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COMPARATIVE EXPERIENCE

Examples of inclusive green economy approaches in UNDP's support to countries

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Introduction

The Rio+20 Conference in June 2012 involved extensive consultations on how to achieve sustainable development at the global, national, and community levels, including through inclusive green economy approaches. These debates have helped highlight different perspectives on the green economy within and across countries, institutions, and major stakeholder groups. While there can be trade-offs across a range of economic policies, the transition to greener economies can be made without having to choose between strong growth, social progress, or environmental sustainability. With appropriate planning, assessments, and strategic policy frameworks, green economies can be designed in ways that help limit any potential harm for certain groups or sectors over time, while also increasing access to new economic investments in ways that reduce inequalities and promote social well-being. This analysis now becomes quite relevant for the implementation of the Rio+20 Outcome Document.

UNDP supports an array of nationally-defined development activities, applying corporate best practices incorporating environmental, governance, poverty reduction, capacity development, and gender perspectives. UNDP's overall goal is to support developing countries in their transformational shift to low-emission, climate-resilient sustainable developments.

The task of harnessing opportunities afforded by an inclusive green economy approach, however, can be challenging for policymakers and practitioners at all levels even when there is a common understanding of the potential gains across social, economic and environmental strands. Country contexts differ widely with respect to development starting points and priorities; political will and stability; institutional capacities; technical, financial, and natural resources; economic structure and position within regional and global markets, etc. Depending on these and other factors, there can be many different pathways and policy options for a shift to more inclusive and greener economies.

UNDP supports an array of nationally-defined development activities, applying corporate best practices incorporating environmental, governance, poverty reduction, capacity development, and gender perspectives. UNDP's overall goal is to support developing countries in their transformational shift to low-emission, climate-resilient sustainable development. In this respect, UNDP looks at its operations which have as many as possible of the following characteristics:

- emphasize the efficient and sustainable use of natural resources in a low-carbon pathway
- decrease (or protect against) environmental risks, emissions and pollution
- lead to increased income opportunities and/or employment generation
- lead to greater social equity and inclusion.

Several of these elements appear in the various projects and programmes. Vulnerable countries with low adaptive capacities are one of UNDP's key priorities. Capacity development and training, effective stakeholder involvement and gender mainstreaming underpin all projects and programmes.

UNDP has conducted a quick review of some of its operations to examine the extent to which the above-mentioned criteria show up in its projects and programmes. The various UNDP operational activities have been broadly categorized under:

- A. Planning, Strategies and Assessments
- B. Regulations, Standards and Removal of Barriers
- C. Market-based Approaches/Greening the Value Chain
- D. Green jobs – Upgrading Skills and Generating Income
- E. Mobilizing Financing
- F. Knowledge Management and Capacity Development

This brief analysis starts with two illustrative examples of multi-sectoral cross-cutting approaches which also focus significantly on health issues. Then the analysis focuses on examples of the tools and instruments described above.

The final section titled **Going Forward** presents some concluding observations and challenges to ensure that sectoral policies and interventions become more than just the sum of their parts.

Multi-sectoral Cross-cutting Approaches with Significant Health Aspects

Case Study 1

In 2009, UNDP assisted **Peru** develop a programme that provided 25,000 improved cookstoves to the most vulnerable poor. With additional partners, an additional 125,000 improved cookstoves will be manufactured locally, ultimately benefiting 750,000 people. The manufacturing, installing, transporting, repairing and servicing the new cookstoves is creating significant local employment opportunities. By Nov. 2011, 75,000 cookstoves in various provinces were operational, including those with low human development indicators. This cross-cutting programme addresses several development challenges, including energy efficiency, health, climate change and forest preservation while creating green jobs and sustaining livelihoods. It empowers and liberates females and children since they need to collect less firewood, and the new cookstoves improve health since the chimney with the cookstoves channels the smoke outdoors. Improved public health translates to a better quality of life, greater productivity and fewer expenses on health care.

Case Study 2

In **Bangladesh**, around 7 million suffer from asthma attacks resulting in missed work and school and increasing health care expenditures. One effective treatment is aerosol medication, delivered into the nasal passageways by a Metered Dose Inhaler (MDI). When first developed, MDIs used ozone-depleting chlorofluorocarbons (CFCs) to propel medication into the nasal passageways. Since 2007, UNDP is assisting Bangladesh eliminate this CFC usage at three locally-owned manufacturing enterprises by using ozone-friendly alternatives. UNDP had pioneered a similar project in Cuba where an economical and practical replacement technology was developed. Cuba made this technology available to Bangladesh, an excellent example of South-South technology transfer. This initiative¹ is helping Bangladesh eliminate 76.3 tonnes of CFCs (measured as ozone-depleting potential) while preserving local jobs and employment. More importantly, the non-CFC MDI inhalers will help the 7 million asthma sufferers at very low cost, thereby significantly reducing the burden on the nation's health budget and increasing national worker and student productivity.

A- Planning, Strategies and Assessments

Natural resource sectors such as agriculture, forestry and fisheries are often the key sectors contributing to the national income of developing economies. Poor households rely disproportionately on natural resources and the environment for their livelihoods and income. The poor are more vulnerable to natural disasters such as droughts and floods and to the ongoing impacts of climate change. Intact, functioning ecosystems provide services—such as food, water and fuel, as well as regulation of climate—on which nations and people rely to earn income from agriculture, fishing, forestry, tourism and other activities, and which are closely associated with food and energy security. The efficient and sustainable use of these ecosystem services and natural resource assets – key green economy elements – is increasingly recognized as a key factor in enduring economic development and improving human welfare, and as a necessary condition for achieving the MDGs.

To ensure that the participatory design of integrated green economy policy options and trade-offs are informed by the most relevant information, UNDP is supporting inclusive, integrated national planning, strategy design, and assessments within and across sectors, and through engagement with stakeholder groups and partners. This includes technical and financial support for visioning and diagnostics, goal setting, feasibility analysis, implementation, and monitoring and evaluation across several green economy areas including the poverty-environment nexus, sustainable livelihoods, biodiversity, energy, food security, integrated water and natural resource management, climate change adaption, etc.

One of the ways in which UNDP is supporting national planning, strategies and assessments relevant to green economy policies is through human development reports (HDRs). Since the first national HDR was launched in 1991, national (and now even sub-national) HDRs have evolved to be more than reports. Through inclusive preparation linked directly to national policies, UNDP Country Offices are

using the HDRs to stimulate country capacities for measurement and analysis and to facilitate debate on sustainable development. To date, more than 700 regional, national and local HDRs have been produced. The reports and related advocacy efforts linked to extensive media coverage and civil society campaigns, have helped shift budget priorities, pass new legislation, increase aid, facilitate better use of data, and focus attention on topics central to greening economies. They have also addressed a variety of linked themes, including multidimensional poverty, inclusive growth, gender equality, climate change and environmental sustainability.

Bhutan's Constitution now mandates that the government ensure ecologically balanced sustainable development while promoting economic and social development. Its Planning Commission was transformed into the Gross National Happiness Commission (GNHC). UNDP and UNEP assisted this process through the PEI^{2/} by identifying 50 pilot villages/groups which had benefited little from previous broad-based poverty reduction interventions, helping integrate poverty-environment issues in the Local Development Planning Manuals (LDPM), developing poverty-environment indicators as part of the national GNH Survey, and working with UNCDF to design a Local Climate Adaptive Living (LoCAL) programme to build capacities and increase financing in this area to local governments.

Mainstreaming of environmental issues into sectoral policies and development planning processes is often a challenge at the national, district and local levels. To resolve this challenge, **Mali** was supported by PEI^{2/} in its assessment of the economic costs of environmental degradation and the economic benefits of investing in sustainable natural resources and environmental management. A data management system was developed, strategic environmental assessment studies were conducted in the health, agriculture, animal husbandry and fisheries sectors, and poverty-environment indicators and green accounting promoted. **Mauritania** handled this challenge by conducting 12 strategic studies on economics aspects, strategic assessments, ecosystem assessments, the state of the national environment and environmental indicators, again supported through PEI^{2/}.

In **Brazil**, the interaction between indigenous peoples and Amazon forest ecosystems is under increasing threat due, among other reasons, to excessive logging and mineral prospecting. Brazil's indigenous lands promote the physical and cultural safety of indigenous people - often referred to as forest people - and through traditional natural resource management strategies, these lands protect forest biodiversity and services provided by these ecosystems. To help them do so, a UNDP initiative^{3/} has contributed to a National Policy for Environmental and Territorial Management of Indigenous Lands and a draft Decree is under review. Indigenous peoples and government representatives have reviewed the draft national policy which covers economic, developmental, environmental, social and financial aspects, have assessed capacity gaps to implement it, and are working on a training plan to fill those gaps.

International waters do not only safeguard natural ecosystems but are often essential to the growth, development and sustainable livelihoods of peoples around those waters. For example, **Lake Tanganyika** borders Burundi, D.R. Congo, Tanzania and Zambia, and the lake contributes significantly to the livelihoods of its surrounding populations. A UNDP initiative^{3/} is assisting the governments integrate the sustainable management of Lake Tanganyika's natural resources into regional and national development planning and policies through improved regional (basin) coordination, improved wastewater management, reducing the sedimentation load to the lake through improved catchment practices to maintain its financial viability, and establishing lake monitoring and management systems.

Land degradation is a severe problem in several regions, with environmental degradation leading to lower agricultural productivity, lower economic growth and decreasing livelihoods. **Uzbekistan**, suffering from increasing land degradation and declining agricultural productivity for decades, produced a "*Conceptual Framework for Integrated Land Use Management*" to meet its requirements for socio-economic development tied to the conservation and increased productivity of arid lands. This UNDP initiative^{3/} also developed "*Methodological Guidelines on Sustainable Land Use Fundamentals*" which are being utilized by local communities and regional experts to increase agricultural productivity. And in the Groundnut Basin in **Senegal**, another UNDP initiative^{3/} is working with rural communities to test five community land-use plans promoting sustainable intensification techniques that have led to natural regeneration of about 2,000 hectares with about 140,000 plants, thereby increasing incomes and livelihoods. 11 new local development plans and 8 additional local conventions now organize access to the natural resources and land for cropping, with communities fostering new, local partnerships.

At the regional level, UNDP works closely with governments to integrate greener reliable energy within national development strategies, poverty reduction strategies, low carbon development plans, and policy formulation – promoting stakeholder participation at the local, regional and national levels in defining their own development priorities. A regional energy policy created by the 15 countries of the **Economic Community of West African States (ECOWAS)** featured national plans with specific energy targets to achieve the MDGs,

with the aim being access to clean and modern energy services for 36 million more households by 2015. Another regional strategy by the **East African Community (EAC)** has sustainable energy as one of three pillars to promote poverty reduction and equitable development in the region by applying a variety of business models to scale-up clean and modern energy services, including off-grid systems for small and medium sized enterprises. In the Pacific, the **Marshall Islands, Samoa, and the Solomon Islands** were assisted in the development and strengthening of national energy policy frameworks within the overall developmental objective of more effective rural electrification plans and policies.

In May 2006, the Africa Adaptation Programme (AAP)^{6/} was established to address climate change adaptation needs in Africa. Planning and strategy instruments used by AAP to promote sustainable development by making it resilient to both climate and non-climate related threats include:

- Mainstreaming of climate change strategies into sectoral plans in **Gabon, Ethiopia, Rwanda and Tunisia**.
- Integration of climate change into national and - in some cases district - development plans in **Ghana, Lesotho, Malawi, Mauritius and Namibia**.
- Developing a gender mainstreaming strategy within the climate change response strategy in **Kenya**
- Risk assessment on the impact of climate change on food crises in **Niger**.
- Risk assessment of natural disasters as an input to the national response strategy to natural disasters in **Sao Tome & Principe**.

Fifteen developing countries undertook assessments of the investment and financial flows (I&FF) required to implement priority adaptation and mitigation options within their sustainable development planning frameworks. The I&FF methodology^{7/} allows countries to consider different measures and investments for a given sector; when the investments need to occur; and funding sources. In **Gambia**, I&FF assessment recommendations were incorporated into the national development strategy and investment programme for 2012-2015. In the **Dominican Republic**, it strengthened links between the Ministries of Environment, Tourism, and Economic Planning & Development, as well as the Central Bank and the private sector, and the inter-ministerial committee is planning a low-emission development strategy. In **Turkmenistan**, the I&FF assessment is developing norms and standards for energy efficiency and water resources management.

In October 2010, the **Rwanda** Environment Management Authority received the GREEN GLOBE Award from the World Wetland network for successfully restoring the Rugezi wetland and helping integrate environmental concerns and practices into agricultural policies and sustainable watershed management. This resulted from a PEI initiative^{2/} that helped restore the wetland, increase water flows, lower the cost of electricity to farmers, and enhance rural livelihoods.

B- Regulations, Standards and Removal of Barriers

The successful integration of strategies (national, sectoral, local) depends in large part on the establishment of strong enabling environments and incentive systems, and the removal of barriers to cost-effective and sustainable policies. Different kinds of regulations and standards can be applied within and across transitional green economy approaches depending on country context and the results of cost-benefit analyses and include flexible instruments (such as verifiable and enforceable performance standards like energy efficiency targets), technology standards and subsidy reform. It is critical that subsidies, taxes and other policies that negatively impact the environment, sustainable growth, and social inclusion should be removed. Revising policies that directly or indirectly lead to higher pollution and the improper management of natural resources, or that sustain inequality, can help create fairer, stronger markets that encourage green growth and innovation. UNDP is providing technical support to partners in several countries to strengthen regulations and standards.

Madagascar is in the top twenty mega-biodiversity hotspots, but protected areas are increasingly being surrounded by degraded lands. To address systemic, institutional and individual barriers to sustainable natural resources management (SNRM), a UNDP initiative^{3/} has been working with 13 community-based field laboratories to develop replicable SNRM models which, at the national level, are being integrated into national planning processes, with lessons learned being shared with policy and decision makers. The area covered by mangroves has increased due to new nursery and planting techniques, resulting in improvements in natural habitats and more abundant marine and coastal resources (e.g. crabs, shrimp, seaweed, fish), increasing productivity and sustainable livelihoods.

Promotion of small hydro generating capacity is often facilitated by supporting national regulations and standards. The **Republic of Montenegro** is adding 15-20 MW of new cost-effective and sustainable small-hydro generating capacity, thereby avoiding 0.4-0.54 million tonnes of CO₂ equivalent greenhouse gas emissions over their expected 20-year lifespan. A UNDP initiative^{3/} is helping simplify application procedures for small renewable independent power producers, set attractive yet competitive business terms and conditions for investors, and streamlining the tendering process. The new national Renewable Energy Sources legal investment framework includes regulations on the types of equipment to be covered and conditions to be met. Bylaws cover several aspects including how one can become a power supplier, the applicable tariff system, and incentives. The website (<http://www.oie-cg.me>) is a "one-stop-shop" visited almost 40,000 times in 2011. Skills have been upgraded, efficiencies enhanced and livelihoods supported under this initiative.

In **Tokelau** in the South Pacific, a hybrid solar-coconut oil system combined with increased energy efficiency will make this small island nation carbon-free by end-2012 and will create employment and income opportunities. Working since 2001 with Taupulegas (village councils) on sustainable energy, and working in partnership with France, New Zealand and UNESCO since 2004, UNDP supported resource assessment, feasibility and design studies and a solar system pilot demonstration as well as development of the regulatory system. The new solar plant will start operating in Sept. 2012, providing 24-hour electricity for all islanders, eliminating diesel use, and will have the capacity to increase supply to meet future needs. During prolonged cloud cover, generators running on coconut oil will supply power and simultaneously recharge the battery bank.

In **Uruguay**, the informal waste sector comprises one-third of all solid waste, and in the capital Montevideo, the 30,000 people working in this sector live in chronic poverty and are exposed to toxins in the wastes. Recent legislation - the "Packaging Law" – which was developed with support from PEI^{2/} has formalized the work of recycling cooperatives, reduced their workers' exposure to dangerous wastes, increased wages and incomes to match the higher efficiencies, and provided access to social security services. This will reduce gastrointestinal, respiratory and skin diseases that the waste pickers suffered from. Technical and institutional capacities in ministries and agencies are being strengthened to facilitate the process, and awareness campaigns are building national consensus and commitment around them.

In **Mexico**, analysis of the high PCB levels in blood samples of the San Felipe Nuevo Mercurio community found that villagers were using water barrels that formerly stored illegally imported PCB-contaminated oils. This UNDP initiative^{3/} is helping the Government institute the necessary legal framework, build capacity, raise awareness and pilot innovative schemes to cost-effectively manage and destroy the PCBs. New technical standards were promulgated for proper management of PCB-containing oils in electrical maintenance workshops at the municipal and provincial levels used mainly by small and medium-size enterprises, including measures to lower employee exposure risks. 40 workers were trained, a "*Best practices technical guide for electrical maintenance workshops*" was developed, and the pilot programme will help the Government scale it up nationwide.

C- Market-Based Approaches/Greening the Value Chain

Market-based approaches to the green economy are often among the most successful long-term sustainable interventions. Within this category, payment for ecosystem services (PES) primarily related to the biodiversity and ecotourism sectors – is one option. This section starts with examples from two commodities – coffee and palm oil, then medicinal and aromatic plants and then an ecotourism-based sea turtle conservation programme. We then switch over to the energy sector with a womens' organization in Rwanda producing ecological briquettes and efficient cookstoves, and then on to Iran where traditional indigenous forest management methods are making a comeback.

Colombia is famous for its coffee and its shaded coffee farms support a wide range of biodiversity, which is being threatened by unsustainable uses such as high volume livestock production and increased coffee production under the full sun with no native vegetation shade. A long-term solution is certifying and verifying coffee and other agroforestry products grown in biodiversity-friendly coffee farms, and promoting landscape-based planning measures that contribute to livelihoods of local populations and produce global environmental benefits. A UNDP initiative^{3/} started in 2010 established three variants of payments for water services in three micro-basins. A Voluntary Carbon Standard and Compensation Model was drafted including a compensation scheme valued at \$2 per hectare per year. In addition to the certified coffee, nurseries now produce up to 120,000 native species seedlings for use by farmers. Marketing

strategies developed for certified and non-certified bananas, guadua, flowers and foliages, aromatic and medicinal herbs, and citric fruits and avocados, have significantly improved livelihoods.

Indonesia is the world's largest palm oil producer with earnings of \$13.7 billion in 2008 and oil palm plantations covered 7.5 million hectares in 2010/11, increasing at 300,000 hectares p.a. over the last decade. However increasing palm oil production usually displaces local communities and indigenous peoples from their lands and livelihoods and impacts endangered species. On the environmental side, there are increasing emissions as 3 million hectares of forested peatlands are converted to palm oil plantations, as well as increasing deforestation as 16 million hectares of tropical forests and peatlands are cleared for palm oil. To help resolve this problem, a UNDP-supported Green Commodities Facility initiative is helping the Government target 7-14 million hectares of degraded and abandoned lands that could be used to plant palm oil instead of clearing new forests and peatlands. This approach will promote sustainable livelihoods for small producers and reduce environmental degradation. A set of incentives is being developed to make sustainable palm oil profitable, including improvements in productivity and yield, certification premiums, promoting REDD+ and carbon payments, and tax incentives.

In **Lebanon**, the medicinal & aromatic plants, and herbs domestic markets together are around \$35 million/year. There are 365 species of medicinal & aromatic plants, 98% being wild stocks. The increasing and unsustainable collection of these wild stocks is threatening this critically important biodiversity resource. A UNDP initiative^{3/} is providing incentives for local communities to sustainably manage these wild stocks, using sustainable harvest management practices within a community-based management plan. Several branded products that meet sustainable wild harvest guidelines - such as the FairWild Standard 2.0 principles and criteria - include oregano herbal tea, and sage-based products (herbal tea, shampoo, massage oil, eau de toilette, and soaps) are being produced. Four community-based enterprises applying these wild harvest guidelines harvested 2 tonnes in 2011 with a price premium of 20-40 percent depending on the products being traded. MOUs were developed with national manufacturing companies to purchase sustainably harvested MAPs from project pilot sites. The Ministry of Agriculture is working on a draft decree and a draft national permit system to regulate the this sector and raise awareness on the benefits of these conservation-friendly products..

The **St. Kitts & Nevis** Sea Turtle Monitoring Network has become one of the most successful sea turtle management programmes in the Eastern Caribbean, and was awarded the Most Eco-friendly Business Award by the St. Kitts Tourism Authority in October 2009. As part of a SGP sub-regional initiative^{5/}, 104 endangered leatherback turtles were processed, fitted with satellite tags and recorded. The overall effort employed several fishermen as eco-guides and 299 eco-tours were organized. The garbage on two of the main turtle monitoring beaches has been reduced, and the collected discarded glass bottles were used to make glass jewelry with sales of \$6,364 in 2009 and \$5,792 in 2010. The sand dunes and nesting sites are being protected, and a policy paper on turtle conservation and sustainable livelihoods is being reviewed.

In **Rwanda**, a women's organization COOCEN (Cooperative for the Conservation of the Environment) is introducing alternatives to fuelwood as a response to climate change and deforestation while improving the livelihoods of the community by financing the production of ecological briquettes and suitable cook stoves in Kigali city. Under this SGP initiative^{5/}, COOCEN produces around 1,500 tonnes of briquettes per year which prevents the burning of 1,200 tonnes of firewood or the cutting of at least 9,000 trees. Thus, the women have reduced CO₂ equivalent emissions by 297 tonnes per year. COOCEN covers over 1,000 households and employs 110 persons (mainly women) who earn at least \$50 per month, enabling a significant improvement in their standard of living. With this income they can pay for food, school fees for their children, and medical insurance. COOCEN was commended in 2008 by the Kigali City Council and twice (2009, 2010) by the Rwanda Ministry of Labour for its efforts on jobs creation and innovation.

In **Iran's** Kurdistan Province, historically wood and fodder were provided through an indigenous management method called Galazani, which in Kurdish means "cut the new branches of oak trees along the stem to be stored for use in winter". Through this traditional forestry technique, each extended family used to manage a customary forest territory (Galajar), collecting wood for heating, animal husbandry and construction. In 3-year cycles, families would take turns in managing the Galajar. When forests were nationalized in 1963, this system broke down and deforestation increased as cut trees were not replaced. Under a SGP initiative^{5/}, the traditional Galazani forest management approach was revitalized in an area comprising 347 hectares of oak trees, 120 hectares of rangelands, 77 hectares of farmlands, 30 hectares of degraded forests, and 3 hectares of residential areas. The local communities are now documenting their traditional forest management practices which are now fully supported by the Government as best practice indigenous forest management that supports local livelihoods.

D-Green Jobs – Upgrading Skills and Generating Income

Employment and decent work are central to reducing poverty, achieving the MDGs and fostering more inclusive, equitable and sustainable development. In contrast, systemic low employment can threaten social cohesion, at times leading to higher social and political instability. Labour markets in developing countries are often characterized by high levels of underemployment, seasonal employment and informal work. Countries that have pursued pro-poor growth strategies have been the most successful in reducing poverty and enhancing equality. Efforts to green the economy need to be accompanied by policies that enable the creation of productive and decent green jobs accessible at all levels and particularly to those most disadvantaged.

UNDP and its partners are supporting a range of initiatives designed to place employment and decent work at the centre of national and sub-national green growth and sustainable development strategies. This means supporting government efforts to promote full and productive employment for all, with a specific focus on women and young people; create an enabling environment in which green small and medium sized enterprises (SMEs) can thrive; and focus on the quality of jobs and livelihoods to ensure inclusive, green growth.

In **Fiji**, the biodiversity around the Savanamateya Waterfall was damaged due to the tourist influx. It was decided that the sustainable solution was to promote environmentally sustainable ecotourism that would also protect the biodiversity. Through a SGP initiative^{5/}, development of an environment management plan and income generating scheme is generating income from tourists who pay an entrance fee to do the "Forest Walk". This also provides opportunities for women in the community to sell local handicrafts and meals. Over 100 jobs were created including forest tour guides, waterfall attendants, story-tellers, meal coordinators, tour coordinators and handicraft sellers.

India received an Exemplary Award during the 20th Anniversary of the Montreal Protocol in 2007 for both protecting the environment and enhancing long term small and medium-sized enterprise (SME) viability and sustainable livelihoods. Many SMEs used CFCs (chlorofluorocarbons) to manufacture foam insulation products such as jugs and flasks, requiring low-cost simple machines and providing employment for semi-skilled workers. Under the Montreal Protocol, India had to reduce CFC use in the foam industry. A UNDP initiative^{3/} helped India develop a group approach to eliminate CFC use in 80 SMEs employing 2,000 workers. Customized low-cost, low-output non-CFC foaming equipment was designed for easy, economic and efficient operation and maintenance by workers. The workers were also trained to handle the technical and environmental issues involved. This success in 2000 was then replicated three times to cover an additional 70 SMEs employing an additional 1,500 workers for a total of 150 SMEs and 3,500 workers. So the Exemplary Award was for saving 150 SMEs from bankruptcy and preventing 3,500 workers (and their dependents) from losing their livelihoods.

In **Zambia**, the Lake Tanganyika initiative has provided many new green jobs. Community revolving funds are promoting alternative income generating activities. Communities balance environmental conservation (including control of sedimentation into the lake through reforestation and erosion-reducing farming/land-use practices) with income generating activities such as fish ponds, poultry, crop production (e.g. rice, cassava, maize, vegetables) and bee-keeping utilizing the revolving fund scheme. It is estimated that 46% of households in the pilot area are implementing improved land use practices and 837 people (32.8% of the households) are involved in beekeeping, chicken raising, vegetable gardening, maize and cassava growing as alternative income generation activities.

In **Nepal**, over half a million rural poor have benefitted from energy services leading to growth of micro enterprises and thus improved livelihoods as a result of Nepal's Rural Energy Development Programme (REDP) initiated in 1996 with UNDP and other donor support, with the World Bank joining in 2004. REDP has delivered 5.5 MW of community-managed micro and mini-hydro power plants and several community energy applications such as toilet-connected biogas plants, improved cookstoves, and solar home systems in 75 districts. Community Energy Funds manage construction of micro-hydro plants. A significant number of green jobs in the renewable energy field have been created.

Under the **South Africa** Alguhas biodiversity Initiative^{3/}, some 2,500 previously disadvantaged people are now employed in ecotourism. Municipalities upgraded tourism facilities, new visitor tours were introduced, visitor centres upgraded, and most farms now support

visitor farm stays. Several tourism operators have included green criteria in tourism environmental impact assessments. 13 registered Eco-schools provide people entering the workforce with training to facilitate employment opportunities.

Uzbekistan's land management initiative^{3/} provided socio-economic opportunities using simple, affordable and efficient technologies as requested by local communities. These included biogas devices for heating greenhouses, furniture shops that produce wooden doors and window frames with energy-saving technologies, barber shops that use affordable high efficiency heating devices to boil water and heat premises (instead of fuelwood), and water pumps for wells. The resulting employment that was generated has contributed to sustainable livelihoods.

E- Mobilizing Financing

Higher and more regular flows of financing are needed to help sustain broad-based national green economy strategies over the longer-term. Innovative financial mechanisms leverage limited resources more strategically by bringing together a variety of government, civil society, donors and private sector partners to create an enabling environment that catalyzes larger pools of private finance. UNDP is working with a range of multilateral and bilateral agencies, foundations, NGOs and the private sector to mobilize additional funds and develop country-responsive mechanisms to ensure that these resources better target national priorities and forge more effective development partnerships.

A facility to provide biodiversity-friendly loans, business development support (BDS) grants, and development support to community-based sustainable businesses in and around target World Heritage sites was created in six UNESCO-recognized protected areas in **Belize, Dominica, Kenya, Madagascar, Mexico, and Tanzania**. This SGP initiative^{5/} with the United Nations Foundation (UNF) and Conservation International (CI) as partners, clusters small grants awards around globally significant protected areas to increase sustainable financing for partner small and medium enterprises (SMEs). Within the \$2 million partnership, the medium-term loan guarantee is used to mobilize loan capital from the private sector, which is supported through the provision of business and financial services. In parallel, the SMEs are assisted on capacity development and networking support. Of the 22 SMEs that applied, 14 have been selected so far. Opportunities for up-scaling are being explored with the UNDP Green Commodities Facility.

In **Burkina Faso**, a large grant awarded to a UNDP-supported sustainable energy project catalyzed additional resources when Burkina Faso leveraged these funds to raise support from the World Bank and added funds from the Heavily Indebted Poor Countries (HIPC) initiative.

In **China**, efforts to commercialize renewable energy technologies took a consumer-friendly, market-based approach to attract finance and investment through demonstration projects, guidebooks and business development activities. This initiative^{3/} influenced national policy and contributed to a new law on renewable energy for its scale-up across the country, especially in poorer areas.

Peru's energy-efficient rural cookstove programme will cover 150,000 cookstoves benefiting 750,000 people. UNDP provided technical assistance as part of a regional project called Carbon 2012, which has helped this initiative and others like it to access carbon markets. The financing obtained as a result will be invested in the maintenance of the new cookstoves, training households how to use them effectively, and continued awareness-raising on the benefits that result from their use.

In **Tanzania**, a payment for ecosystem services (PES) initiative is reducing greenhouse gas emissions from deforestation and forest degradation by supporting development of a Community Carbon Cooperative hosted within the existing Network of Tanzanian Communities engaged in participatory forest management. It uses REDD funding to provide direct and equitable incentives to communities to conserve and manage forests sustainably in the Eastern Arc mountains. By engaging over 25,000 people in 20 communities to implement improved forestry management practices, this will be the largest REDD+ project in Tanzania to channel carbon finance for biodiversity conservation.

In **Central America**, many small and medium size enterprises (SMEs) do not have access to finance or technical assistance and banks avoid risking investments in biodiversity SMEs. Under a regional programme^{3/} covering **Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua**, the Central American Bank for Economic Integration (CABEI) and its financial intermediaries are developing and extending new financial products to increase lending to biodiversity-friendly SMEs who do not get direct loans, but rather technical assistance and partial credit guarantees, so that regional commercial financial institutions can provide loans through their normal channels. So far, \$13 million (of which 83% includes partial credit guarantees) has been loaned to 4,830 SMEs in coffee, cocoa, cardamom, forestry and sustainable tourism with 6 banks and 14 non-bank financial intermediaries participating. An agreement with Walmart Central America now guarantees inclusion of biodiversity-friendly producers in the organic section of Walmart in the 5 participating countries.

In **Madagascar**, a biodiversity offset programme for the Ambatovy mining facilities is achieving no net loss of biodiversity. Ambatovy produces yearly 60,000 tonnes of nickel, 5,600 tonnes of cobalt and 190,000 tonnes of ammonium sulphate. This is a BBOP (Business and Biodiversity Offsets Programme) pilot, developing and testing innovative offset design approaches and methodologies that BBOP partners have jointly developed as a best practice. This specific offset covers conservation actions on 2,100 hectares.

F- Knowledge Management and Capacity Development

Capacity development and knowledge management are central to UNDP's mandate, policies and programming. UNDP recognizes three levels of capacity – the individual, the organization and the enabling environment (or "system level") which includes the political, social, economic, policy, legal and regulatory systems within which organizations and individuals operate. The framework also identifies key functional and technical capacities for strengthening around such core issues as institutional arrangements, accountability, leadership, and knowledge and information.

UNDP has been a key contributor to the evolving practice of capacity development in support of green economy and related environment and sustainable development services since the early 1990s. There is increasing recognition that a programmatic approach based on long-term investment is a key to success.

In **Mozambique's** semi-arid Guija district, a UNDP initiative^{4/} is training communities to grow drought-resistant crops, like sweet potato, cassava or sorghum. 11 communities representing 4,675 households benefited from training on weather forecasts, climate information and adaptation techniques. 240 people - trained by District Agricultural Officers - then trained the wider communities via water committee management groups and community associations on marketing of agricultural production, adaptation issues, animal husbandry, sustainable charcoal production and fodder production. As a result, 120 households changed their practices of water management and 88 households have changed their pastoralist practices.

Around **Lake Tanganyika**, a website and information clearinghouse is now operational covering the four participating countries (Burundi, D.R. Congo, Tanzania and Zambia). An accounting and billing system was introduced for a water supply agency in Tanzania. Around the lake, 24 water quality monitoring sites were active, and 13 staff from the four countries were trained.

In the **Central America** programme covering **Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua** where new financial products are being developed for small, and medium size enterprises (SMEs), 105 training events have been held reaching out to 1,100 SMEs in bio-friendly business and funding sources. 29 SMMEs were trained on sustainable tourism business plan development in El Salvador. 6 organic coffee producers cooperatives from Honduras and 22 from Nicaragua received technical assistance to strengthen their business plans presented to financial intermediaries. An on-line trade intelligence clearinghouse platform was developed to liaise bio-friendly producers with local, regional and international markets (www.bcienegociosverdes.com).

Under the Groundnut Basin in **Senegal** initiative, 100 livestock farmers were trained on improved forage practices, 60 farmers on sustainable land management, 137 farmers on energy saving techniques, 35 people on decentralization, and 12 people in charge of land disputes on land tenure and forest codes.

In **Zimbabwe's** Chiredzi district, to reduce the vulnerability of the rural poor to droughts, 92 male and female farmers from four villages were trained in crop mix diversification and infield rainwater harvesting. It was found that regular use of tied ridges or tied deep plough furrows enhance yield, while a crop mix including open pollinated maize varieties, sorghum, pearl millet, groundnuts, cowpeas and cassava reduces vulnerability to the effects of drought. By June 2010, 40% of farmers had adopted this crop mix. Pilot demonstration sites for cassava production - an excellent drought resistant crop - were established in two villages. To protect livestock during droughts, farmers were trained in fodder conservation strategies including feeding them on locally available tubers called "*zhombwe*". Lessons learned are being disseminated through workshops, print, and radio, and form part of the Climate Development Knowledge Network (CDKN).

The **Cap-Net global network for capacity building for sustainable water resources management**, managed by UNDP, promotes resource efficiency, social inclusivity, and low carbon emissions. "Train the Trainer" programmes at the local level reduce the need for external consultants. Social inclusivity is fostered through equity and gender balance, and low carbon development is fostered through promotion of energy efficiency and maximum use of renewable energy.

Going forward

This paper presented inclusive green economy examples from UNDP's portfolio of programmes and projects. The examples were mostly derived from support to countries provided in the context of environment, energy and poverty-environment interactions, but reaching into and benefitting from UNDP's work in other practice areas, including democratic governance, other poverty eradication issues, gender, and capacity development. These examples show that transformation with multiple benefits is possible. A major challenge is how to scale up this solid work in the absence of additional funding and how to ensure that sectoral policies and interventions become more than the sum of their parts.

Among other things, this will require a stronger focus on governance, capacity development, and policy integration and implementation. Some of the most important lessons we have learned are that progress towards sustainable human development requires a change in the system of incentives and disincentives, a change in human behaviour and perceptions. This determines whether policies, programmes and projects succeed or fail. This includes a clearer understanding of institutions and individuals and the relations between them. It requires careful consideration of governance issues and political and societal factors that promote or hinder development, and include or exclude societies' poor and marginalized people. In other words, it requires a better integration of the governance, capacity building and environmental expertise that the development community brings to bear in its support to partner countries.

As a result of a two-year research and pilot-testing process, UNDP is preparing a series of knowledge products drawing upon institutional and context analysis to identify and better address long-standing bottlenecks to achieving sustainable human development. A first guidance note titled "Institutional and Context Analysis" should be available in September 2012.

Going forward, the Rio+20 Outcome Document and requests from partner countries will continue to provide the framework for UNDP's technical assistance and support to help countries put in place the multidimensional enabling environment for transformational change for sustainable development.

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