

## GLOBAL DEMAND FOR FOOD

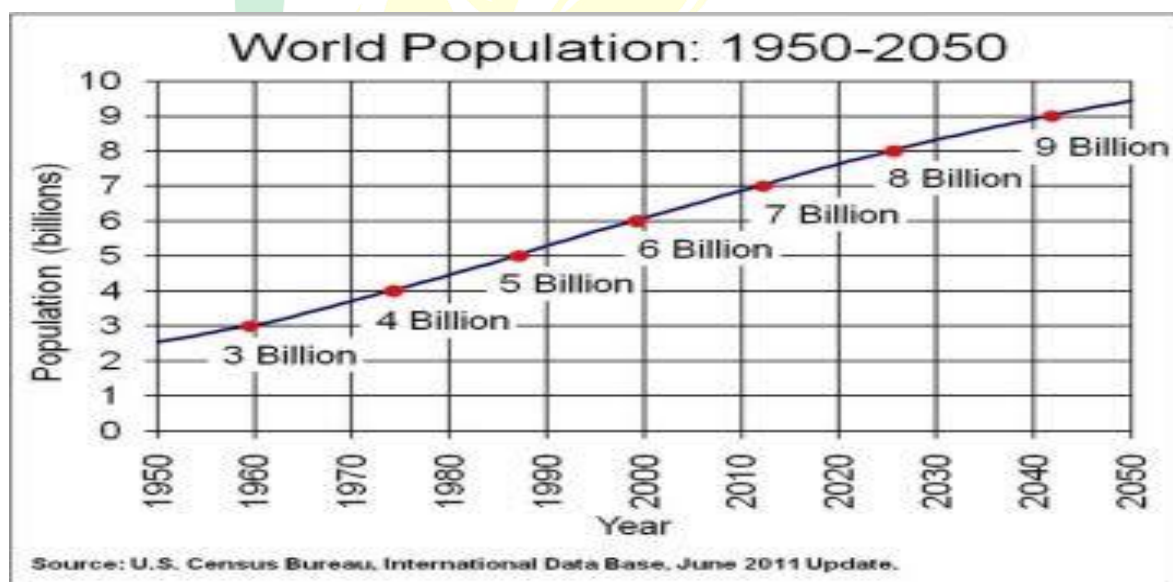
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Food is one of the primary needs of human beings because it is the source of energy and nutrition. The population of our country and the world is increasing rapidly, however it is challenging to fulfill the demand of food. Arable land is decreasing due to population increase; cultivable fertile land has been used for construct houses, Buildings and factories etc. Continuous growth of population has raised the demand for food, which in-turn has brought a situation where crop production is not adequate as per the demand. According to the recent United Nations report the current world population is 7.8 billion in September 2020 however it will reach about to 10 billion in 2050, meanwhile the demand of food will also be double by 2050.



**The graph showing increasing world population (1950-2050)**

Agriculture in the 21<sup>st</sup> century faces multiple challenges. Current projections suggest that average daily energy availability could reach 3050 kcal per person by 2050, up from 2770 kcal in 2003/05. However, the same projections suggest that production increases alone would not be sufficient to ensure food security for everyone. Climatic changes happening due

to various reasons like depletion of ozone layer, acid rain and global warming have led to a decrease in the production of food.

### **THERE ARE MANY PROBLEMS ON FRONT AGRICULTURE SCIENTIST AND FARMERS TO FEED THIS GROWING POPULATION?**

- Today 1 in 9 is undernourished.
- Every day world population is increasing by 180,000.
- But land available for farming is limited.
- Yield from small and marginal farmer is very low due to lack of resources and technical knowledge.
- By the year 2050 there will be about 9.7 billion people on earth.

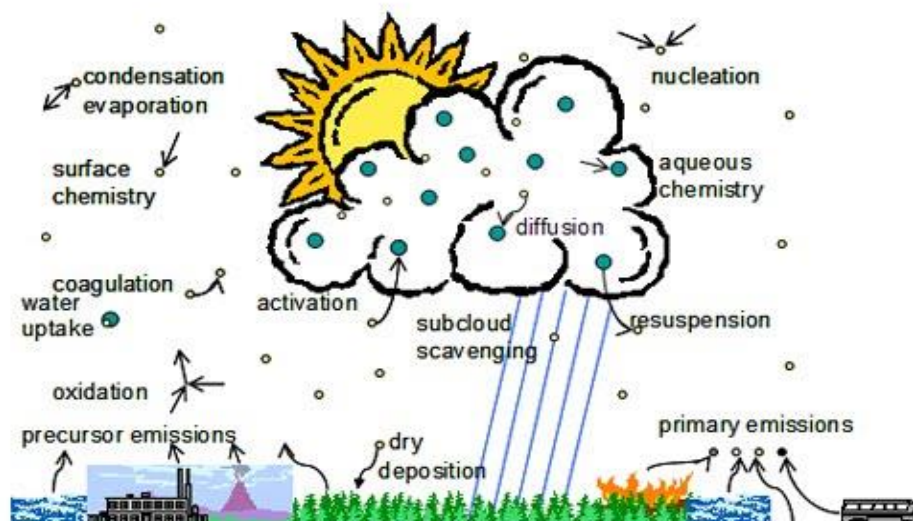
### **PROBLEMS**

1. **Population Growth:** This varies considerably across countries. Africa is expected to double its population from 1 to 2 billion by 2050. Populations in the developing world are also becoming increasingly, with 2.5 billion additional urban residents projected in Africa and Asia.



**A view of population density in India**

2. **Climate change:** Currently, 40% of the world's landmass is arid and rising temperatures will turn yet more of it into desert. At current rates, the amount of food we're growing today will feed only half of the population by 2050.



**The image showing factors responsible for climate change**

- 3. Water scarcity:** this is another impending crisis: 28% of agriculture lies in water-stressed regions. It takes roughly 1,500 litres of water to produce a kilogram of wheat, and by 2050 water demand will be double.



**The image showing water scarcity**

**4. Food waste:**

One-third of food produced for human consumption yearly – approximately 1.3 billion tons – is lost, or wasted, which the UN’s World Food Programme (WFP) estimates costs the global community \$1 trillion. The UN’s Food and Agriculture Organization (FAO) defines food waste as “the discarding or alternative (non-food) use of food that is safe and nutritious for human.



**The image showing mass food wastage**

### **WHAT MAKES ENSURING FOOD SECURITY SO COMPLEX?**

In INDIA Agriculture contribute 18% of the economy's output and 47% of its workforce. India is the second biggest producer of fruits and vegetables in the world. Yet according to the Food and Agriculture Organization (FAO) of the United Nations, some 19million Indians are undernourished, the largest number of hungry population in any single country. An estimated 15.2% of the population of India are too malnourished to lead a normal life. A third of the world's malnourished children live in India. Food demand is expected to increase between 59% to 98% by 2050.

### **HOW CAN WE MEET THE DEMAND FOR FOOD?**

Farmers in world will need to increase crop production, either by increasing the amount of agricultural land to grow crops or by enhancing productivity on existing agricultural lands through fertilizer and irrigation and adopting new methods like precision farming. The agricultural sector also needs significant long-term private investment and public spending.

#### **How can farmers increase production and income as well?**

1. By adopting protected cultivation (Off season cultivation).
2. Hydroponics (Cultivation in water/ water pipes)
3. Inter cropping (Cultivation of one or two crops in between two rows of main crop)
4. Mix cropping (Cultivation of one or two crops with main crop)
5. Mix Farming (Crop production + poultry+ dairy+ bee keeping etc.)

6. Vertical farming (cultivation of crops in vertically vacate space whether indoors or out door)



a). Protected cultivation

b). Hydroponics

c) Vertical farming



d). Inter cropping

e). Mix Farming

### **Units Operations in Post Harvest Management of Fruits and Vegetables**

- Pre-harvest treatment
- Harvesting at maturity
- Safe harvesting
- Pre-cooling and Washing
- Surface drying
- Cold storage
- Safe Transport
- Safe Handling

### **Other factors can boost the production, productivity and post harvest management**

- The government should provide interest free loans to farmers and allocate land space for farming.

- Arrangements of trainings about modern and advanced farming methods and technologies.
- Rehabilitation of sodic and acidic soils.
- Prevention of erosion and increase in fertilizers use efficiency.
- Establishment of storages and processing industries.
- Food waste control.

**Conclusion:-**

Increasing population can be feed in quality and quantity both by adopting advanced agricultural technologies. Farmers can boost their production and also can raise their living standard by adopting: Mix farming, protected cultivation, controlling postharvest losses, adopting vertical farming. Also acreable area can be increase by rehabilitating sodic waste land and acidic soils. By adaptation of food processing and post harvest management we can meet the demand of food in coming days.