

distribution, is of course, an important economic activity. The more than doubling of the world's population in the twentieth century has been accommodated through what has been termed a "green revolution". This has been made possible through the use of new technologies, widespread irrigation, greater use of fertilizers and pesticides, and an unsustainable rise in global fish catch.

Populations must be fed and growing populations translate into increased food consumption. Significant population growth implies a substantial increase in food consumption, this is a quantitative factor stemming from an absolute increase in population. There is also a qualitative factor associated with food. This factor adjusts food consumption on the basis of income. As income increases food tastes change, for example at higher incomes many people consume larger amounts of meats. This in turn has implications for the entire food chain. Taken together, increased population and increased income, have significant implications for food demand. Moreover, distributional and social questions arise, as large incomes differences translate into purchasing power, or lack of power, for food.

Aside from population and economic growth factors, environmental and technological factors must be taken into account. How can growing food requirements (quantitative and qualitative) be met through improvement in agricultural efficiency? Similarly, what are the long-term environmental implications of agricultural practices? The long-term implications refer not only to direct environmental concerns such intensive use of fertilizers and pesticide use on soil, but also global commons issues such as climate change. These are all questions to which there are no uncontested answers, but to which some hypothesis must be attached to develop links within the integrated FEEEP framework.

Trade and trade liberalization contribute to food security. With trade, food security and food self-sufficiency are not synonymous. Declines in food self-sufficiency may be met by imports from foreign producers. International trading rules, including multilateral and regional trading arrangements, that enshrine rights and obligations upon parties to the arrangement add predictability to a country's commercial transactions. Liberalized trade rules, whether in a bilateral, regional or multilateral context, which establish a secure and predictable trading system should reduce countries' desire to interpret "food security" as essentially a country's domestic ability to meet some degree of food self-sufficiency. Seeking such self-sufficiency may well have high economic and environmental costs. With liberalized trade rules, countries have access to global markets as well as sources of supply, and this should reduce any need to bring resources physically under national control.