about 1% of the mission's spending went to education and awareness
- Construction quality varied from place to place

Figure 6A.8 A defended conclusion weighs the strongest form of both sides. The mission's own critics accept the goal; the debate is about the method and the evidence.

Two panels steelmanning the Swachh Bharat Mission: the strongest case for, the strongest case against, and a box listing what a justified conclusion needs

Figure 8. Steelman first, conclude second. The mission's critics accept the goal; the debate is about method and evidence.

6. Justifying by weighing perspectives: food or fuel (E05)

A conclusion is justified by reflecting on perspectives — naming who holds each view, why, and what evidence each view rests on. Here is the example the curriculum suggests: **arable land** (land able to grow crops) turned from growing food to non-food crops. Since 2005, United States law has required fuel to contain rising amounts of ethanol — a fuel made from plants, in the US mostly from maize (Figure 9). Grain is counted in **bushels**, a standard grain measure (about 25.4 kilograms for maize). Three perspectives meet on that one decision: a food-security lens, a farm-income lens and a climate lens, each with dated evidence. Notice what the weighing does: it does not produce a number, it produces a *ranked* judgement — and the ranking changes with scale. At the scale of one grain-growing town, the ethanol plant may be the best news in decades; at the scale of the world's food supply, the same plant draws grain away from plates. Both readings are geographical; the conclusion must say which scales and which lenses it weighed.

Food or fuel? Three perspectives on turning food crops into biofuel

Since 2005 US law has required fuels to contain rising amounts of plant-based ethanol; most of it is made from maize (corn).

FOOD SECURITY (social lens)	Food crops should feed people first. When grain goes to fuel plants, less is left for food and prices can jump. Evidence: a World Bank study (July 2008) linked biofuels to most of the food price rises of 2002–2008; later reviews said the effect was smaller — but real.	WEIGHS: the poor spend the largest share of income on food, so price jumps hurt them first and hardest.
FARM INCOME (economic lens)	Fuel crops create a new market for farmers and country towns. Evidence: in 2019 US ethanol plants used 3,552 million bushels of maize — about 27% of the whole crop — a steady buyer behind farm incomes and jobs.	WEIGHS: farm families, jobs and tax income in grain-growing regions.
CLIMATE environmental lens	Plant fuels can replace petrol — but growing the crops changes land use, which can release stored carbon. Evidence: one 2008 study found maize ethanol could add 93% more emissions once land clearing is counted; a later 2008–2016 assessment put maize ethanol at least 24% worse than petrol for the climate.	WEIGHS: emissions over the crop's whole life, not just at the tailpipe.

YOUR TURN: rank the three lenses for this decision and say why. Does your conclusion change when the scale changes — from one farmer's paddock to the world's food supply?

Figure 6A.9 Justifying a conclusion by reflecting on perspectives: each lens carries dated evidence, and each weighs different people and places.

Three perspective rows on turning food crops into biofuel — food security, farm income, climate — each with dated evidence and a weighing note, and a prompt to rank the lenses

Figure 9. Food or fuel. Each lens carries dated evidence, and each weighs different people and places.

7. Auditing the reasons behind a decision (E07)

The last move turns the toolkit onto decisions that have already been made. When an authority announces a decision, it gives reasons; this section's job is to audit them. Four tests do the work: are the reasons *true*? are they *relevant*? are they *enough*? and did anyone check for evidence pointing the other way?

The Murray–Darling Basin Plan is a worked case (Figure 10). Australia's biggest river system had been over-allocated — more water was licensed to users than the rivers could keep giving — and the millennium drought showed what that meant: rivers and wetlands in decline, and huge fish kills at Menindee Lakes, where about a million fish died over roughly 40 kilometres in late 2018–early 2019, and about a million more in late 2022–early 2023. The Basin Plan, made law in November 2012, set a target of returning about 2,750 gigalitres of water a year to the rivers (a gigalitre is a billion litres). The reasons given — over-allocation, drought, climate variability and the poor condition of rivers and wetlands — were never in serious doubt. The dispute was whether those reasons justified *this* number, by *this* method, at this speed: a royal commission found a “major failure of process” in how the target was set; the Wentworth Group of scientists called the plan badly flawed and wanted at least 4,000 gigalitres; and the fish kills kept happening after the plan became law. That is the skill in one case study: the reasons were real, and still not enough to justify the conclusion reached. The same four tests apply to decisions about unequal access to resources — who gets water, who gets power, who gets treatment.

Do the reasons justify the decision? Auditing the Murray-Darling Basin Plan

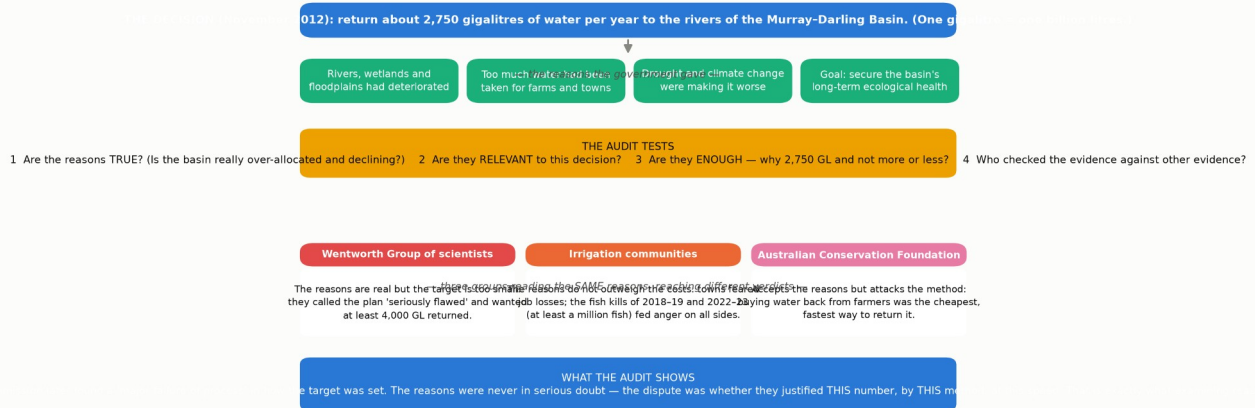


Figure 6A.10 Examining the reasons given for a specific decision: the Murray-Darling Basin Plan, law from November 2012, target about 2,750 GL per year.

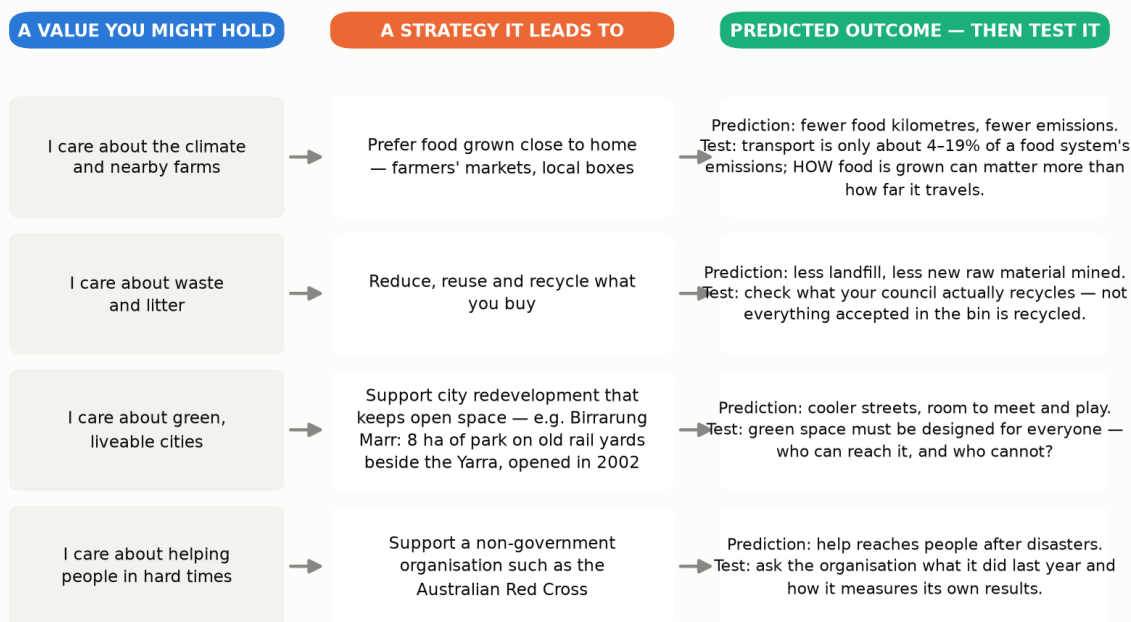
A decision box for the Murray-Darling Basin Plan, four stated reasons, four audit tests, three verdict panels and a royal commission finding

Figure 10. Auditing the reasons. Real reasons can still fail to justify the number chosen.

8. Your values, your strategies, their predicted impacts (E06)

The section ends where it began — with your values — but now moving them into action. Values choose strategies; geography tests the predictions (Figure 11). Four everyday strategies from the curriculum are laid out with their predicted outcomes and the test each prediction has to survive. Buy local to cut **food miles** (the distance food travels from where it is grown to where it is eaten)? Transport is only about 4–19% of a food system's emissions, and how food is grown can matter more than how far it travels — which is not an argument against local food, but an argument for checking the claim before repeating it. Reduce, reuse and recycle? Check what your council actually recycles. Support green open space in cities? Melbourne's Birrarung Marr — 8 hectares of park on old rail yards beside the Yarra River, opened 26 January 2002 — shows what sustainable redesign can give a city, and who it must be designed to reach. Support a non-government organisation that reflects your values, such as the Australian Red Cross? Ask it what it did last year and how it measured the result. In every row the pattern is the same: the value is yours, the prediction must be tested, and an honest conclusion says who gains, who pays, and what could go wrong.

Your values, your strategies, their predicted impacts



Personal values choose the strategy; geography tests the prediction. An honest conclusion says who gains, who pays, and what could go wrong.

Figure 6A.11 Reflecting on how personal values and attitudes shape predicted outcomes and impacts.

Four rows, each with a value, a strategy it leads to, and a predicted outcome with a test: buying local food, reducing and recycling, urban green space at Birrarung Marr, and supporting the Australian Red Cross

Figure 11. From values to predicted impacts. The value chooses the strategy; geography tests the prediction.

Worked examples

Example 1 — scaffolded (draw and justify a conclusion using at least two concepts; E03, E04)

Question. “The Svalbard Global Seed Vault was an appropriate response to the decline in the number of food species grown.” Draw a conclusion on this claim, using at least two geographical concepts as criteria and naming the evidence you rely on.

Step	Do this	In this case
1	Define any contested word.	<i>Appropriate</i> is contested. Here: fit for purpose — designed to survive the shocks it was built against, at a cost a funder can sustain.
2	State the challenge and its impacts on people, places and environments.	The world's food rests on few crops: 15 crops give 90% of food energy from plants; rice, wheat and maize give two-thirds (FAO, 1995). A narrow base means a disease, drought or war on one crop has few backups.
3	Apply concept 1 — sustainability.	The vault stores duplicates at -18°C

Step	Do this	In this case
		inside permafrost, built to outlast war and disaster: by June 2025 it held 1,355,591 samples. As a long-run backup of crop diversity, it is built to last.
4	Apply concept 2 — place (or scale).	The place is deliberate: remote Svalbard, about 78° north, stable rock, cold climate — far from the wars and disasters that threaten genebanks in other places. Its scale is global: it stores copies for genebanks worldwide, and ICARDA proved the system works in earnest (withdrew 2015, returned regrown seed by 2017).
5	Steelman the other side, then conclude.	Strongest objection: a vault does not stop the decline it answers — it stores diversity rather than keeping crops growing in fields, and it cannot help farmers adapt this season. Conclusion: the vault is an appropriate <i>backup</i> response — justified by sustainability and place/scale — but it is one part of the answer, not the whole of it.

Model conclusion. The claim is justified in part. Tested against **sustainability**, the vault is built to last — permafrost, −18 °C storage, 1,355,591 samples by June 2025 — and tested against **place and scale**, its remote Arctic site and global role fit the purpose, which ICARDA’s 2015 withdrawal proved in earnest. But the strongest objection holds: the vault answers the risk of losing crop varieties, not the causes of the narrowing itself. The justified conclusion is that the Seed Vault is an appropriate backup within a larger response, not a substitute for one.

Example 2 — scaffolded (defend a strategy with weighed perspectives; E02, E05)

Question. “The PALM scheme is an appropriate way to improve human wellbeing at a regional scale in the Pacific Islands.” Defend or challenge the claim: give dated evidence on both sides, answer the strongest objection, and state your limits.

Step	Do this	In this case
1	Make the claim and its measure precise.	Claim: PALM improves wellbeing as measured by income, education and health spending in Pacific households (Section 4A’s measures).
2	Evidence for.	30,805 workers in August 2024; longer-term workers averaged \$40,836 pay in 2020 and saved or sent home about 39% of it; about \$184 million remitted in the four years to 2022; remittances reached about 34% of Samoa’s GDP in 2022 (Section 4D).
3	Evidence against — at its strongest.	Workers are tied to one employer, so poor treatment is hard to escape; families pay the cost of separation;

Step	Do this	In this case
4	Weigh with perspectives and a concept.	skills may not transfer home (Section 4D). Economic lens (farm employers, worker incomes) versus social lens (families, community life); concept of scale : at the household scale remittances lift schooling and health, at the community scale separation is a cost.
5	Conclude with limits.	Model: PALM improves measurable material wellbeing — income and remittances are large and dated — but the wellbeing cost of separation and the exposure of tied workers mean it is appropriate only with strong protections and inspection; the conclusion is conditional, not absolute.

Model defence. The PALM scheme improves human wellbeing in the Pacific in the ways that can be counted — 30,805 workers in August 2024, about \$40,836 average pay for longer-term workers in 2020, roughly 39% saved or sent home, and about \$184 million remitted over the four years to 2022 (Section 4D). The strongest objection cannot be argued away: tied visas leave workers exposed, and separation costs families. The justified conclusion is therefore conditional: PALM is an appropriate regional strategy where protections are enforced, and the evidence that decides the question is inspection and worker-outcome data, not either side’s best story.

Practice questions

Scaffolded

Q1. In your own words, define (a) a *value* and a *belief*, (b) a *perspective*, and (c) what it means for a conclusion to be *justified*.

Q2. Figure 1 shows the values chain. Choose one geographical issue from Chapters 1–4 and complete the chain for yourself: state two beliefs or attitudes you bring to it, the first response they pull you towards, and one question the audit step would ask you.

Q3. Figure 3 gives each of the seven concepts a test question. Choose **two** concepts and write the question you would ask of the Seed Vault under each.

Q4. Figure 5: (a) how many crops provide 90% of the world’s food energy from plants? (b) which three crops provide two-thirds of what people eat? (c) In one sentence, explain why a narrow food base makes food security riskier.

Q5. Figure 7: (a) read Australia’s and India’s HDI values and world ranks; (b) name the country that sits immediately above India on the ladder; (c) what does the spread of values suggest about spatial inequality in wellbeing between countries?

Q6. Figure 10: (a) state two reasons given for the Basin Plan; (b) state two findings from the audit that questioned whether the reasons justified the chosen target.

Un scaffolded

Q7. “Cyber attacks are a technical problem about computers.” Test this conclusion against the evidence in Figure 6 and Part 4 of the Theory in this section. Refute it with at least two dated examples and name what the Tallinn Manuals do — and cannot — do.

Q8. Use Figure 9 to reach your own conclusion on converting food cropland to fuel crops. Rank the three lenses, justify your ranking with the dated evidence, and steelman the lens you ranked last.

Q9. “Building toilets is enough to improve sanitation-related wellbeing.” Use Figure 8 to defend or challenge the claim, answering the strongest evidence on the other side before you conclude.

Q10. Choose a real decision made in your school or local area in the last two years (a rule, a building, a closure, an event). State two reasons that were given for it, then apply the four audit tests of Figure 10: true, relevant, enough, and was opposing evidence checked. Did the reasons justify the decision?

Inquiry task

A justified conclusion of your own (the skill is the task). Choose one real geographical issue from Chapters 1–4 — a phenomenon people disagree about. Write a justified conclusion of about 400–600 words that does all five moves of Figure 2, in order:

1. **Audit your values first.** Name two beliefs or attitudes you bring to the issue and the direction they pull (Figure 1).
2. **Define your terms.** List any contested word your conclusion uses and say whose meaning you are applying.
3. **Draw the conclusion with at least two geographical concepts as criteria** (Figure 3). If the concepts pull apart, say which you weighed more, and why.
4. **Steelman the opposition.** State the strongest case against your conclusion in a form its own supporters would recognise, and answer it.
5. **Evidence ledger.** List at least three dated, sourced pieces of evidence for your conclusion and at least one piece of opposing evidence you considered.

Marks go to the quality of the reasoning, never to the conclusion reached. A marker should be able to find every move without hunting for it.

Answers

Q1. (a) A value is something you hold to be important; a belief is something you hold to be true. (b) A perspective is a view of an issue from a particular standing point — who you are, where you live, what you depend on. (c) A conclusion is justified when reasons and checked evidence carry it, so anyone can follow the path from evidence to claim.

Q2. Will vary. Example (bushfire rebuilding, Chapter 3): beliefs — homes should be rebuildable where they stood; risk should shape the rules. First response: rebuild, but the audit asks whether the pull comes from sympathy rather than from the fire-history evidence.

Q3. Any two, e.g. *sustainability*: can the vault keep samples safe for centuries without outside power failing? *place*: why does a remote Arctic island suit this job better than a city genebank? *interconnection*: which genebanks around the world send copies, and how would a sample get back to a farmer who needed it?

Q4. (a) 15 crops. (b) Rice, wheat and maize. (c) With so few crops carrying the world's food energy, a disease, drought or war that strikes one of the main crops has few backup species to fall on.

Q5. (a) Australia 0.958, ranked 7; India 0.685, ranked 130. (b) Tuvalu (0.689, ranked 129). (c) Wellbeing is unevenly spread across the world's places: ten countries on one chart span from near the top (Australia) to the lower middle (Papua New Guinea, India) — and Section 4B showed the same inequality inside one country.

Q6. (a) Any two: over-allocation of water; drought and climate variability; declining condition of rivers, wetlands and floodplains. (b) Any two: the royal commission found a “major failure of process” in how the target was set; the Wentworth Group called the plan badly flawed and wanted at least 4,000 GL; fish kills of about a million fish each at Menindee in 2018–19 and again in 2022–23 occurred after the plan became law.

Q7. The claim fails the evidence: NotPetya (27 June 2017) cost Maersk an estimated US\$200–300 million and the world more than US\$10 billion; the Optus and Medibank breaches of 2022 exposed 9.7–10 million people each. The Tallinn Manuals set out how existing international law applies to cyber operations but are academic and non-binding, and no world cybersecurity treaty exists yet.

Q8. Open; a sound answer ranks the three lenses with the dated evidence of Figure 9 (World Bank July 2008 on food prices; the 2019 ethanol share of the maize crop; the emissions findings of 2008 and 2008–2016) and steels the lens it ranks last.

Q9. Open; the challenge is stronger: 96% of owners use their toilets and India was declared open-defecation-free in 2019–2020, but critics report pressure used and only about 1% of spending on education and awareness — building alone is not sufficient, though the speed and scale of the build (about 90 million toilets by 2 October 2019) is the defence side's real evidence.

Q10. Open; markers look for a real named decision, two stated reasons, the four tests applied one by one, and a judgement on whether the reasons justified the decision — with the limit that a reason can be true and still not enough.

Fully-worked solutions

Q1. (a) A *value* is what a person holds to be important (fairness, security, family income); a *belief* is what a person holds to be true (“irrigation uses most basin water”). Values and beliefs can be wrong or well founded; both pull attitudes. (b) A *perspective* is a view from a standing point: the same river plan looks different to an irrigator, a fisherman and a Melbourne water customer, and none of those views is from nowhere. (c) A conclusion is *justified* when it is carried by reasons and checked evidence that anyone can follow — it is the path from evidence to claim, laid out so another person can retrace it. A justified conclusion can still turn out wrong; an unjustified one cannot even be tested.

Q2. Model (school food waste): beliefs — waste is wrong; local solutions beat grand plans. Attitude: suspicious of big claims. First response: compost bins first. Audit question: am I favouring compost because I have checked the council's organics route, or because compost feels virtuous? The mark goes to a named issue, two named beliefs or attitudes, a response that follows from them, and an audit question that could actually change the student's mind.

Q3. Model pair. *Sustainability*: will the vault's storage (-18°C in permafrost) keep seed alive for a century without new technology? *Interconnection*: when ICARDA withdrew seed in 2015, the chain that returned regrown copies by 2017 ran between Syria, Lebanon and Svalbard — which connections does a future withdrawal depend on? Each concept-question earns its mark by naming the concept and asking something the concept's test (Figure 3) can actually interrogate.

Q4. (a) Fifteen crops provide 90% of the world's food energy from plants (FAO, 1995). (b) Rice, wheat and maize supply two-thirds of what people eat. (c) Model: because so few species carry the world's food energy, a shock to one main crop — a new disease, a regional drought, or war in a growing region — leaves few alternatives, so prices jump and food security falls; diversity is the backup, and the backup has thinned.

Q5. (a) Australia: HDI 0.958, rank 7; India: HDI 0.685, rank 130 (UNDP, 2025 report, 2023 values). (b) Tuvalu, 0.689, rank 129 — India sits immediately below it. (c) Model: the ladder shows wellbeing is spatially uneven at the world scale: Australia sits near the top, Pacific island countries cluster in the middle (Tonga 0.769 down to Solomon Islands 0.584), and large countries like India and Papua New Guinea sit lower — and Section 4B showed that averages hide internal spread, with Kerala and Bihar at opposite ends inside India.

Q6. (a) The plan's stated reasons included over-allocation (more water licensed than the rivers could sustain), drought and climate variability and change, and the declining condition of rivers, wetlands and floodplains. Any two. (b) The audit found: the royal commission judged the setting of the target a "major failure of process"; the Wentworth Group of scientists called the plan badly flawed and argued for at least 4,000 GL against the plan's about 2,750 GL; and major fish kills at Menindee Lakes (about a million fish in late 2018–early 2019 and about a million more in late 2022–early 2023) occurred after the plan became law — evidence that the reasons, though real, did not justify that target at that speed. Any two.

Q7. The conclusion is refuted at three points. First, the impacts are economic and social, not only technical: NotPetya (27 June 2017) stopped Maersk's systems and cost the company an estimated US\$200–300 million in revenue, with world losses put above US\$10 billion by the White House. Second, the impacts are personal: the Optus breach (disclosed 22 September 2022) exposed up to 10 million customers and the Medibank breach (disclosed 12 October 2022) exposed 9.7 million people, whose records became bargaining chips. Third, the response is legal and political, not only technical: the US formally blamed Russia's GRU on 15 February 2018 with the UK and Australia making similar statements, and the Tallinn Manuals (1.0 April 2013, 2.0 February 2017) exist precisely to argue out how international law applies — but they are academic and non-binding, and no world cybersecurity treaty exists yet. The conclusion to defend instead: cyber attacks are a geographical challenge because they ride, and break, the interconnections people and places depend on.

Q8. Model (food-first ranking): 1 food security, 2 climate, 3 farm income. The World Bank study of July 2008 linked biofuels to most of the food price rises of 2002–2008, and though later reviews judged the effect smaller, the poor spend the largest share of income on food, so any price jump hits them first — that outweighs the farm-income gain of 3,552 million bushels of maize going to ethanol in 2019 (about 27% of the crop). Climate ranks above farm income because the emissions finding is damning: up to 93% more with land clearing counted (Searchinger, 2008) and at least 24% more carbon-intensive than petrol in a later 2008–2016 assessment. Steelman of farm income (ranked last): the ethanol demand is a steady buyer behind grain towns' jobs and incomes, and without it some marginal farms fail — a real social cost concentrated in one region, while the food-price cost is spread thinly across the world. A different ranking earns full marks if justified the same way.

Q9. Model (challenge): the claim fails on sufficiency. The strongest case for it is real: about 90 million toilets built by 2 October 2019, a survey finding that 96% of owners use them, and India declared open-defecation-free in 2019–2020. But building is not the same as lasting change: critics report pressure and coercion in some places, only about 1% of the mission's roughly US\$28 billion went to education and awareness, and construction quality varied. The defended conclusion: building toilets was necessary but not sufficient — the mission's success stands or falls on habit change, which needs education spending and time to measure. A defence that concedes these limits also earns full marks.

Q10. Marking guide: a real, named, dated decision (1 mark); two stated reasons actually given for it, not invented (1 mark); the four tests applied one by one — true, relevant, enough, opposing evidence checked (2 marks); and a judgement that separates “the reasons were real” from “the reasons justified this decision” (1 mark). The Basin Plan shows the target shape of a full answer: reasons true, yet found a “major failure of process” — truth is necessary but not sufficient.

Inquiry task. Marks are allocated to the five moves, never to the position reached: values audited and named (1); contested terms defined with the meaning chosen stated (1); conclusion drawn against at least two concepts as criteria, with a weighing if they pull apart (2); opposition steelmanned in recognisable form and answered (1); evidence ledger with three dated sourced items for and one opposing item considered (1). A conclusion the marker disagrees with, reasoned this way, earns full marks.

Sources (real, dated, checkable referents; all retrieved 25 August 2026; the full source record with every value is `src/6a_sources.md`): Svalbard Global Seed Vault (Wikipedia, “Svalbard Global Seed Vault”); FAO (1995) world assessment of the plants used in food and farming, as summarised in Wikipedia, “Staple food”; the NotPetya attack of 27 June 2017, the Maersk losses, and the US statement of 15 February 2018 blaming Russia’s GRU, with similar statements from the UK and Australia (Wikipedia, “NotPetya”); the Optus breach of 22 September 2022 and the Medibank breach of 12 October 2022 (Wikipedia); the Tallinn Manuals of 2013 and 2017 (Wikipedia, “Tallinn Manual”); UNDP Human Development Report 2025, 2023 HDI values and ranks (via Wikipedia, “Human Development Index”); the Swachh Bharat Mission (Wikipedia, “Swachh Bharat mission”); the PALM scheme (Section 4D of this book); the Falepili Union (Wikipedia, “Falepili Union”); the US ethanol programme from the Energy Policy Act 2005 and the 2007 act, the 2019 maize figures, the World Bank study of July 2008, Searchinger et al. (2008) and the later 2008–2016 assessment (Wikipedia, “Ethanol fuel in the United States”, “Corn production in the United States”); the Murray–Darling Basin Plan, the royal commission and the Menindee Lakes fish kills (Wikipedia, “Murray–Darling Basin Plan”, “2018–19 Australian fish kills”); food miles (Wikipedia, “Food miles”); Birrarung Marr (Wikipedia, “Birrarung Marr”); the Australian Red Cross named as a curriculum-referent organisation (TOC §2, D2). The “about 1,300 km” distance is derived from the vault’s latitude of about 78°14’N. All figures are original diagrams drawn for this book from these sources.

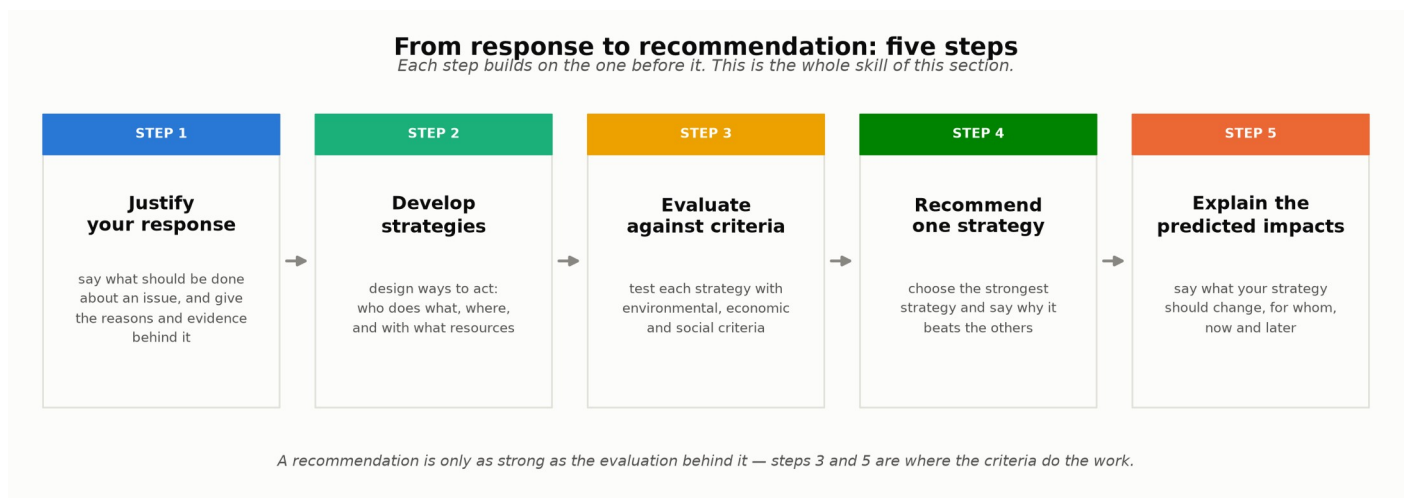
From response to recommendation: judging strategies on three criteria

Curriculum link. Victorian Curriculum F–10 Version 2.0, Geography, Levels 9 and 10 — VC2HG10S06 (Geographical Skills, Concluding and decision-making). The five-step chain below unpacks the code: justify, develop, evaluate, recommend, explain impacts.

Theory

The five-step chain (the skill this section trains)

The Victorian Curriculum uses *strategy* and *justify* without defining them. This section therefore treats them as follows: a **strategy** is a planned set of actions, by one person or by an organisation, aimed at one goal; a **response** is any action taken to deal with a geographical issue; and to **justify** a response is to give the reasons and evidence behind it, not just to name it. The whole section is one chain of five moves, each built on the one before it.



Five step cards joined by arrows, left to right: Step 1 justify your response; Step 2 develop strategies; Step 3 evaluate against criteria; Step 4 recommend one strategy; Step 5 explain the predicted impacts

Figure 1. The five-step chain from response to recommendation.

1. **Justify your response** — say what should be done about an issue, with reasons and evidence.
2. **Develop strategies** — design ways to act: who does what, where, and with what resources.
3. **Evaluate against criteria** — test each strategy with environmental, economic and social criteria (Figure 2).
4. **Recommend one strategy** — choose the strongest and say why it beats the others.
5. **Explain the predicted impacts** — say what your strategy should change, for whom, now and later. **Predicted impacts** are the changes you expect the strategy to cause, short term and long term.

The three criteria, and what “effective” means

A **criterion** (plural: **criteria**) is a standard you judge against. The curriculum names three criteria — environmental, economic and social — but does not define them, so this section uses the definitions in Figure 2, and every question here is answerable on those definitions alone. “Good” is a word people can reasonably disagree about; a criterion is the tool that makes the disagreement checkable, because each row of Figure 2 says what a good result looks like *and* what evidence counts. Two people can reach different judgements and still be tested against the same standard.

Three criteria for judging any strategy

A criterion (plural: criteria) is a standard you judge against. Good evaluation walks all three rows.

Environmental criterion	Economic criterion	Social criterion
What does this strategy do to the natural world? What a good result looks like less pollution and waste, healthier soil, water and wildlife; fewer greenhouse gases; impacts that can be kept up without damaging what they depend on What evidence looks like measured counts: tonnes of waste, water quality tests, species counts, emissions estimates	What does this strategy do to money, work and trade? What a good result looks like costs and who pays them; jobs kept, created or lost; income for producers; whether the strategy can keep being funded What evidence looks like dollars and jobs: budgets, wages, prices, export values, jobs counted	What does this strategy do to people and communities? What a good result looks like health and safety; fairness; whether people can take part; whether a culture's food and customs are respected; whether a community stays connected What evidence looks like people counts and surveys: who is affected, who was consulted, how many people take part

Most real strategies score differently on each row — that is exactly what you weigh up when you recommend one.

Three tall cards — environmental, economic and social criteria — each with the question it asks, what a good result looks like, and what evidence looks like

Figure 2. The three criteria used to evaluate any strategy in this section.

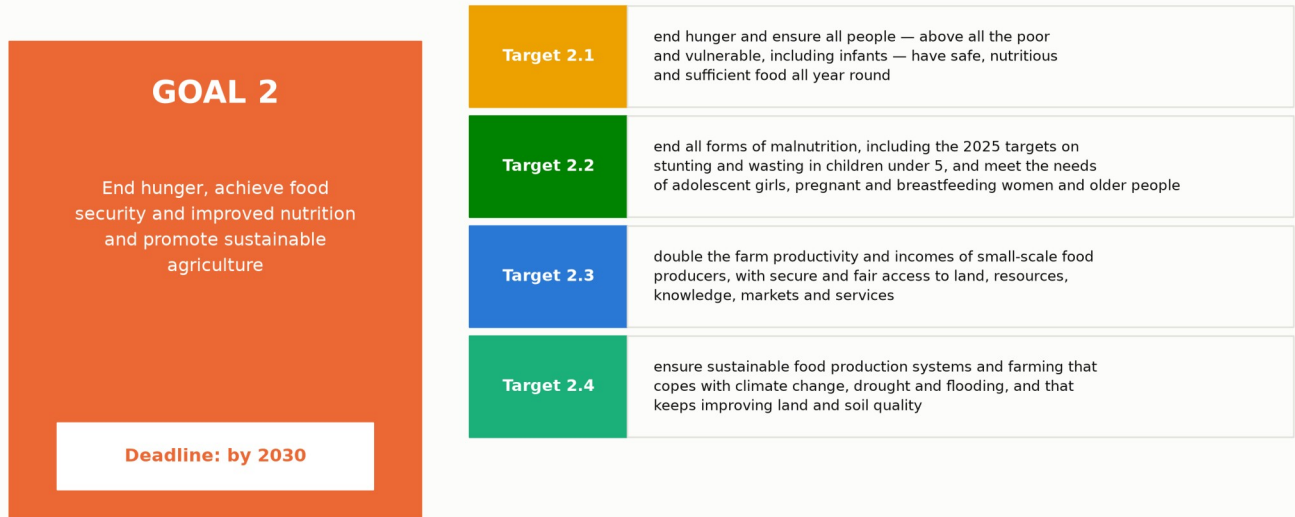
The **effectiveness** of a strategy is how well it does what it aimed to do, judged against the criteria. Evaluating effectiveness (E01, E07) therefore always asks two questions: did the environmental wear-down — the **environmental degradation**, meaning polluted water, damaged soil or lost species — get smaller, and did human wellbeing get better? And the evidence must be measured, not felt: counts, dollars and people, as the bottom row of Figure 2 shows.

Evaluating a global strategy: ending hunger by 2030 (E01, E07)

In 2015 the United Nations adopted the 2030 Agenda, a set of 17 Sustainable Development Goals. Goal 2 is the hunger goal: end hunger, achieve **food security** — reliable access to enough safe, nutritious food — and improve nutrition, and promote sustainable agriculture, by 2030.

United Nations Sustainable Development Goal 2 — Zero Hunger

Adopted in 2015 as part of the 2030 Agenda; deadline 2030



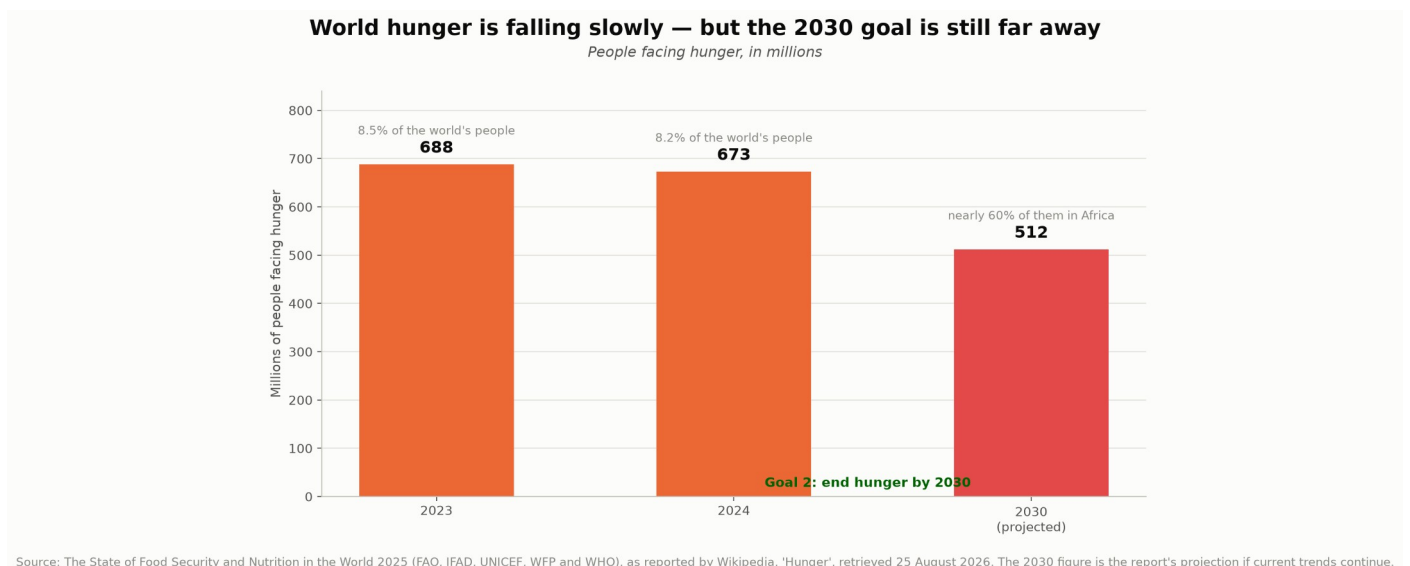
In this section we test strategies against Goal 2: does a plan really move the world towards these four targets?

Source: United Nations, Sustainable Development Goals — Goal 2 (sdgs.un.org/goals/goal2), retrieved 25 August 2026. Wording shortened for display.

Goal 2 tile on the left — end hunger, achieve food security and improved nutrition, promote sustainable agriculture, deadline 2030 — and four target cards on the right, Targets 2.1 to 2.4

Figure 3. United Nations Sustainable Development Goal 2 and its four targets.

So the world has a named strategy with a dated deadline. Evaluating it means measuring the trend against the goal. The yearly *State of Food Security and Nutrition in the World* report gives the numbers.



Bar chart of people facing hunger in millions: 688 million in 2023 (8.5% of the world's people), 673 million in 2024 (8.2%), and a projected 512 million in 2030 with nearly 60% of them in Africa, against the Goal 2 line at zero

Figure 4. The hunger trend against the 2030 goal.

Steelman both sides before judging. The strongest case for “it is working”: the share of the world facing hunger fell from 8.5% (688.4 million people) in 2023 to 8.2% (673 million) in 2024, and hundreds of millions of people are fed each year by the organisations in Figure 5. The strongest case for “it is off track”: if current trends continue, about 512

million people will still face hunger in 2030 — nearly 60% of them in Africa — so the goal will be missed by a wide margin. Judged on the criteria: the social row is the whole point of the goal and is met only in part; the economic row is fragile, because aid depends on its funders (in February 2025 many US-funded food grants were halted); the environmental row asks whether farming that feeds people can also keep soil and climate working (Target 2.4). The effectiveness judgement is therefore *partial*: progress is real but too slow, which is exactly the kind of dated, measured conclusion evaluation is for.

Collective action: organisations working to end hunger (E04)

An **individual action** is what one person chooses to do; **collective action** is people acting together through an organisation or an agreement, so the action keeps going beyond any one person. A **non-government organisation (NGO)** is an organisation that works on public problems without being part of any government — charities, aid groups and environment bodies. Figure 5 shows one UN food-aid organisation, one UN knowledge agency and one NGO, each with dated facts you can cite.



Three cards for the World Food Programme, the Food and Agriculture Organization and the Australian Red Cross, each listing dated facts about its role and reach

Figure 5. Three organisations working collectively on hunger, with dated facts.

Proposing collective action (E04) means naming organisations like these *and* giving reasons: hunger is too big for one person, so the reasons point to scale, money and staying power. Evaluating the proposal means walking the same three criteria as for any strategy.

Outcomes and impacts of strategies (E05)

Explaining a strategy's **outcomes and impacts** means saying what actually changed because of it. Two of the curriculum's own examples:

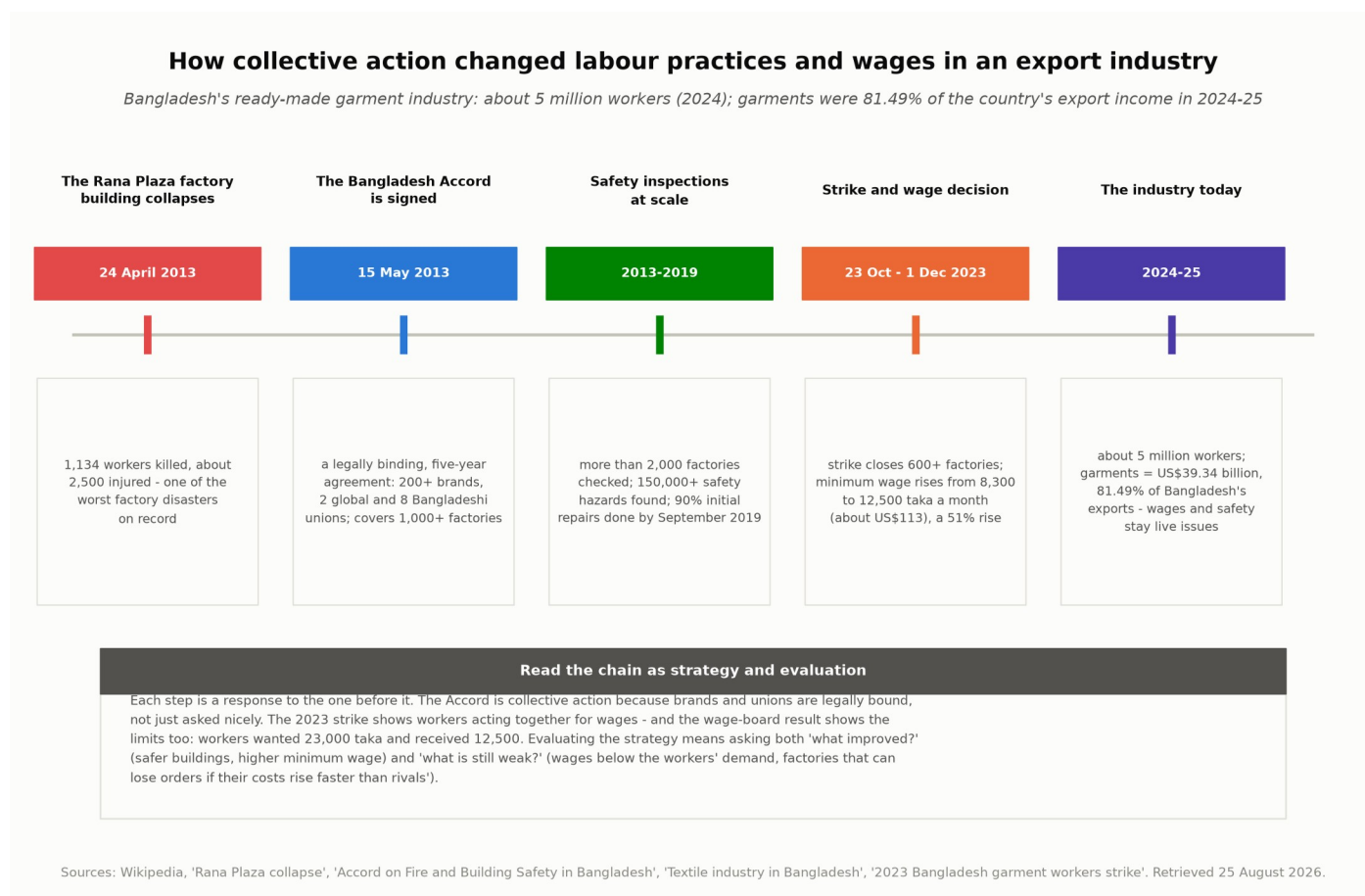
1. **Culturally acceptable food.** A food-aid strategy only works if the food fits the culture of the people receiving it — what people eat is part of who they are. That is the social criterion doing real work: the same tonnes of food can be a success or a failure depending on whether they are acceptable.
2. **Reducing the worldwide movement of hazardous waste.** **Hazardous waste** is waste that can harm people or the environment, such as poisons, dangerous chemicals and discarded electronics. The **Basel Convention**, signed in March 1989 and in force from 5 May 1992, is a collective strategy: 191 parties (countries that have

signed up) control how hazardous waste moves between countries; plastic waste was added to the list in 2019; and the Ban Amendment — a rule added in 1995 to ban the richest countries sending hazardous waste to poorer ones — entered into force on 5 December 2019.

The Basel example also shows why evaluation needs both sides. The strongest case for the ban: dumping waste on poorer countries shifts the harm, so stopping it is an environmental and social gain. The strongest case against, held by Australia and some other countries at the time: the rule raises costs and blocks legitimate recycling trade — an economic-criterion objection. The outcome to explain (E05) is that the movement of hazardous waste is now a controlled, counted activity rather than a free-for-all, and that the count itself is evidence you can evaluate.

Collective action for labour practices and wages (E04, E07)

Collective action is not only about hunger. Figure 6 follows one export industry — Bangladesh’s ready-made garment industry, about 5 million workers in 2024, whose garments were 81.49% of the country’s export income in 2024–25 — through a disaster, a binding agreement, inspections at scale, and a strike.



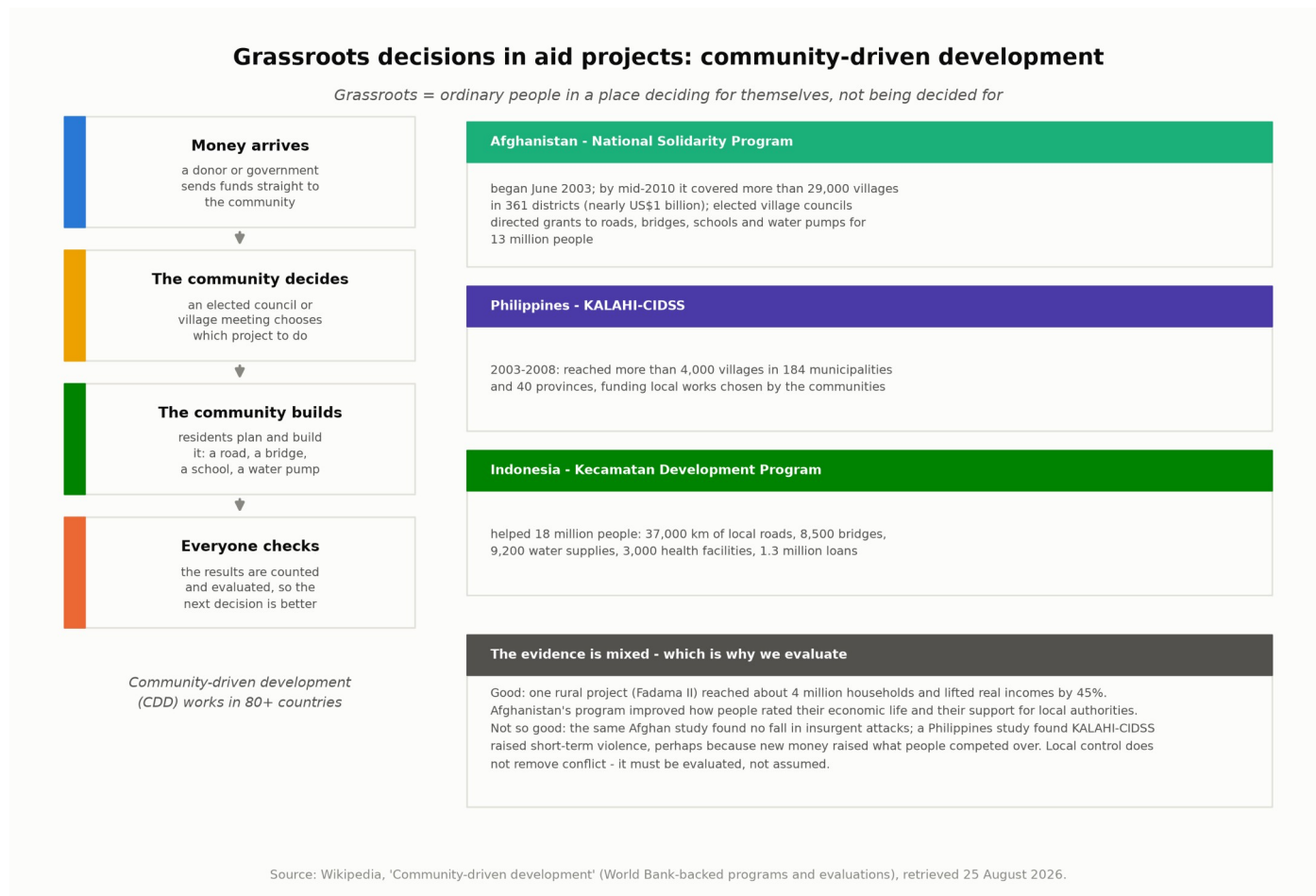
Five-step timeline, 2013 to 2025: the Rana Plaza factory building collapses on 24 April 2013; the Bangladesh Accord is signed 15 May 2013; safety inspections at scale 2013 to 2019; strike and wage decision 23 October to 1 December 2023; the industry today in 2024-25, each step with dated facts

Figure 6. How collective action changed labour practices and wages in Bangladesh’s garment industry.

Read as evaluation (E07), the chain scores unevenly across the criteria — which is normal. Social: strongly improved (thousands of factories checked, 150,000+ hazards found, 90% of initial repairs done by September 2019; the minimum wage rose from 8,300 to 12,500 taka a month, about US\$113, from 1 December 2023, a 51% rise) but not resolved (workers had demanded 23,000 taka). Economic: the strategy’s engine is money pressure — brands signed because the Accord is binding in law and the industry cannot afford to lose orders — yet that same pressure is its weakness, because factories whose costs rise faster than rivals’ can lose work. Environmental: thin, because the strategy aimed at fire and building safety, not pollution. Saying “thin on this row” is part of evaluating honestly.

Reasons for decisions: grassroots decisions in aid projects (E08)

Grassroots means ordinary people in a place deciding for themselves, not being decided for. The curriculum's E08 asks you to explain reasons for decisions, and names grassroots decisions about how aid projects are carried out, and how well they work. Figure 7 shows the model — community-driven development (CDD), used in 80+ countries — and three real programs.



Left: a four-step flow of community-driven development — money arrives, the community decides, the community builds, everyone checks. Right: three real programs in Afghanistan, the Philippines and Indonesia, plus a box of mixed evaluation evidence

Figure 7. Grassroots decisions inside aid projects, with the evidence that evaluates them.

The reasons *for* grassroots decisions, in their strongest form: local people know their own place best, and money they control builds projects they will actually use and keep — the Indonesian program's 37,000 km of roads and 8,500 bridges were chosen and built locally, and one rural program (Fadama II) reached about 4 million households and lifted real incomes by 45%. The reasons *against*, in their strongest form: local control does not remove conflict — in Afghanistan the program improved how people rated their lives but did not reduce attacks, and in the Philippines a study found short-term violence rose, perhaps because new money raised what people competed over. Explaining reasons for a decision (E08) therefore ends in evaluation, not applause: the reasons are good reasons, and the evidence says they are reasons to monitor, not reasons to assume success.

Monitoring: does the plan actually happen? (E01)

The second named example in E01 is checking how far a national park's management plan is actually carried out. **Monitoring** means measuring what actually happens against what the plan promised, over time, so effectiveness is checked with evidence. Figure 8 uses a real Victorian park.

Monitoring a management plan: did the park do what it said?

Strategy on paper means nothing until someone checks the implementation

Wilsons Promontory National Park Gippsland, Victoria - about 157 km south-east of Melbourne	505 square km 50,500 hectares; the southernmost national park on mainland Australia	Reserved 1898, permanent 1908 one of Victoria's oldest national parks	South Point the southernmost point of the Australian mainland; Tidal River swells to over 2,000 people
A model implementation table - what monitoring a park management plan looks like			
Plan goal	Planned action	Indicator (what is counted)	Status (checked yearly)
Protect native animals and plants	keep weeds out of key areas and count animal numbers	hectares treated for weeds; counts of wombats, emus, swamp wallabies	IN PROGRESS - counts done each year; some weed areas still to treat
Manage visitors safely	set camping limits at Tidal River and maintain walking tracks	campsite nights sold; kilometres of track inspected	DONE for limits; track checks continue
Reduce fire risk	burn off fuel under controlled conditions where the plan allows	hectares of planned burning completed against the plan's target	PARTIAL - behind target this year after wet weather
Keep waterways healthy	test water quality in the main catchments	water-quality tests per site, against the plan's schedule	NOT STARTED at two sites

The rows are a model of what such a table contains; the park facts above are real. The skill is the same for any plan: name each action, count it, report it.

Source: Wikipedia, 'Wilsons Promontory National Park' (retrieved 25 August 2026); the park carries a Park Management Plan. Table rows are an original teaching model.

Four fact cards about Wilsons Promontory National Park — 505 square kilometres, reserved in 1898, about 157 kilometres south-east of Melbourne, Tidal River the busy visitor hub, South Point the southernmost tip of the mainland — above a monitoring table that pairs what the management plan promises with what to count or measure

Figure 8. Monitoring a national park management plan: Wilsons Promontory, Victoria.

Wilsons Promontory National Park (about 505 km², reserved in July 1898 and made permanent in 1908, about 157 km south-east of Melbourne) is the mainland's southernmost point at South Point, and its visitor hub, Tidal River, can hold more than 2,000 people on peak nights. A management plan for a park like this promises things like protecting plants and animals while people enjoy the park, and keeping waste and tracks under control. Monitoring turns each promise into a count — rubbish collected, tracks eroded, camping nights booked — and compares the count with the promise, year after year. A strategy that is never monitored is a hope, not a plan; the same habit applies to every strategy in this section, including the one you will recommend at the end.

Individual action and individual strategies (E03, E06)

Individual action matters because the person-scale totals are huge. About one-third of the food produced for people goes uneaten — roughly 1.3 billion tonnes a year (FAO, 2011) — and in 2021 about 931 million tonnes was discarded, around 121 kg per person, with 61% of it thrown out at homes (UNEP Food Waste Index). One person's lunch is small; millions of lunches are a national statistic. The same is true of the **ecological footprint** — the area of productive land and sea your life requires, measured in global hectares (gha), a concept introduced by Mathis Wackernagel and William Rees. The world average footprint is about 2.8 gha per person, but the planet can supply about 1.6 gha per person sustainably; by 2023 humanity was using the equal of 1.71 planets, and in 2025 the year's natural budget was used up on 24 July (Earth Overshoot Day). Wasted food and packaging are a direct slice of that overshoot.

Individual strategies: two things one person can do, with reasons

An individual action is what one person chooses; a strategy is that action sustained and checked against its predicted impacts

Strategy A - waste less food, and less of its packaging	Strategy B - volunteer for a non-government organisation
The action plan the food you buy so little is thrown out; pack lunches with reusable containers instead of single-use wrappers Why it matters (environmental criterion) about one third of the edible food produced for people goes uneaten - roughly 1.3 billion tonnes a year - and about 121 kg per person is discarded at homes, shops and food services The footprint idea your ecological footprint is the area of land and sea your life requires, measured in global hectares; the world average is about 2.8 per person, but the planet can sustainably supply about 1.6 each - in 2025, humanity used up the year's natural budget on 24 July (Earth Overshoot Day). Less wasted food and packaging shrinks your share of that demand Predicted impacts less methane from rotting food in landfill, less litter, and money saved in your household (an economic as well as environmental gain)	The action give regular time to an organisation such as the Australian Red Cross - at events, in emergency support, or in community programs near you Why it matters (social criterion) volunteering builds social connectedness - the ties between people that make a community work. The Australian Red Cross has drawn 2.5 million volunteers since it began in 1914, and its community programs exist precisely to build connection and resilience, in disasters and every day What an NGO is a non-government organisation (NGO) works on public problems without being part of government: charities, aid groups and environment bodies are all NGOs Predicted impacts more hands in emergencies, stronger local networks, and skills and confidence for the volunteer - a social return you can see

Both strategies are small at the person scale and bigger at the population scale: millions of packed lunches, or thousands of volunteers, change the totals.

Sources: FAO 2011 food-waste estimate and UNEP Food Waste Index 2021 (via Wikipedia, 'Food loss and waste'); Wikipedia, 'Ecological footprint'; Wikipedia, 'Australian Red Cross'. Retrieved 25 August 2026.

Two cards: Strategy A, waste less food and less of its packaging, with the action, reasons by criterion and predicted impacts; Strategy B, volunteer for a non-government organisation (for example, the Australian Red Cross), with the action, reasons and predicted impacts

Figure 9. Two individual strategies from the curriculum's own examples, with reasons.

Figure 9 works two of the curriculum's named individual strategies through the criteria. Reducing food wastage and packaging (E03, E06) scores on the environmental row — rotting food in landfill gives off **methane**, a gas that heats the climate — and on the economic row (households save money). Volunteering for an NGO — for example, the Australian Red Cross, which began in 1914 and has drawn 2.5 million volunteers since — scores on the social row: it builds the ties between people that make a community work, in disasters and every day. E03 also names reducing your negative impact when visiting a national park: at a place like Wilsons Promontory, taking your rubbish out and staying on formed tracks is an individual action with a reason — the park's 505 km² absorbs only what visitors choose to leave behind.

Recommending a strategy and explaining predicted impacts

The chain ends where it began: with a decision, now backed by evaluation. Figure 10 shows the shape of a recommendation — a model answer with its four parts labelled.

The shape of a recommendation: every part has a job

A model answer to: recommend a strategy for your school's food waste and explain its predicted impacts

1. Name the strategy and who acts

Recommendation: the school canteen runs a weekly food-waste audit and composts what cannot be served.
Who acts: canteen staff run the audit; a student green team weighs and records the bins each Friday; the school council pays for one compost bay (about the cost of a few bin collections).

2. Give the evaluation against criteria

Environmental: waste going to landfill falls and compost returns nutrients to the school garden.
Economic: the audit costs time, not money, and the school saves on waste-collection charges over time.
Social: students learn data skills and take part in a shared decision - the audit itself is their voice.

3. Say why this strategy beats the alternatives

An education-only campaign was considered but has no measure of change; a bin ban was considered but shifts the waste home rather than reducing it. The audit-and-compost plan is the only option that both reduces waste and produces data the school can check.

4. Explain the predicted impacts - now and later

Short term (this year): weekly waste counts show a baseline; the first compost is ready by spring.
Long term (beyond a year): less food bought than needed, lighter bins, richer garden soil - and if the counts do not fall, the data says so, and the strategy can be changed. That check is part of the plan.

Keep the four parts in order: name it, evaluate it, compare it, predict it. A recommendation missing any one part is a guess, not a decision.

Four stacked panels showing the shape of a recommendation: 1 name the strategy and who acts; 2 give the evaluation against criteria; 3 say why this strategy beats the alternatives; 4 explain the predicted impacts, now and later

Figure 10. The four parts of a recommendation; every part has a job.

Keep the four parts in order: name it, evaluate it, compare it, predict it. The comparison step is where the steelman habit lives — the alternatives must be presented as their supporters would put them, or the comparison proves nothing. The prediction step says what will change, for whom, this year and beyond — and, following the monitoring habit from Figure 8, how you will know. A recommendation missing any one part is a guess, not a decision.

Worked examples

Example 1 — scaffolded (evaluating against criteria, E01/E07)

Question: Evaluate the Bangladesh Accord (Figure 6) as a strategy. Complete the table using dated evidence, then write a one-sentence effectiveness judgement.

Criterion	Working (apply the dated evidence)	Comment (what the evidence shows)
Social	After the 24 April 2013 collapse (1,134 killed, about 2,500 injured), the Accord of 15 May 2013 had 2,000+ factories checked and 150,000+ hazards found, with 90% of initial repairs done by September 2019; the minimum wage rose 8,300 → 12,500 taka from 1 December 2023.	Strong row, but not solved: workers demanded 23,000 taka, so the rise (about 51%) met only about half the demand. “Improved” is the honest score, not “fixed”.
Economic	Garments were 81.49% of Bangladesh’s exports in 2024–25 (US\$39.34 billion); 200+ brands signed because the Accord is	The engine is money pressure: brands cannot afford to lose orders. The weakness is the same pressure — factories whose costs rise faster

Criterion	Working (apply the dated evidence)	Comment (what the evidence shows)
	binding in law.	than rivals' risk losing work.
Environmental	The Accord targeted fire and building safety, not pollution or waste.	Thin row: little direct environmental effect. Name it as thin — skipping a row quietly is not evaluating.

Answer: The Accord was effective on the social row (safer buildings, a 51% minimum-wage rise) and workable on the economic row (binding brand money), while its environmental effect is thin by design — so the overall judgement is *effective for what it aimed at, with wages still short of the workers' demand*.

Example 2 — unscaffolded (recommend and predict, the CD's final move)

Question: Recommend a strategy for your school's food waste and explain its predicted impacts.

Model answer (what a strong one looks like): **Name it and who acts.** The canteen runs a weekly food-waste audit — a careful count and check of what is thrown away — and composts what cannot be served; canteen staff run the audit, a student team weighs and records the bins each Friday, and the school council pays for one compost bay. **Evaluate against criteria.** Environmental: waste to landfill falls, and rotting food stops giving off methane in the bin; the global scale of the problem is the reason the local action matters (about one-third of food goes uneaten, 121 kg per person in 2021). Economic: the audit costs time, not money, and lighter bins mean lower collection charges over time. Social: students take part in a shared, counted decision. **Compare.** An education-only campaign was considered but has no measure of change; a bin ban shifts the waste home instead of reducing it. The audit-and-compost plan is the only option that both reduces waste and produces data the school can check. **Predict.** Short term (this year): weekly counts give a baseline — the first measure later measures are compared against — and the first compost is ready for the garden by spring. Long term (beyond a year): less food bought than needed, lighter bins, richer garden soil — and if the counts do not fall, the data says so and the strategy can be changed. That check is part of the plan.

Practice questions

Scaffolded

Q1. In your own words, define: (a) strategy; (b) criterion; (c) the effectiveness of a strategy.

Q2. Look at Figure 3. (a) Goal 2 was adopted in 2015 as part of what agenda, with what deadline? (b) List the four things Goal 2 says it will do. (c) Which target (2.1–2.4) is about farming that copes with climate change?

Q3. Look at Figure 4. (a) How many millions of people faced hunger in 2023 and in 2024? (b) Did the *share* of the world's people facing hunger rise or fall between those years, and what were the two shares? (c) If current trends continue, how many people will face hunger in 2030, and where will nearly 60% of them be?

Q4. Look at Figure 5. (a) Match each organisation — World Food Programme, Food and Agriculture Organization, Australian Red Cross — to its kind: UN food-aid organisation, UN knowledge agency, NGO. (b) Which single dated fact in the figure shows that aid depends on its funders?

Q5. Look at Figure 6. (a) What happened on 24 April 2013, and at what human cost? (b) State the minimum-wage change that took effect on 1 December 2023, in taka and as a percentage rise. (c) Give one dated fact showing that building safety improved during the Accord years.

Q6. Look at Figure 8. (a) In what year was Wilsons Promontory first reserved, and about how large is the park? (b) In your own words, what two things does monitoring compare?

Unscaffolded

Q7. Using Figures 3 and 4, evaluate the effectiveness of the world's strategy to end hunger by 2030. Put the strongest case for “it is working” and the strongest case for “it is off track” before your own judgement, and use at least two dated numbers (E01, E07).

Q8. Collective action changed labour practices and wages in Bangladesh’s garment industry (Figure 6). Evaluate the Accord against the social and economic criteria, then explain why a garment worker and a factory owner might weigh the same 2023 wage outcome differently (E04, E07).

Q9. Explain the reasons for grassroots decisions in aid projects (Figure 7). Then, using the mixed evidence, say whether those reasons justify the conclusion “local control works” — and name one further piece of evidence that would strengthen your judgement (E08).

Q10. Propose one individual strategy to shrink your ecological footprint (E03, E06). Support it with two reasons that use dated data from this section, and explain its predicted impacts, short term and long term.

Inquiry task

Monitor, evaluate, recommend — at a real place. Use Figure 8 (Wilsons Promontory), Figure 2 (the criteria), Figure 10 (the shape of a recommendation) and the Sources at the end of this section.

- (a) A park management plan promises to protect the park while people enjoy it. Design two monitoring checks for visitor pressure at Tidal River: for each, say what you would count or measure, how often, and what change would count as “working”.
 - (b) One proposed response to peak-summer pressure is: *cap the number of camping sites at Tidal River on summer weekends*. Evaluate the cap against all three criteria, giving the strongest case for and the strongest case against on each row.
 - (c) Recommend one strategy — the cap, a different strategy, or the cap plus one more action — and explain its predicted impacts for one summer and for five years, in the four-part shape of Figure 10.
 - (d) Cite at least one source by name with its retrieval date.
-

Answers

Q1. (a) A strategy is a planned set of actions, by one person or an organisation, aimed at one goal. (b) A criterion is a standard you judge against. (c) Effectiveness is how well a strategy does what it aimed to do, judged against criteria.

Q2. (a) The 2030 Agenda (adopted 2015); deadline 2030. (b) End hunger; achieve food security; improve nutrition; promote sustainable agriculture. (c) Target 2.4.

Q3. (a) 688 million (2023, shown as 688.4 million in the report) and 673 million (2024). (b) Fell: 8.5% to 8.2%. (c) About 512 million; nearly 60% of them in Africa.

Q4. (a) WFP = UN food-aid organisation; FAO = UN knowledge agency; Australian Red Cross = NGO. (b) In February 2025 many US-funded grants to the WFP were halted.

Q5. (a) The Rana Plaza factory building collapsed; 1,134 workers killed and about 2,500 injured. (b) 8,300 → 12,500 taka a month; a 51% rise. (c) Any one dated: 2,000+ factories checked; 150,000+ hazards found; 90% of initial repairs done by September 2019.

Q6. (a) July 1898; about 505 km². (b) What actually happens (the measured counts) against what the plan promised.

Q7. Any evaluation that states both strongest cases and then judges, e.g. for: the share facing hunger fell 8.5% → 8.2% in one year and hundreds of millions are fed yearly; against: on current trends about 512 million still face hunger in 2030, nearly 60% in Africa, so the goal will be missed; judgement: partial effectiveness.

Q8. Social: safer buildings (2,000+ factories checked, 150,000+ hazards, 90% repairs by Sep 2019) and a 51% wage rise — improved, not resolved (demand was 23,000 taka). Economic: binding brand money is the engine, but faster-rising costs can lose orders. A worker weighs the rise against what it costs to live; an owner weighs it against rival countries' costs and the risk of losing orders — same number, different criterion weighted.

Q9. Reasons for: locals know their place best and keep what they build (Indonesia's 37,000 km of roads, 8,500 bridges; Fadama II, about 4 million households, +45% incomes). Reasons against: local control does not remove conflict (Afghanistan: wellbeing ratings up but no fall in attacks; Philippines: short-term violence rose). Judgement: the reasons justify trying and monitoring, not assuming success; further evidence could be a later study of attacks in the same Afghan districts, or income data some years after a program ends.

Q10. Any individual strategy with two dated reasons and both time horizons, e.g. reusable containers and planned buying: reasons — 121 kg per person of food was discarded at homes, shops and food services in 2021, and the world average footprint (about 2.8 gha) is well above the 1.6 gha the planet can supply per person; impacts — short term: less litter and money saved; long term: a smaller share of the waste stream and a smaller footprint, repeated across millions of households.

Fully-worked solutions

Q1. (a) A strategy is a planned set of actions, by one person or by an organisation, aimed at one goal — planned, so it can be evaluated, unlike a one-off reaction. (b) A criterion is a standard you judge against; this section uses three, environmental, economic and social. (c) The effectiveness of a strategy is how well it does what it aimed to do, judged against those criteria — so effectiveness is never a feeling; it is a measured comparison.

Q2. (a) Goal 2 was adopted in 2015 as part of the UN 2030 Agenda, with a deadline of 2030. (b) End hunger; achieve food security; achieve improved nutrition; promote sustainable agriculture. (c) Target 2.4 — sustainable food production systems and farming that copes with climate change, drought and flooding and keeps improving land and soil.

Q3. (a) 688 million people in 2023 (the report's exact figure is 688.4 million) and 673 million in 2024. (b) The share fell, from 8.5% of the world's people to 8.2%. (c) About 512 million people are projected to face hunger in 2030 if current trends continue, with nearly 60% of them in Africa.

Q4. (a) The World Food Programme is the UN food-aid organisation (established 19 December 1961; reached 152 million people in 2023); the Food and Agriculture Organization is the UN knowledge agency (collects the world's food and farming data, keeps the Low-Income Food-Deficit Countries list); the Australian Red Cross is the NGO (a charity, not government). (b) In February 2025 many US-funded grants to the WFP were halted — the world's largest food aid organisation depends on its funders, which is an economic-criterion fact about the whole strategy.

Q5. (a) On 24 April 2013 the Rana Plaza factory building collapsed, killing 1,134 workers and injuring about 2,500 — one of the worst factory disasters on record. (b) The minimum wage rose from 8,300 to 12,500 taka a month (about US\$113) from 1 December 2023 — a 51% rise. (c) Any one: more than 2,000 factories were checked; more than 150,000 safety hazards were found; 90% of initial repairs were done by September 2019.

Q6. (a) The park was first reserved in July 1898 (made permanent in 1908) and covers about 505 km². (b) Monitoring compares what actually happens — the measured counts, year after year — against what the management plan promised.

Q7. A strong answer holds both steelmen before judging. For “working”: the share of the world facing hunger fell from 8.5% (688.4 million) in 2023 to 8.2% (673 million) in 2024, and the organisations in Figure 5 feed hundreds of millions of people a year — a strategy with no effect would not show a falling share. For “off track”: the 2030 projection on current trends is about 512 million people still facing hunger, nearly 60% of them in Africa, against a goal that says *end* hunger by 2030 — the gap between 512 million and zero is the miss. Judgement: the strategy has partial effectiveness — real, measurable progress that is far too slow, with a fragile economic row (funding shocks such as the halted US grants of February 2025) and an environmental row that depends on farming changing (Target 2.4). That is a complete evaluation: both sides at full strength, then a dated verdict.

Q8. Social criterion: the Accord made buildings safer — 2,000+ factories checked, 150,000+ hazards found, 90% of initial repairs done by September 2019 — and the 2023 strike ended with the minimum wage up 51%, to 12,500 taka. Improved, not resolved: workers demanded 23,000 taka. Economic criterion: the Accord works because it is binding in law and brands cannot afford to lose orders from an industry that is 81.49% of Bangladesh’s exports; the same pressure is the weakness, because factories whose costs rise faster than rivals’ can lose work. The two people weigh the same number on different rows: a garment worker weighs 12,500 taka against the cost of living and against the 23,000 demanded — the social row, still short; a factory owner weighs it against rival countries’ wages and the risk of lost orders — the economic row, under pressure. Same outcome, different criteria weighted: that is why perspective must be named in an evaluation.

Q9. The reasons for grassroots decisions, at their strongest: local people know their own place best, and what a community chooses and builds, it uses and keeps — the Indonesian program helped 18 million people build 37,000 km of roads and 8,500 bridges, and Fadama II reached about 4 million households and lifted real incomes by 45%. The reasons against, at their strongest: handing money to local competition does not remove conflict — in Afghanistan the program raised how people rated their lives but did not reduce attacks, and in the Philippines KALAHI-CIDSS raised short-term violence, perhaps because new money raised what people competed over. Do the reasons justify “local control works”? They justify *local control works well enough to use, and must be evaluated, not assumed* — the Afghan evidence itself is the model: wellbeing up, attacks not down, two true statements one slogan cannot hold. Further evidence that would strengthen the judgement: a later study tracking attacks in the same Afghan districts over more years, or income data some years after a program ends, to separate a lasting gain from a spending burst.

Q10. A strong answer names one strategy, gives two dated reasons, and predicts both horizons. Example: *strategy* — plan buying so little food is wasted, and pack lunches in reusable containers. *Reason 1 (environmental)*: about one-third of food produced for people goes uneaten (1.3 billion tonnes a year, FAO 2011) and rotting food in landfill gives off methane, so wasting less directly shrinks that stream. *Reason 2 (scale/footprint)*: 121 kg of food per person was discarded in 2021 (UNEP), and the world average footprint of about 2.8 gha is far above the 1.6 gha the planet can supply per person — individual waste sits inside a measured overshoot. *Predicted impacts*: short term, less litter, lighter bins and money saved in the household; long term, a smaller personal footprint and, repeated across millions of households, a smaller national waste stream — the check being that your own bin weight falls month on month, which is the monitoring habit from Figure 8 at person scale.

Inquiry task. (a) Example checks: count the full bins at Tidal River each week of the summer holidays and compare with the plan’s waste target — “working” means the count falls or stays under target as visitor nights rise; photograph and measure the width of the two busiest walking tracks each season — “working” means no widening or new side-tracks year on year. (b) Environmental: for — fewer campsites means less waste, less ground damage and quieter habitat at the peak; against — capped campers may day-trip or crowd unofficial spots, shifting (not reducing) the pressure. Economic: for — a booked-out cap still earns full fees and cuts clean-up costs; against — families and local businesses lose peak-season income and bookings. Social: for — better experiences and fairer access by ballot; against — people who miss out are shut out of a public park at the only time some can visit. (c) A strong recommendation uses all four parts of Figure 10, e.g.: cap weekend sites at the measured number the park can absorb *and* add a shuttle from the nearest town so total visitors need not fall; evaluation as in (b); comparison against a cap alone (shifts pressure) and against doing nothing (the counts keep rising); predicted impacts — one summer: stable track widths and steady bin counts while visitor numbers hold; five years: vegetation recovery at old informal sites and a monitoring record that shows whether the cap number should move. (d) Any source named with “retrieved 25 August 2026”, e.g. Wikipedia, ‘Wilsons Promontory National Park’.

Sources

All sources retrieved 25 August 2026.

- **S1** United Nations, Sustainable Development Goals — Goal 2 (sdgs.un.org/goals/goal2): goal wording (“End hunger, achieve food security and improved nutrition and promote sustainable agriculture”) and Targets 2.1–2.4; adopted 2015 as part of the 2030 Agenda.
- **S2** *The State of Food Security and Nutrition in the World 2025* (FAO, IFAD, UNICEF, WFP and WHO), as reported by Wikipedia, ‘Hunger’: 688.4 million people (8.5%) facing hunger in 2023; 673 million (8.2%) in 2024; about 512 million projected for 2030 if current trends continue, nearly 60% of them in Africa.
- **S3** Wikipedia, ‘World Food Programme’: established 19 December 1961; the world’s largest food-aid organisation; reached 152 million people in 2023 in more than 120 countries and territories; Nobel Peace Prize 2020; many US-funded grants halted in February 2025.
- **S4** Wikipedia, ‘Basel Convention’: signed March 1989, in force 5 May 1992, 191 parties; controls how hazardous waste moves between countries; plastic waste added in 2019; the 1995 Ban Amendment in force from 5 December 2019; Australia among the opponents of the ban.
- **S5** Wikipedia, ‘Rana Plaza collapse’: 24 April 2013; 1,134 workers killed; about 2,500 injured.
- **S6** Wikipedia, ‘Accord on Fire and Building Safety in Bangladesh’: signed 15 May 2013; five-year agreement binding in law; 200+ brands and 2 global plus 8 Bangladeshi unions; 1,000+ factories covered; 2,000+ checked; 150,000+ hazards found; 90% of initial repairs done by September 2019.
- **S7** Wikipedia, ‘Textile industry in Bangladesh’: about 5 million workers (2024); garments of US\$39.34 billion = 81.49% of the country’s US\$48.28 billion of exports in 2024–25.
- **S8** Wikipedia, ‘2023 Bangladesh garment workers strike’: began 23 October 2023; 600+ factories closed; minimum wage raised from 8,300 to 12,500 taka a month (about US\$113) from 1 December 2023, a 51% rise; workers had demanded 23,000 taka.
- **S9** Wikipedia, ‘Australian Red Cross’: began in 1914; 2.5 million volunteers since; community programs build local connection and the ability to recover after hard events.
- **S10** Wikipedia, ‘Community-driven development’: CDD used in 80+ countries; World Bank about 190 projects worth US\$9.3 billion over 2000–05; Afghanistan National Solidarity Programme from June 2003

(29,000+ villages, 361 districts, nearly US\$1 billion, 13 million people; perceived wellbeing up but no fall in attacks); Philippines KALAHI-CIDSS 2003–08 (4,000+ villages; short-term violence up); Indonesia Kecamatan Development Program (18 million people; 37,000 km of roads; 8,500 bridges; 9,200 water supplies; 3,000 health facilities; 1.3 million loans); Fadama II (about 4 million households; real incomes +45%).

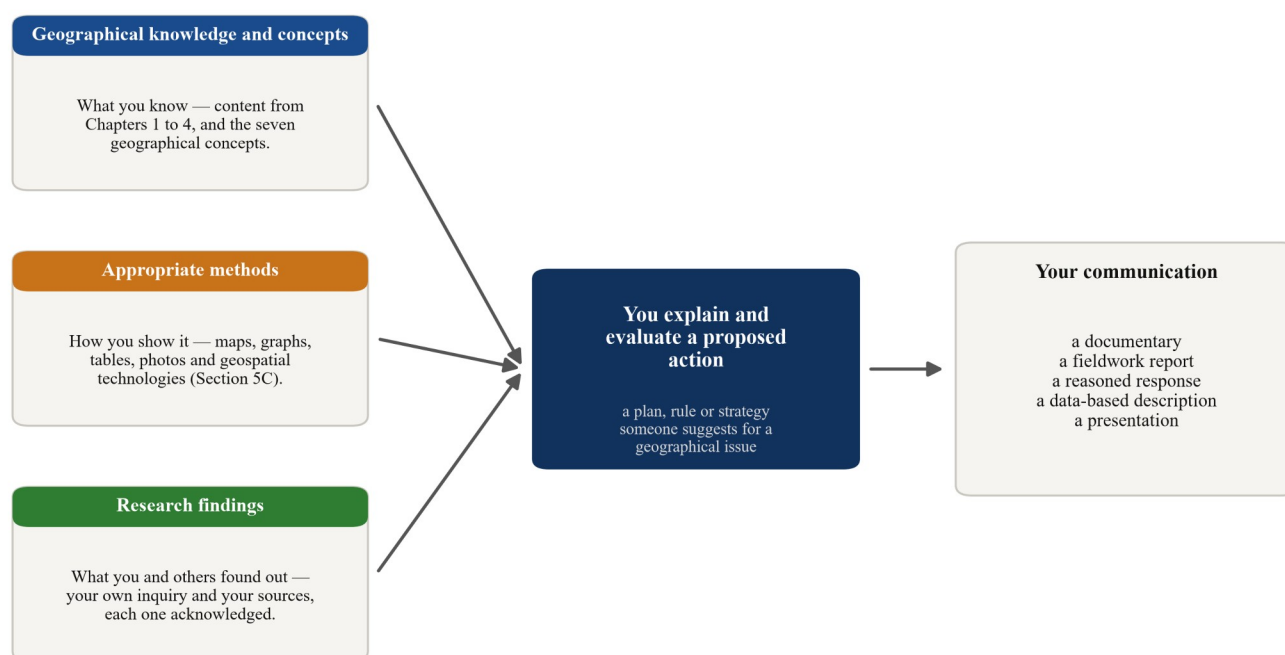
- **S11** Wikipedia, ‘Wilsons Promontory National Park’, and the Parks Victoria management plan for the park (archived 11 October 2017): about 505 km²; reserved July 1898, permanent from 1908; about 157 km south-east of Melbourne; South Point is the southernmost point of the Australian mainland; Tidal River is the visitor hub (2,000+ people on peak nights).
- **S12** FAO (2011) food-waste estimate and the UNEP Food Waste Index Report 2021, as reported by Wikipedia, ‘Food loss and waste’: about one-third of the edible food produced for people goes uneaten (roughly 1.3 billion tonnes a year); 931 million tonnes discarded in 2021, about 121 kg per person, 61% of it at homes.
- **S13** Wikipedia, ‘Ecological footprint’, and Global Footprint Network figures (concept introduced by Mathis Wackernagel and William Rees): world average footprint about 2.8 gha per person against about 1.6 gha of productive land and sea available per person (2022); humanity using the equal of 1.71 planets by 2023; Earth Overshoot Day 24 July 2025.

Theory

1. Where this section sits

In Section 6A you reached conclusions and gave reasons for them; in Section 6B you developed and judged strategies, recommended one, and said what you predict it would do. Section 6C is the last step of the inquiry: now you tell other people. The content description (VC2HG10S07) asks you to explain and judge proposed actions — with geographical knowledge and concepts, by methods that suit the job — and to build in research findings, naming their sources. Figure 1 shows what that means as a working model.

Putting the content description together: what your communication carries



Original model of VC2HG10S07. The three inputs must all be visible in the finished piece.

Flow model with three input boxes — geographical knowledge and concepts, appropriate methods, and research findings — flowing into a box reading “you explain and evaluate a proposed action”, which flows into the finished communication

Figure 1. Putting the content description together.

Four words carry this section, so define them at once:

- A **proposed action** is a plan, rule or strategy that someone suggests to deal with a geographical issue — Venice’s entry fee is one, a town’s plan to manage its visitors is another, a farm’s switch to soil-friendly practice is a third.
- A **research finding** is something you found out — from your own inquiry, or from a source you checked.
- To **acknowledge** a finding is to say clearly where it came from, so your reader or viewer can check it.
- To **explain** is to say how and why; to **evaluate** is to judge how good something is against clear criteria — here the environmental, economic and social criteria used in Section 6B.

2. The seven concepts as a scaffold

A documentary, a report or a response is easier to build when it has a frame. The curriculum names seven geographical concepts — place, space, environment, interconnection, sustainability, scale and change — and each one

asks a question of your issue (Figure 2). Using those questions as your frame is what a **scaffold** is: the questions hold the shape of the piece while you add your evidence.

The seven geographical concepts as a scaffold: the question each one asks

Concept	Ask this in your documentary, report or response
Place	What is this place like, and why does it matter to the people in it?
Space	Where is it, and how is it arranged across space?
Environment	How does the environment support it, shape it or set limits on it?
Interconnection	What is it joined to, and what flows along those links?
Sustainability	Can it keep going — environmentally, economically and socially?
Scale	What changes when you zoom in or out: local, national, world?
Change	What has changed, what is changing now, what could change next?

Original figure. The seven concepts are named by the Victorian Curriculum and scaffold a documentary or response (Section 6C).

Table of the seven geographical concepts, each paired with the question it asks in a documentary, report or response

Figure 2. The seven concepts as a scaffold.

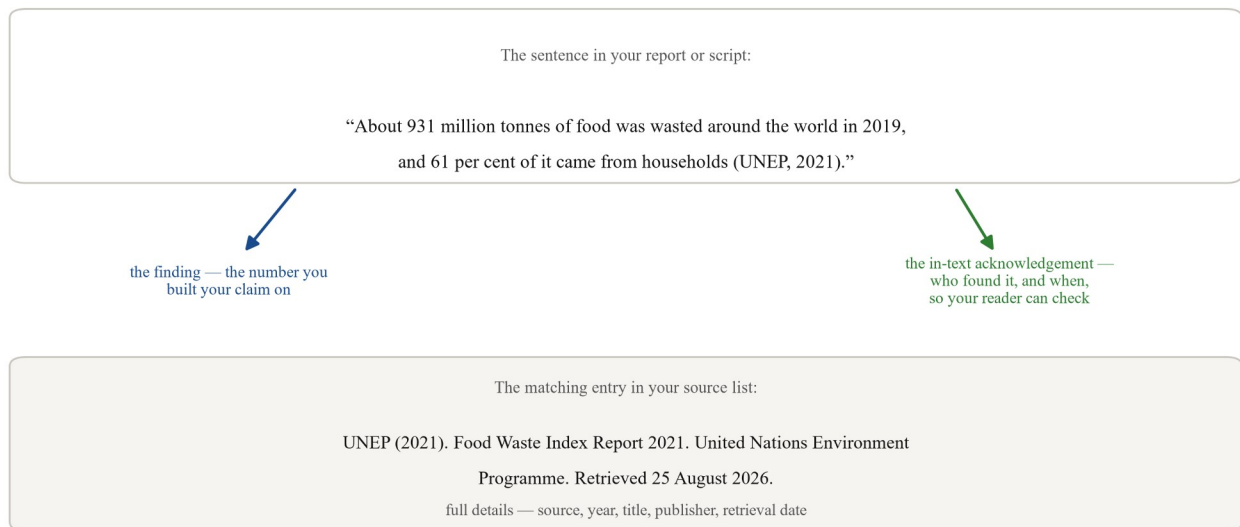
3. Incorporating and acknowledging research findings

The content description names this skill twice — *incorporating* and *acknowledging* — because it is two moves:

1. **Incorporate:** put the finding into your piece at the point where it carries your claim.
2. **Acknowledge:** name the source and its year in the same sentence, then give full details in a source list, with a retrieval date for anything online.

Figure 3 shows the model. The rule of thumb sits under the figure: if a number or a claim is not yours, its source must be visible twice — once in the sentence, once in the source list. A finding with no source is not a finding; it is an opinion. This is also why every figure in this book carries a source line.

Incorporating and acknowledging a research finding: the model



Original model. Rule of thumb: if a number or claim is not yours, its source must be visible in the same sentence and in the source list.

Model of a sentence incorporating a food-waste finding with its in-text acknowledgement, above the matching source-list entry with retrieval date

Figure 3. Incorporating and acknowledging a research finding.

4. The forms this section builds

A documentary (E01). A short documentary is a story told with pictures, sound and commentary. Plan it scene by scene against the concept scaffold (Figure 4): each scene has a purpose, a concept holding it up, and evidence to weave in. Your English classes teach the shapes of texts; here the care is the geography — real places, named evidence, and a response to the issue at the end.

Planning a 2–3 minute documentary: five scenes, scaffolded on the concepts

Scene	Purpose	Concepts scaffolding it	Evidence to weave in (acknowledged)
1 — The issue, here	Hook the audience: show the issue in one real place.	Place	Your own photos or field notes; one local fact with its source.
2 — The flows	Follow where the issue comes from and where it goes.	Interconnection	A map or diagram of the links between places.
3 — Zoom out	Show how big it is and who it touches.	Scale, space	A graph or table of data from a named source.
4 — What is being done	Present a proposed action and test it honestly.	Change, sustainability	Research findings for and against the action.
5 — Your verdict	Recommend what should happen and say what you predict.	Sustainability	Your evaluation against clear criteria (Section 6B).

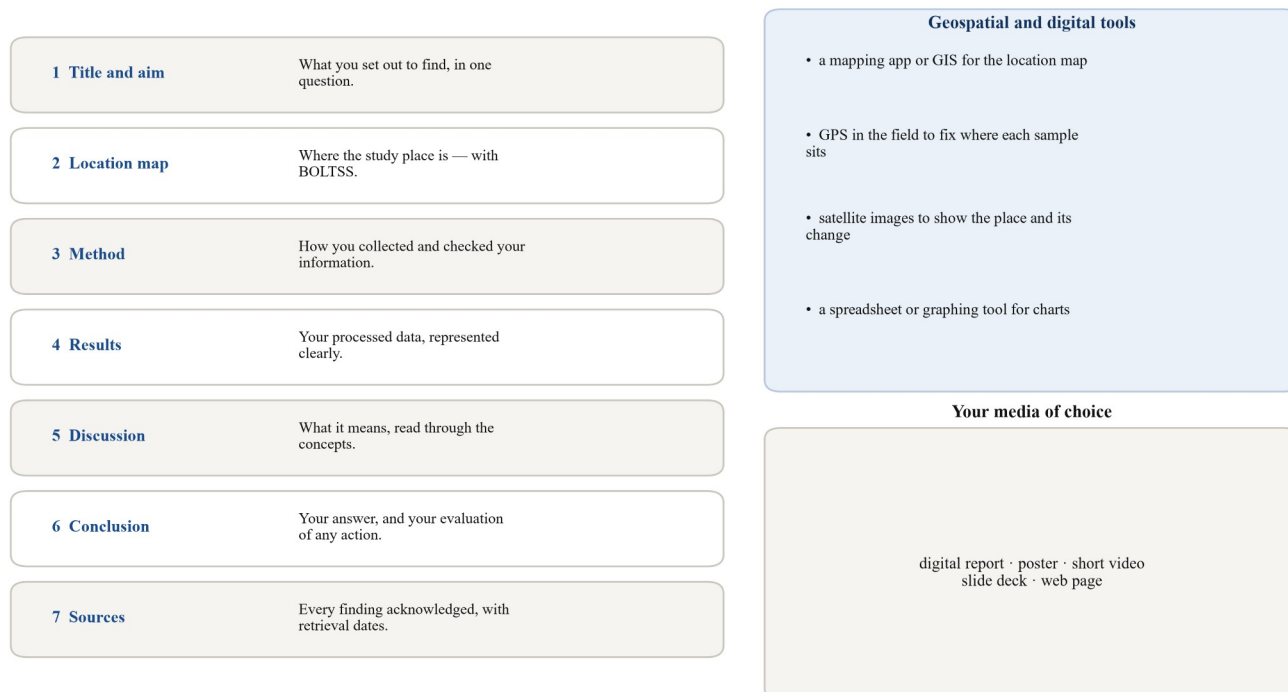
Original planning grid. Swap in any geographical issue from Chapters 1–4; keep the concept scaffold and the acknowledged evidence.

Planning grid for a two-to-three-minute documentary in five scenes, with a purpose, scaffold concepts and acknowledged evidence for each scene

Figure 4. Planning a documentary on the concepts.

A fieldwork report (E02). Fieldwork is collecting information in the place itself — counting, observing, surveying, photographing. A fieldwork report can sit under any of the four knowledge sub-strands (Chapters 1–4), and it has seven parts (Figure 5). The same figure shows where **geospatial technologies** — digital tools that work with place-based data, such as a mapping app, GIS, GPS and satellite images — and your **media of choice** (digital report, poster, short video, slide deck, web page) can carry each part.

A fieldwork report: the parts, and the geospatial and digital tools that can carry them



Original figure. A fieldwork report can sit under any of the four knowledge sub-strands (Section 6C).

List of the seven parts of a fieldwork report beside a panel of geospatial and digital tools and a panel of media choices

Figure 5. A fieldwork report: parts and tools.

A description built from data (E04). A description of an issue is strongest when each claim sits on a representation that does its job (Figure 6). A map shows *where*; a photograph shows *impact on people and places*; a graph shows *trend and relationship*; a table shows *exact values*; a satellite image shows *large areas and change over time*; a diagram shows *how parts connect*. Maps you draw follow **BOLTSS** — Border, Orientation, Legend, Title, Scale, Source — the six things a proper map carries (Section 5C).

Choosing representations: each one has a job to do

Representation	The job it does	An example in this book
Map	Shows where things are, and their pattern across space.	Australia's major biomes, mapped (Section 1A).
Photograph	Shows the impact on people and places; makes it personal.	Tourism's effects on a town (Section 2D).
Graph	Shows amounts, trends and relationships at a glance.	HDI trends over time (Worked example 2 here).
Table	Shows exact values so claims can be checked.	Census values for two nearby places (Section 4B).
Satellite image	Shows large areas, and change over time.	Land cover and land-use change (Chapter 3).
Diagram	Shows how parts connect: systems, chains and flows.	A supply chain from farm to shelf (Section 2A).

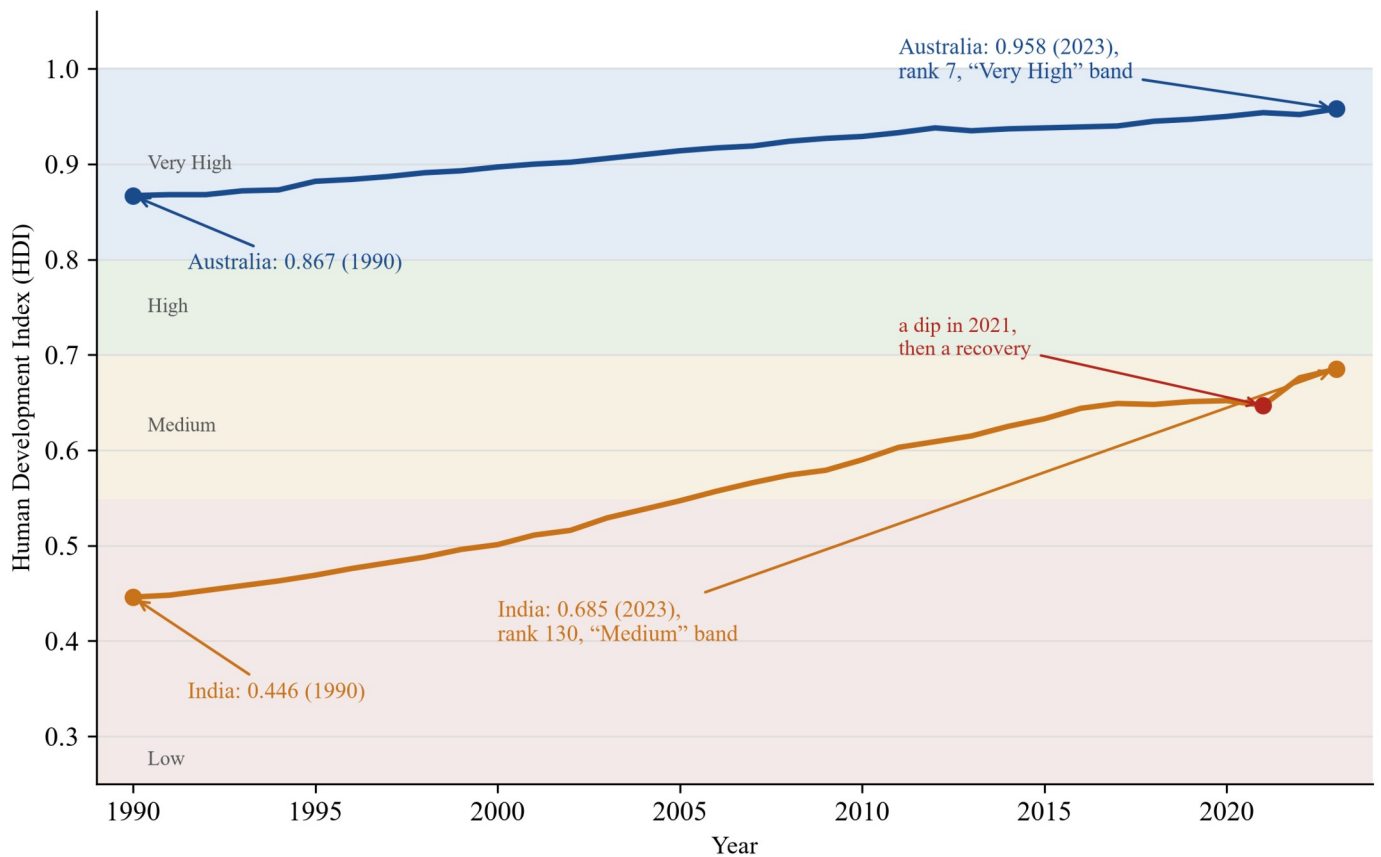
Original figure. Choose the representation that does the job your sentence needs — then check it against the BOLTSS rules if it is a map.

Table matching six representations — map, photograph, graph, table, satellite image, diagram — to the job each does and an example in this book

Figure 6. Each representation has a job to do.

A conclusion presented with geospatial tools (E05). A conclusion is clearer when it is carried by a representation made with digital tools. Figure 7 is one: the Human Development Index (**HDI**) trends for India and Australia, 1990–2023. The HDI is a number between 0 and 1 that joins up a country's health, education and income (Section 4A). Worked example 2 uses this figure.

HDI trends, 1990–2023: India and Australia (UNDP, 2025)



Source: UNDP Human Development Report 2025, composite indices time series (retrieved 25 August 2026). Band shading shows UNDP's four HDI bands.

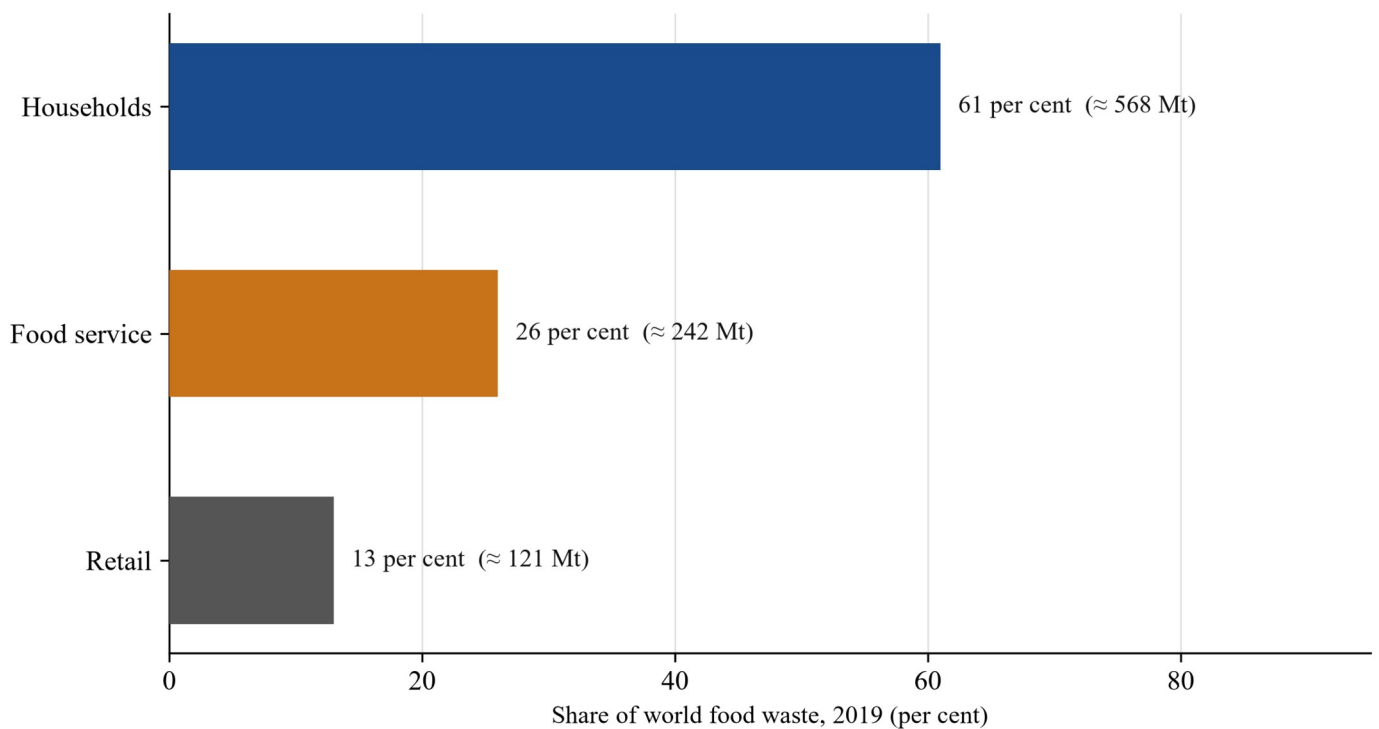
Line chart of HDI values from 1990 to 2023 for India and Australia, with start and end values labelled, a 2021 dip marked, and UNDP band shading

Figure 7. HDI trends, 1990–2023.

5. Tone matched to purpose and audience (E06)

Tone is the feel a piece of communication gives its reader or listener — formal or friendly, cautious or sure. The food-waste finding below — from the UNEP (2021) research used already in this section — is the running example.

Where the world's food waste comes from: 931 million tonnes in 2019



Source: UNEP Food Waste Index Report 2021 (2019 data; retrieved 25 August 2026). Mt values computed from 931 Mt x share.

Horizontal bar chart of the world's 931 million tonnes of food waste in 2019, split by where it happened: households 61 per cent, food service 26 per cent, retail 13 per cent

Figure 8. Where the world's food waste comes from (UNEP, 2021).

The same finding can be said in three different tones for three different audiences (Figure 9). In this section an **authoritative** tone means sounding sure of yourself *because the evidence is named and checkable* — not because you are loud or bossy. That is the tone a council submission or a management plan earns, and the one modelled in worked example 1.

One finding, three ways to say it: matching tone to purpose and audience

Audience and purpose	Tone	A model opening line
A class presentation — to inform your classmates	Informative: plain, clear, explaining as you go	"Food waste is a big issue, and most of it starts at home — let's look at the numbers."
A council submission — to persuade the council to fund a food-waste program	Authoritative: formal, sure of itself because it rests on named evidence	"Households produced 61 per cent of measured food waste in 2019 (UNEP, 2021); we recommend ..."
A school social-media post — to grab students' attention	Direct and active: short, personal, calls for action	"More than half the world's food waste is us. Here's what our class is doing about it."

Original figure. The finding is the same in all three rows; only the tone changes. In this section, "authoritative" means sure of itself because the evidence is named and checkable — not loud or bossy.

Table showing the same food-waste finding written for three audiences — class presentation, council submission, social-media post — each with its tone and a model opening line

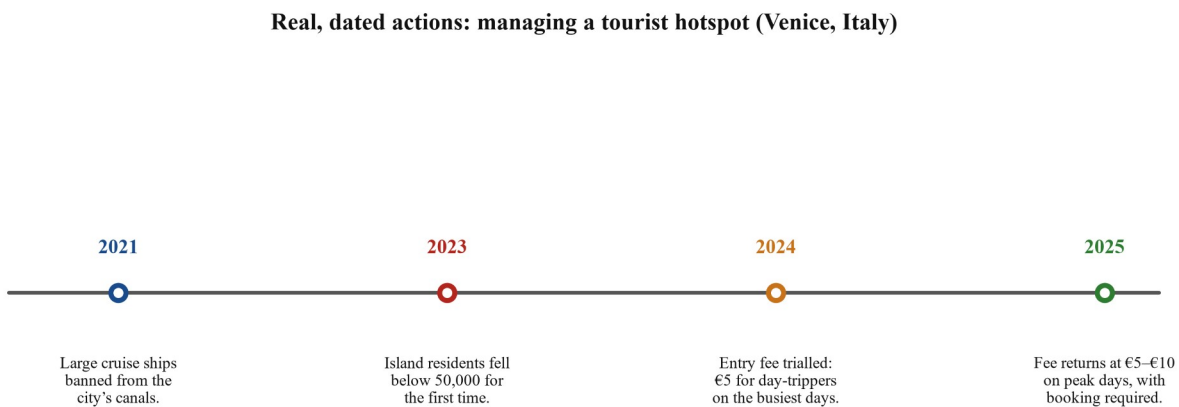
Figure 9. One finding, three tones.

One last rule for evaluation, and it applies to every form above: the strongest case is the one that lets the other side speak in its strongest form. Before you judge a proposed action, put its best case *and* the best case against it on the page, then decide. An evaluation that skips the other side is not an evaluation; it is a cheer.

Worked examples

Example 1 — scaffolded (explain and evaluate a proposed action; E03, E06)

Question. In 2024 the city of Venice, Italy, trialled an entry fee for day-trippers on its busiest days. Using Figure 10 and the work you did in Section 2D, explain the action and evaluate it against the environmental, social and economic criteria.



Cross-reference Section 2D, where these actions and their sources are given in full. Every date here is checkable.

Timeline of four dated Venice events — 2021 cruise-ship ban, 2023 island residents falling below 50,000, 2024 entry-fee trial, 2025 fee with booking

Figure 10. Venice: four dated facts (cross-reference Section 2D).

Step	Do this	In this case
1	Name the proposed action and its purpose.	A fee of €5 (2024 trial) rising to €5–€10 with booking on peak days (2025); its purpose is to thin the day-visitor crowd and raise money for the city’s care.
2	Incorporate findings and acknowledge them.	The islands’ residents fell below 50,000 in 2023 (Section 2D); large cruise ships were banned in 2021 (Section 2D).
3	Explain through the concepts.	Place — a historic island city with narrow streets and canals; interconnection — the city is joined to the world by flights and cruises, so the crowd arrives from far away; change — residents leaving as homes turn to short-stay rentals.
4	Evaluate against three criteria — and state the other side at its strongest.	Social: thinning the crowd on peak days gives residents room; economic: the fee raises money but a

Step	Do this	In this case
		small fee may not change many visitors' plans; environmental: fewer people on the busiest days eases wear on the city, and the 2021 ban cut ship wash in the canals. Best case for the fee: it is priced, targeted and it counts visitors through bookings, so the rule can be adjusted. Best case against it: day-trippers can simply pick an unpriced day, and the fee does not return homes to residents.
5	Verdict.	The fee is a sound first step, not a fix: it works best as one tool in a kit, watched and adjusted with the booking data (Section 2D).

Model answer (authoritative tone). Venice's day-visitor fee should be kept, but judged honestly. The city faces a real pressure: island residents fell below 50,000 in 2023 as homes turned to short-stay rentals (Section 2D), and it has already acted once, banning large cruise ships from its canals in 2021 (Section 2D). The fee — €5 trialled in 2024, €5–€10 with booking on peak days from 2025 (Section 2D) — eases the social cost of crowding on the worst days, raises money for the city's care, and, because bookings double as a count of visitors, gives the city the data to adjust the rule. Its limits are just as real: a small fee changes few plans, and no fee returns homes to residents on its own. Against the three criteria the fee scores well on social and environmental grounds and only in part on economic grounds. It is therefore a sound first step that should be kept, watched and paired with housing rules if the city wants residents to stay.

Example 2 — scaffolded (present a conclusion from a data representation; E05)

Question. Read Figure 7. Present a conclusion about how the HDI of India and Australia changed from 1990 to 2023, and say what the chart shows about how where a person lives influences their wellbeing.

Step	Do this	In this case
1	Read the start and end values.	India: 0.446 (1990) to 0.685 (2023). Australia: 0.867 (1990) to 0.958 (2023).
2	Describe the trend — and any break in it.	Both countries rose. India's rise was steep and steady, with a small dip in 2021 before it recovered. Australia's rise was slower, high on the scale, with a small dip in 2022.
3	Read the bands.	India climbed from the Low band into the Medium band but has not reached the High band. Australia stayed in the Very High band the whole time.
4	State the conclusion, with the source acknowledged.	Over 33 years both countries improved their health, education and income, but the gap between them never closed: in 2023 India (rank 130) sat a full two bands below Australia (rank 7) (UNDP, 2025).
5	Connect to “where you live”.	The two lines are two different starting points in life. Where a

Step	Do this	In this case
		person lives shapes their wellbeing — at the world scale (this chart) and, as Section 4B showed, at the local scale inside one country.

Model conclusion. Between 1990 and 2023 India's HDI rose from 0.446 to 0.685 — from the Low band into the Medium band — while Australia's rose from 0.867 to 0.958 inside the Very High band (UNDP, 2025). Both trends show long-run gains in health, education and income; India's includes a 2021 dip that was recovered by 2023. Yet the gap remained: two bands separated the countries at the end, as at the start. Where a person lives still shapes their wellbeing — between countries, and inside them (Section 4B). That is the conclusion the representation carries, and citing UNDP (2025) lets anyone check it.

Practice questions

Scaffolded

- Q1.** Define, in your own words: (a) a proposed action; (b) a research finding; (c) what it means to acknowledge a finding.
- Q2.** Figure 2 gives each concept a question. Choose **two** concepts and write the question you would ask of a documentary about food waste in your school.
- Q3.** Figure 3 shows the two moves of acknowledging a finding. (a) Name them. (b) Rewrite this sentence so it acknowledges its source: "Households produced most of the world's measured food waste."
- Q4.** From Figure 7: (a) state India's HDI in 1990 and 2023; (b) state which UNDP band India was in at each date; (c) name the year of India's dip.
- Q5.** Figure 9 shows three tones. Which tone fits (a) a submission to your local council, (b) a post on your school's social media? Give one reason for each choice.
- Q6.** Match each job to the best representation from Figure 6: (a) show where Australia's major biomes are (Section 1A); (b) show how crop yields changed over ten years (Section 1B); (c) show what a flood did to a town's main street; (d) show exact census values for two nearby places (Section 4B).

Un scaffolded

- Q7.** Barcelona announced in June 2024 that it would not renew licences for tourist flats from 2028, so about 10,000 homes could return to ordinary housing (Section 2D). Explain this proposed action and evaluate it against **two** of the three criteria, giving the best case against it before your verdict.
- Q8.** Using the grid in Figure 4, outline **two** scenes of a documentary on one issue from Chapters 1–4. For each scene name the concept scaffolding it and one piece of evidence you would incorporate and acknowledge.
- Q9.** Plan a fieldwork report on one of the four knowledge sub-strands: list the seven parts from Figure 5 and name one geospatial technology and one media of choice you would use.
- Q10.** Below are three findings. Add an in-text acknowledgement to each, using the source given, as modelled in Figure 3. (a) About 931 million tonnes of food was wasted around the world in 2019, and 61 per cent of it came from households. (*Source: UNEP Food Waste Index Report 2021.*) (b) India's HDI reached 0.685 in 2023, ranking 130. (*Source: UNDP Human Development Report 2025.*) (c) In 2021 the city of Venice banned large cruise ships from its canals. (*Source: Section 2D of this book.*)

Inquiry task — your communication capstone

Produce **one** communication of your choice — (a) a documentary outline plus one scripted minute, (b) a fieldwork report layout, or (c) a one-page reasoned response — that **explains and evaluates a real proposed action** on an issue from one of Chapters 1–4. Your piece must:

1. be scaffolded on at least **four** of the seven concepts (Figure 2);
2. incorporate and acknowledge at least **three** research findings, each with a source and year in the sentence and a full entry in a source list;
3. include at least **one** representation that does a named job (Figure 6) — if it is a map, follow BOLTSS;
4. be written or scripted in a tone matched to a named audience and purpose, and say which tone you chose and why;
5. evaluate the action against at least two criteria, with the best case against it stated in its strongest form before your verdict.

Self-check before you hand in: can a reader find every source in two places? Can they tell which concept holds up each part? Would the other side recognise its case as you wrote it?

Answers

Q1. (a) A proposed action is a plan, rule or strategy someone suggests to deal with a geographical issue. (b) A research finding is something found out from your own inquiry or from a checked source. (c) Acknowledging a finding is saying clearly where it came from so the reader can check it. **Q2.** Any two concept-questions applied to school food waste, e.g. *scale*: how big is our school's food waste next to the city's? *interconnection*: where does our canteen's food come from and where does the waste go? **Q3.** (a) Incorporate (put the finding where the claim is) and acknowledge (name the source and year, with full details in a source list). (b) e.g. "Households produced most of the world's measured food waste — 61 per cent of it in 2019 (UNEP, 2021)." **Q4.** (a) 0.446 in 1990; 0.685 in 2023. (b) Low band in 1990; Medium band in 2023. (c) 2021. **Q5.** (a) The authoritative tone — a council acts on evidence it can check, so name the evidence and stay formal. (b) The direct, active tone — a post has seconds to grab attention, so keep it short and personal. **Q6.** (a) Map. (b) Graph. (c) Photograph. (d) Table. **Q7.** Any well-reasoned pair, e.g. social positive: about 10,000 homes return to ordinary housing, so residents can stay and rents may ease; economic negative: owners of tourist flats lose income and the city may lose some visitor spending. Best case against: visitors may still come and stay in other places, so the housing gain is smaller than it looks; or, the city loses licence fees. Verdict stated after both sides. **Q8.** Any two scenes each with a named concept and a named, source-able piece of evidence. **Q9.** The seven parts (title and aim; location map; method; results; discussion; conclusion; sources) plus one geospatial technology (e.g. a mapping app for the location map) and one media (e.g. a digital report). **Q10.** (a) ...in 2019, and 61 per cent of it came from households (UNEP, 2021). (b) ...reached 0.685 in 2023, ranking 130 (UNDP, 2025). (c) ... banned large cruise ships from its canals in 2021 (Section 2D).

Fully-worked solutions

Q1. (a) A *proposed action* is a plan, rule or strategy suggested to deal with a geographical issue — it is the “something should be done” made concrete. (b) A *research finding* is something you found out, from your own fieldwork or inquiry or from a source you checked. (c) To *acknowledge* a finding is to name its source and year in the sentence and give full details in a source list, so the reader or viewer can check it.

Q2. Model pair for school food waste. *Place*: what does our school's bin area show about the issue, on an ordinary day? *Change*: has the school's waste grown or shrunk since the canteen changed its packaging? Each is one concept's question, pointed at the chosen issue.

Q3. (a) The two moves are *incorporate* — put the finding into the piece where the claim sits — and *acknowledge* — name the source and year in the sentence and list full details at the end. (b) Model rewrite: “Households produced most of the world's measured food waste — 61 per cent of the 931 million tonnes wasted in 2019 (UNEP, 2021).” The number is incorporated; “(UNEP, 2021)” acknowledges it.

Q4. (a) India's HDI was 0.446 in 1990 and 0.685 in 2023. (b) 0.446 sits in the Low band (below 0.55); 0.685 sits in the Medium band (0.55–0.699). (c) The dip was in 2021 (0.647, after 0.652 in 2020), recovered by 2022.

Q5. (a) The *authoritative* tone fits a council submission: the council decides with money and rules, and it acts on claims it can check, so the writing stays formal and names its evidence. (b) The *direct, active* tone fits a social-media post: readers scroll past in seconds, so the line must be short, personal and call for action. The informative tone sits between — right for a class presentation.

Q6. (a) A **map** — the job “where” is a pattern across space (Section 1A). (b) A **graph** — change over time is a trend (Section 1B). (c) A **photograph** — the impact of a flood on a street is personal and visual (as in Section 2D). (d) A **table** — exact census values for comparison are checked number by number (Section 4B).

Q7. The action: Barcelona will not renew licences for tourist flats from 2028, returning about 10,000 homes to ordinary housing (Section 2D). Explanation through concepts: *place* — a historic city whose centre is filling with short-stay rentals; *change* — rents rising as investors buy homes for visitors; the action reverses that change. Evaluation: **social** — homes return to residents, so more people can stay in the centre and daily shops may survive; **economic** — flat owners lose a stream of income, and some visitor spending may leave the city. Best case against: visitors do not stop coming; they stay in hotels or nearby towns, so the city gains little housing and loses licence income. Verdict (one model): the action scores strongly on social grounds and weakly on economic grounds; it is a sound move for keeping a resident city, provided the city also watches where the visitors go.

Q8. Model (environmental change, a local creek): *Scene 1 — the issue, here* (concept: place): film the creek bank after a storm; incorporate one local council water report finding, acknowledged. *Scene 3 — zoom out* (concept: scale): show a graph of how many urban creeks in the city share the problem, from a named source; acknowledge it. Any two scenes with a concept and a source-able evidence each are acceptable.

Q9. Model (geographies of interconnection, a canteen supply study): parts — 1 title and aim (“Where does our canteen’s food come from?”); 2 location map (mapping app, BOLTSS); 3 method (label survey of ten products, checked twice); 4 results (table of countries of origin); 5 discussion (interconnection and scale); 6 conclusion (the canteen is joined mostly to nearby farms, with two long-haul goods); 7 sources (product labels and one ABS trade table, acknowledged). Media of choice: a digital report.

Q10. (a) “About 931 million tonnes of food was wasted around the world in 2019, and 61 per cent of it came from households (UNEP, 2021).” (b) “India’s HDI reached 0.685 in 2023, ranking 130 (UNDP, 2025).” (c) “In 2021 the city of Venice banned large cruise ships from its canals (Section 2D).” Each sentence incorporates the finding and acknowledges it in the same breath; the full entries would sit in the source list.

Sources (real, checkable referents; all retrieved on or before 25 August 2026): UNDP Human Development Report 2025, composite indices time series — India HDI 0.446 (1990) to 0.685 (2023), rank 130, Medium band; Australia HDI 0.867 (1990) to 0.958 (2023), rank 7, Very High band; 2021 dip in India’s series as plotted. UNEP Food Waste Index Report 2021 — 931 million tonnes of food wasted in 2019; 61 per cent households, 26 per cent food service, 13 per cent retail (as summarised in Wikipedia, “Food loss and waste”). Venice: large cruise ships banned from the canals 2021; island residents fell below 50,000 in 2023; €5 day-tripper fee trialled 2024; fee returns at €5–€10 with booking on peak days 2025 — per Section 2D’s source line (Wikipedia, “Venice”). Barcelona: tourist-flat licences not renewed from 2028, about 10,000 homes, announced June 2024 — per Section 2D’s source line (Wikipedia, “Barcelona”). All other figures are original models, tables and scaffolds created for this section.