



# GREEN economy

## Briefing Paper

## Health

### Overview

Greening the economy is essentially about improving human well-being, while significantly reducing environmental risks and ecological scarcities. Thus, health is central to achieving sustainable development. Investments in greening key sectors of the economy, and adopting related policies and strategies, can lead to a healthier population. Moving away from the conventional “grow first, clean up later” path of development into a “green” path of development can result in a more healthy, socially inclusive, productive, equitable and more resilient society.

Worldwide, about a quarter of the total burden of disease is caused by environmental hazards and as many as 13 million deaths can be prevented every year by making our environment healthier. Investments in agriculture, green building and construction, efficient transportation systems and land management, and urbanization have the potential to significantly reduce the incidence of malnutrition, cardiovascular and chronic respiratory diseases, cancer, vector borne and water borne infectious diseases, as well as lifestyle diseases like obesity and diabetes, and improve health and overall well-being. Green agriculture, smarter transport and land use investments and policies are not only efficient and low-cost means of preventing disease but also a *sine qua non* for a green economy since they improve productivity, alleviate disease incidence and reduce mortality.

Communicable and non-communicable health risks and dangers are likely to exacerbate over time. The world’s urban population will double by 2050, from about 3.3 billion people in 2007 to about 6.4 billion. Most of this urban growth will occur in low- and middle-income cities. If neglected, these conditions will cause more environmental damage, and could lead to informal settlements and slum expansion, resulting in a more vulnerable population.

### Interlinkages between health and green economy in the built environment

In the transition path towards a green economy, health is a powerful tool and a key precondition in harnessing sustainable economic development, as well as in eradicating poverty and in ensuring an economically equitable and socially inclusive society. There are a number of mechanisms through which improved health can lead to achieve these goals.

**Healthy populations and poverty.** Healthier individuals often have the ability and incentive to save more since they have a longer lifespan and lower medical expenses. Bloom and Canning (2000) show that health improvements would lift 30 million people out of absolute poverty by 2015. Additionally, the World Health Organization estimates that more than 63 per cent of global mortality is due to non-communicable diseases. A large part of these

*UNEP defines a **green economy** as one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities.*

are attributable to environmental and lifestyle risks. These include physical inactivity and obesity related conditions, but also cardiovascular diseases from transport related urban air pollution, pulmonary disease and cancers from household energy use of biomass and coal, and asthma from indoor pollution. Green economy strategies in the built environment, better city planning and the use of clean fuels and renewable energy technologies can help alleviate these conditions.

**Other diseases that are also highly correlated with poverty** include tuberculosis (resulting from overcrowding and absence of ventilation), dengue and diarrhea (due to unsafe drinking water, poor sanitation and unhealthy waste management practices). Green economy strategies can help reduce the disease burden and promote cleaner and healthier spaces which have a more than proportionate impact on the well-being of the poor and consequently also their productivity.

**Health and higher labour productivity.** Labour productivity is key for an inclusive green transition. It affects not only productive efficiency, but also the possibility of obtaining better wages and achieving higher living standards. In this regard, Arcand (2003) finds that poor health due to malnutrition can decrease annual GDP per capita growth by 0.23 to 4.7 per cent worldwide.

**Health is also linked with a better education experience,** higher productivity and consequently higher wages in later life. Healthy children are able to learn better and achieve higher grades since they suffer less from school absenteeism and early drop-out. It is estimated that income forgone due to iron deficiency ranges from 2 per cent of GDP in Honduras to 7.9 per cent in Bangladesh.<sup>1</sup>

<sup>1</sup> Horton, S. and J. Ross, 2003. *The economics of iron deficiency. Food Policy*, 28(1), pp. 51-75.

**A healthy population makes a country more attractive to green investments.** Both domestic and foreign sources in the form of foreign direct investment (FDI) are fundamental for catalyzing investments in the green economy transition. Good health indicators raise the returns to capital and reduce risk. For instance, Alisa et al. (2006) estimate that rising life expectancy by one year increases FDI inflows by 9 per cent in low and middle income countries.

**Role of health on international trade.** Trade has an important role to play in the transition to a green economy, in reducing poverty and in fostering economic development by spurring economic growth, creating jobs, reducing prices, increasing the variety of goods for consumers, and helping countries acquire new technologies. Absence of health can hinder trade activities and trade related incomes. For example, in Peru in 1991, there were in 366,000 cases of cholera, in which 400 people died. This resulted in an almost immediate ban on importation of major Peruvian agricultural products, which was initially estimated to be about USD 13 million. But during that period, cholera also affected tourism badly, which cost an estimated USD 84 million.

## Opportunities

Green economy policies and strategies can contribute to mitigating climate change, creating energy efficient and low carbon housing structures, and generating resource efficient transportation patterns and smart cities. They present a potential to alleviate environmental risks and generate health co-benefits.

- Urban heat waves caused by changing weather patterns, vector-borne disease risks related to changing patterns of rainfall, drought and water scarcity, increased vulnerability of homes and neighbourhoods

*UNEP launched its Green Economy Initiative in 2008, and is currently supporting over 20 countries around the world in their transition towards a green economy.*

to tornadoes, hurricanes, mudslides and flooding, and a more gradual sea level rise are all events that increase vulnerability and risk. These can all be reduced by green economy transition policies.

- Global estimations show that climate change was responsible for 3 per cent of diarrhea, 3 per cent of malaria and 3.8 per cent of dengue fever deaths in 2004 (WHO, 2009). Climate and climate change-related fuel price rises, deforestation and electricity brownouts or shortages also increase illnesses related to heat and cold stress.
- Green and safe urban living environments reduce health risks for its dwellers. Urban slums are residential areas that lack basic necessities such as improved sanitation, safe drinking water and durable housing. These health risks are expected to increase with the growth of slum areas in the world. According to WHO/United Nations Human Settlements Programme, nearly one billion people live in slums and shantytowns.<sup>2</sup> About 38 per cent of the world's urban population growth is occurring in slums. By 2020, the number of slum dwellers are projected to increase to 1.4 billion.<sup>3</sup> Green city plans can reduce the incidence of these health risks.

The critical linkage between green economy policies and health strategies cannot be ignored. Health is an important capital which is also included in the Human Development Index. It is the proximate determinant of capabilities and opportunities that can be availed by all and is especially critical if the poor are to extricate themselves from the vicious poverty cycle.

A green economy transition must therefore focus on building this critical fourth capital, over and above financial, social and environmental capitals. Policy recommendations include providing more information on the morbidity and mortality costs of inaction and examining the effectiveness of instruments such as tradable pollution permits, reducing harmful input subsidies and planning for cross-sectoral linkages in green economy sectors.

In the built environment, the following policies and strategies can contribute to harnessing these synergies:

- Good governance measures, including national level action that focuses on social security, clean water and enabling green cities;
- Planning systems for better cities, including cross-sectoral strategies and denser city strategies, linear infrastructure development and effective slum policies;
- Regulatory tools such as environmental standards, land-use regulation, protect freshwater supply;
- Incentives (e.g., taxes, payments for ecosystem services, public services, road user charges) and financing (e.g., micro-financing, purchasing pools, carbon credits, taxes, cost recovery);
- Increased information, awareness and civic engagement (e.g., setting up city biodiversity index, labelling, smart meters, demonstration projects).

## What UNEP is doing

The following activities are in progress:

- UNEP is currently collaborating with WHO on a joint publication that highlights actions, policies and strategies that can translate green economy transition strategies and measures

<sup>2</sup> World Health Organization/WHO Centre for Health Development & United Nations Human Settlements Programme, 2010. *Hidden cities: unmasking and overcoming health inequities in urban settings*. Kobe.

<sup>3</sup> UN-HABITAT, 2009. *Global report on human settlements 2009: Planning Sustainable Cities: Policy Directions*, London, Earthscan.

*The Green Economy Report, published by UNEP in 2011, makes a compelling economic and social case for investing two per cent of global GDP in greening 10 central sectors of the economy.*

into those that reduce morbidity and mortality. UNEP has also presented at several relevant fora like the Health Forum and the Health Promotion Forum to highlight synergies between greener economies and health.

- UNEP in collaboration with the WHO has supported the implementation of the Libreville Declaration on Health and Environment in Africa and the associated Luanda Commitment. In this context two programmatic frameworks on climate change and chemicals management to support greening economies in Africa have been developed.
- Similarly UNEP is also collaborating with ILO to examine the health impacts of decent jobs, and with IFAD and WFP to look at the nutrition impacts of green agriculture.

In addition, following are some actions in which UNEP has been involved:

- UNEP is distributing cooking stoves as part of the Global Alliance for Clean Cooked Stoves. Cooked stoves are a cost-effective measure, superior to many public-health programmes around the world. In low-and middle-income countries, it is expected that by 2015, improved stoves will be available to half of those who in 2005 were still burning biomass fuels and coal on traditional stoves. This is likely to result in a negative intervention cost of USD 34 billion a year and generate a return of USD 105 billion per year (Hutton et al. 2006).

- At the national level, UNEP has supported a solar water heater programme in Barbados. In 2002, Barbados saved 15,000 metric tons of carbon emissions and over USD100 million in energy from the 35,000 solar hot water systems that had been installed at the time. As of 2008, approximately 40,000 solar water heaters were in operation in Barbados most of which were domestic installations.
- In 2007, UNEP carried out a study on a 30-acre Kenyan dumpsite called Dandora found that about 50 per cent of the examined children and adolescents living close to the dumpsites had respiratory ailments and blood lead levels exceeding international threshold. A further 30 per cent were confirmed to have high exposure to heavy metal poisoning detected by red blood cell abnormalities. Planning better cities and green areas, along with the provision of basic public facilities, is a key element of a green economy transition and is envisioned to help achieve MDGs in many parts of the world.
- In 2012, UNEP undertook a study on the cost of inaction with respect to the use of pesticides in sub-Saharan Africa found that health-related pesticide costs from 2005 were USD 4.4 billion. The lack of chemical management and attention to consequences of run-off and use of pesticides are currently not priced in the market, but as the study finds, they have enormous costs for human society and especially for the poor.

**For information:**

UNEP DTIE  
Economics and Trade Branch  
11-13, chemin des Anémones  
1219 Châtelaine / Geneva  
Switzerland  
T: +41 (0)22 917 82 43  
F: +41 (0)22 917 80 76  
E: [gei@unep.org](mailto:gei@unep.org)  
[www.unep.org/greeneconomy](http://www.unep.org/greeneconomy)