How does resource efficiency relate to the Millennium Development Goals?

POVERTY
MDG1: Eradicate extreme poverty and hunger

- Greater efficiency in resource use and reduced environmental impact from the production of goods and services over their life cycle result in improved productivity and reduced costs. In short, it allows more to be done with less.
- Growth in consumer demand for sustainable products can provide sustainable producers in developing countries with access to new markets as well as price premiums for their products.
- Provision of cleaner and more resource efficient services (such as water, energy and food) allows more people to meet their basic needs.

GENDER & EDUCATION (1)
MDG2: Achieve universal primary education
MDG3: Promote gender equality and empower women

- Collecting water and fuel wood places a burden on women and children (especially girls), reducing the time they have available for education or income-generating activities. Providing clean and resource-efficient energy and water services will help to reduce this burden. Providing clean and sustainable energy will also allow children to do homework after daylight hours.
- Including resource efficiency issues (such as the three Rs of reduce, re-use and recycle) in the school curriculum can influence the behavior of young people and their parents.

HEALTH (2)
MDG4: Reduce child mortality
MDG5: Improve maternal health
MDG6: Combat HIV/AIDS, malaria and other diseases

- Water and sanitation-related diseases and acute respiratory infections (primarily from indoor air pollution) are two of the leading causes of under-five child mortality. Providing cleaner and more resource-efficient energy and water services will help to reduce the prevalence of these diseases.
- Damage to women's health from indoor air pollution or from carrying heavy loads of water and fuel wood can make women less fit for childbirth and at greater risk of complications during pregnancy. Providing cleaner and more resource-efficient energy and water services will help to reduce these risks.
- Malaria, killer of an estimated 1 million children under the age of 5 every year, may be exacerbated as a result of deforestation, loss of biodiversity and poor water management. Improved resource efficiency would help to reduce these pressures.

ENVIRONMENT
MDG7: Ensure environmental sustainability

- Improved resource efficiency helps to achieve the objective of decoupling economic growth from environmental degradation, thereby slowing biodiversity loss.
- Promoting the efficient use of limited water resources through techniques such as drip irrigation and rainwater harvesting helps to reduce stress on water resources and improve access to water supplies.
- Integrated waste management, including through the three Rs approach of reduce, re-use and recycle, can help to improve the lives of people living in slums, as can the adoption of sustainable urban transport solutions such as integrated rapid transport systems.

DEVELOPMENT PARTNERSHIP
MDG8: Global partnership for development

- Technology transfer through development assistance can allow developing countries to "leapfrog" to a sustainable development path, bypassing inefficient, polluting and ultimately costly phases of development.
- International coordination and cooperation efforts to promote resource efficiency such as those based on the Marrakech Process on Sustainable Consumption and Production help to promote international partnerships, efforts and initiatives to stimulate resource efficiency.
- The Green Economy Initiative endeavours to mobilize and refocus the global economy on investments in clean industries and technologies and natural infrastructure. In doing so, it aims to contribute to the crafting of a global set of actions that are more conducive to sustainable wealth creation and achievement of the Millennium Development Goals.

(1) (2) Adapted from UNDP-UNEP (2009) Mainstreaming poverty-environment linkages into development planning. A handbook for practitioners


ENVIRONMENT and POVERTY TIMES 06

A new deal for a resource-efficient and Green Economy

To find out more about the linkages between poverty alleviation and environment or find more detailed case studies, please read the Environment and Poverty Times.

The 6th issue of the Environment and Poverty Times, launched in September 2009, includes thought-provoking articles on economic shifts that provide alternatives for a more sustainable future. These are complemented by concrete examples from all over the world highlighting initiatives on energy, waste management, agriculture, construction and tourism, which promote sustainable consumption and production.
Please visit the interactive e-book or download the PDF at
www.grida.no/publications/et/ep6/ebook.aspx

UNEP
United Nations Environment Programme

What is the Marrakech Process?

The Marrakech Process is a global process to support the implementation of projects and strategies on Sustainable Consumption and Production (SCP) and the elaboration of a 10-Year Framework of Programmes (10YFP). The process responds to the call of the World Summit on Sustainable Development (WSSD), that took place in Johannesburg in 2002, to develop a 10YFP to support regional and national initiatives to promote the shift towards SCP patterns. The proposal of the 10YFP will be reviewed by the Commission on Sustainable Development (CSD) during the 2010/11 two-year cycle. The Marrakech Process is named after the city where the First International Expert Meeting on the 10YFP took place in 2003.

UNEP and UN DESA are the leading agencies of this global process, with an active participation of national governments, development cooperation agencies, business, civil society and other stakeholders.

For more information on the Marrakech Process please visit www.unep.fr/scp/marrakech
or contact Adriana Zacarias (Ms.) at Adriana.Zacarias@unep.org.

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D.light Design
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Resource Efficiency for Development

Promoting Resource Efficiency and Sustainable Consumption and Production in Developing Countries

UNEP

Marrakech Process: Towards a Global Framework for Action on Sustainable Consumption and Production

Exploring the linkages between resource efficiency/ sustainable consumption and production and poverty alleviation…

Resource efficiency (RE) is about ensuring that natural resource use and pollution associated with the production and use of goods and services is reduced over their full life cycle. This contributes to human wellbeing by delivering more products, in a cleaner and safer way, using less materials and energy. More human needs can be met, using fewer resources and respecting the ecological carrying capacity of the earth. The sustainable consumption and production (SCP) patterns thus generated effectively expand the natural resource base underpinning all human activities and development processes.

Why are RE and SCP relevant for developing countries?

Many people in developing countries are directly dependent on their natural environment to create economic activities and meet their basic human needs. They are often also more vulnerable to pollution, natural disasters and other consequences of environmental degradation. Growing demand for sustainable products provides them with a chance to get price premiums and increase their income. Resource Efficiency also gives developing countries the opportunity to bypass inefficient phases of development, reducing costs and accelerating and strengthening economic development.

What is the relevance of 'sustainable consumption' to poor people?

Meeting human needs in a sustainable manner is at the heart of SCP. SCP is not about delivering fewer goods and services to people, it is about delivering more efficient goods and services. It is all about making the most of our available resources. This is clearly relevant to poor people who often consume too little to meet their basic needs. The increasing demand for more efficient and sustainable products can also create new jobs and income for poorer communities that are able to meet that demand. Growing exports of organic food crops from developing to developed countries is one concrete example of this. In this way more sustainable consumption in developed countries supports people and economic development in developing countries.

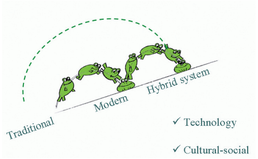
Households across the developing world depend directly upon natural resources for daily sustenance and livelihoods. Degradation of these resources forces women and children to walk long distances each day – sometimes more than 20 miles – just to find fuel wood and water for their families.

John Talbott
World Resources Institute, 2007.

What is leapfrogging?

Leapfrogging is the possibility offered to developing countries to bypass the inefficient, polluting, and ultimately costly phases of development followed by most developed countries. For example, the use of solar energy in rural areas avoids the need to build an electricity grid, import fossil fuels and prevents pollution associated with their use. Providing more water efficient irrigation techniques, or enhancing traditional water harvesting methods, helps farmers conserve and more efficiently use these resources in arid areas. Sustainable forest management maintains watersheds and soil resources and offers opportunities to harvest wild, non-timber food and fibre crops.

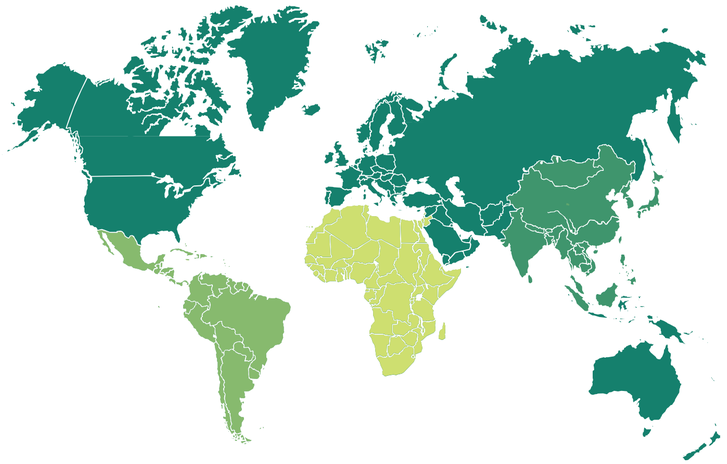
Opportunity to Leapfrog



Facts and Figures (extracted from the Environment and Poverty Times (EPT) n#6):

- A market shift, from incandescent lamps to energy-efficient alternatives, would cut the world's electricity demand for lighting by an estimated 18%.
- The wind power industry employs more than 400,000 people; the solar photovoltaics sector, an estimated 170,000; and the solar thermal industry, more than 600,000 worldwide.
- Renewable energy sources can generate electricity for the 1.6 billion people who still lack access to it without exerting further stress on the world's climate.
- More fuel-efficient wood burning stoves reduce pressure on forests and other biomass energy sources, (as much as 35% reduction).
- The global market for organic agriculture has increased from 15 billion USD in 1999 to 50 billion USD in 2008.
- Globally, environmental industries are worth $4 trillion USD already and are likely to expand by at least 50% in the next decade.
- Nicholas Stern's (2007) review on the economics of climate change, showed that for as little as 1% of GDP we could save costs as much as 25% of GDP later on.

SOME PRACTICAL EXAMPLES FROM AROUND THE WORLD



Latin America

- **Chile** - RECYCLA was the first company in Latin America to start recycling electronic waste. This ensures the collection and appropriate disposal of hazardous waste and recycling of materials such as non-ferrous metals, creating benefits in terms of environment, health and income generation. RECYCLA also recruits former inmates into its company and workforce, assisting their reinsertion into the workplace and society. The company works with local authorities to raise awareness on recycling e-waste, as well as with social organizations working to bridge the digital divide [1].

- **Bolivia** - The "agua para todos" (water for all) initiative brings together the municipal water company, a water consortium and the local community and Pro Habitat nonprofit foundation to form an entrepreneurial partnership to greatly extend access to affordable water in peri-urban areas. It overcomes the problem of prohibitive costs by combining partners' financial resources and expertise. In addition to providing clean and affordable water, education is provided to local communities about water quality and health issues. The initiative responds to the growing demand for sanitation with the construction of water-efficient domestic facilities and decentralised waste-water treatment plants in the shape of artificial wetlands [2].

- **Guatemala** - With the support and supervision of NGOs, donors and government agencies, community-owned forestry enterprises now have more than 420 000 hectares of the Maya Biosphere Reserve under sustainable management. These enterprises are each in charge of one distinct parcel of land – a concession - that the Guatemalan government has leased to them. Forest product sales from these enterprises have brought new employment, infrastructure, social cohesion, and income. The concession has produced some 4.75 million USD in certified timber sales and close to 150 000 USD in sales of palm leaves used for flower arrangements and other products [3].

- **Brazil** - Following legislation which requires that all energy providers invest half of their turnover in energy saving measures, the German appliance manufacturer BSH Bosch, in partnership with international cooperation enterprise GTZ, has established a refrigerator replacement programme that provides free fridges to households in the favelas. Energy consumption is reduced (while old fridges use an average of 880 kilowatt hours per year, the newest BSH fridges use no more than 180 kilowatt hours per year), reducing on average 210 kilograms of CO_2 emissions every year for each fridge that is replaced. Through the programme the households also become eligible for government programmes that subsidize the energy consumption of poor families up to 100 Kwh. Not only does the family receive a free, legal connection, it also receives an energy bill that serves as proof of residence, opening the door to other social programmes [4].

Asia-Pacific

- **India** - D.light Design, a for profit social enterprise, strives to replace at least 20 million kerosene lanterns with solar-rechargeable lights. Families can then not only reduce costs but improve their study conditions and indoor air quality while reducing greenhouse gas emissions too [8].

- **Bhutan** - The Punakha Hospital exemplifies cultural sustainability, combining sensibility to local Buddhist tradition, new efficient technologies, and performance. The accent is on passive and ecodesign using natural ventilation, local materials and renewable energies such as hydropower, woodstoves and solar water heating. The hospital thus uses about 40% less energy than comparable buildings [9].

- **South-East Asia** (including Thailand) - After the tsunami devastated the area in 2004, the Kenan Insitute Asia started working to promote community based tourism and adjust it to the tourism market (conducting market surveys, improving home stay conditions and improving the local level of English). For instance, the Muslim fishing village of Ta Din Daeng in Thailand has increased its overall income by 9% per year as local communities keep 70% of the tour fees. The villagers have thus been able to invest in local reforestation and protection of the biodiversity [10].

Africa

- **Nigeria** - A local NGO and a community based organization, using technology from a Thai research institute and in cooperation with the Sustainable Ibadan project (UN HABITAT), have installed a biogas plant in Ibadan which runs on abattoir effluents. In addition to creating a source of domestic energy while reducing pollution and mitigating greenhouse gas emissions, the negative impacts of the abattoir effluents on human health, agriculture, potable water and aquatic ecosystems are removed. In addition, the sludge from the reactor can be used as organic fertilizer. The biogas plant is expected to return a profit on the initial investment within three years and will have a productive life of fifteen years. It has tremendous potential to be replicated in other urban areas of Nigeria, across Africa, and beyond [5].

- **Senegal** - The company Vent et Eau pour la Vie (VEV, or wind and water for life) is an enterprise that builds, repairs and installs wind powered water pumps in Senegal. The wind powered pumps have improved access to clean and potable water and also provide numerous other social, economic and environmental benefits to communities, such as income from gardens, improved health, and time saved from water collection and transportation [6].

- **Tanzania** - The Dutch NGO Nature for Kids turns poor children into "TV superheroes" by giving them the opportunity to act in movies that aim to raise global awareness on environmental issues. The films are brought to schools in rural areas with the help of a mobile cinema, and are also shown in local education centres, refugee camps, NGOs and wildlife and environmental clubs. Featuring local schoolchildren and their communities, the films empower children by teaching the basic knowledge, skills and values that promote environmental responsibility. The films show them that the cycle of poverty and environmental degradation can be broken through sustainable management of their natural resource, and that they can improve their living conditions by taking care of their environment [7].

Sources:
1, 4, 7, 8, 9 & 10. based on 6th issue of the Environment and Poverty times, a periodic publication by UNEP/GRID-Arendal.
2. SEED award winner 2005 : Agua Para Todos – Water for All. Further information available at: www.seedinit.org/2005-awards/
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6. African Rural Energy Enterprise Development profiles of success: http://www.areed.org/