

# AP Environmental Science Agriculture and Food

## FOOD DEMAND AND FOOD SUPPLY

- although enough food is being produced to feed everyone, it is unevenly distributed
- undernourished: consuming less than enough calories needed for an active, healthy life
- over-nutrition: necessary calories, especially in wealthy countries, produce that in the US offers 20% of the world, however/developing: least meats, cereals, staples
- rich nations: Africa food is becoming scarce (due poor governments, drought, etc)
- 100 million undernourished - almost 4 billion over-nourished. 100 million (2 billion Americans) 10% of Americans are obese (over-consume their caloric intake)

## Obesity, Hunger and Food Security

- Undernourishment as a child can lead to stunted growth, mental development, and other disorders, whereas obesity (the opposite that can result to over-consumption) can be even better.
- Food Security: ability to obtain sufficient food as a household food, determined by poverty, income per capita, their culture than any

## Child Survival Factors

- It is possible to have plenty of calories but still suffer from malnutrition during a nutritional imbalance, or by too long a dietary composition
- Malnutrition: a genetic deficiency in children, mainly in West Africa, children have stunted body partly due to lack of zinc and a limited amount
- Marasmus: caused by a diet low in calories and protein, the child is thin and emaciated
- Both these can cause anemia, lower immune response to infections, or cause stunted growth and mental problems
- Kwashiorkor: deficiency in zinc and iron, while lack of zinc and iron: neurological problems in babies, such as small heads or seizures
- Address some (protein deficit) deficiency in the world (not enough zinc), is a lack of bioavailable zinc
- A deficiency of zinc can cause growth (provision of zinc) to cause brain damage during a stressed diet
- Eating a balanced diet full of grains, fruits and vegetables, with moderate meat, dairy, and fat will give you all the vitamins you need

## Famines

- Large scale food shortages, massive starvation, social disruption, economic chaos
- Even if conditions improve, it will be difficult to recover (they have raised their standards to order to survive)
- Causes: political, government failure, adverse weather, insects, war, natural disasters, poverty, political instability, demographic shifts, human factors

## Global Food Security

- Cereals: 2 billion grains, 1.5 billion eggs, 20 billion chickens, 1.5 billion cows (not food)
- Major Crops
- Maize (corn), rice, and wheat, wheat and rice make up 60% of calories consumed
- Fruits and veggies have almost doubled, soybeans, oilseeds, oil, and complex carbs
- Milk, Meat, & Fish
- US, America, Japan, 7 Europe (20% world population) consume 60% of animal products