## Solutions

Marking: **M1** a correct method, **A1** the correct answer, **B1** an independent mark.

Each answer shows the steps, then the **result**.

**2.1**

physical: there is not enough water to meet demand, e.g. in dry regions; economic: water is available, but people lack money or infrastructure to access it

**2.2**

$0.2 \times 15\,000 = 3000$ L and $0.5 \times 1\,800 = 900$ L; total **3900** L a day; eat less beef / replace some beef with plant protein

**2.3**

less water reaches them while the reservoir fills or in dry years; less sediment and nutrients reach farmland and deltas, which may shrink; possible tension or conflict over water rights, needing an agreement; but floods may be controlled

**3.1**

(a) advantage: a reliable supply not depending on rain; disadvantage: uses much energy (often from fossil fuels) / salty brine harms marine life / expensive

(b) any two: repair leaking pipes; recycle waste water; rainwater harvesting; water pricing and education; drip irrigation on nearby farms

**3.2**

(a) agriculture

(b) award up to [4]: delivers water to the roots, so much less is lost by evaporation and runoff; in the largest sector, so the national saving can be large; but costly to install and maintain for poor farmers; farmers may use the saved water to irrigate more land, so total use may not fall; conclusion: effective with support (subsidies) and limits on total withdrawal

**3.3**

award up to [4]: supply: some regions are physically dry, and climate change makes rainfall less reliable; management: many shortages are economic, caused by lack of pipes, treatment and investment, or by waste and pollution; unfair access and pricing, and upstream use, decide who gets water; conclusion: in most places management and fairness matter more than total supply