

**A TALE OF CONTRASTING TRENDS:  
THREE MEASURES OF THE ECOLOGICAL FOOTPRINT  
IN CHINA, INDIA, JAPAN, AND THE UNITED STATES, 1961-2003**

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**ABSTRACT**

*We assess threats to environmental sustainability by examining the trends in three measures of the ecological footprint (EF) — the total EF, the per capita EF, and the EF intensity of the economy (EF/GDP) — for China, India, Japan, and the United States. from 1961 to 2003. The EF, an estimate of the land area needed to sustain use of the environment, is the most comprehensive measure of anthropogenic pressure on the environment available and is growing in use. We argue that the total EF is the most relevant indicator for assessing threats to nature's capital and services, that per capita EF is the most relevant indicator of global inequalities, and that EF intensity is the most relevant indicator of economic benefits from environmental exploitation. We find in all four nations that the ecological intensity of the economy declined (i.e., efficiency improved) over this period, but the total national EF increased substantially. This is a demonstration of the Jevons paradox, where efficiency does not appear to reduce resource consumption, but rather escalates consumption thereby increasing threats to environmental sustainability.*