

Food and Hunger

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Outline

Food and Nutrition

Chronic Hunger and Food Security

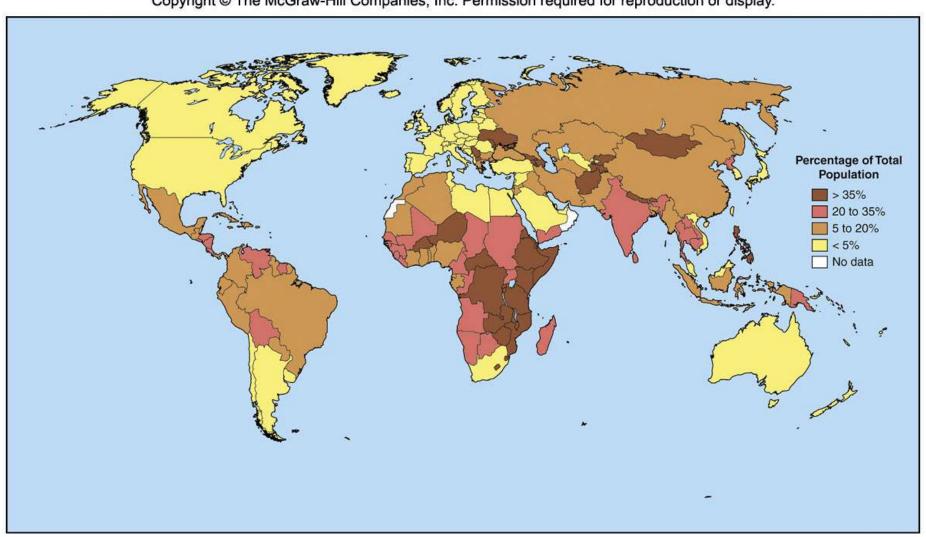
chronically

undernourished.

food security

Hunger Around the World

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Causes of Famines Usually Social & Political

Famines

Famines

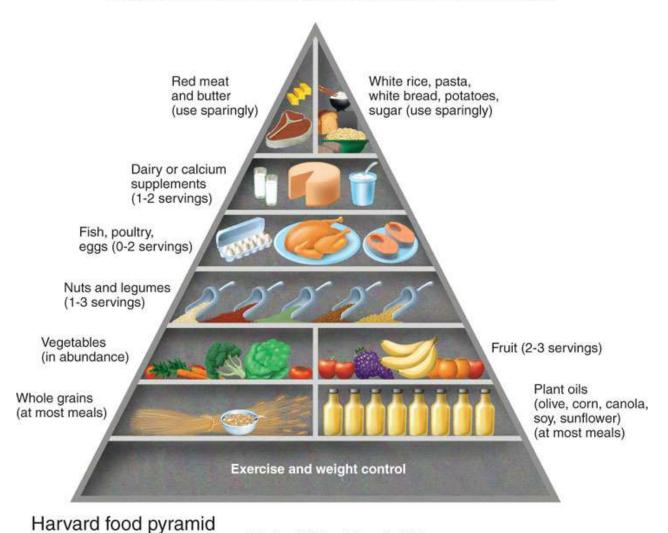
Overeating is also a Growing Problem

obese,

We Need the Right Kinds of Food

Harvard Dietary Pyramid

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Data from Willett and Stampfer, 2002

Vitamins Can Prevent Illness

Malnourishment

Nutritional Problems

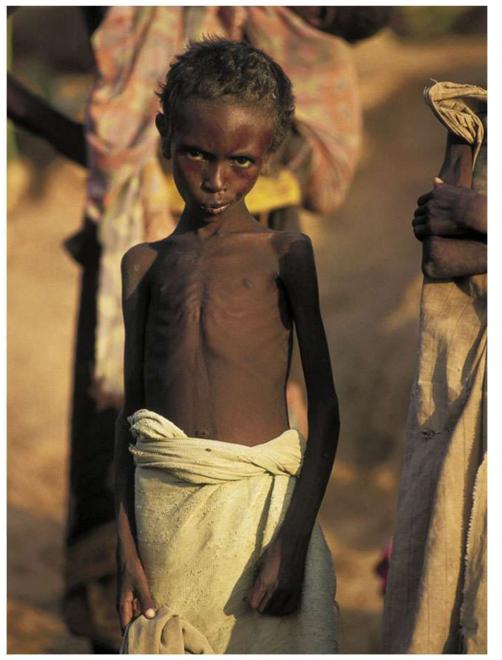
Nutritional Problems

Protein Deficiency Diseases

Kwashiorkor

Marasmus

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Key Food Sources

- Wheat, Rice and Corn

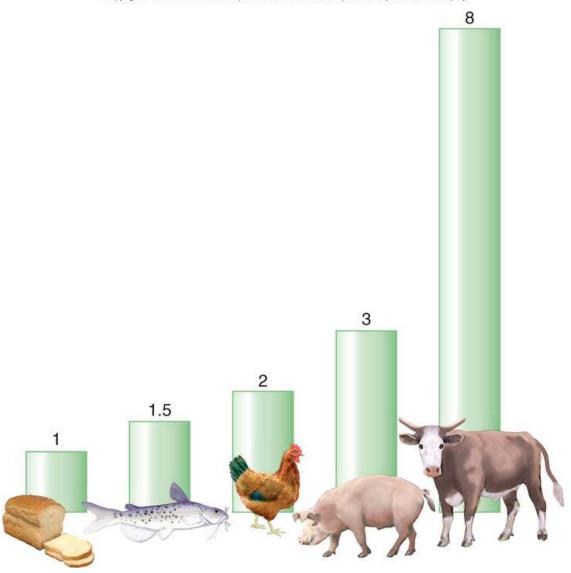
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Costs and Benefits of Meat Production

ie. It takes > 8kg of grain to produce 1kg of beef.

Grain Needed to Produce Various Meats

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Agricultural Innovations in Meat Production

Confined Animal Feeding Operations

Meat Production is Energy-Intensive

Seafood

Seafood

Increased Risks of Meat Production

Food Production can be Sustainable

Rotational Grazing

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Photo by Jeff Vanuga, courtesy of USDA Natural Resources Conservation Center

Food Production Policies

Policies can Protect the Land

The Green Revolution and New Crops

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Green Revolution Produced Increased Yields

Green Revolution

Semi-Dwarf Wheat

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Shortcomings of the Green Revolution

Genetic Engineering Produces New Crops

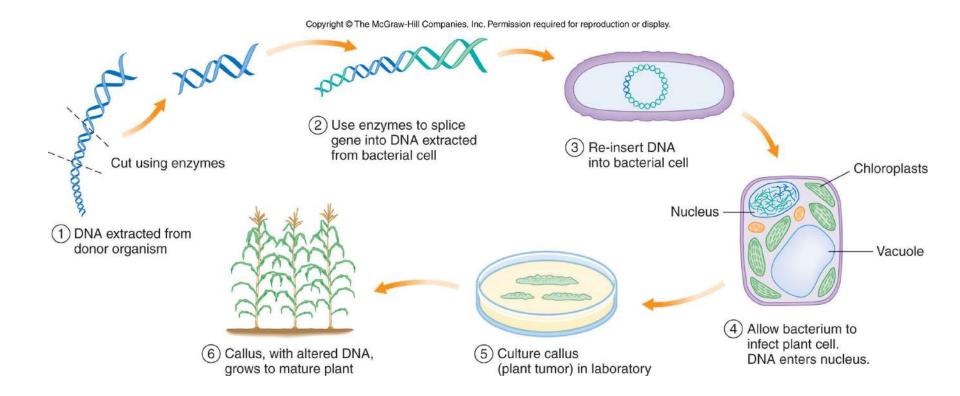
Genetic engineering

genetically modified organisms (GMOs)

Can produce crops with pest-resistance and wider tolerance levels to frost, drought, low nutrient soils, salty soils, etc.

Can improve protein or vitamin content of crop Can incorporate oral vaccines into foods such as bananas for use in developing nations Animals can be modified to grow faster or produce pharmaceuticals in their milk.

Gene Transfer Techniques



Concerns Regarding GMO's

Pest Resistance and Weed Control

Transgenic Crops

Is Genetic Engineering Safe?

Is Genetic Engineering Safe?