



Value Chains and environmental responsibility

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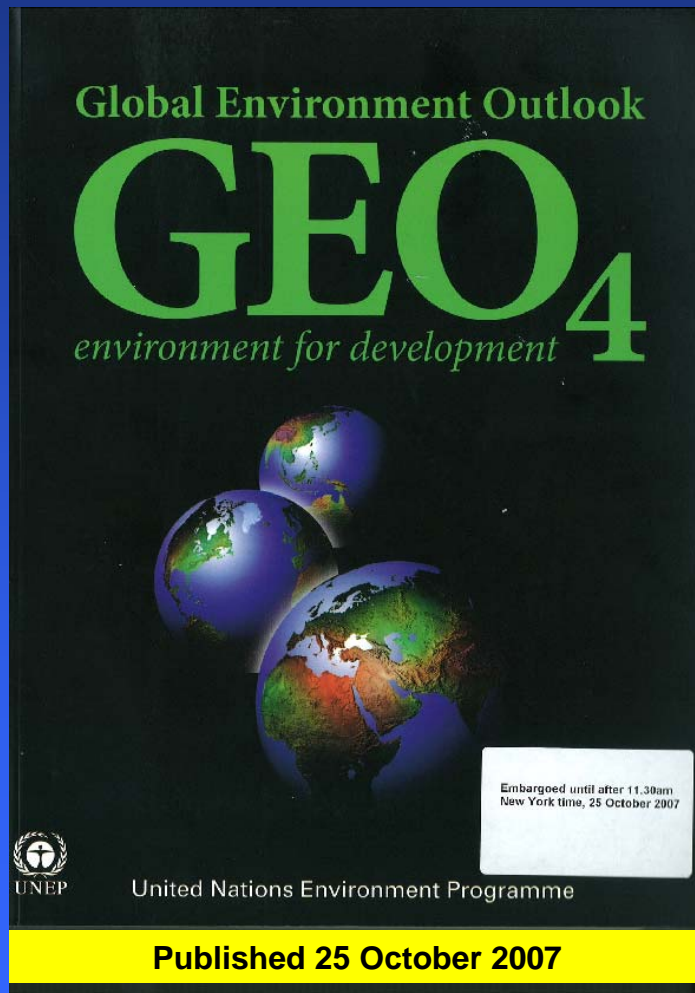
CEO Water Mandate Meeting

Stockholm Water Week, 21 August 2008



UNEP Global Environment Outlook

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- **Climate change: visible and unequivocal evidence today of its impacts**
- **Decline of fish stocks**
- **Loss of fertile land through degradation**
- **Unsustainable pressure on resources**
- **Dwindling amount of freshwater available**
- **Recall Brundtland 1987: one global problematique, risks and opportunities...**



UNEP Global Environment Outlook

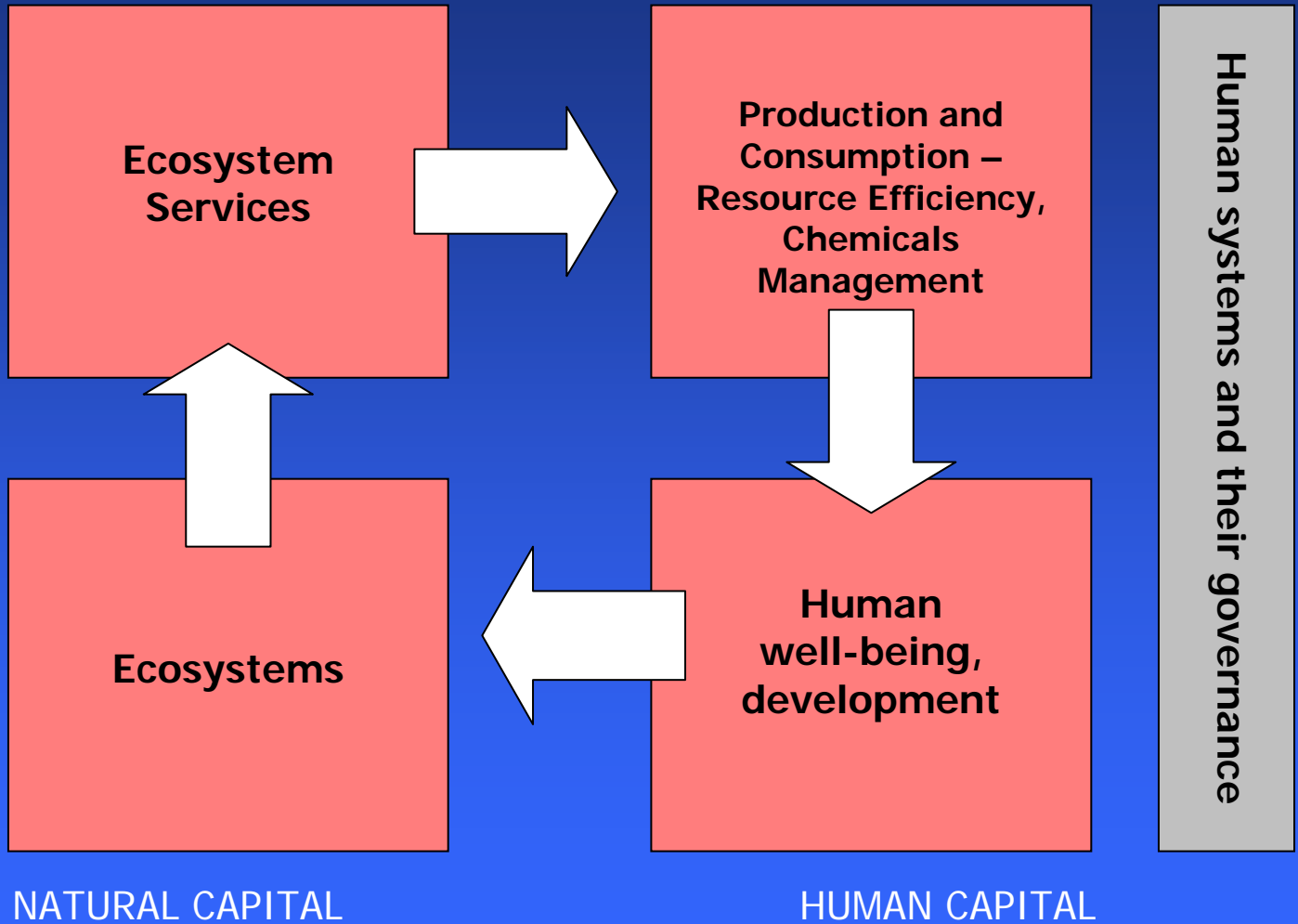
- **Water:** irrigation already takes about 70% of available water; but meeting the MDG on hunger will mean doubling food production by 2050; 10% of major rivers fail to reach sea part of year due to irrigation demands
- **Fish:** Consumption have more than tripled from 1961 to 2001; catches have stagnated or slowly declined since 1980s
- **Biodiversity:** Species are becoming extinct a 100 times faster than the rate shown in the fossil record
- **Progress with ozone (ODSs) and acid rain, but:** springtime hole in the stratospheric ozone layer over Antarctic today larger than ever; acid rain problems in eg Mexico, India, China, South Africa
- **Chemicals pollution:** More than 50,000 compounds used commercially; global chemical production projected to increase by 85% over next 20 years

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Resource Efficiency and related UNEP priorities today

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Resource Efficiency – Sustainable Consumption and Production

Targeting the most resource intensive industries, e.g.:

- **Building & Construction**
- **Metals and Automotives**
- **Agriculture and Food**

Considering Material Flows Analysis, Life Cycle Analysis, Global Warming Potential

Pursuing alternative models such as the 3R (reduce, re-use- recycle) to move from the “throw away society” to a “resource efficient society”

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Resource Efficiency – Sustainable Consumption and Production

Water – the next climate change?

- **IPCC 2007:** if the global average temperature rises by 3°C, hundreds of millions of people will be exposed to increased water stress
- **Continental disparities:** Asian continent supports more than half the world's population with only 36 percent of the world's water resources
- **Approximately 70% available water used for irrigation – much of rest industrial use:** power generation, petrochemicals industry, metals & machine building, pulp & paper
- **Organic water pollutant load:** food & beverages sector

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Resource Efficiency – Sustainable Consumption and Production

Water requirement equivalent of main food products:

Product	Unit	Equivalent water in m ³ per unit
Cattle	Head	4,000
Sheep and goats	Head	500
Fresh beef	Kg	15
Fresh lamb	Kg	10
Fresh poultry	Kg	6
Cereals	Kg	1.5
Citrus fruits	Kg	1
Palm oil	Kg	2
Puls, roots and tubers	Kg	1

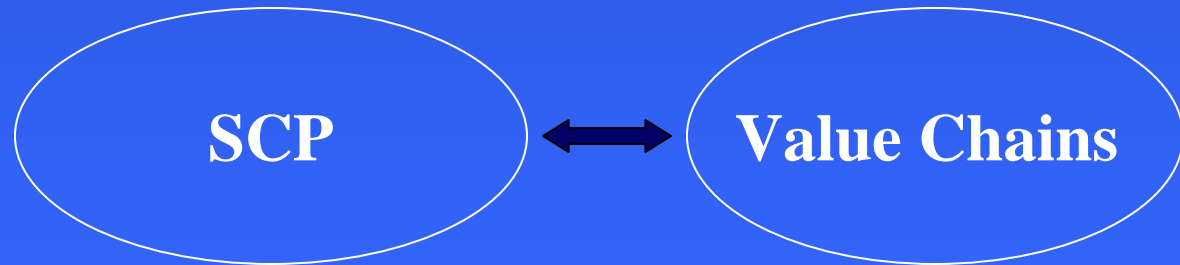
Global value chains : direct / indirect water use, virtual water, input-output between sectors & countries, trade balance & savings...

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Relevant UNEP mandates

- **Bali Strategic Plan on Capacity Building and Technology Support (2004)**
- **Marrakech Process on Sustainable Consumption and Production (2002 – 2012)**
- **Corporate environmental and social responsibility (CESR)**



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Global supply / value chains - Context today:

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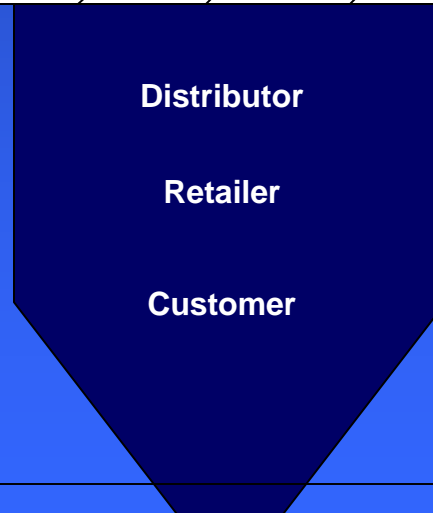
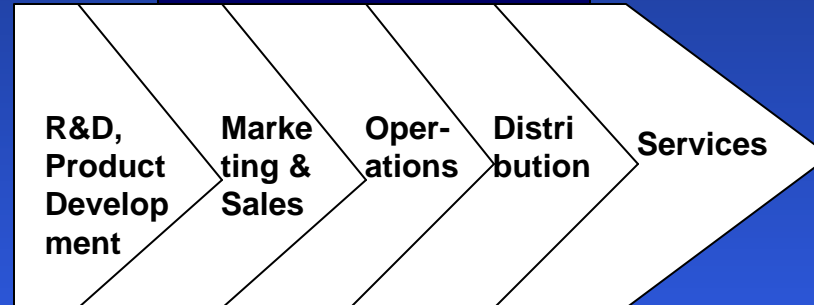
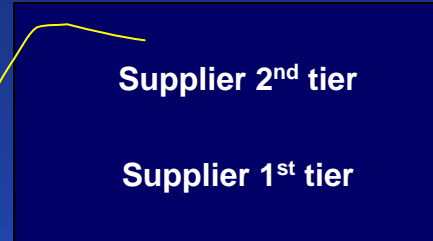
- Increased competition from new suppliers from all over the world
- Globalisation of demand
- Increasing diversity in product range
- Shorter product life cycle
- New societal, stakeholder expectations

Consider that external spending ranges from two-thirds or more of operating costs for manufacturers to one-third of costs for most services businesses



Value chain: internal & external

Direct / Indirect?
Local / Abroad?
In/Outsource?



Vertical integration

Horizontal integration

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Unchaining Value (2008) – UNEP, SustainAbility, UNGC

Capacity building and innovation for sustainability
through global supply chains:

- Information & Communications Technology (ICT),
and
- Food & Beverages Sectors

Steps to integration:

- Incremental – short term, codes, policing
- Strategic – supplier engagement, guidelines
- Transformational – new market creation, re-
engineering, networks, new business models

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Levels of maturity, from logistics to supply chain to value chain

Evolution over last ten years:

- **traditional functional approach → internal and external integration → cross-enterprise collaboration...**
- **Growing strategic significance of global supply chain management in a flat world**
- **Influence of Life Cycle Management thinking... the extended supply chain (extended producer responsibility), the reversed supply chain (product take-back)**

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By example: tourism value chain

(UNEP Marrakech Task Force on Sustainable Tourism)

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tour package	Tour operator, travel agent
accommodation	Hotels, bed & breakfasts, self-catering, apartments, campsites, cruise ships
transport to / from destinations	Public transport (trains, buses), airports, air carriers / charters, scheduled / chartered sea passages, coaches
catering, food, beverage	Restaurants, bars, grocery stores, food wholesalers, farmers, fishermen, bakers, butchers
ground transport	Car rentals, boat rentals, fuel providers, gas stations, coach rentals
ground services	Agents, handlers or inbound operators at the destination
cultural, social events	Excursion and tour providers, sports and recreation facilities, shops and factories
environmental, cultural and heritage resources of destinations	Public authorities, protected site managers, private concessionaires and owners





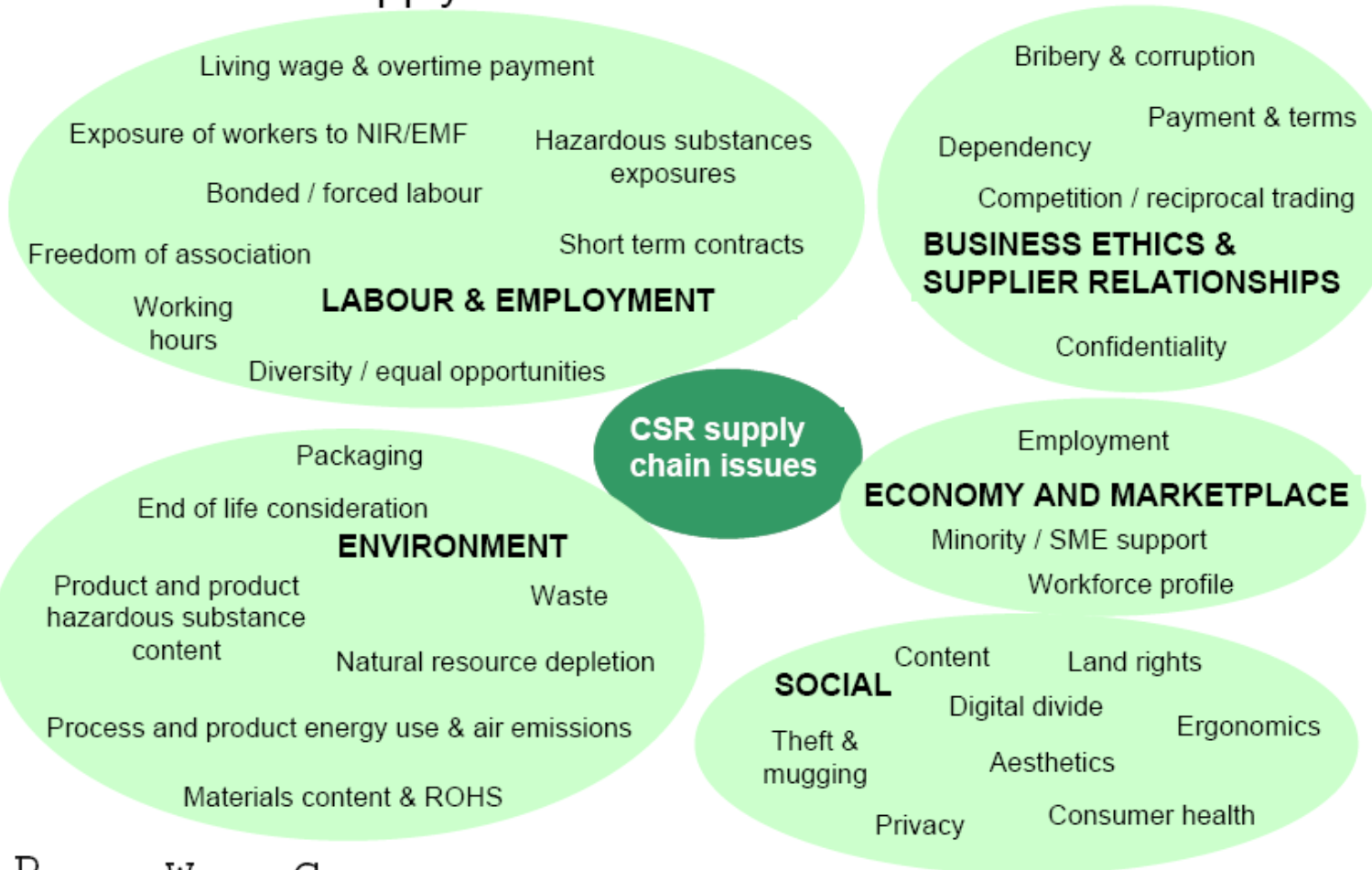
By example: ICT value chain

(GeSI of UNEP and industry partners)

Global e-Sustainability Initiative



Identified CSR supply chain issues



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Greening your supply chain?

The business case, eg:

- **reduce costs**
- **improve risk management**
- **enhance quality**
- **boost innovation**
- **protect reputation and brand image**
- **respond to customer interest in green products / services and practices**
- **join an industry trend...**

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Greening your supply chain: How?

- **Screen suppliers on environmental performance**
- **Conduct supplier energy / carbon audits**
- **Require a formal environmental management system (EMS)**
- **Set purchasing standards (eg products containing toxic substances?)**
- **Work collaboratively on green design initiatives, green marketing**
- **Provide training and share information, linking environmental performance and quality management**
- **Jointly plan more efficient transport and distribution systems**
- **Convene annual supplier technical exchange / environmental forums, include awards**

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Design for sustainability (D4S):

- In manufacturing around 70% of the cost of a product is determined during design phase
- Integrating suppliers in product design: successful efforts in USA have seen costs decrease by 20%, quality improve by 30% and time-to-market decrease by 50%

Product Service Systems (PSSs) (cf. in-sourcing, leasing):

- move away from phase-based servicing and discrete resource optimisation, to system resource optimisation which is utility based... resulting in synergies in profit, competitiveness and environmental benefits

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An arms length?

up / downstream collaboration

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- **Traditional criteria of price, quality and delivery giving way to more comprehensive *strategic approach*, considering supplier management practices, design, development capabilities and cost reduction potential**
- ***Managerial levers*: align goals and incentives, improve information accuracy, improve operational performance, design pricing strategies that stabilize orders, build strategic partnerships and trust**





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For more information:

www.unglobalcompact.org

www.unep.org

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Nothing is impossible!

