

Unit 1.2 — Food and Nutrition Security

Definition

Food security means all people have physical and economic access to sufficient, safe, and nutritious food at all times for an active and healthy life. Nutrition security ensures that people receive all necessary nutrients for proper growth, development, and good health.

Food and nutrition security are very important for reducing hunger, poverty, and disease in society. Countries with strong food security systems usually have healthier and more productive populations.

Components of Food Security

Food security has four major components:

1. Food Availability – Enough food must be produced and supplied through agriculture, livestock, fisheries, and imports.
2. Food Accessibility – People should have enough money and resources to obtain food.
3. Food Utilization – Food should contain balanced nutrients and be prepared safely.
4. Food Stability – Food supply should remain stable even during drought, flood, war, or economic crisis.

Importance of Food and Nutrition Security

Food security is important because it prevents hunger and malnutrition. It improves human health, supports mental and physical growth, increases productivity, and reduces diseases.

Good nutrition helps children perform well in school and helps adults work effectively. It also strengthens immunity against infections.

Causes of Food Insecurity

Food insecurity may result from natural causes such as drought, flood, climate change, and soil erosion. Human causes include poverty, war, rapid population growth, poor farming methods, and unemployment.

Climate change especially affects agricultural productivity by reducing rainfall and increasing temperatures.

Balanced Diet

A balanced diet contains all essential nutrients in the correct amount. These nutrients include carbohydrates, proteins, fats, vitamins, minerals, fiber, and water.

Functions of nutrients:

- Carbohydrates – provide energy
- Proteins – build and repair body tissues
- Fats – store energy and protect organs
- Vitamins and minerals – regulate body functions
- Water – important for transport and metabolism

Role of Biology in Food Security

Biology contributes greatly to food security through scientific methods. Scientists develop improved crop varieties resistant to disease and drought. Biology also supports animal breeding, biotechnology, irrigation systems, and pest control methods.

Modern biotechnology helps increase crop production and improve nutritional value.

Sustainable Agriculture

Sustainable agriculture refers to farming methods that protect the environment while producing food for present and future generations.

Examples include:

- Crop rotation
- Organic farming
- Soil conservation
- Agroforestry
- Efficient water use

Sustainable agriculture reduces environmental damage and maintains soil fertility.

Chapter Summary

Food and nutrition security are essential for human survival and development. Biology helps improve food production through scientific farming methods, biotechnology, and environmental conservation. Sustainable agriculture and balanced nutrition are important for reducing hunger and improving health worldwide.

Review Questions

1. Define food security and nutrition security.
2. Explain the four components of food security.
3. List the causes of food insecurity.
4. What is a balanced diet?
5. Explain the role of biology in improving food security.
6. What is sustainable agriculture?
7. Mention the importance of good nutrition.

Key Term	Meaning
Food Security	Access to enough safe and nutritious food
Nutrition Security	Availability of essential nutrients for health
Balanced Diet	Diet containing all essential nutrients
Sustainable Agriculture	Environmentally friendly farming
Malnutrition	Poor nutritional condition