Food Security
and its Determinant Factors

Food Security: Definition
Food security - an evolving concept:
• In 1950s…60s, Food security was equated with self sufficiency in major staples;
• Following FAO World Food Conference of 1974, Food Security is defined as access to sufficient food;
• Current definition (FAO World Food Summit, 1996)
• Food security is achieved when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.

Four Pillars of Food Security and its Determinant Factors
The four pillars of food security are availability, access, stability and utilization. Determinants of each pillar:

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<tr>
<th>Food availability</th>
<th>Physical and economic access to food</th>
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<tr>
<td>• Domestic production</td>
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<td>• Import capacity</td>
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<td>• Food stocks</td>
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<td>• Food aid</td>
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<td>• Purchasing power</td>
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<td>• Income of population</td>
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<td>• Transport and market infrastructure</td>
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<th>Stability of supply and access</th>
<th>Food utilization</th>
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<td>• Weather variability</td>
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<td>• Price fluctuations</td>
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<td>• Political factors</td>
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<td>• Economic factors</td>
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<tr>
<td>• Food safety</td>
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<td>• Hygiene and manufacturing practices applied in: primary agricultural production, harvesting and storage; food processing; transportation, retail, households</td>
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<td>• Diet quality and diversity: meeting needs in terms of energy, macro- and micronutrients</td>
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Food Safety: definition
Food Safety implies
- the absence or
- acceptable and safe levels of contaminants, adulterants, naturally occurring toxins or any other substance that make food injurious to health on an acute or chronic basis.

According to WHO, every year there are about 4 billion cases of water-and food-borne diarrhoeal diseases globally. These illnesses exacerbate problems of malnutrition and reportedly account for 1.8 million deaths annually. Unacceptable standards of food safety render food unfit for human consumption and thus impair food security and public health. Food safety and nutritional quality are essential elements and integral part of food security. Effective efforts to improve food security must occur in conjunction with efforts to improve nutrition security.
Positive impacts of Food Safety on Food Security:
• improved food safety along the food chain reduces food losses, resulting in increased food availability, stability, and utilization
• access to safe food reduces foodborne illnesses with their associated social and economic implications
• improved safety and quality of food contributes to improved nutrition and health

Major Challenges in Achieving Food Security
• Climate change
• Growing use of food crops as a source of fuel
• Soaring food prices
• Inefficient food safety systems

The Micronutrient Malnutrition Problem - Food-Based Strategies and Solutions
- FAO estimates that 1.02 billion people are undernourished worldwide in 2009;
- Two billion people suffer from different forms of starvation, malnutrition and related health implications

The three deficiencies of greatest public health significance worldwide concern the following micronutrients:
• Vitamin A (deficiency is most common in young children. Untreated it leads to less resistance to respiratory infections, blindness and death)
• Iron (most common dietary deficiency globally, affecting mostly children and women of childbearing age. It leads to anemia, which contributes significantly to maternal and neonatal deaths)
• Iodine (deficiency disorder occurs in mountainous and flood plain areas, where iodine has been washed away from soils. It is the most common cause of preventable mental retardation, including low Intelligence

Strategies to overcome micronutrient deficiencies include:
• Dietary diversification
• Food fortification
• Vitamin and mineral supplementation
• Public health and disease control measures

Implementing food-based strategies – effective medium-to long-term approach to improving micronutrient status in population

- Family-scale vegetable and fruit gardens – source of micronutrient-rich foods
  - Understanding and considering local conditions, schemes of crops rotation, utilization of appropriate varieties of plants, crops diversification
  - Agroforestry projects and promotion of traditional foods
  - Land and water limitations may require local authorities intervention/assistance

- Production of small animals (rabbits, goats, poultry, fish – excellent food sources of essential micronutrients, including bioavailable iron and vitamin A
  - Promote and support small livestock and poultry ventures, aquaculture projects;
  - Agricultural extension and nutritional education services to producers and consumers at community level

- Reducing post-harvest and storage losses, increasing the availability of seasonal micronutrient-rich foods and optimize the use of resources at household level
  - Improving marketing, packaging, transport and cold storage facilities
  - Food preservation in households (canning, appropriate use of temperature regimes)
  - Developing local food processing facilities
  - Developing cooking skills, learning traditional food preparation
  - Nutritional education for balanced menu planning

- Reviewing policies for their impact on micronutrient status – an important step in planning food-based strategies

Government policies and regulations in the agricultural, trade and food-processing sectors greatly influence the availability and price of micronutrient-rich foods, as well as the profitability of producing, processing and marketing such foods

The success of food-based programmes to overcome micronutrient deficiencies will depend both by community acceptance and political support. Nutrition objectives must be incorporated into agricultural and other sectors development policies and programmes. Improved efforts in nutrition assessment, food-based nutrition programmes, nutrition education and policy advice, agricultural R&D and extension, horticulture, fishery and small livestock ventures to increase crops and dietary diversity are keys for improved nutrition

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