



Part III

Investing in Human Capital and Societal Infrastructure





© FAO / Giuseppe Bizzarri

Farmers control soil erosion through crop cultivation. Rural Development in Southern Lempira, Honduras.

Chapter 6: Making the green economy work for the poor

6.1 Introduction

Despite significant gains in many countries, poverty remains a key challenge across the developing world and affects more than one billion people (UN 2010). Apart from income poverty, other indicators of well-being such as nutrition, maternal and child health, women's empowerment and inequality are also ongoing matters of concern. The task of improving well-being along these multiple dimensions is only expected to become harder as the impacts of climate change and ecosystems decline become more acute, with largely negative consequences predicted for millions of poor and vulnerable people in developing countries.

While it cannot be assumed that progress towards a green economy will improve on the rate of poverty reduction achieved by conventional developmental paths, there are ways to maximize the potential for this to happen and avoid trade-offs. As illustrated earlier in this report, a green economy is one where growth in income and employment is driven by investments that:

- Reduce carbon emissions and pollution
- Enhance energy and resource efficiency
- Prevent the loss of biodiversity and ecosystem services.⁴⁶

What are the links between poverty reduction and a green economy? The concept discussed in this report shows that human well-being and equity are core goals of greening the national economy. How could this become a reality in different countries? There is widespread consensus today on how poverty and inequality can be reduced within and across generations. These include the following:

- Sustained economic growth, which is necessary but not sufficient for poverty reduction.⁴⁷
- Economic growth in specific sectors that provide employment, production and entrepreneurship opportunities to the poor. These include sectors where the poor are more likely to find their livelihoods, such as agriculture, fishing, forestry and other natural resources, construction, transport infrastructure and other primarily urban sectors, as well as others where unskilled and manual labour is important. In addition, a growing body of evidence suggests that access to energy by the poor can lead to benefits across multiple dimensions ranging from income to education and health outcomes and the well-being of women (UNDP 2010b).

⁴⁶ Ecosystems services are the benefits (goods and services) to human well-being provided by ecosystems, and include provisioning, regulating, supporting and cultural services (Millennium Ecosystem Assessment, 2005).

⁴⁷ For example, a joint report on MDG progress by the African Development Bank, African Union Commission and United Nations Economic Commission for Africa (2010) finds that despite recent strong and persistent economic growth in the region, the joblessness of growth remains a major impediment to reducing poverty. Cross-country studies confirm that, on average, growth tends to be positively correlated with improvements in the incomes of poor people overall (World Bank, 2005). Growth also tends to be positively correlated with improvements in food supply and protein and calorie intake (Haddad, 2003). Averages, however, conceal the fact that the poor often gain proportionally less.

- Redistribution of the benefits of growth through public spending in the provision of equitable, quality services (in, e.g., health, education, water and sanitation) and social protection for the poor that helps improve their – and their children’s – skills and productivity. In turn, the poor boost growth when they are equipped with assets and resources to take part in the development process.
- Proactive focus on women, the excluded, and hard to reach population groups who may need special help to gain access to employment and quality services. These may have important multiplier effects, positively affecting several dimensions of well-being. Educated mothers, for example, tend to have better nourished and educated children.
- Empowering the poor and marginalized – including women – to play an effective role in the decisions that determine their long-term well-being. In some countries this includes refugees, some of whom are refugees due to ecological insecurity or resource conflict and who would benefit from employment generation if governments would allow them to participate fully in the labour market.
- Providing protection against negative shocks – including those arising from global crises such as those due to high food prices – so as to avoid slowdowns or reversals in poverty reduction.

Comparing these with the three priority investment targets of a green economy – reducing carbon emissions and pollution; enhancing energy and resource efficiency; and preventing the loss of biodiversity and ecosystem services – it is clear that the relationship between the green economy and poverty reduction is not straightforward, but can be expected

to exhibit possible tradeoffs and possible synergies. Understanding and balancing these overall goals would require accurate assessments as well as carefully calibrated policies and measures.

As it is the poor who are predominantly dependent on ecosystem services, green economy initiatives to prevent the erosion of these services can be important in reducing poverty levels to the extent that they also safeguard the livelihoods of the poor who draw upon them. On the other hand, investments to reduce carbon emissions and pollution need not generate jobs in sectors that employ the poor, even though reducing polluting impacts that often have the worst impact on the poor. Clearly, improved health and quality of life due to avoided pollution needs to be accompanied by improved income and quality of life due to direct and formal employment. In some economies, green investments could also help offset any potential increases in emissions and pollution as a result of growth in sectors that actually employ the poor, thus enabling the economy as a whole to move to a greener path while achieving poverty reduction objectives.

In general, a green economy that works for the poor might be expected to display the following characteristics:

- It maintains growth and reduces emissions for the economy as a whole, while promoting the creation of jobs and other economic opportunities in sectors that predominantly employ the poor.
- It generates adequate amounts of public revenues to allow investment in social protection and quality services with equitable access by the poor.
- It retains biodiversity and ecosystem services, while seeking to maintain in sustainable ways the livelihoods of the poor who are directly dependent on them.

- It enhances energy and resource efficiency in the economy, including through the equitable access to energy by the poor and the promotion of its efficient use.
- It ensures resilience to environmental (and other) risks through developing adaptive capacities.

Achieving these objectives will require governments to weigh apparent trade-offs and dilemmas of short- versus longer-term investment returns, identifying alternative policies and measures. Maintaining biodiversity and ecosystem services might, for example, limit the number of sustainable livelihoods that can be supported, thus requiring the consideration of other forms of economic opportunity for the poor. Possible policies and measures might also provide opportunities for developing synergies. As an example, South Africa's Working for Water initiative started during the 1990s to advance a public employment approach by employing the poor in the highly labour-intensive work of clearing invasive alien vegetation to restore stream flows and water availability. The resultant improvements in land productivity and biodiversity enhanced the provision of ecosystem services, while also strengthening the livelihoods of those dependent on them.

The externalities associated with some of these green economy initiatives may require the active use of well-designed policy instruments to maintain appropriate incentives. For example, the protection of forests in one place to improve carbon sequestration and mitigate climate change would have global benefits. Yet lower levels of income might accompany this in the short term for those whose livelihoods are tied to the forest, requiring some form of transfer from beneficiaries in other locations.

The movement to a green economy will take place against a backdrop of other longer-term transitions, such as increasing urbanization, altering demographic structure and structural change in developing country economies. These transitions are taking place concurrently, albeit at different rates and in different ways, in each country. They present both challenges and opportunities. Policies and measures that promote a green economy with lower levels of poverty would need to recognize and be responsive to these.

6.2 Helping a green economy to work for the poor

Several policy and programme approaches in recent years have been proven to be effective in promoting a pro-poor economy, one that also has green foundations. These include:

- Low carbon, sustainable agriculture to maintain growth, address poverty, food security and ecosystem services: A majority of the poor live in rural areas and depend on farming for their livelihoods (World Bank 2008). Low carbon, sustainable agriculture has the potential to promote growth, employment and food security while assisting with nutrient cycling and maintaining ecosystem services. This potential can only be realized if poor men and women farmers can be helped to access the relevant knowledge, technologies and green markets. Similar examples exist for sustainable ecosystems management in sectors such as fisheries and forestry, with real potential for growth, employment and poverty reduction. In addition, opportunities also exist in the urban environment. Urban and peri-urban agriculture is important for delivering food in critical areas, supporting small-scale farmers through improved access to formal and informal markets and reducing farm-to-table distances.

- Improved off-grid, green energy sources. These sources have good potential to provide poor people access to energy, with correspondingly large multiplier effects in employment creation, small enterprise generation, poverty reduction, the achievement of health and education outcomes and improvements in the well-being of women.⁴⁸ In well-designed systems, the increase in emissions can be small and reduced to zero (in aggregate terms) through a proportionately greater reduction in emissions from other parts of the economy. Enabling the access of the poor to credit and skills can help these to deliver their full benefits.
- Creating green jobs – for poor men, women and youth – that align poverty reduction and employment creation in developing countries with a broader set of investments in ecosystems conservation and rehabilitation to preserve biodiversity, restore degraded land, combat erosion, and remove invasive species, as well as recycling and waste management in urban areas (UNDP 2009). There is also tremendous potential to generate jobs for the poor through developing climate resilient infrastructure and adaptation investments, especially in the urban building and transport sectors, to sustain growth. In most cases, the assets created or refurbished through these jobs continue to deliver benefits that can be harnessed by the poor for continued improvements in their well-being. Examples can be found in many public employment initiatives, such as South Africa’s Working for Water, India’s National Rural Employment Guarantee Scheme and the creation of green microenterprises in ecotourism in Kenya.
- Fiscal mechanisms for pro-poor environmental change. Environmental fiscal reforms offer the potential of internalizing the costs of ecosystems degradation and resource-intensive use through the use of green taxes and user fees, as well as removing environmentally harmful subsidies (e.g., in agriculture and energy). Environmental fiscal reforms have been applied in a number of developing countries and have achieved triple wins in terms of revenue generation, environmental improvement and poverty reduction (OECD 2005). Public resources generated have been used to invest in the provision of quality services to the poor. These can also be used for social protection expenditure to cushion the loss of jobs and to provide training in new green job areas along with investment in renewable energy, energy infrastructure, energy efficiency and related energy services.
- Enabling business to innovate, adopt and disseminate green methods of production. The private sector is the driving force in most national economies and plays an important role in influencing sustainable production and consumption patterns. With the capacity to invest and innovate, the sector is uniquely positioned to create solutions that reduce emissions and resource use, while at the same time generating growth and employment opportunities for the poor. An example from Ghana is Toyola Energy Limited, which produces cooking stoves and lanterns that target rural dwellers who largely depend on firewood and charcoal for their domestic cooking and on kerosene for lighting. Toyola provides cleaner, healthier and cost-effective means to meet the energy needs of the poor, and has expanded products, generated new jobs and offset carbon emissions (UNDP 2011a).

⁴⁸ See UNDP (2010). Multifunctional platforms in Burkina Faso, Ghana, Mali and Senegal have created income-generating opportunities for women, while reducing the time they spend on collecting firewood and water.

- Building the resilience of the poor. Climate change scenarios present new challenges to the poor and food-insecure by altering ecosystems and their services (despite where access is provided or ecosystems maintained). It brings the risk of disrupting growth and livelihoods, reducing food production and access to food, changing disease patterns, increasing vulnerability due to climatic shocks and the occurrence of environmental refugees. This necessitates protecting the poor from shocks as well as building their assets to increase resilience. Ethiopia's Productive Safety Net Programme, for example, provides transfers to chronically food-insecure people while helping create assets at the community and household level through public works (soil and water conservation, feeder roads, water supply, small-scale irrigation, etc).
- Catalysing climate finance and mainstreaming pro-poor green economy in national development plans. There is tremendous potential to raise climate finance through the Reducing Emissions from Deforestation and forest Degradation (REDD) initiative, carbon markets, climate adaptation finance and supplemental government resources to pursue pro-poor, green economy goals through national development plans. Increased public financing will be vital to address upfront investment costs associated with the transition to a green economy. It will also be vital to ensure that such financial mechanisms include social and environmental safeguards that protect and promote the interests of the poor, so as to fully realize this potential. Safeguards for biodiversity and indigenous and local communities are being developed under the Convention on Biological Diversity.
- Decentralized approaches. There are a number of successful decentralized ecosystem management initiatives around the world that have worked to generate incomes and lift people out of poverty. The UNDP GEF Small Grants Programme has supported many such efforts, but these cases often remain islands of success. Where they have been taken to scale, such as community-based forest management in Nepal, evidence suggests that the more affluent take control and that, at a national level, political groups and parts of the government are keen to extract a share of the profits. The challenge lies in establishing effective governance mechanisms for the poor to play a role in making the links between national and subnational planning, and in decentralizing budgets to allow local authorities to be effective contributors to the achievement of sustainable development.

6.3 The role of international agencies in making green economies work for the poor

It is important to recognize that a transition to a green economy can exacerbate poverty and inequality (jobs could be lost, for example) if not managed properly. Therefore, a pro-poor and inclusive approach needs to prioritize and sequence measures that guard against this by protecting the poor during the transition through social protection programmes. Moreover, the transition to a green economy with pro-poor impacts as priority will require a two-pronged approach: climate/environment-proofing growth and poverty reduction, while poverty-proofing climate/environmental protection responses.

Table 6 summarizes some key strategic and policy issues associated with national transitions to green economies, and outlines the possible roles of international agencies such as those of the United Nations and the Bretton Woods Institutions. It highlights a place for work that ranges from the global normative to country level support with implementation, from research to activation, from

improved coordination to dealing with cross-cutting aspects such as gender and youth. A range of highly relevant agency mandates and institutional capacities at all levels is available to strengthen support to governments and others in all regions. This also requires improved integration in approach and planning of goals across the economic, social and environmental dimensions of sustainable development.

Table 6. Key strategic and policy issues and the role of United Nations and Bretton Woods Institutions

Strategic issues	Policy issues	Role of United Nations and BWIs
Shaping the shift to a global pro-poor, green economy approach	Global policy coherence on green economy, climate and MDGs agenda	Help ensure synergies between the green economy, MDGs and climate change agendas in different global settings.
Measuring progress towards a pro-poor green economy with appropriate indicators	Define pro-poor green economy targets and indicators to guide and motivate policy decisions and achieve results	Support efforts at defining green economy indicators and ensure that they are sensitive to measuring pro-poor and equitable outcomes.
Supporting countries to shift to a green economy	<p>Overall key policies for pro-poor green economy drawn by linking up pro-poor growth debates and green growth debates. For example:</p> <ul style="list-style-type: none"> - Green redistributive policies – to pro-poor sectors (health, education, water supply) - Support for specific sectors which are crucial for the poor (agriculture, fisheries and forestry) - Green tax-financed social protection to protect and build assets - Community participation opportunities (off-grid power with renewable energy) - Green job creation via development of the finance sector and increased investments in ecological and physical infrastructure - Pro-poor forest and land use policies - Differentiated policies for the rural and urban poor, recognizing their different contexts 	<p>Provide capacity and policy support to developing countries on nationally led pro-poor green economy actions:</p> <ul style="list-style-type: none"> - Institutional arrangements and reform, including coordination structures and alignment for national policy coherence - Integrated assessments to link and assess the impacts of climate risks and ecological scarcities on growth and multidimensional poverty - Prioritizing pro-poor green economy policy response and innovative options - Costing and budgeting of policy responses and identifying and accessing a variety of climate and environmental financing mechanisms - Identifying and addressing implementation bottlenecks

<p>Supporting countries to address the nexus between gender, green economy and sustainable development</p>	<p>Ensure that women and men participate in and benefit equally from the green economy.</p> <p>Identify and respond to the specific impacts on women and men in the transition to green economy.</p>	<p>Provide capacity and policy support to government to incorporate gender issues in the green economy's policies, programmes and budgets.</p> <p>Support civil society organizations working on women's economic empowerment in relation to the green economy.</p>
<p>Supporting implementation through aid coordination and improved development effectiveness</p>	<p>Strengthen poverty reduction objective in measures to progress towards green economy.</p> <p>Ensure that REDD options are pro-poor.</p> <p>Support access to climate financing for pro-poor development.</p>	<p>As climate finance increases, the United Nations and BWIs can help ensure that it is coherently linked to official development assistance to ensure synergies and that its implementation learns from past work on aid effectiveness to promote ownership, alignment, harmonization, managing for results and mutual accountability.</p>
<p>Strengthening the interface between research and policy-making</p>	<p>Improve knowledge on integrated approaches to poverty eradication in the context of climate change and ecosystems decline.</p> <p>Build evidence based on impacts of sustainable agriculture on poverty, food security and environmental sustainability, its feasibility and how to scale it up.</p> <p>Build evidence based on impacts of energy reform on poverty and related institutional reform.</p> <p>Integrated assessment tools for interlinking climate change and human development.</p>	<p>The United nations and BWIs to enter into strategic partnerships for development research and analysis to ensure that policy guidance and implementation are founded upon, and feed into, empirical evidence building and the elaboration of sound conceptual frameworks.</p>



© World Health Organisation (WHO)

Hospital operating theatre with surgery team.

Chapter 7: Investing in social capital

7.1 Basic human rights as point of departure

Improving human well-being and equity are at the centre of the green economy. The rights of human beings are both negative (freedom from) and positive (right to), individual and collective. To honour these rights requires the careful assessment of the impacts of economic growth in the shorter and longer term, and the assurance that individuals and communities have the necessary capabilities to participate in determining the direction of growth and to share its benefits.

This chapter examines opportunities at the level of society, and considers public health, lifestyles and culture. A green economy should effectively invest in the social and human capital dimensions of sustainable development, helping communities and individuals build capacity in areas such as health, education, culture and employment. A green economic model will need to prove its ability to enable all human beings to fulfill their basic needs in food, housing and mobility.

Achieving sustainable development requires going beyond the transformation of national economies to transforming societies. Building inclusive, green societies requires a shift to sustainable production as well as consumption, the latter highlighting the need for a shift in patterns of behaviour, attitudes and lifestyles. This is especially critical as rapidly urbanizing communities with growing levels of income in developing countries change their habits and increase demand for products and services that cause increasing pressure on the natural environment.

Changes in current consumption and production patterns will cause some sectors to decline and others to flourish. While far more jobs will be created in the transition than jobs lost, the challenge is to ensure that the process is fair and just.

Moving away from the conventional “grow first, clean up later” path of development by increasing investments in human and social capital can help to firmly establish a green path for future development. Investing in social sectors is fundamental to achieving resource-efficient growth and strongly linked to environmental policy goals. For example, improved access to safe drinking water and sanitation could improve school attendance, reduce a wide range of health risks and reduce the number of work days lost. Therefore, ensuring policy coherence and integration in delivering balanced outcomes in the social, economic and environmental pillars of development will be crucial to achieving a successful transition.

Empowerment of the world’s poorest and most vulnerable through the promotion of human rights in policy making recognizes the fact that the poor have both needs and rights, entitlements – enshrined in law – that give rise to obligations on the part of others.⁴⁹ The application of a human rights approach to a green economy model implies the treatment of individuals and groups as active agents of change and not merely as passive victims. A human rights-based approach is a conceptual framework that is normatively based on international human rights standards and operationally directed to promoting and protecting human rights. It seeks to analyze obligations, inequalities

49 See for more information a background paper on human rights, poverty reduction and sustainable development: health, food and water (2002), available from <http://www.ohchr.org/Documents/Publications/HRPovertyReductionen.pdf>.

and vulnerabilities, while redressing discriminatory practices and unjust distributions of power that impede progress and undermine human rights. The human rights-based approach demands policies and programmes that are anchored in a system of rights and corresponding obligations established by international law. This helps to promote sustainability and empower people as right-holders – especially the most marginalized – to participate in policy formulation and hold accountable those who have a duty to act.⁵⁰

To take human rights fully into account, the process of formulating green economy strategies and measures must include the following elements and principles:

- Identifying and prioritizing action to improve the conditions of the poorest
- Analysing the underlying power relations and the root causes of discrimination
- Ensuring that the process and targets are consistent with international human rights standards
- Ensuring close links between macroeconomic policy design, sectoral initiatives, governance components and principles such as transparency and accountability
- Ensuring basic standards of civil and political rights guarantees for active, free and meaningful participation, including freedom of information, of association and access to remedies
- Identifying indicators and setting benchmarks so that the progressive realization of socio-economic rights can clearly be monitored.

In practical terms, a human rights-based approach can be used to guide the fundamental principles and approach behind various policies and measures in advancing green economies. It can inform impact assessments and strengthen processes, ensuring access to essential information, effective participation, and the provision of access to justice. States should consider in what ways, and to what extent, anticipated changes towards a green economy will promote economic and social development and environmental quality at relevant levels, including consideration of human rights and social equity.

7.2 Human health and social well-being

The first principle of the 1992 Rio Declaration states, “Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature.” Scenarios for projected population growth in the coming decades depend on policies that governments are implementing today, especially with respect to sexual and reproductive health care and family planning. Without such policies, population growth may well exceed current medium-variant projections. In addition, the quality of life of increasing numbers of citizens will depend on economic policies and investments that have direct implications for the health of both humans and the environment. Economic analysis shows clearly that increased investment in sustainable and more efficient transport systems, housing energy efficiency improvements and greener agricultural practices can yield significant co-benefits for human and environmental health. Consider the following areas:⁵¹

50 More information about a human rights based-approach to development cooperation is available from <http://www.ohchr.org/Documents/Publications/FAQen.pdf>.

51 In order to assess these health co-benefits and (where relevant) risks more systematically, WHO is comprehensively reviewing evidence on, and mapping, health co-benefits of green economic development in key economic sectors. The WHO Health in the Green Economy initiative covers housing, transport, household energy, agriculture and health facilities.

- Health, transport and the built environment. Transport-related health risks currently affect millions of people. Urban air pollution and traffic injuries together kill about 2.5 million people every year, mostly in low- and middle-income countries. Active transport (walking and cycling) can help prevent a significant proportion of the 3.2 million deaths annually attributable to physical inactivity. Green transport strategies that would yield the greatest health co-benefits include investments and policies to support (i) active transport; (ii) rapid transit; and (iii) improved urban land use. The inherent subsidiarity of local governments puts them in an ideal position to lead this transition. And while vehicle and fuel efficiencies have so far received the most emphasis in climate mitigation analysis, behavioural change and shifts in modalities must accompany increased efficiency to avoid rebound effects in which efficiency gains provoke increased consumption.

In the urban environment, mutually supportive climate and health gains require spatial planning that favours compact settlements with dedicated infrastructure for non-motorized transport. Health gains from transport strategies that emphasize active transport, public transport and more pedestrian and transit-friendly land use include: reduced cardiovascular and obesity-related diseases due to physical activity gains from active transport; reduced respiratory and cardiovascular disease from less air pollution; and reduced exposure to traffic injury risks from more transit and pedestrian-friendly land use.

- Healthy and green household energy in developing countries. The health of an estimated 3 billion people can be dramatically improved by replacing simple biomass or coal stoves with improved stoves and cleaner fuels.⁵² These interventions also reduce climate change

pollutants significantly, in particularly sooty particles containing black carbon, one of the most powerful shorter-lived climate pollutants. They would also produce substantial co-benefits for poverty reduction and development.

- The greening of health care facilities. Many health care facilities in developing countries suffer from serious forms of energy poverty. Health sector adoption of (clean) onsite energy co-generation, together with use of renewable technologies such as solar power, can both save energy and ensure more reliable energy supply to the health sector.⁵³ Access to health care can also be enhanced through green, renewable energy systems. Particularly in remote, resource-poor settings, small renewable energy sources can supply basic electricity for life-saving procedures that might not otherwise be feasible, such as maternal deliveries, basic suturing and night-time emergency procedures, blood bank and vaccine storage and basic laboratory equipment. Enhanced use of natural ventilation strategies in health facilities can significantly help reduce both energy costs as well as risk of infectious disease transmission. Furthermore, health risks to health workers, patients and communities will be reduced by improved management of the health care water supply and waste stream. Some 15–25 per cent of health care waste is infectious waste. Scavenged needles and syringes from dump sites represent health threats, as do dioxins, furans and other toxic pollutants emitted by poor incineration. Better management of solid, liquid and gaseous health care products, as well as emissions from infectious, chemical and radioactive agents, can reduce exposure to risks of hepatitis B/C and HIV infections as well as to reproductive problems and cancers.

52 For more information, see www.who.int/indoorair/publications/fuelforlife.pdf

53 See WHO (2010) on co-benefits to health from climate change mitigation opportunities in the health sector.

- **Healthy housing.** Cities' inherent agglomeration advantages and large number of dwellings mean that housing upgrades – whether measures for increased energy efficiency, shared energy sources or climate change resiliency – can be undertaken at advantageous economies of scale. Greener housing policies can help reduce health risks from extreme weather and thermal stress, from household-related respiratory diseases such as asthma and pneumonia; from vector-borne diseases such as dengue or malaria; from home injuries; and from diarrheal diseases due to insufficient access to safe drinking water and sanitation.
- **Health, agriculture and the environment.** More sustainable agriculture systems can improve health in a number of ways, including by reducing excessive use of fertilizers and pesticides, integrated vector control management, improved food safety management, improved nutrition and preserving water resources, biodiversity and ecosystem services upon which long-term food production depends. Soil carbon sequestration strategies offer important short-term benefits for climate mitigation while also potentially increasing yields and improving ecosystem services, a double win for health and environment. Healthier patterns of food consumption in higher-income countries and higher-income population groups may also help reduce environmental pressures that arise from livestock production. These include the conversion of forests and rainforests to livestock grazing and/or cultivation of crops for livestock consumption on farmland that could otherwise be dedicated to human consumption. Excessive use of antibiotics in livestock production, as well as poor management of animal waste together pose a range of human health problems that require careful management.

Agricultural workers, the majority of them in developing countries, often work in conditions that make them particularly vulnerable to environmental risk factors (e.g., the effects of temperature changes, such as heat stress, dehydration, UV exposure and extreme weather events) in addition to occupational risk factors (such as exposure to pesticides). More sustainable agricultural strategies also need to consider health equity and food security issues relevant to low-income and subsistence farmers in developing countries, paying special attention to their food security, livelihoods and access to health services.

Green economy opportunities need to be communicated more powerfully in mainstream United Nations debates about public health, health-related MDG achievement and the prevention of communicable and non-communicable diseases. The health benefits of greening require mainstreaming in the key health-related actors in the donor community. Conversely, health, food and nutrition security issues also require mainstreaming in the environmental and climate change discourse. Health and nutrition security is a powerful argument to support climate change mitigation and greening efforts more generally. The health benefits of such measures are very often immediate, personal and local/communal – rather than deferred and diffuse.

Health is also a cross-cutting issue and inextricably linked to environment and development objectives. The health sector can provide evidence-based arguments of exactly how green economies are also healthier and food secure. In many cultures, health professionals are regarded with respect and can provide inspirational leadership on preventive health measures and lifestyle measures that are best buys for health and environment, and can be delivered affordably by using currently available technologies.

Mainstreaming the green economy approach also requires more policy-oriented research (qualitative and quantitative) within the health sector and intersectoral collaboration on the health co-benefits of the green economy. In addition, more donor support is required for pilots that showcase and systematically scale up health gains due to health sector access to renewable energy sources, gains such as reduced mortality from more reliable electricity access in health facilities, reduced morbidity from poor water and sanitation in health facilities. Research can also be used to assess, pilot test and scale up adaptive mitigation or green adaptation strategies in developing countries to demonstrate how a suite of green economy measures can bring integrated benefits.

7.3 Culture and lifestyles

Culture in all its diversity has an important – yet often underestimated – impact in attempts to address current ecological challenges, including climate change, biodiversity loss and resource scarcity. Cultural factors influence lifestyles, individual behaviour and consumption patterns, values related to environment stewardship and the ways in which we interact with our natural environment. The rebound effect of more efficient technologies leading to intensified resource use due to increased consumption is a reminder of the importance of addressing the demand side, user and consumer aspects of any attempt at the greening of economic activity.

Three fundamental components of lifestyles worldwide – food, mobility and housekeeping – have great impacts on environments and societies (cf. UNEP and MTF 2011). For example, personal and commercial transport consumes about 20 per cent of the global energy supply, 80 per cent of which comes from fossil fuels.

There are now more than 700 million cars in use globally. It is anticipated that by 2050 the global car fleet will triple. More than 90 per cent of this growth will take place in non-OECD countries.⁵⁴ At home, daily life habits such as heating, cooling or lighting require extensive energy and cause large amounts of GHG emissions. The dietary habits of young and urbanizing populations in emerging markets also add to the strain that consumers from the OECD world have historically placed on the natural environment.

As cities seek green urban solutions, they are well advised to consider historical innovations that can be found in rural areas. There is much to learn from the environmental management skills embedded within rural or indigenous peoples, including multi-use strategies of appropriation, small-scale production with little surplus and low-energy needs, as well as a custodial approach to land and natural resources that avoids waste and resource depletion. Culturally based knowledge and indigenous know-how are core resources for sustainable development. Not only are biological and cultural diversity linked to a wide range of human–nature interactions, but they co-evolve, are interdependent and mutually reinforcing.

Culture is also a vehicle for pro-poor, green development and the generation of jobs. Global cultural industries account for more than 7 per cent of global GDP. In Mali, for example, the culture sector accounted for 5.80 per cent of employment in 2004 and 2.38 per cent of Mali's GDP in 2006, including the informal component (accounting for 57 per cent of the national economy; UNESCO 2011). Worldwide cultural heritage destinations, especially UNESCO World Heritage sites, produce revenues from visits and sales of local crafts, music and cultural products, generating employment for communities. The same applies to intangible cultural heritage,

⁵⁴ On the growth in transport globally and related climate neutral initiatives, see www.unep.org/climatechange/Topics/Transport/tabid/154/Default.aspx

which sustains living cultural expressions and traditional know-how, as well as the performing arts. Museums and other cultural institutions significantly contribute to economic benefits. Investment in tourism stimulates investment in infrastructure and helps to boost local development.

In the framework of the World Heritage Convention, UNESCO is fostering green livelihoods jobs in the least developed countries. In Ethiopia, UNESCO has helped to create local labour opportunities through the training and capacity-building of local workers in traditional building conservation skills, as well as local crafts people and tourism guides in the Lalibela region where the Lalibela Rock Hewn Churches are located. Lalibela is one of the poorest regions of Ethiopia, but one of the richest in terms of architecture, religion and liturgical music. In the town of Lalibela, cultural assets are a primary source of income.

Green jobs in the cultural industries can only be developed sustainably when cultural entrepreneurs have access to key resources for meeting growing market demands. Providing training services to cultural entrepreneurs on how to access microcredit loans, and on entrepreneurship and marketing could help to capture the opportunities cultural enterprises offer as a tool to alleviate poverty. Promoting awareness among craftsmen, designers and other creators and manufacturers on using sustainable materials and energy sources, and providing training and access to ICTs, could help to put cultural entrepreneurs in direct contact with interested customers. Where the latter buy green products directly from the producers, local communities will receive greater benefit as well.

Identifying appropriate policies and measures for transitioning to a greener economy, needs to consider local cultural realities and the needs of the local

populations. Green job objectives will require the provision of capacity-building and training in least developed countries in areas such as biodiversity conservation, cultural tourism, eco-tourism and cultural heritage conservation. The private sector need also be engaged along with civil society organizations to strengthen local creative and cultural industries for development in poor countries, including creative industries related to tourism. A key aim of this would be to broaden the access of developing countries to regional and international markets for cultural industries, with relevant technical assistance provided.

7.4 The media and network communication opportunities

The last decade has seen a virtual democratization of the media market with individual citizens feeding in content online from all corners of the Earth. As readers, listeners and viewers face potential information overload, finding and presenting relevant information becomes all the more challenging. This includes information and analysis on recent crisis events and how this impacts markets and consumers worldwide. While undergoing revolutionary changes itself, media in all its forms can play a major supporting role in helping decision makers, managers and consumer-citizens make informed choices for a green economy transition. Building the capacity of media professionals to investigate and report on sustainable development issues is an essential component of improving the awareness among the public and decision makers of where business as usual is leading.

In many developing countries, journalists lack the analytical skills to interpret green economy issues and report on sustainable development trends. Reporting on

the green economy also requires the ability to deal with empirical data, statistics and economic analysis, something that not all reporters are familiar with. Comprehensive journalism education, which focuses on how to cover issues in a credible manner and employ economic analysis must therefore be included at the tertiary level, and through trainings for media professionals. Some journalists investigate environmental malpractices such as illegal logging, land clearing, biodiversity destruction, hazardous waste mismanagement and corrupt permitting, and often face life-threatening encounters. It is therefore also important for states to guarantee the freedom and safety of journalists, so that the media can be an effective partner in investigating and educating on relevant issues.

Efforts to enhance the role of the media in educating citizens and raising awareness about the green economy should include focused research on media coverage of relevant issues as a way of uncovering and addressing capacity gaps in journalistic practice and education. Access to relevant information and visibility of issues related to the green economy should be ensured with both media professionals and the citizenry in mind.

An independent and pluralistic media based on Media Development Indicators⁵⁵ should be promoted through capacity-building for specialized reporting on matters such as renewable energy, water scarcity, sustainable consumption and other challenges of the green economy. This would need to involve journalism education curricula focused on green economy issues as part of programmes in education for sustainable development. The UNESCO Model Curricula for Journalism Education, for example,

incorporates a syllabus on specialized journalism that addresses the conceptual and practical strategies for reporting on issues related to greening. This includes the science and economic analysis behind it, as well as relevant economic policies and instruments.

Information and communications technologies provide wide-ranging opportunities for enhancing citizen participation, particularly by encouraging user-generated content that can be used by conventional media. Online media can also be used to promote access to scientific and public policy information, facilitating more informed coverage of green economy issues and policy debates. Journalism education and training can be complemented by media fellowships to support specialized journalism on green economy issues.

Open Educational Resource Platforms such as that of UNESCO can be expanded online with targeted information and expert analysis related to the green economy, including its relevance in the midst of global economic, financial and resource crises. Multi-stakeholder initiatives such as the ITU-UNESCO Broadband Commission for Digital Development can be used to advocate improved use of ICTs for the dissemination of information on green economy trends and opportunities. This includes due consideration of key market segments, including policy decision makers, industrialists, scientists, employee representatives, consumers and youth groups.

⁵⁵ Media Development Indicators provide a framework for assessing media development at the country level. They are promoted through the UNESCO Programme for the Development of Communication. See www.unesco.org/new/en/communication-and-information/resources/publications-and-communication-materials/publications/full-list/media-development-indicators-a-framework-for-assessing-media-development.



© Shutterstock / Joel Shawn

Mother and her baby in Sacred Valley, Peru.

Chapter 8: Investing in human capital

8.1 Introduction

Transforming the national economy into one that is resource-efficient and that produces optimal socio-economic results requires targeted policies and investments not only at the level of society, but also at the level of individual citizens and their ability to be employed productively in the economy. This chapter explores risks and opportunities at the level of the individual as student, trainee, employee or unemployed. It highlights ongoing challenges not only in providing jobs to new market entrants and the unemployed, but also ensuring that those who are employed work under appropriate conditions.

Consider, for example, that an estimated 60 per cent of those employed in least developed countries also live in extreme poverty, and that 80 per cent of the population in least developed countries suffer from vulnerable employment (ILO, 2011). According to the United Nations Population Fund (2011) estimates, at least one quarter of those who work are underemployed. As the population of these countries double in coming years, including significant growth in the youth population, the employment challenge in these countries will increase. This comes at a time when many countries struggle to maintain per-capita spending on health and education.

Providing relevant education and training opportunities for a new, green workforce will be critical to achieving a successful transition, as will be developing mechanisms to support the most vulnerable population segments of society. Major social crises could be addressed, including the 1.3 billion working poor who cannot lift themselves and their dependents above the poverty line of US \$2 per day, the 190 million who are unemployed, the 500 million new young job seekers until 2020 and the 5.3 billion without any social security coverage.⁵⁶ Access to and extended coverage of social protection systems can help facilitate the transition to an inclusive economy and industries that operate on sound ecological principles.

To sustain positive transformation, green policies and investments will need to address gender equality and the needs of marginalized segments such as the poor, indigenous people, migrants and youth. To start with, the seeds of a longer-term transformation need to be planted at the level of educating young people, equipping them with the necessary skills and knowledge they will need in a more interconnected and resource-constrained world.

⁵⁶ See ILO response to the Survey on United Nations System organizations, IFIs and other stakeholders on Experiences, Success Factors, Risks and Challenges with Regard to Objectives and Themes of UN Conference on Sustainable Development (UNCSD), available at www.uncsd2012.org/files/responses-un-system/Questionnaire-Email-submission-%20ILO.pdf

8.2 Education and training to meet new realities

Research on green jobs has shown that different economic sectors and industries, old and new, are likely to go through their own unique transitions towards greener operations and markets. The Green Jobs report (UNEP and others 2008) has identified four ways in which employment is likely to be affected as economies green and become oriented toward sustainability:

- i. In some cases, additional jobs will be created – as in the manufacturing of pollution-control devices added to existing production equipment
- ii. Some employment will be substituted – as in shifting from fossil fuels to renewables, or from using landfills and waste incineration to recycling
- iii. Certain jobs may be eliminated without direct replacement – as when packaging materials are discouraged or banned and their production is discontinued
- iv. Many existing jobs (especially plumbers, electricians, metal workers and construction workers) will simply be transformed and redefined as day-to-day skill sets, work methods and profiles are greened.

These transitions have important implications for both the education of new entrants to the job market as well as building the expertise, skills and capacity of existing employees through training and other programmes including lifelong learning. Greening the national economy requires a set of short-, medium- and long-term policies and approaches for

new development paradigm, one in which Education for Sustainable Development (ESD) will be a core foundation. ESD helps to encourage changes in individual behaviour, attitudes, lifestyles, consumption and production patterns. It advances the teaching of relevant skills, competencies and research capacities in all segments of society, considering the educational needs of individuals at different stages of their career development.

The ESD concepts must be fully integrated into learning and teaching processes in all types, levels and settings of education, ranging from early childhood care and education to higher education, as well as in the non-formal system and through lifelong learning and teacher training. Curricula and learning materials will need to be revised through the integration of internationally recognized standards and guidelines for education on global sustainability challenges. New course materials would include interdisciplinary education for climate change as well as for responsible consumption and lifestyles. ESD seeks to impart trans-disciplinary understanding of social behaviour, cultural attitudes, sustainability principles and ethical values.

ESD is contingent upon a vision of the world where everyone, particularly girls and women has the opportunity to benefit from quality education and to gain the knowledge and skills required for sustainable development and positive societal transformation. It looks holistically at the interdependence of the environment, the economy, society and cultural diversity at the local to global levels. The aim is to nurture a common understanding of sustainable development and how daily activities in the economy have significant, long-term material consequences for humans and the environment.

Education is also a prerequisite for breaking the cycle of poverty. The fact that millions of people are denied access to basic education is a major obstacle to building sound economies and achieving sustainable development. A firm commitment is needed to provide for long-term investment in education, an investment that has the potential to offer high returns including accelerated development. Each year of additional schooling could increase individual earnings by 10 per cent, empowering people to lift themselves out of poverty. Exclusion and inequalities linked to wealth, gender, ethnicity, language, location and disability are holding back progress. Girls are disproportionately affected by these trends. To reach out to the marginalized and engage them in the development of inclusive green societies and economies will require creating inclusive education systems. Social protection measures such as school feeding can help to ensure the education of the poorest and most vulnerable segments of society, especially girls.

Overall, the green transition requires innovation in education, helping to create the relevant knowledge, expertise, skills and values by increasing public awareness and understanding. It requires transforming education and learning systems, including formal education, training, professional development, non-formal and informal learning – and placing all of these within a framework of lifelong learning. This implies systems that are inclusive in meeting the needs of different age groups as well as disadvantaged groups, reaching the marginalized and enabling them to be active participants in green economic activity and sustainable development processes.

More inclusive education and learning systems require governmental institutions to improve access and affordability for excluded groups by lowering cost barriers, bringing schools closer to marginalized communities and developing second-chance programmes. This needs to be complemented by initiatives to improve the learning environment by deploying skilled teachers equitably, targeting financial and learning support to disadvantaged schools and providing ESD in different languages. Equal opportunity needs to be ensured by enforcing laws against discrimination and providing social support programmes, and by developing disaggregated data collection systems to identify marginalized groups and monitor their progress.

The content of existing curricula needs to be revised to integrate relevant green aspects and ingrain the requisite attitudes, knowledge and values needed for responsible eco-citizenship. This also requires assessments to define new skills and expertise required to meet emerging requirements of green markets. In light of transitional arrangements required, formal and informal education and training needs to be provided to train or retrain employees for green jobs, supporting their ability to innovate and adapt. Effective mechanisms need to be in place to link the evolving needs of green labour markets in particular pressing technical and vocational training needs, with the offer provided by educational programmes. With respect to the skills of those presenting revised curricula, teacher training programmes need to be updated to advance teachers' ability to promote awareness and understanding, and to teach about green economic and low-carbon growth options.

At the higher education level, national capacities in science, research, technology and advisory services in key areas of the emerging green economy (e.g., green technologies, ecosystem services, green finance, green accounting) need to be strengthened. Advancing applied science in relevant contexts needs to go hand in hand with enhancing the application of scientific and technical knowledge to address development challenges such as integrated resource management and to stimulate eco-entrepreneurship. Promoting new educational and training programmes will also need to take special care in engaging ministries of education, labour, environment, industry, agriculture, tourism and others and securing complementary policies. Equally important is the engagement of national education and training institutions in country-driven capacity self-assessments, which can be an important starting point to catalyse strategic action to strengthen human resources and relevant skills.

8.3 Employment risks and opportunities

The world of work is impacted in different ways by environment problems (e.g., climate change) and policies to address these problems (e.g., adaptation and mitigation measures). Similarly, significant transformations will take place in companies and labour markets as a result of the changes in the current production and consumption patterns that are needed to achieve sustainable development. Institutions should adapt to support and cope with these changes, in particular by responding to the resultant need for new skills for green jobs. Employment impacts can be summarized under the following categories:

- Reduced incomes and employment opportunities due to environmental challenges: climate change, scarcity of water resources, chemical pollution and biodiversity loss, in sectors such as agriculture, fisheries and tourism
- Employment creation and new business opportunities as a result of policies to address these challenges in, for example, agriculture, forestry, energy, construction, water infrastructure or tourism
- Job substitution within and among sectors of the economy.

Evidence shows that coherent and holistic climate action and transition policies can be designed to maximize social benefits and therefore improve living standards. Clear synergies exist in, for example, energy-poverty, energy-efficiency and energy-security. If renewable energies are more intensively utilized, green jobs and income will be generated and poverty tackled in an environmentally friendly manner. What used to be the prohibitive price of renewable energy is approaching parity with traditional energy sources whose dwindling stocks provide an incentive for an earlier, cheaper transition to more sustainable jobs in the long term.

In Kenya, feed-in tariffs designed to give energy access to the rural poor are expected to increase rural electrification rates massively. An additional capacity of 1,300 MW in the next 20 years is expected to generate positive effects on health, gender, housing, education, income and employment (UNEP 2010b). In Germany, ecological tax reform that put a price on GHG emissions while reducing non-wage labour costs is resulting in an estimated 250,000 additional full-time jobs since the year 2000 (Kohlhaas 2004). It is estimated that in 2010 there were 320,000 green jobs in the German renewable energy sector alone.

Other resource use areas and efficiency improvements provide further examples of how greening economic activity can deliver clear socio-economic benefits. An example is sustainable as well as organic agriculture, an economic sector on which least developed countries from Africa remain highly dependent. In Uganda, a government-supported programme has led to the increase in the number of organic farmers from 20,000 to 400,000 over the last decade. This has led to reduced unemployment, reduce poverty, and increased export and income through premium prices.

The creation of and transition to green employment opportunities is crucial for the success of a green economy. Diversifying the economy and focusing on the most vulnerable, including women, youth, informal workers and the unemployed will lead to sustainable development and inclusive economic growth. Green jobs have been created in all categories of countries, including the developed and least developed. Two of the most promising areas for new jobs are green building and retrofitting buildings as well as transport infrastructure. The vast majority of buildings and transport works are in cities that are absorbing the most rapid increases in population. This requires infrastructure expansion and increased job provision, both of which necessitate explicitly green employment strategies.

The government of Brazil in consultation with ILO designed an urban social housing programme, My House, My Life, as a way to tackle poverty, unemployment, inadequate housing and carbon emissions. The International Labour Organization reports that over 500,000 new social homes equipped with solar water heaters will provide adequate housing for poor families, decrease their energy expenditures and increase their budget for food, education and health. An estimated 18,000 new jobs

in solar water heater installing and servicing will be created. In addition, reduced electricity demand during peak hours will reduce carbon emissions.⁵⁷

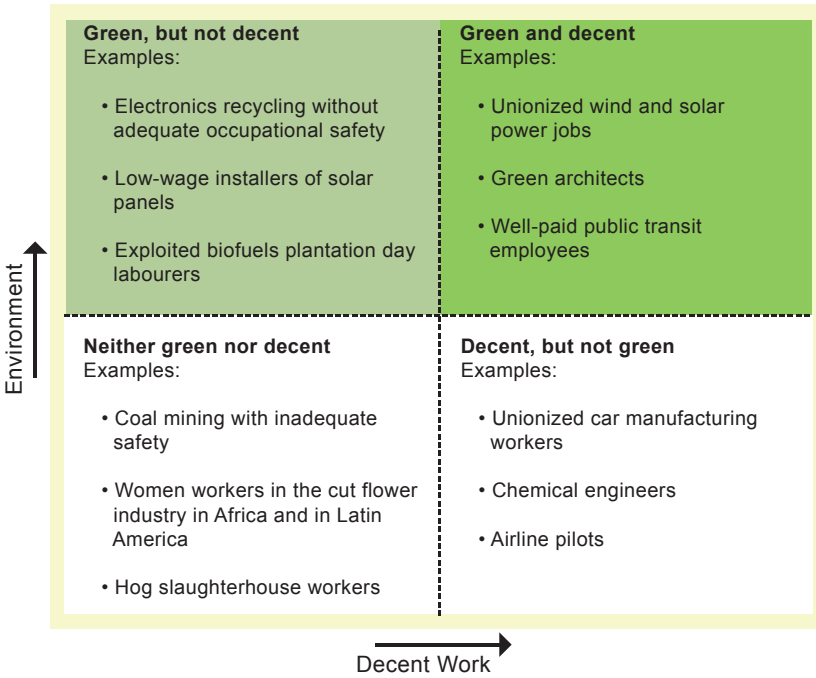
Public investment in infrastructure is essential, as a green economy requires major structural changes in areas such as energy, water and transportation. In the developing world these investments must in particular be pro-poor, allowing vulnerable groups to gain access to basic services. Employment intensive initiatives such as the South African Working for Water programme and the Indian National Rural Employment Guarantee Act programme combine investments in greening the economy, building much needed infrastructure (transport, buildings, water-related) and alleviating poverty by creating employment and development.

Measures to foster the creation of green jobs for young people can learn from the Youth Entrepreneurship Facility of the ILO in East Africa. Youth account for 28 per cent of the population in sub-Saharan Africa, making it the youngest region in the world. The youth unemployment rate is 33 per cent in Kenya. The facility seeks to address this issue through the promotion of green entrepreneurship and small business development targeting the youth (ILO 2010b).

The jobs secured, transformed or created should involve occupational activity that meets the requirements of being environmentally sound as well as decent. Figure 3 gives some illustrative examples for employment that can be described as either green or decent or both. While technologies and local conditions continue to evolve, the examples are indicative of key aspects to consider when assessing the direct, indirect and induced impacts of green economic measures at enterprise and industry level.

57 The Government of Brazil announced in 2011 that it will invest US \$44.2 billion in building 2 million homes in the second phase of the My House, My Life program by 2014. See http://www.brasil.gov.br/news/history/2011/05/13/my-home-my-life-program-to-invest-more-than-r-71-billion-in-2-million-homes/newsitem_view?set_language=en.

Figure 3. Tracking the environmental soundness and decency of occupations



Source: UNEP and others (2008)

Giving rights to workers serves to ensure the full support and sustained participation of those who will eventually drive the green economy. Ultimately, it will enable the transition of economies and mindsets to respect and protect the environment and the services it supplies. For policies to advance social development and foster a green economy, they need to:

- Respect and promote the implementation of ILO labour standards
- Ensure active participation of employers' and workers' organizations as well as labour ministries and related institutions through social dialogue
- Promote decent work opportunities for all
- Be based on socio-economic impact, vulnerability and opportunity assessments

- Include not only an economic and environmental assessment but also a social cost-benefit analysis, with due consideration to those vulnerable groups.

Measures to be introduced include active and passive labour market policies. Active labour policies in particular aim at strengthening the capacity of labour market institutions to match demand and supply in the labour market and improve workers' skills through training. This is particularly important during periods of crisis and structural change. As an example, the USA Green Jobs Act includes training elements for workers and entrepreneurs in green sectors such as energy efficiency, renewable energies and sustainable construction. This forms part of the American Recovery Act of 2009.⁵⁸

58 The US Congress passed the American Recovery and Reinvestment Act in February 2009. A direct response to the economic crisis, the Recovery Act has three immediate goals: (i) create new jobs and save existing ones, (ii) spur economic activity and invest in long-term growth, and (iii) foster unprecedented levels of accountability and transparency in government spending. See <http://www.recovery.gov/>.

Assessments are key in understanding the social dimensions of a green economy. Two types of assessments are relevant. First, an assessment of social impacts, vulnerabilities and development opportunities will help to identify winners, losers and policies for a just transition. Second, cost-benefit analysis of specific policies and measures will allow for realistic choices and programmes. A study commissioned by ILO (2010c) and conducted by the Chinese Academy for Social Science on Low Carbon Development and Green Employment in China provides an example of a realistic stock-taking of likely winners and losers and the scale of direct and indirect impact involved to identify net gains. It has found that while 800,000 workers in small coal power plants are likely to lose their jobs due to climate mitigation actions, some 2.5 million jobs can be created in the wind energy sector by 2020.

Social dialogue between governments and civil society including workers' and employers' organizations is a powerful tool for collective action towards a green economy and meaningful industrial restructuring. At the national political level, examples are the French dialogue Grenelle Environnement and the Spanish roundtables to implement Kyoto protocol measures (ILO 2010d). Agenda 21 is clear that success at all levels of action will require the active and informed participation of people in the design, development, financing and implementation of development activities.

Spatial planning is also crucial for ensuring that policies and measures actually reach those who need them locally. The configuration of development heavily

predetermines the modes and reach of the transportation networks, and therefore access to employment and services. Work that requires daily commuting whose time and financial costs significantly erode income is not decent work. The quality of life that city-regions with well-planned, green, public infrastructure offer is therefore just as important a component of livelihood as the jobs themselves. Cities are also hotbeds of innovation. Local authorities should actively facilitate the development of green industry clusters that leverage local academic institutions to provide training aligned with emerging labour supply and demand.

Overall, green economy policies and measures require a just transition framework to manage the transition in a manner that mitigates negative impacts and boosts green employment opportunities through the promotion of a decent work agenda. If structural changes arising from the transition to a green economy are to be beneficial for enterprises and workers in line with the basic pillars of decent work, a just transition framework is essential. This framework should cover four areas. It needs to include an assessment of risks and opportunities of the transition to a low-carbon economy. The assessment should include an analysis of potential job losses, job transition and job creation. Its results will support economic diversification and the minimization of job and income losses through social protection. It also needs to provide for social dialogue as the principal mechanism for facilitating a just transition. And finally, it needs to cover programmes to build the capacity of workers, employers and public institutions in a coherent manner.

8.4 Social protection: A safety net for change

The transition to a green economy is best understood as a process of structural change. Climate change, natural disasters, desertification and other environmental problems are powerful drivers of poverty, unemployment, food insecurity, gender inequality and negative impacts on human health. These environmental factors exacerbate existing conditions of vulnerability associated with local socio-economic circumstances. Social protection systems as main risk management mechanisms should therefore be designed and implemented to cope with different drivers of vulnerability.

The net impact of a green transformation will be more jobs (cf. UNEP 2011), but the challenge is to ensure that the transformation is fair and just. Previous crises have proven that sound social protection systems serve as powerful socio-economic stabilizers, helping to alleviate the negative consequences of disasters. They help to address financial needs, social problems as well as socio-economic adjustments.

Nearly 80 per cent of the world's population currently lives without any access to social protection (ILO 2008). This implies no access to health services, child education, unemployment coverage, pensions and food provision when it is needed. The lack of social protection not only directly affects individuals and the standards of living of a large portion of the population, but through aggregate demand, its

absence also slows down or significantly delays economic recovery following economic shocks. Experience from various countries shows that those with sufficient social protection coverage for their citizens have been able to recover faster, more efficiently and in a more cost-efficient way from social, economic and environmental crisis than those countries with poor social protection systems. South Africa, India, Brazil, China, Ethiopia and Thailand are some examples of successful cases where this “prevention is better than cure” approach has been followed.

Social protection therefore needs to be at the core of a just transition to an environmentally friendly and climate-resilient economy. Investing in a national social protection floor has positive economic effects, as societies are able to move towards developing their full productive potential. It represents an investment in a country's social infrastructure and is no less important than investments in its physical infrastructure. Social protection systems are fundamental in two main ways. Their investments help to create a population that is sufficiently healthy, well nourished, educated and more employable in the formal economy. They also contribute to effective recovery from situations that affect people's health, incomes, food security and proper shelter, whether it is due to environment, financial and economic or social-related causes. In addition, social protection as safety networks also boosts the risk-taking and entrepreneurial activity that a green economy requires.