LA METODOLOGIA DELLE FOOTPRINT NELLA STIMA DELLA DEFORESTAZIONE

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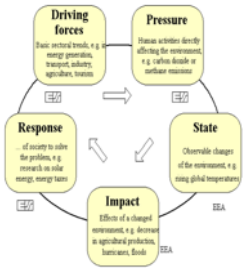
COME QUANTIFICARE LE RELAZIONI SOCIETA'-AMBIENTE?



INDICATORI PSR
Pressioni-Stato-Risposta
OCSE

INDICATORI BASATI SUI FLUSSI DI MATERIA
Material Flow Analysis
Wuppertal Institut, IFF, 2000

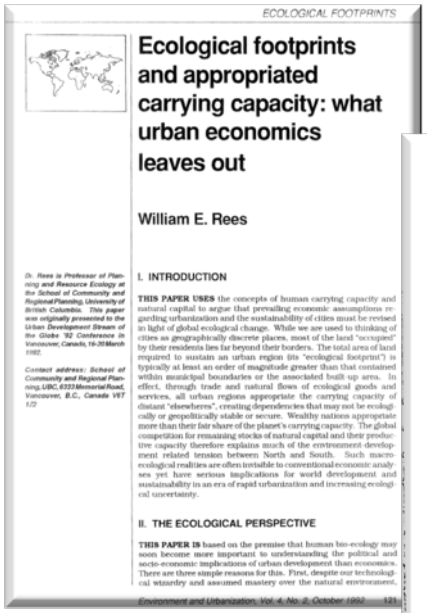
VALUTAZIONI MONETARIE
Valore economico
(Costanza et al., 1996)

INDICATORI BASATI SULL'ENERGIA
LCA, eMergy (Odum, 1996);
exergy (Jorgensen,1998);
Energy Flow Analysis (IFF)

INDICATORI DI FOOTPRINT/IMPRONTA
Ecological Footprint (Rees, Wackernagel, 1996),
Water Footprint (Hoekstra, 2002),
Carbon Footprint….

ECOLOGICAL FOOTPRINT

- La prima footprint ad essere proposta è la Ecological footprint: idea iniziale di Rees (1992), poi messa a punto e pubblicata da Rees e Wackernagel (1996)



ECOLOGICAL FOOTPRINTS

Ecological footprints and appropriated carrying capacity: what urban economics leaves out

William E. Rees

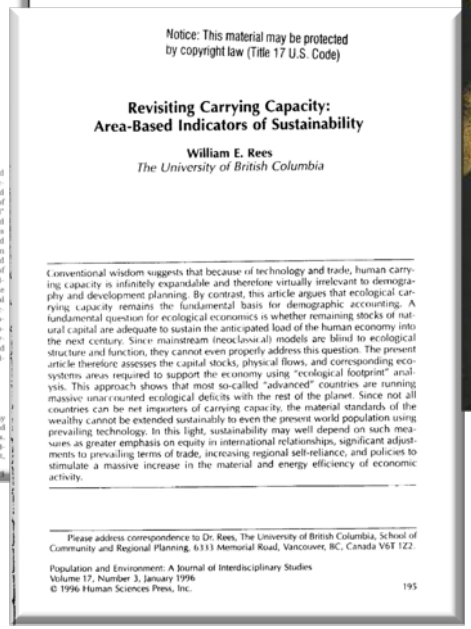
I. INTRODUCTION

THIS PAPER USES the concepts of human carrying capacity and natural capital to argue that prevailing economic assumptions regarding urbanization and the sustainability of cities must be revised in light of global ecological change. While we are used to thinking of cities as geographically discrete places, most of the land "occupied" by their residents lies far beyond their borders. The total area of land required to sustain an urban region (its "ecological footprint") is typically at least an order of magnitude greater than that contained within municipal boundaries or the associated built-up area. In effect, through trade and natural flows of ecological goods and services, all urban regions appropriate the carrying capacity of distant "elsewheres", creating dependencies that may not be ecologically or geopolitically stable or secure. Wealthy nations appropriate more than their fair share of the planet's carrying capacity. The global competition for remaining stocks of natural capital and their productive capacity therefore explains much of the environment development related tension between North and South. Such macro-ecological realities are often invisible to conventional economic analyses yet have serious implications for world development and sustainability in an era of rapid urbanization and increasing ecological uncertainty.

II. THE ECOLOGICAL PERSPECTIVE

THIS PAPER IS based on the premise that human bio-ecology may soon become more important to understanding the political and socio-economic implications of urban development than economics. There are three simple reasons for this. First, despite our technological wizardry and assumed mastery over the natural environment,

Environment and Urbanization, Vol. 4, No. 2, October 1992 121



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Revisiting Carrying Capacity: Area-Based Indicators of Sustainability

William E. Rees
The University of British Columbia

Conventional wisdom suggests that because of technology and trade, human carrying capacity is infinitely expandable and therefore virtually irrelevant to demography and development planning. By contrast, this article argues that ecological carrying capacity remains the fundamental basis for demographic accounting. A fundamental question for ecological economics is whether remaining stocks of natural capital are adequate to sustain the anticipated load of the human economy into the next century. Since mainstream (neoclassical) models are blind to ecological structure and function, they cannot even properly address this question. The present article therefore assesses the capital stocks, physical flows, and corresponding ecosystems areas required to support the economy using "ecological footprint" analysis. This approach shows that most so-called "advanced" countries are running massive unaccounted ecological deficits with the rest of the planet. Since not all countries can be net importers of carrying capacity, the material standards of the wealthy cannot be extended sustainably to even the present world population using prevailing technology. In this light, sustainability may well depend on such measures as greater emphasis on equity in international relationships, significant adjustments to prevailing terms of trade, increasing regional self-reliance, and policies to stimulate a massive increase in the material and energy efficiency of economic activity.

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Population and Environment: A Journal of Interdisciplinary Studies
Volume 17, Number 3, January 1996
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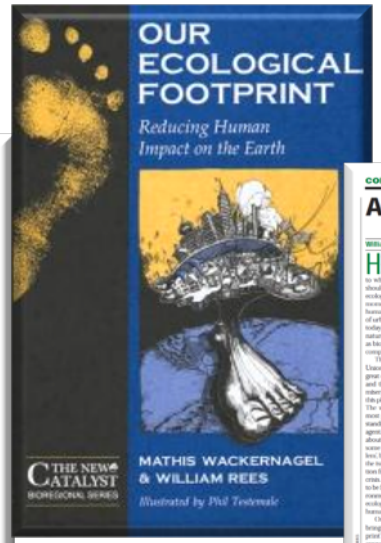


OUR ECOLOGICAL FOOTPRINT

Reducing Human Impact on the Earth

THE NEW CATALYST BIOREGIONAL SERIES

MATHIS WACKERNAGEL & WILLIAM REES

Illustrated by Phil Testemale

concepts

A blot on the land

Ecological footprints

Calculating the area of productive ecosystem required to support a population is a useful way to open people's eyes to the fact that we're stamping out the world's resources.

William E. Rees

WATER FOOTPRINT

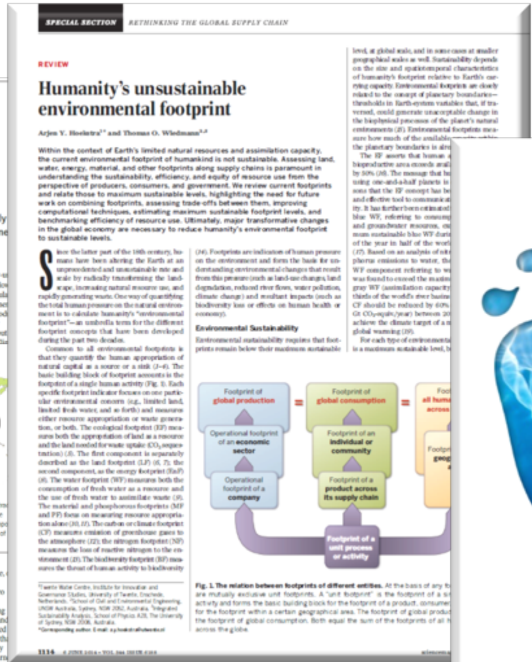
- Pochi anni dopo viene proposta anche la water footprint: idea iniziale di Allan (1993), poi sviluppata da Hoekstra (2002) e Champagain

COMMENTARY:

Water scarcity challenges to business

Arjen Y. Hoekstra

The growing scarcity of freshwater due to rising water demands and a changing climate is increasingly seen as a major risk for the global economy. Consumer awareness, private sector initiatives, governme[…] regulation and targeted investments are urgently needed to move towards sustainable water use.

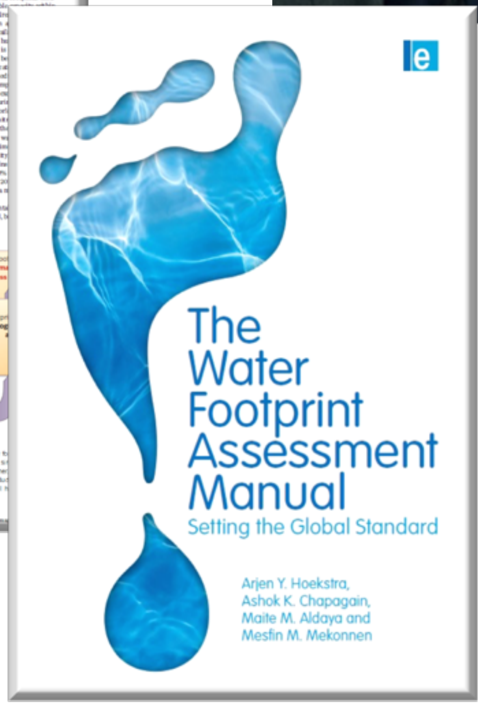


SPECIAL SECTION RETHINKING THE GLOBAL SUPPLY CHAIN

REVIEW

Humanity's unsustainable environmental footprint

Arjen Y. Hoekstra and Thomas O. Wiedmann



LA FAMIGLIA DELLE FOOTPRINT

In questi ultimi anni sono state proposte molte footprint:

- Ecological
- Water
- Carbon
- Land
- Material
- Nitrogen
- Human Appropriation of Net primary production;
- Biodiversity
- Deforestation

La letteratura scientifica su questi temi è recente ma si sta diffondendo rapidamente. Su ecological, water e carbon footprint è ormai molto vasta

LA CONTABILITA' FOOTPRINT: QUANTIFICARE GLI USI VIRTUALI

- La grande innovazione delle footprint è che considera non solo gli usi reali ma anche quelli virtuali
- Di solito si parla di **virtual** o **embodied water, carbon, land**, ecc.
- Nel caso della deforestation si parla di **embedded deforestation**

1 MELA:

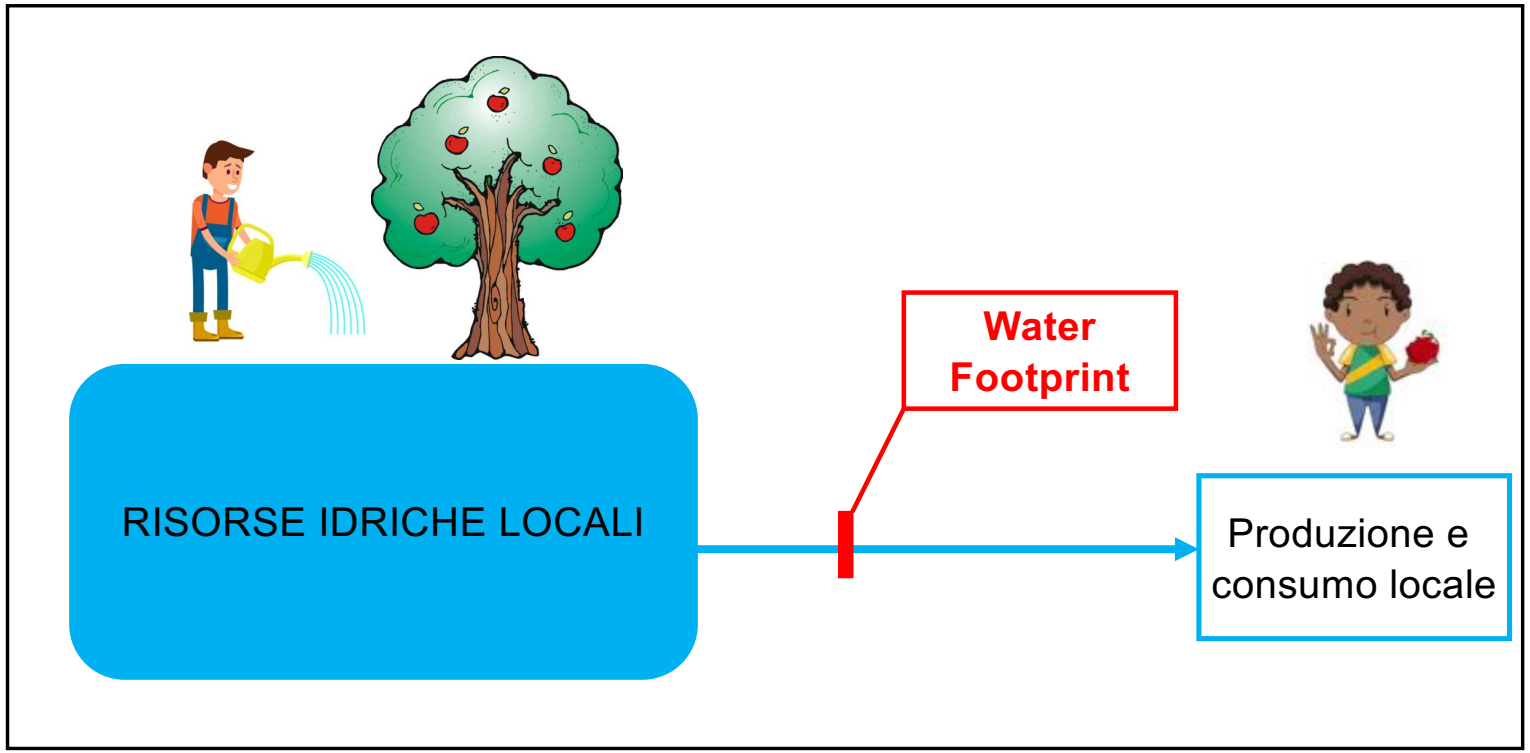
- **Contenuto fisico di acqua = 0,2 litri**
- **Contenuto virtuale di acqua = 70 litri**

1 tazzina di caffè
= 140 litri di acqua

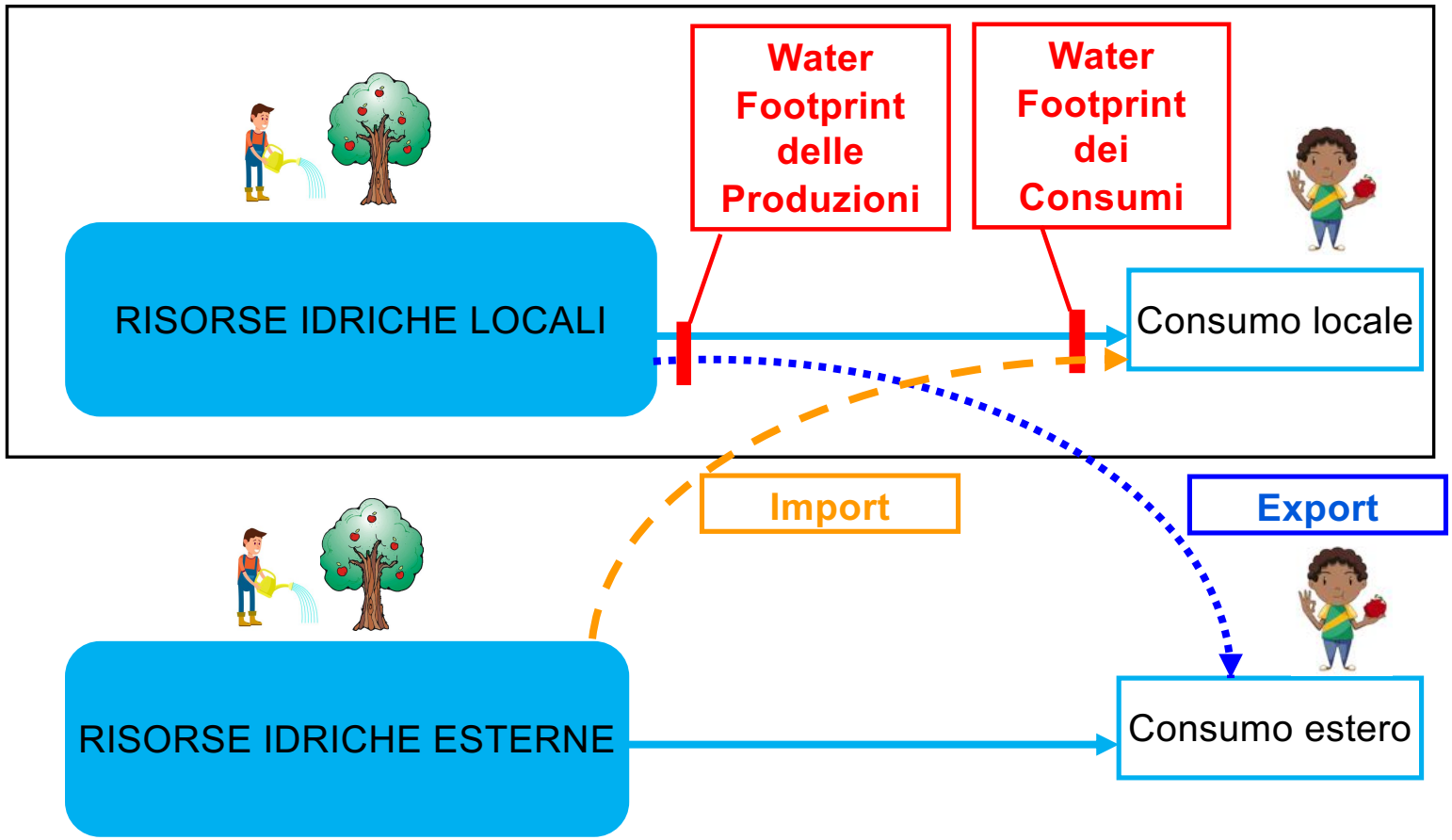
1 kg di carne di vitello
= 15500 litri di acqua

1 maglia di cotone
= 2700 litri di acqua

IL SISTEMA DI CONTABILITA' DELLE FOOTPRINT: L'ESEMPIO DELLA WATER FOOTPRINT



WATER FOOTPRINT DELLE PRODUZIONI E DEI CONSUMI



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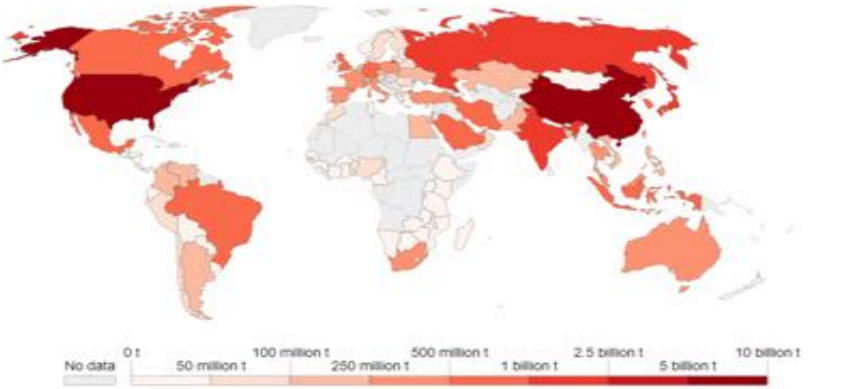
IL BILANCIO DELLE FOOTPRINT

WFConsumi



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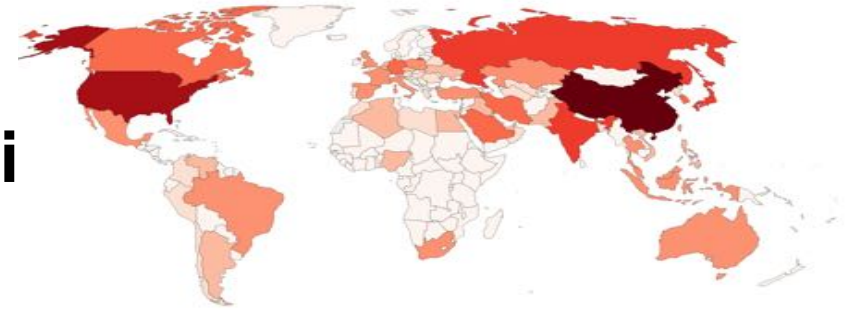
WFProduzioni



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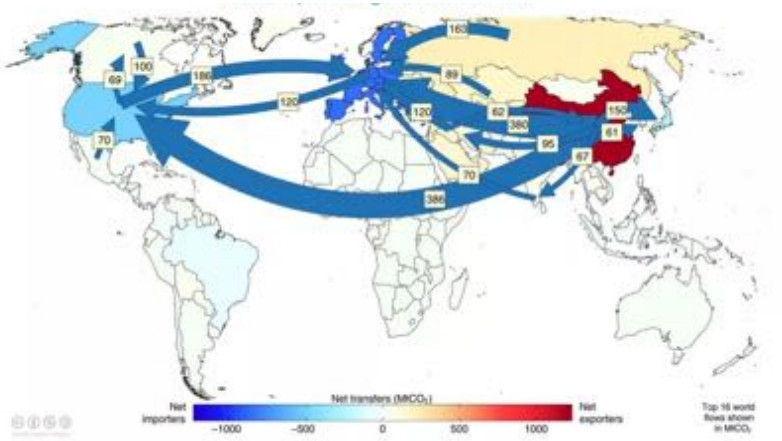

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