



# **SNS COLLEGE OF TECHNOLOGY**

**An Autonomous Institution Coimbatore – 35**

Accredited by NBA – AICTE and Accredited by NACC – UGC with 'A++ Grade  
Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai.

**DEPARTMENT OF FOOD TECHNOLOGY**

**POPULATION AND FOOD**

**PRODUCTION**





# INTRODUCTION



- Increasing numbers of people often drive up demand for food, which results in additional use of arable land and water.
- Population and economic growth will result in a doubling of demand for food globally.
- The population growth led to conversion of farm land to commercial land and housing areas



## LINKS BETWEEN POPULATION AND FOOD PRODUCTION

- Most of the countries with the highest numbers of people facing food insecurity also have rapid population growth.
- Food production depends on croplands and water supply, which are under strain as human populations increase.
- Pressure on limited land resources, due to population growth, can mean expansion of cropland.
- This lead to destruction of vital forest resources or over exploitation of arable land.



## According to FAO

- Food aid without simultaneous developments in local agriculture sectors does not provide a sustainable solution to food insecurity to population.
- Globally, the world is becoming more urban residents with high population density, without land to farm, their food security is dependent on their income and ability to purchase food products.
- Increased production of food alone will not solve the world's food security problem.



# FACTORS TO BRING A CHANGE

PEOPLE

CULTURE

SCIENCE

AREA

DEVELOPMENT





# Advances in Agriculture and Population



- Hunters and Gatherers - during stone age
- Farming- About 10,000years ago
- The Industrial Revolution- during 1700s
- Green revolution
- The Future



# GREEN REVOLUTION

- Green revolution improving crops by selecting for traits that promote productivity; recently, genetically engineered crops have been introduced.
- Increasing the use of artificial fertilizers and chemical pesticides.
- Agricultural machinery: plowing, tilling, fertilizing, picking, and transporting are all done by machines.
- Increasing access to water. Many farming regions depend on groundwater, which is not a renewable resource. Currently about 70% of the world's fresh water is used for agriculture.



# FIVE STEPS TO FEED THE WORLD

- Freeze Agriculture's Footprint
- Use Resources More Efficiently
- Grow More on Farms We've Got
- Shift Diets
- Reduce Waste





**1. Freeze agriculture's footprint:** this step emphasizes the importance of halting the expansion of agricultural land into natural habitats like forests and wetlands. Preserving these ecosystems helps maintain biodiversity and ecosystem services while also preventing habitat loss and the associated carbon emissions.

**2. Use resources more efficiently:** efficiency in resource use is critical for sustainable agriculture. This involves optimizing water use, minimizing chemical inputs, and maximizing the productivity of existing agricultural land through techniques like precision agriculture and crop rotation.

**3. Grow more on farms we've got:** increasing productivity on existing agricultural land is essential for meeting the growing global demand for food. This can be achieved through improved agricultural practices, investment in research and development, and supporting smallholder farmers with access to technology and resources.



**4.Shift Diets:** Changing dietary patterns towards more sustainable options can have significant environmental and health benefits. Encouraging consumption of plant-based foods, reducing meat intake, and promoting local and seasonal produce can help reduce the environmental footprint of food production.

**5.Reduce Waste:** Addressing food waste throughout the supply chain, from production to consumption, is crucial for feeding the world sustainably. This involves improving storage and transportation infrastructure, reducing losses during harvesting and processing, and raising awareness about the impacts of food waste on both the environment and food security.

By focusing on these five steps, we can work towards a more sustainable and resilient global food system that can feed the world's growing population while minimizing environmental degradation and resource depletion.



**THANK YOU**

