

How Sustainable is Our Agriculture and Food Production System?



- 60-70% more food is needed by 2050 on the same amount of land or less
- 1/3 of total food supply is wasted
- 1.3 billion tons of food never reaches a table



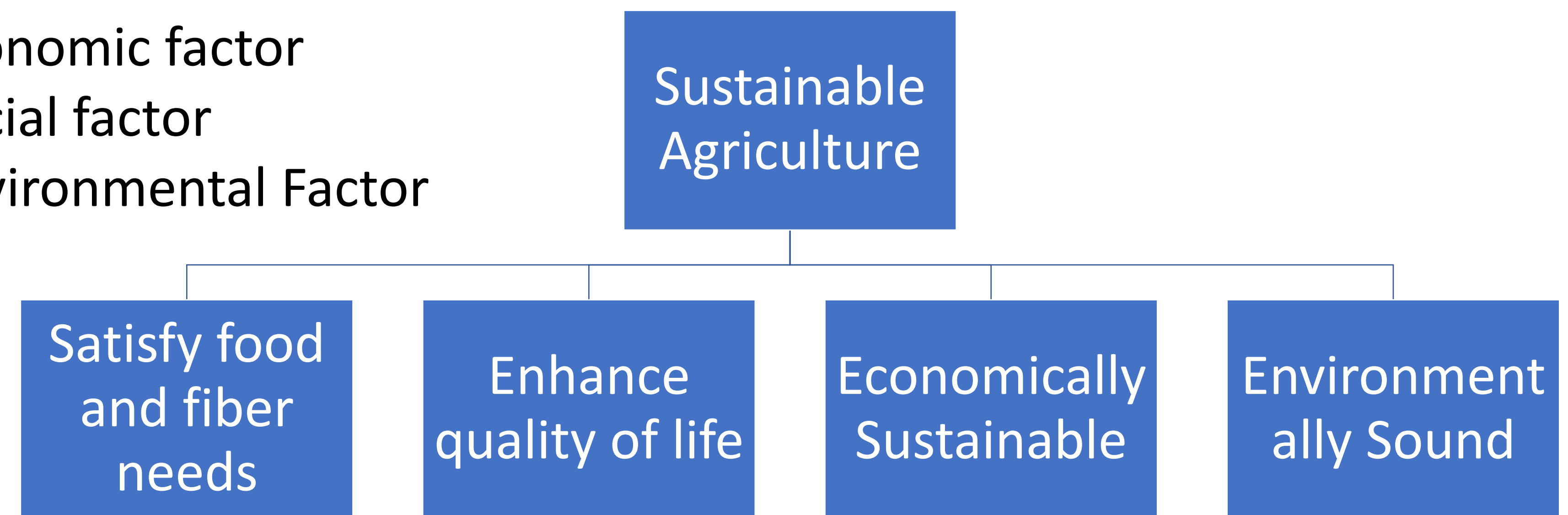
- Developed countries food is thrown out and over consumed
- Developing countries food is lost to unreliable storage and transportation
- Hunger is often caused by food waste and inequality of distribution, not scarcity

World	Percentage of people unable to afford healthy diet
Sub-Saharan Africa	84.7
Southern Asia	71.3
Northern Africa	45.0
Eastern and South-eastern Asia	23.9
Latin America and the Caribbean	19.3
Central Asia	16.9
Oceania	1.8
Europe	1.7
Northern America	1.4

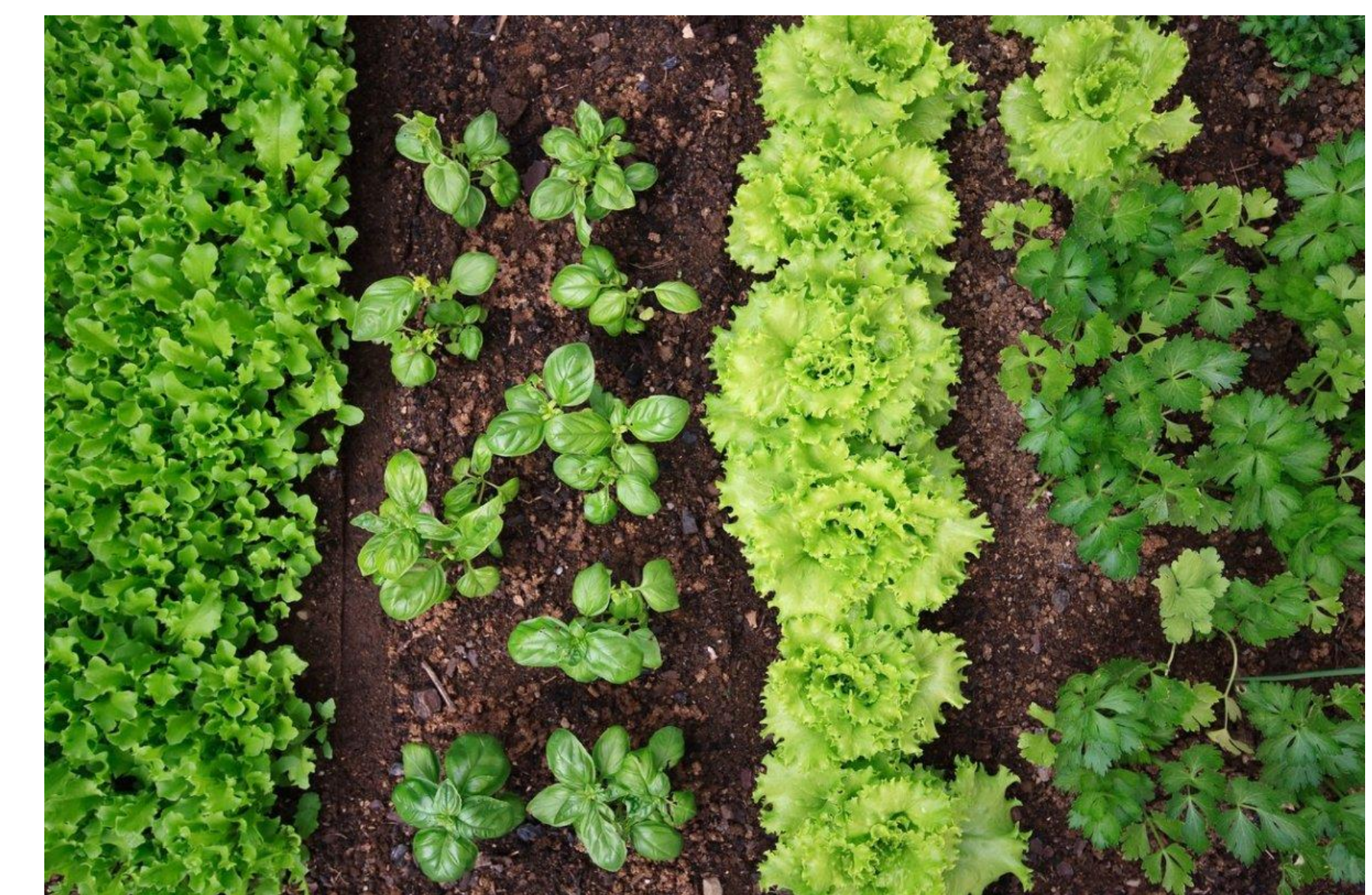
When a Country is hungry	When country has abundant food
<ul style="list-style-type: none"> • Malnutrition and health at risk • Decline in education attendance • Decline in development activities 	<ul style="list-style-type: none"> • Quality food is thrown out • Increase calorie intake • Consumer demands and perspective influence food value chain

- Sustainable agriculture is the practice of producing our food, fiber and fuel in a way that is profitable to the farmer, supports a healthy quality of life and protects our natural resources (land, air, and water).
- Many factors can limit our ability to produce food for a growing population.

- ✓ Economic factor
- ✓ Social factor
- ✓ Environmental Factor



Today's Methods of Sustainable Agriculture



crop rotations and mixed cropping

- Mitigate weeds, disease, insect, and other pest problems
- Provide alternative sources of soil nitrogen
- Reduce soil erosion
- Reduce risk of water contamination by agricultural chemicals



- Plastic mulch and drip irrigation reduce weed pressure and soil erosion loss
- Drip irrigation increase water use efficiency



- Use of animal manure reduce the chemical fertilizer
- Grazing of animal also reduce weed pressure

Strength and weakness of current agriculture system

Strength	Weakness
<ul style="list-style-type: none"> • Abundant food supply in developed country • Effective food preservation technologies (refrigeration, freezing, canning, packaging) • Improved soil conservation • Easily available agriculture inputs and solution to production problems 	<ul style="list-style-type: none"> • Continuing soil loss • Water and air pollution • Reliance on fossil fuels, global warming • Climate change (drought, extreme weather conditions, changes in precipitation patterns, reduction in water availability)