



THE EVIDENCE

As demand for food grows, how should this region manage food production sustainability?

Your group is an advisory panel for a fictional region that is planning how to feed a growing population sustainably. There are four perspectives, read through their evidence boxes and then the three pathway options. Then use the Panel Recommendation Sheet to reach and justify your decision.

Environmental Scientist	Farmer
<i>"My job is to measure the true environmental cost of how we produce food."</i> Evidence: • Animal farming produces at least 14.5% of global greenhouse gas emissions – more than every car, ship and plane on Earth combined. • In the UK, up to 60% of the best (prime) arable land is used to grow crops but between a quarter and a third of that is fed to farmed animals, not eaten directly by people. • Emissions from beef can be up to 100 times greater than from plant foods such as lentils or beans, for the same amount of food produced. • The Climate Change Committee recommends the average meat consumption is cut by 25% by 2040 to meet climate targets.	<i>"Farming isn't just a job – it's a way of life, passed down through generations. Change is possible, but it has to work for the people doing it."</i> Evidence: • Without government subsidy, an estimated 40% of UK farms would make a loss. • Nearly 40% of jobs in UK agriculture, forestry and fishing are low paid. • Real example: Derbyshire farmer Jay Wilde moved his farm from beef cattle to growing crops for human food, after weighing up the environmental and animal welfare cost against his livelihood.
Nutritionist	Economist
<i>"My job is to make sure a region's food strategy actually feeds people well, not just enough."</i> Evidence: • Food security means having enough nutritious food to stay healthy, not just enough calories. • UK residents currently eat around 50% more protein than is recommended for a healthy diet. • Poor diet is linked to around one in seven deaths in the UK – a similar scale of harm to smoking. • Plant-based sources such as beans, lentils and tofu can meet protein needs, but shifting a whole region's diet takes planning, education and time.	<i>"I look at who pays, who profits, and what a food strategy actually costs to put into practice."</i> Evidence: • Horticulture (fruit and vegetables) uses just 1% of UK agricultural land and receives only 1% of farming subsidies, yet only 16% of the fruit eaten in the UK is grown here. • New technology such as vertical farming or hydroponics can be highly productive, but is often expensive to set up. • Almost one tenth of the UK's GHG emissions are due to agriculture, largely from farming animal. • A strategy that changes farming quickly can disrupt jobs and rural economies unless it is carefully managed.



THE PATHWAY OPTIONS

Weigh up each pathway against the four perspectives and their evidence.

Pathway Option A	Pathway Option B	Pathway Option C
Intensify Livestock Production	Shift to Plant-Based Food Production	Technological Intensification
What this means: Grow more meat and dairy on the same or less land, using modern farming methods – larger herds, more efficient feeding, selective breeding.	What this means: Convert more farmland from animal farming to growing crops for direct human consumption such as legumes, grains and vegetables.	What this means: Use technology like vertical farming, hydroponics, aeroponics, GM crops, precision agriculture to grow more food on the same or less land.
Consider: this pathway keeps meat and dairy central to the region's diet and economy, but doesn't reduce methane emissions, negatively impacts biodiversity and requires large amounts of land and feed crops per unit of food produced.	Consider: this pathway could produce more food per hectare and cut emissions sharply, but requires farmers to change how they work and consumers to change what they eat.	Consider: this pathway can raise yields and reduce land use, but new technology is often expensive to set up and needs specialist knowledge.