World Agricultural Resources and Food Security

International Food Security

Frontiers of Economics and Globalization

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About the Book

World agricultural resources will be altered by climate change which will require both public and private actions. Global agriculture is affected by invasive alien pest and disease species and by severe weather such as sea-level rise flooding and drought. Rising sea levels will increase salinity in coastal groundwater and the loss of coastal wetlands. Drought will increase the vulnerability of forest ecosystems due to decreased soil moisture and increased evapotranspiration. Many changes will be needed to maintain global food security. Climate change will affect food supply and demand, as well as prices. Research and development have the potential to impact both supply and demand, especially through the adoption of biotechnology. Researching plant and animal breeding for multiple disease resistance against pathogens of global relevance has great evolutionary potential. One such program is aquaculture.

Another problem is land constraints as rural and urban areas compete for land. For rural food-insecure households, land competition means necessary changes in production practices. Research and development investments could substantially decelerate food prices to prevent hunger and deteriorating living standards in rural households worldwide. Increasing food security will mean establishing dietary guidelines that alleviate the negative health and economic outcomes associated with malnutrition. It is highly questionable to aggregate all food items based solely on calories per kilogram content when not all calories are equal in their effect on health. Food security also includes increasing diet diversity while decreasing food waste and loss. It is imperative that actions be taken for a food-secure future.