EXPLORING THE EFFECTS OF THE GREEN REVOLUTION ON AGRICULTURE

A transformative period of agricultural innovation that greatly increased food production—bringing both remarkable gains and new challenges.

1 THE CHALLENGE

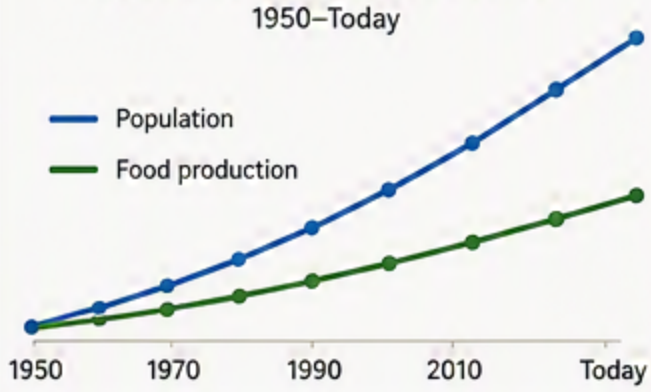
Feeding a growing world

Before the Green Revolution, agriculture struggled to keep up with rapid population growth.

- Low crop productivity
- Heavy dependence on rainfall
- Rapid population growth
- Frequent food shortages in many regions

POPULATION VS. FOOD PRODUCTION

1950–Today



Population grew faster than food production in many countries.

2 WHAT WAS THE GREEN REVOLUTION?

A global effort to increase agricultural productivity through scientific innovation.

KEY INNOVATIONS

High-yielding crop varieties
New seed varieties bred for higher yields

Modern irrigation systems
Better water management and year-round cultivation

Synthetic fertilisers
Improved soil nutrient supply for higher production

Pesticides
Protection from pests and diseases

Agricultural mechanisation
Machines and technology for efficient farming

Together, these innovations dramatically increased food production across many parts of the world.

3 POSITIVE IMPACTS

- Higher crop yields
- Improved food availability
- Reduced famine risks
- Greater agricultural productivity
- Support for economic development

The Green Revolution demonstrated how science and innovation can help address major food security challenges.

4 CHALLENGES AND CONSEQUENCES

While production increased, new concerns emerged.

ENVIRONMENTAL CHALLENGES

- Soil degradation
- Intensive water use
- Dependence on chemical inputs
- Environmental pressures on farming systems

The Green Revolution generated important debates about sustainability and equity in agriculture.

SOCIAL & ECONOMIC CHALLENGES

- Uneven access to technologies
- Higher input costs
- Benefits not always distributed equally

5 LESSONS FOR THE FUTURE

Today, agriculture faces new pressures:

- Climate change
- Growing food demand
- Biodiversity loss
- Resource scarcity

FUTURE AGRICULTURAL INNOVATION MUST BALANCE:

PRODUCTIVITY + **SUSTAINABILITY**

Produce more food + Protect natural resources + Support farmers + Build resilient food systems

FROM YIELD GAINS TO SUSTAINABLE FOOD SYSTEMS

The Green Revolution transformed agriculture through science and innovation. Today's challenge is ensuring future productivity advances also protect people, ecosystems and natural resources.