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1432 Understanding the Present and Projecting the Future of Global Food Demand

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Room 11A (San Diego Convention Center)

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Adequate food supplies are an essential foundation for the peace and stability of nations. Because of the strong dependence of diet, especially meat consumption, on per capita income, global food demand is on a trajectory to increase about 190% by the middle of this century even though global population is projected to increase by less than 50%. If the yield increases of the Green Revolution could be sustained during this period, thus providing a 70% increase in the global food supply, the gap between food demand and supply would still be immense. Food supply is a crucial issue in developing nations, many of which have poorer per capita diets now than 50 years ago. Filling this demand gap could require that more than a billion hectares of land be cleared and brought into crop production and that agricultural inputs be greatly increased. Along with other detrimental environmental impacts, by mid-century such land clearing and high-input practices could elevate global greenhouse gas emissions from agriculture to levels close to current global greenhouse gas emission from fossil fuel combustion. Potential solutions to these food security and environmental problems include investments towards larger increases in crop yield, more efficient utilization of agricultural inputs, dietary shifts toward more grain-efficient animal protein or toward the substitution of plant protein for animal protein, and adoption of higher input and higher-efficiency agriculture in developing nations.

See more of: [Global Food Security, Land Use, and the Environment: Future Challenges](#)

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