Population & resources - Pessimistic (Neo-Malthusian), Optimistic (Anti-Malthusian) & Balanced views.

The Pessimistic Neo-Malthusian view

- Contemporary supporters of the ideas of Thomas Malthus.
- Believe that there is a set carrying capacity for Earth in terms of human population, ie beyond a certain population, the planet cannot cope and people will suffer (through wars, famine and disease) if population growth rates are not reduced.
- Have a wider focus than Malthus ie consider impacts on the environment as well as food production.
- Advocate family planning to control birth rates (Malthus only considered celibacy of the poor!


But, the global population continued to grow and the predictions did not come true. Why?

1. Technical innovations were better than expected eg IR8 developed in 1960’s yielded 10 tons/ha compared to usual yields of 1 ton/ha.

2. Increased trade between countries allowed surpluses of food production in one place to counter deficits in others.
3. Population growth rates have been falling.

4. Global hunger & poverty rates have been falling.
BUT – Many people believe that the ability to raise food production and reduce poverty through economic growth has come at an environmental cost. For example:

- Rates of increase for crop yields have been falling.
- Global loss of biodiversity
- Global climate change caused by burning fossil fuels and deforestation
- Falling global fish stocks
- Increased rates of soil degradation

- Damage to important ecosystems like tropical rainforests & coral reefs.

**Figure 1: World population and cumulative deforestation, 1800 to 2010**

- Air and water pollution.

- Problems with waste management including plastics and e-waste.
At the same time, a loss of farming land due to soil degradation & increased urban growth, and increased meat consumption due to a growing middle class means pressure on food production and the associated negative environmental consequences are increasing.

As a result, some countries like China have adopted anti-natalist population policies as their governments fear that there are insufficient resources to meet the needs of their growing populations.

**Optimistic Anti-Malthusian views (eg Esther Boserup’s)**

- Oppose the views first put forward by Thomas Malthus.
- Believe that resources can keep pace with population growth.
- See carrying capacity as something that can be increased over time as people use technology and their creativity to find new and better solutions to the problems caused by population growth.

Examples of how human ingenuity has kept pace with population growth include:

- Overall, prices of resources like energy, food and water have been falling in real terms (oil is $60 per barrel in 2018, the same as it was in 1978) – This suggests that resources are becoming more abundant rather than scarce.

- Development of fertilizers, pesticides and hybrid crops like IR8 have led to rapid increases in food production. Globally, there is sufficient food to meet the needs of the population.
• Developments in energy production have reduced dependence on fossil fuels. Renewables like wind & solar are becoming cost-effective and battery storage systems are being developed.

• Substitution of resources is possible. When ivory became scarce, the makers of billiard balls switch to a synthetic material.

• People can re-use and recycle resources, eg glass Coca-Cola bottles. Car companies now recycle metal and plastics used in the cars they sell.

Balanced Views

It is likely that a balanced view will prevail since at current population growth rates, although the world is supporting its human population, there are many costs associated this. **Resource stewardship** proposes that we manage the resources of the planet in a sustainable manner so that the needs of future generations can be met. A systems-thinking approach means that we should consider all aspects of human interactions with the Earth, and develop targets that can help promote sustainability.