



READY, WILLING AND ABLE

Empowering countries to meet the
climate challenge



ACKNOWLEDGEMENTS

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ISBN: 978-92-807-3225-2
DCP/1466/NA



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FOREWORD



Around the world, national, regional and local governments, businesses and civil society are demonstrating just how far and how fast some sectors of society can make the transition to a climate-resilient, low-carbon future and building the green economies of the 21st century. From the green mortgages in Mexico and the feed-in tariffs in Kenya, to the private sector investments in the renewable energy industry that have again set records in 2010, the examples of a major shift are all around us. These initiatives not only need to be scaled up but also be scaled up fast.

Thanks to the work of the Intergovernmental Panel on Climate Change (IPCC) and thousands of scientists, the world recognizes the urgency of the climate challenge. The risks of unabated climate change are well documented and its impacts are already affecting people and ecosystems. However, emissions are still on the rise and pledges of future action fall short of what science suggests is necessary. As has been shown again this year by the UN Environment Programme (UNEP) and climate

modelers, a significant emissions gap exists between what is promised by countries and what is needed to stay on track with the 2 degree target.

The fight of each country against climate change cannot be owned or driven from the outside. Countries and their people have to be authors of climate actions taking place on their territory as part of their development process. However, some countries, in particular developing countries are facing a lack of human, organizational, institutional, scientific, technological, or resource capacities to develop their own comprehensive response to climate change.

Both within and outside of the United Nations Framework Convention on Climate Change (UNFCCC) process, confronting climate change requires new and increased capacities. Capacity to monitor and assess the changing climate and its potential impacts on people and ecosystems. Capacity to plan for and to integrate climate change into development strategies and plans. Increased capacity to take advantage

of and remove barriers to investments in climate resilience, clean technologies and low-carbon growth. And capacities to learn quickly from it all, to report not only back into the global UNFCCC process, but to share with other countries moving along similar pathways.

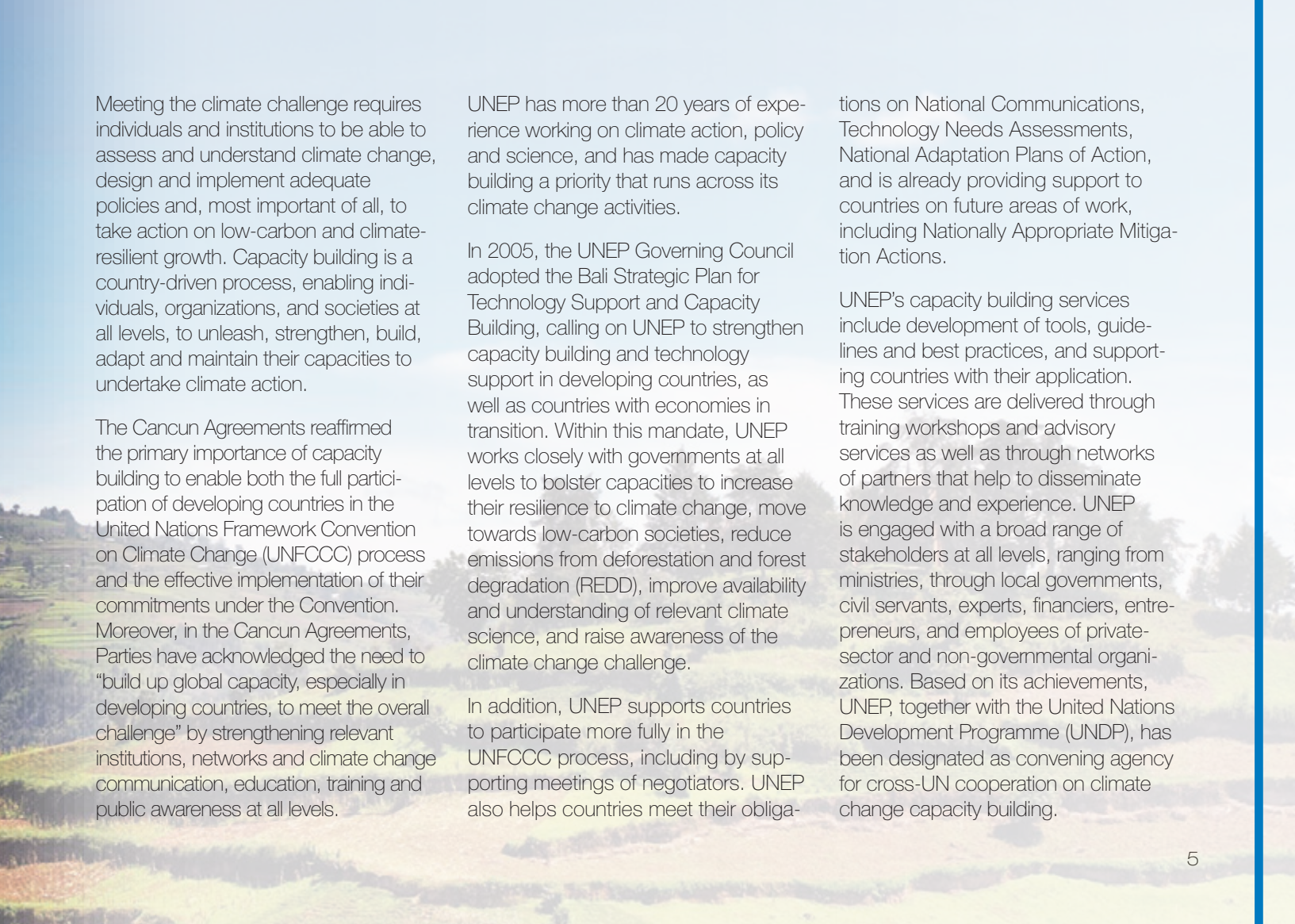
UNEP's *Ready, Willing and Able*, shows that across the world, in many ways, solutions are available to support countries in overcoming obstacles and empowering themselves to meet the climate challenge.

Actions have been taken by the international community to support the development of capacities and every country and organization have their own success stories. UNEP and our partners will continue to work to ensure that no country is left behind, and that all are equipped to participate in the transition toward low-carbon, climate-resilient societies that have the opportunity to be part of a Green Economy.

Achim Steiner
UN Under-Secretary General and
UNEP Executive Director

EMPOWERING COUNTRIES TO MEET THE CLIMATE CHALLENGE





Meeting the climate challenge requires individuals and institutions to be able to assess and understand climate change, design and implement adequate policies and, most important of all, to take action on low-carbon and climate-resilient growth. Capacity building is a country-driven process, enabling individuals, organizations, and societies at all levels, to unleash, strengthen, build, adapt and maintain their capacities to undertake climate action.

The Cancun Agreements reaffirmed the primary importance of capacity building to enable both the full participation of developing countries in the United Nations Framework Convention on Climate Change (UNFCCC) process and the effective implementation of their commitments under the Convention. Moreover, in the Cancun Agreements, Parties have acknowledged the need to “build up global capacity, especially in developing countries, to meet the overall challenge” by strengthening relevant institutions, networks and climate change communication, education, training and public awareness at all levels.

UNEP has more than 20 years of experience working on climate action, policy and science, and has made capacity building a priority that runs across its climate change activities.

In 2005, the UNEP Governing Council adopted the Bali Strategic Plan for Technology Support and Capacity Building, calling on UNEP to strengthen capacity building and technology support in developing countries, as well as countries with economies in transition. Within this mandate, UNEP works closely with governments at all levels to bolster capacities to increase their resilience to climate change, move towards low-carbon societies, reduce emissions from deforestation and forest degradation (REDD), improve availability and understanding of relevant climate science, and raise awareness of the climate change challenge.

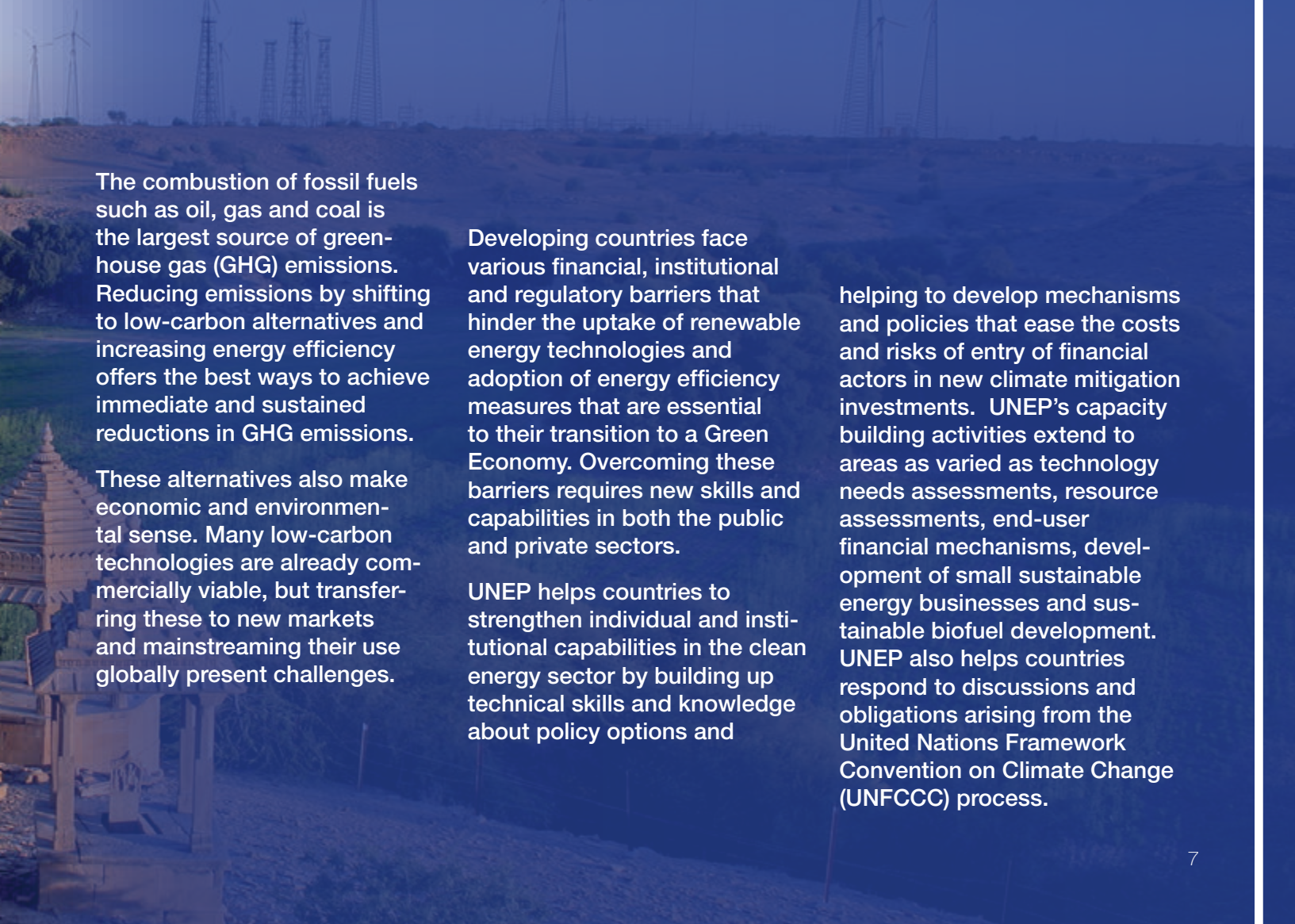
In addition, UNEP supports countries to participate more fully in the UNFCCC process, including by supporting meetings of negotiators. UNEP also helps countries meet their obliga-

tions on National Communications, Technology Needs Assessments, National Adaptation Plans of Action, and is already providing support to countries on future areas of work, including Nationally Appropriate Mitigation Actions.

UNEP’s capacity building services include development of tools, guidelines and best practices, and supporting countries with their application. These services are delivered through training workshops and advisory services as well as through networks of partners that help to disseminate knowledge and experience. UNEP is engaged with a broad range of stakeholders at all levels, ranging from ministries, through local governments, civil servants, experts, financiers, entrepreneurs, and employees of private-sector and non-governmental organizations. Based on its achievements, UNEP, together with the United Nations Development Programme (UNDP), has been designated as convening agency for cross-UN cooperation on climate change capacity building.



BOOSTING THE UPTAKE OF LOW-CARBON TECHNOLOGIES



The combustion of fossil fuels such as oil, gas and coal is the largest source of greenhouse gas (GHG) emissions. Reducing emissions by shifting to low-carbon alternatives and increasing energy efficiency offers the best ways to achieve immediate and sustained reductions in GHG emissions.

These alternatives also make economic and environmental sense. Many low-carbon technologies are already commercially viable, but transferring these to new markets and mainstreaming their use globally present challenges.

Developing countries face various financial, institutional and regulatory barriers that hinder the uptake of renewable energy technologies and adoption of energy efficiency measures that are essential to their transition to a Green Economy. Overcoming these barriers requires new skills and capabilities in both the public and private sectors.

UNEP helps countries to strengthen individual and institutional capabilities in the clean energy sector by building up technical skills and knowledge about policy options and

helping to develop mechanisms and policies that ease the costs and risks of entry of financial actors in new climate mitigation investments. UNEP's capacity building activities extend to areas as varied as technology needs assessments, resource assessments, end-user financial mechanisms, development of small sustainable energy businesses and sustainable biofuel development. UNEP also helps countries respond to discussions and obligations arising from the United Nations Framework Convention on Climate Change (UNFCCC) process.

CLEANER FLEETS FOR A CLEANER WORLD

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I will share with our staff the issues learnt, support communication of these issues to management, and support the activities that the managements may decide on regarding CO₂ reductions.

Bushra Al Fardan,
Recruitment Administrator,
TNT Express,
United Arab Emirates

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THE PROBLEM Cars, trucks and other road transport vehicles, while essential for commercial and humanitarian work, exert a considerable adverse impact on the environment. Estimates are that road vehicles consume more than a third of the world's supply of petroleum and contribute nearly one-fifth of global carbon dioxide emissions. These vehicles are also a significant source of air pollution which can adversely affect human health and the environment. In urban areas, about 70 per cent of air pollution comes from road vehicles.

THE SOLUTION Public, private and non-governmental organizations use vehicle fleets in their work. Adopting clean fleet management programmes helps them contribute to alleviating the harmful impacts of road transport.

In collaboration with TNT, UNEP's partnership to help build capacity for clean fleet management developed the "Toolkit for Clean Fleet Strategy Development" to support fleet managers in cleaning up their vehicle pools.

The toolkit has helped organizations, especially in emerging economies, to develop and adopt clean fleet programs.

IMPACTS More than 500 people from 200 public, private and non-governmental organizations in 57 countries have been trained on the use of the toolkit. Some of the participants, and the strategic partners, have also been trained as trainers. A number of organizations, including Sinar and Hiba Utama in Indonesia, Maynilad and Meralco in the Philippines and TNT in Turkey, have developed plans to clean up their fleets.

SUPPORT United States Environmental Protection Agency and TNT.

WEBSITE <http://www.unep.org/tnt-unep/toolkit/>

In November 2006, TNT Turkey used the toolkit to help it design a clean fleet strategy. Its goal was to cut carbon emissions by six per cent by 2011. By early 2008, it had already surpassed its goal, even though it had increased its fleet from 262 vehicles to 313. Some 80 drivers have been trained in environmentally friendly safe driving techniques while 122 vehicles (or 41 per cent of the fleet) have been replaced with cleaner models, including hybrid electric vehicles. Monthly carbon dioxide emissions have dropped by 15 per cent, and fuel consumption by 16 per cent, resulting in savings of 100,000 euros in 15 months.

PUTTING BIOFUEL ON THE MAP

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The study will be useful in planning and projecting Kenya's potential for sustainable bioenergy production, and in serving as a background document for the Draft National Biofuel Policy, and the broader community of biofuel stakeholders.

Professor Judi W. Wakhungu,
African Centre for Technology Studies

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THE PROBLEM Bioenergy can provide many benefits: climate change mitigation, energy security, access to energy and rural development, to name a few. But it also presents environmental and social risks, such as increased greenhouse gas (GHG) emissions, biodiversity loss, water overuse, and food insecurity. On one hand, bioenergy can help reduce GHG emissions by replacing fossil fuels as during the use phase bioenergy only releases the GHG that was previously absorbed through plant growth. But overall, if emissions are measured throughout the entire life-cycle, from conversion processes, transport, feedstock production, through previous land use for all feedstocks other than waste, they may in fact be higher than those of conventional fuels.

Careful planning is critical. At the height of the bioenergy “gold rush” governments were presented with investment proposals and calls for bioenergy mandates and targets, without having proper processes

and tools in place to ensure that bioenergy development delivered on the policy objectives.

THE SOLUTION Agro-environmental zoning is part of the land-use planning process that helps mitigate risks. It enables the production of land suitability assessments, indicating which type of crops are appropriate for specific areas, and of land availability assessment, identifying exclusion zones to protect areas with high biodiversity and carbon storage values.

UNEP, through its Bioenergy Policy and Planning Support Facility, has built the capacity of policy makers in Kenya, Senegal, and Uganda, enabling them to develop bioenergy policies and strategies that focus on climate change mitigation, poverty reduction and environmental protection.

IMPACTS UNEP supported local centres of excellence to build the skills needed for developing maps showing the suitability and availability of land for bioenergy development. In each

project country, maps were produced that contributed to the establishment of sustainable biofuel policies for rural development, green job creation, and access to clean energy.

The mapping exercise brought together key players from governments, agricultural research institutes and other relevant communities. This, along with broad outreach to a range of stakeholders, ensured greater buy-in and acceptance of the resulting policies.

UNEP, through a network and exchange platform, also brought together experts from the African

region, who are now regularly exchanging information and who have forged a common understanding of a mapping methodology.

Through cooperation with the Brazilian Fundacao Getulio Vargas, the group was able to draw on the Brazilian experience, and in turn, the results of the project have informed other mapping endeavours, such as one implemented in Guinea Bissau.

SUPPORT Government of Norway.


WEBSITE <http://www.unep.fr/energy/activities/mapping/>



In Kenya, the mapping project came at a critical time: the government was in the midst of preparing its Draft National Biofuel Policy. This meant the mapping and planning process attracted wide interest, not only from the government, but also from civil society, entrepreneurs and the broader private sector. The resulting agro-climatic and environmental zoning of Kenya served as a background document in the development of the biofuel policy, and has since been incorporated into the decision process as a planning tool.

FOSTERING MARKET- READINESS FOR CLEAN ENERGY INVESTMENT





High levels of investment in the cost-effective implementation of clean technologies are required to enable the shift towards low-carbon growth and green economies. Creating the market conditions to attract the required level of private sector investment is critical in that regard, as are public sector efforts to develop market-readiness for clean energy investment.

However, the need to attract finance is a particular challenge for lower-income countries with limited infrastructure for, and experience with, the implementation of clean technology projects. Investing in these

countries is therefore often seen to bear additional risks by investors that are expected to cover the up-front costs associated with clean technology applications. While the delivery of fast start finance for mitigation and adaptation actions is moving forward and the design of the new Green Climate Fund is progressing, there is a real need to ensure that developing countries have the capacities needed to effectively manage incoming funds, and so tap the opportunity to make cleaner energy technologies a cornerstone of their economies.

UNEP is working with a broad range of stakeholders at the national and local levels

in developing countries to help them build a conducive framework for investments and their efficient use. UNEP's capacity building activities for clean technology finance include enterprise development training to clean energy entrepreneurs; support to development and commercial banks and private investors to raise awareness and boost equity investments in the sustainable energy sector; technical assistance to national climate finance institutions to build better understanding of the required processes and global best practices, as well as a number of enabling activities for carbon market development, risk management and transaction support.

BOOSTING CARBON MARKETS IN AFRICA

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As soon as the CASCADe programme had started, we made progress in all our projects. CASCADe made local and international experts joins forces.

Mamadou Ndiaye,
Director General,
Asiyla Gum Company SARL,
Senegal

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THE PROBLEM Unsustainable use of forests causes about 17 per cent of the world's greenhouse gas emissions. It also degrades ecosystems, causes biodiversity loss, threatens local livelihoods and has a detrimental impact on some of the world's poorest people. In Africa, about 600 million people rely on forests and woodlands for their livelihoods. Yet, despite a rapid growth in carbon finance transactions, forest carbon projects in sub-Saharan Africa are often ignored. One of the main obstacles is the lack of local expertise to develop these kinds of projects.

THE SOLUTION Since 2007, the Carbon Finance for Agriculture, Silviculture, Conservation and Action against Deforestation programme (CASCADe) has been helping Benin, Cameroon, the Democratic Republic of Congo, Gabon, Madagascar, Mali and Senegal to develop carbon projects from forests and farmlands by building the capacities of project developers, communities and national climate change institutions. By enhancing local expertise in setting up replicable projects in forestry,



agriculture and bioenergy, CASCADE is helping to open up opportunities for African participation in Clean Development Mechanism (CDM) and voluntary carbon markets, while linking buyers and sellers and bringing national experts together.

IMPACTS By stimulating local project developers' ability to set up carbon projects in rural Africa, CASCADE is showing that solutions to climate change and deforestation are possible. CASCADE has helped 13 project developers finalize their Project Design Document, which has enabled them to attract carbon financiers' attention. The 12 most advanced projects supported by CASCADE will reduce or sequester 297,500 tonnes of carbon dioxide per year, leading to significant climate and ecosystem benefits. Five projects have reached the validation or registration stage in the CDM project cycle or a voluntary carbon market standard. Targeted institutional support has strengthened national regulatory frameworks for carbon finance projects and established a strong francophone African network of technical experts.

CASCADE helped the Congolese company Novacel generate carbon finance for its afforestation project. The project, called Ibi Batéké, aims to restore lands by means of agroforestry and forestry plantations. Besides supplying the 8–10 million inhabitants of Kinshasa's catchment area with cassava crops, charcoal, service wood and construction timber, the project helps reduce deforestation and forest degradation in the area. Locally, it employs more than 400 people in plantation work and in processing and marketing agricultural produce. More than 1,600 hectares are already under cultivation. On 18 February 2011, the project was successfully registered as a CDM project. As a result of these successes, Novacel has sold 500,000 temporary carbon credits generated by the project until 2017 to the BioCarbon Fund of the World Bank, and another 500,000 carbon credits to the private sector company Orbeo. In addition, the project has recently signed a contract with the Livelihoods Fund established by a group of European corporations for the sale of another 300,000 tonnes of future carbon dioxide emission reductions. The significant stream of carbon finance resulting from these agreements will help the project develop further.

Overall, CASCADE has provided technical assistance to more than 20 projects in community reforestation, commercial forestry, bioenergy, and efficient cooking stoves and fish smokehouses, and has helped to avoid deforestation in seven African countries. The experience gathered from these activities has contributed to national

and international policy debates on a more inclusive climate regime.

SUPPORT Core funding from the Fonds Français pour l'Environnement Mondial (FFEM).

WEBSITE <http://cascade-africa.org/>

BANKING ON AFRICA'S OPPORTUNITIES

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Entrepreneurship can transform markets, but support for eco-entrepreneurship remains weak in many countries, particularly across Africa. Developing private sector skills and mainstreaming the concepts across commercial finance and investment are key to realizing Africa's abundant renewable energy and climate mitigation potential.

Brigitte Burnett,
CSR Director,
Nedbank

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THE PROBLEM Despite huge growth in the carbon market (globally, US\$142 billion in 2010), Africa has seen very little investment from it. The continent has just two per cent of the registered projects in the Clean Development Mechanism (CDM) pipeline, and lags behind countries such as China, India and Brazil. This is a worrying trend because carbon finance can be an important tool in catalyzing investment in clean energy, which is much needed in a continent where many people do not have access to reliable energy supplies. But there is limited capacity and limited finance for these kinds of projects in Africa, and this has resulted in high transaction costs and a limited appetite among investors who may view Africa as a high risk or who may be unaware of the many opportunities that exist in a continent of developing economies.

THE SOLUTION UNEP set up the African Carbon Asset Development Facility (ACAD) in 2009. Its aim is to

unlock the potential of the African carbon market by helping the African finance sector understand how to incorporate carbon finance into their day-to-day lending activities and provide training on how to improve the flow of finance to clean energy investments.

IMPACTS Through ACAD, UNEP has provided advanced carbon finance training for more than 250 employees of financial institutions through the African Bankers' Carbon Finance and Investment Forum and regional workshops in Sub-Saharan Africa. Several of the financiers trained now have their own projects in the CDM pipeline and have used the knowledge gained to advance their projects and search for carbon buyers.

Also, ACAD has so far provided US\$229,427 to 15 projects in Africa to help them advance through the CDM project cycle and move towards financial closure. These

financial grants contribute to capacity development by helping provide high-profile role models that other project developers can use as a point of reference. One of the projects supported by ACAD has already been registered and overall, the projects supported will provide greenhouse gas emissions reductions of about 2 million tonnes per year.

ACAD has also sponsored the secondment of a senior economist at the Johannesburg headquarters of Standard Bank, one of the largest

banks in Africa, building carbon finance knowledge within three of the bank's teams: project finance, power and infrastructure, and investment banking. This has allowed for training that is specific to the bank's needs and has helped to increase lending for CDM projects.

SUPPORT German Federal Ministry of Environment (BMU), through the International Climate Initiative.

WEBSITE <http://www.acadfacility.com/>



Oando Plc, one of Nigeria's largest energy solutions providers, teamed up with investment firm Alitheia Capital on an innovative venture aimed at commercializing liquid petroleum gas (LPG). Alitheia took part in some ACAD carbon finance training events and later successfully applied for ACAD grant funding to help it get the project registered as a CDM project and to identify carbon buyers. LPG is a cleaner, more efficient fuel that can be used in the household to reduce the rate of deforestation and indoor smoke inhalation. In addition, its use will increase the income of local retailers.

BUILDING A MARKET FOR SUNSHINE

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Actually, the practical part of the training was crucial and the most beneficial for me, because all of the theories and examples which were presented to us began to sound much better after that.

Representative,
AMG Eco Engineering,
Montenegro

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THE PROBLEM The Mediterranean and Balkan regions have hot, sunny climates, and the use of solar water heaters is not uncommon for those with a substantial income. But for lower- or middle-class families, a solar water heater can cost up to four times their monthly income. Yet, if we are to meet the challenge of climate change, then people at all walks of life will need access to reliable supplies of clean energy.

THE SOLUTION The Mediterranean Investment Facility (MIF) is a joint initiative set up by UNEP and the Italian Ministry for Environment Land and Sea (IMELS). It aims to put in place financial mechanisms to support renewable energy and energy-efficiency systems, such as solar water heaters, photovoltaic systems and compact fluorescent lamps, and to ensure their sustainability by strengthening the capacity of local stakeholders. The MIF project is working in Tunisia, Egypt, the Former Yugoslav Republic of Macedonia, Montenegro and Morocco.

IMPACTS More than 200 people have been trained in the installation and



maintenance of solar water and photovoltaic systems for homes, hospitals, hotels and sports centres in Egypt, Montenegro and Tunisia. In Egypt, UNEP is also encouraging hotels to install solar water heaters through subsidies, awareness-raising and training workshops.

Workshops and other training activities have allowed project managers to define and design high-quality renewable-energy initiatives. In just two projects, more than 130 square metres of solar collectors have been installed, producing 100,000 kWh of energy a year. A further 100 projects are in the pipeline.

Credit officers at national and commercial banks in Tunisia and Morocco have also received training on green loans for solar water heaters.

SUPPORT Ministry of Environment, Land and Sea of the Republic of Italy; Global Environment Facility.

WEBSITE <http://www.climatefinanceoptions.org/cfo/node/282/>

In Tunisia, under a long-standing MIF project called Prosol, home owners have been encouraged to switch to solar water heaters through a combination of measures, including financial grants, customs duty reductions and reduced interest rates on bank loans.

One of those measures was a system where loan repayments were added to regular electricity bills and collected by the state electricity utility, STEG. This process lowers the risk for banks, which are then willing to offer loans at reduced interest rates for solar water heaters. This was originally a temporary measure designed to help encourage the market for solar water heaters. However, thanks to training provided to bank officers, and to STEG staff in how to collect payments via electricity bills, the Government of Tunisia has made the arrangement permanent. Now, more than 80,000 square metres of solar panels are installed each year by qualified technicians trained under the Prosol programme.

As a result of UNEP's work in Tunisia, 466,690 people in 133,340 households now have hot water that is heated by the sun. A large number of jobs have been created and more than 1000 companies have installed solar water heating systems.

In addition, UNEP's activities have led to an important policy change by the Government of Tunisia, which has decided to make solar water heaters eligible for an energy subsidy previously only available to liquefied petroleum gas.

The success of the Prosol project has led to similar approaches in 11 other countries.

BUILDING CLIMATE-RESILIENT SOCIETIES



Climate change and its impacts on ecosystems and societies are clearly observed today. These impacts will increase in the future and are exacerbated for poor people and countries with limited resources for adaptation and strong reliance on natural resources for their livelihoods and economic development.

Under the The United Nations Framework Convention on Climate Change (UNFCCC), developing countries require capacity building to support

their adaptation to climate change. UNEP works to equip people and countries to cope with observed and anticipated impacts, reduce their vulnerabilities and increase their resilience. Priorities include building and strengthening national institutional capacities, and supporting national efforts to incorporate adaptation measures into country development planning and policy-making, consistent with countries' priorities.

UNEP's adaptation capacity support focuses on national programmes to undertake vulnerability and adaptation assessments, share scientific and policy-related information for decision-making and carry out pilot demonstrations of how vulnerability to climate change can be reduced. UNEP also works with countries to undertake economic analysis of climate change impacts and adaptation options, and supports countries in accessing bilateral and multilateral sources of adaptation finance.

A HARVEST OF KNOWLEDGE



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Lessons learnt from the CC DARE project showed that small-scale interventions carried out using transparent approaches are vital in helping support climate change adaptation and in achieving food security.

Drake N. Mubiru,
National Agricultural Research Organization,
Kawanda, Uganda

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THE PROBLEM Agriculture is the main source of income in Uganda, but most farmers work on small, subsistence properties. Farmers depend mostly on rainfall to grow their crops and use few other inputs such as fertilizers. This means they are vulnerable to the changing rainfall patterns and climactic variability that global warming may bring. But the

country faces barriers in making itself more climate-resilient, such as lack of precise rainfall data and poor crop husbandry.

THE SOLUTION Through the Climate Change Adaptation and Development Initiative (CC DARE), UNEP is supporting 11 countries in Sub-Saharan Africa and Small Island Developing States to remove barriers and create opportunities for integrating climate change adaptation into national development planning and decision-making. In Uganda, UNEP helped the National Agricultural Research Organization (NARO) develop an efficient system for collecting, recording and analyzing agro-meteorological information, such as rainfall amounts and patterns. This enabled the organization to strengthen its knowledge about the uncertainties faced by farmers and establish pilot projects to help farmers learn how to adapt.

Thanks to CC DARE methodology support, surveys were conducted to capture farmers' perceptions of climate

change and indigenous knowledge used to adapt to it. NARO scientists also built skills in generating information on agro-meteorological risks and uncertainty for crop yields from which patterns and trends were produced.

IMPACTS This information was given to farmers at 300 pilot farms (covering 3000 acres) via a training programme. All the farms have now switched to climate-resilient crops and have adapted their farming practices, and many are now training other farmers.

As well, more than 1000 people – politicians, policy makers, scientists and farmers – have learnt how agro-meteorological data can guide decision-

making about crop diversification and substitution.

The risk indicators developed through CC DARE capacity building support have been incorporated into national development plans and policies, and the success of this project helped NARO attract further funding from the Rockefeller Foundation for follow-up activities. The project is now looking at ways to build the skills of households, communities and institutions in sustainable land and water management.

SUPPORT Danish International Development Agency (DANIDA).

WEBSITE <http://ccdare.org/>

ZOOM IN



Many people who used to live a “mobile life” have returned to their villages and are using the adapted farming techniques, resulting in bumper harvests. From one demonstration site alone, 80 farmers have adopted the practices showcased.

By providing training and information about the best practices to follow to cope with climate change risks, crop yields have improved, farmers' incomes have been safeguarded, and poverty has been addressed at a grassroots level.

A VIEW FROM THE COAST

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The method of land use planning introduced through the CC DARE project is very successful and has stimulated positive changes in attitudes and behaviours in the villages. The village population has gained a new perspective to conserve its natural resources under the changing climate.

Manuel Menomussanga,
Participant,
Mozambique

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THE PROBLEM The Nova-Mambone Administrative Post is on the coast of the Govuro district in Mozambique and is especially prone to extreme climate events such as cyclones and shifting rainfall patterns. As a consequence the district is vulnerable to floods and droughts. To ensure sustainable livelihoods for the residents, viable and socially acceptable climate change adaptation measures are needed.

THE SOLUTION Three years ago, the people of the district proposed a project that would identify the climate change risks and impacts they faced, as well as the natural resources used by the community in earning their living, and existing strategies for coping with climate change. Through the Climate Change Adaptation and Development Initiative (CC DARE), UNEP, in partnership with Centre for Sustainable Development of Coastal Zones (CDS ZC), a governmental institution under the Mozambican Ministry for the Coordination of Environmental Affairs, helped the project team acquire the skills it needed on

climate change adaptation and natural resources management.

IMPACTS Sixteen thematic maps and one zoning map of the coastal area around Nova-Mambone showing suitable areas for agriculture, conservation, tourism, fishing and habitation have been developed. District technicians were trained in using the maps throughout all stages of the planning processes for new infrastructure works, such as boreholes, schools and medical centres. Using the maps, adaptation measures such as resettlement of people, improved livestock management, the introduction of drought-resistant crops, the opening of boreholes for cattle in the dry season, and the use of gutters for

water collection were adopted. Overall, through CC DARE, six per cent of the local population has been trained in adaptation and natural resource management.

Building on the success of this project, a similar one is being set up in Zongoene in the Xai-Xai district. There, the focus will be to develop the capacity of the community to reforest mangroves, increase the resilience of the aquaculture sector, and raise awareness of climate change and its impacts.

SUPPORT Danish International Development Agency (DANIDA).

WEBSITE <http://ccdare.org/>

zoom IN

Through the project a village management nucleus was created in the district's town. This team has worked with other villages to help them develop new skills and those groups, of which there are nine in total, are now working with fishers, farmers and villagers to address pressing local issues such as new measures for public health and sanitation, rehabilitation and construction of water catchments, improved farming practices and livestock management, and community-based natural resource management.

TACKLING CLIMATE CHANGE CLOSE TO HOME

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Even if climate change is often discussed, it's not integrated into local development strategies. After this workshop I am able to elaborate projects at the local level.

Local Government Representative,
Albania

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THE PROBLEM Think globally, act locally is the well-known credo of the fight against climate change. In fact, it has been projected that sub-national governments will be responsible for 50-80 per cent of cuts to greenhouse gas emissions and up to 100 per cent of climate change adaptation.

But local governments are sometimes constrained in their efforts because of a lack of expertise in, and methodologies for, assessing the physical and economic impact of climate change at the local level and for developing appropriate responses. It can also be difficult for local governments to exchange detailed information about the innovations being piloted across the globe at the local level.

THE SOLUTION In 2009, UNEP, with the United Nations Development Programme (UNDP), UN-Habitat and the United Nations Institute for Training and Research (UNITAR), set up the Territorial Approach to Climate Change project (TACC). The aim of the first

project phase, which UNEP leads, is to raise awareness of climate change of sub-national governments. As a first step, a needs assessment survey was conducted among more than 100 local authorities in Africa, Latin America and the Caribbean, Europe, and Asia and the Pacific. The survey showed that local authorities wanted more information on potential mitigation and adaptation strategies, as well as the associated funding strategies, what role local governments and people had to play, and what UN support was available. In response to the survey, a training package for

local authorities was designed and used in a series of capacity building workshops for groupings of sub-national authorities, such as municipalities or local councils. The training package is also being disseminated to a wide audience through the UN-wide knowledge portal UN CC:Learn.

IMPACTS Thanks to the workshops, 200 sub-national authorities from 26 countries, including Uganda, Thailand, Albania, Egypt, Uruguay and Mexico, are now able to identify risks and opportunities from climate change,

integrate them into their development plans and identify funding mechanisms to assist them in their projects. They have also significantly strengthened their knowledge base and networks with other local authorities leading to opportunities for South-South and North-South collaboration. Some local authorities will enter into the second phase of the project, led by UNDP, and develop their territorial climate change strategy and plan.

SUPPORT Various UNEP and UNDP donors.

WEBSITE <http://www.uncclean.org/tacc/>

ZOOM IN

In Uruguay, training activities included the opportunity for local authorities to engage with environmental groups and eco-businesses. A strong partnership with stakeholders has developed, and the national government in Montevideo is using the tools and methodologies introduced at the workshop covering a wide variety of topics from climate change mitigation and adaptation to financing mechanisms and territorial planning in building a climate-resilient city. The city of Montevideo now plans to work on an integrated territorial climate plan for the metropolitan region and prepare a portfolio of linked mitigation and adaptation projects.



REDD+
**REDUCING EMISSIONS
FROM DEFORESTATION
AND FOREST
DEGRADATION**

Deforestation and forest degradation account for nearly 20 per cent of global greenhouse gas emissions – more than the entire global transport sector and second only after the energy sector. Constraining the impacts of climate change within limits that society can cope with is impossible without reducing emissions from the forest sector, in addition to other mitigation actions.

To respond to this challenge, UNEP, in partnership with the United Nations Food and Agriculture Organization (FAO) and the United Nations Development Programme (UNDP), has created the UN-REDD Programme. The core of

UNEP's REDD+ activities within UN-REDD are to help countries to reduce emissions from deforestation and forest degradation in order to generate funds that could be used by communities to improve sustainable management of forests, strengthen the role of conservation, shift the forest sector to alternative development pathways, and support biological diversity and livelihoods.

Since REDD+ is still a relatively new area, capacity building is a key to success. UNEP works across the three major forested regions to help countries build the capacities to develop national REDD+ strategies, finance approaches

and relevant institutions. At the global level, UNEP's focus is the importance of realizing multiple benefits from REDD+ and its role in catalyzing a transition to a Green Economy. At the national level, UNEP is supporting the development of national strategies and the implementation of readiness programmes in 13 countries. Another main area of work is the development of tools and guidance on identifying and contributing to safeguards required under the Cancun Agreement. Other work includes promoting high-level political dialogues and engagement with the private sector to discuss REDD+ as an instrument for climate change mitigation, development and conservation.

SAFEGUARDING PEOPLE AND FORESTS WITH REDD+

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Talking with grassroots communities enabled us to gain very interesting insights relevant for adjusting some choices related to REDD+, or any other project in sustainable management of natural resources.

Dieudonné Nzabi Mangili,
Community Interlocuteur,
Mbandaka, Democratic Republic of Congo

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THE PROBLEM With a total wooded area of 1.45 million square kilometres, the Democratic Republic of the Congo has 60 per cent of the forested area of the Congo Basin. Home to more than 24 million people, and rich in biodiversity, the forests are a major carbon sink and are vital for the provision of ecosystem services like food and energy.

Though the UN-REDD programme, countries are now preparing for a future REDD+ mechanism, which is expected to provide financial incentives to reduce greenhouse gas emissions from deforestation and forest degradation. With predicted North-South financial flows from REDD+ of up to US\$30 billion a year, there is an opportunity to create pro-poor development while conserving vital ecosystem services. However, in the design of REDD+, safeguards are needed that allow forest-dependent communities access to the forests, allow the creation of jobs in the forest sector, and yet conserve forest resources.

In the Democratic Republic of the Congo was a need to strengthen the capacity to develop these safeguards and ensure their social acceptance.

THE SOLUTION In January 2011, UNEP, in partnership with Réseau Ressources Naturelles (RRN), launched a project to develop preliminary social and environmental standards for REDD+ activities. Support was provided to develop a rigorous and participatory methodology.

IMPACTS A core group of 10 practitioners set up a collaborative process that developed a first set of standards based on expertise from, among others, the Climate, Community and Biodiversity (CCB) Alliance, and research on indicators and data needs at the local level. The standards were also tested within REDD+ pilot projects.

Through the project, more than 300 people, including farmers, fishers,

hunters, healers, traditional leaders, small-scale entrepreneurs and private-sector employees have learnt what is at stake in formulating and implementing REDD+ safeguards.

UNEP's work has provided an additional forum for communities that will be affected and engaged in REDD+ and has enabled them to become an integral part of the decision-making process. Key stakeholders, including the Ministry of Environment, now support the process and plan extensive field testing of the standards, which are expected to be formally adopted by the Government of the Democratic Republic of Congo by the end of the year, thus ensuring environmental sustainability and social acceptability of REDD+ in the country.

A set of standards that are rigorous and credible, manage risks and facilitate opportunities will bolster public and private sector engagement and investment in REDD+ in the Democratic Republic of the Congo.

ZOOM IN



During the preparation of the standards, traditional healers in a village in Mbandundu Province saw how REDD+ could help them realize their dream of keeping their local forests intact. Once, medicinal plants could be collected behind homesteads, but with urbanization and deforestation healers have had difficulty finding plants to harvest. During the lobbying campaign to protect their right to harvest medicinal forest plants, healers supported REDD+ which will result in the protection of their forests.

SUPPORT Norway, Denmark, Spain, Japan and European Commission.

WEBSITE <http://www.un-redd.org>

BEYOND CARBON: REDD+ BIODIVERSITY BENEFITS

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Ecuador, as one of the most mega-diverse countries in the world, aims for the implementation of a high-quality REDD+ mechanism, which takes into account multiple social and environmental benefits, valuing forest ecosystems beyond carbon. Therefore, the study developed with the UNEP-WCMC has helped our country to generate relevant information for the development of Ecuador's National REDD+ Program and has assisted in planning activities related to the future implementation of the REDD+ mechanism.

Ministry of Environment of Ecuador

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THE PROBLEM Triggered by concerns about the effects of forest loss on climate change, a global REDD+ mechanism based on financial incentives for Reducing Emissions from Deforestation and forest Degradation (REDD), and for activities to conserve, sustainably manage and enhance forest carbon, is being negotiated.

However, depending on where and how this mechanism is implemented, it can either deliver multiple benefits, including climate change mitigation, social and ecosystem-based benefits, or bear social and environmental risks. For example, the REDD+ mechanism could be used to conserve forest areas that host important biodiversity. But if forest conservation measures neglect local people's access to important natural forest resources, this may be a social risk. Understanding these potential risks and benefits is of



major importance in planning for successful implementation of REDD+.

THE SOLUTION UNEP, through its World Conservation Monitoring Centre (UNEP-WCMC), provided training and support to countries to safeguard and enhance the multiple benefits of REDD+ and to improve understanding of ecosystem-based benefits and risk from REDD+ in Ecuador, the Democratic Republic of the Congo and Indonesia.

IMPACTS UNEP organized individual, customized working sessions with spatial analysts and decision-makers from each of the countries. These sessions produced maps and graphs demonstrating how analyses of forest carbon stocks, biodiversity, environmental pressures and other issues of national interest can support the planning of REDD+. This work has helped make experts and stakehold-

ers involved in the design of REDD+ policies more aware of the potential risks and benefits, and these new considerations are now fed into national REDD+ planning.

Participants of the working sessions returned to their home countries and passed on the skills and knowledge they had acquired. For instance, in the Democratic Republic of the Congo, a further workshop was organized to disseminate knowledge using software tools developed and shared by UNEP.

Similar work has been carried out in other countries, including Cambodia, Nigeria and Tanzania.

SUPPORT The German Federal Agency for Nature Conservation (BfN).

WEBSITE <http://www.un-redd.org>

In Ecuador, a number of policy-relevant questions were addressed, such as the pressures on carbon and biodiversity from deforestation and oil, gas and mining activities. This led to discussions on the need to update the priorities of the Socio Bosque Programme, a government initiative providing financial incentives to landowners and local and indigenous communities for forest conservation, and on the need to improve knowledge on soil carbon stocks as this could help mitigate climate change. The work carried out was fed into the Ecuadorian National Joint Programme for UN-REDD, which details the need for the country to prepare for REDD+. This sends a clear signal of the importance attached to the multiple benefits from REDD+ in Ecuador and paves the way for further work on those benefits in the country.

A person is water skiing on a large body of water, leaving a white wake. In the background, a large, dark, jagged mountain peak rises from the water. The sky is overcast. The foreground shows the wooden deck of a boat and a green rope.

SUPPORTING COUNTRIES IN THE UNFCCC PROCESS

The United Nations Framework Convention on Climate Change (UNFCCC) is central to global efforts to stabilize greenhouse gas (GHG) concentrations at a level that will prevent dangerous human interference with the climate system and to assist countries in adapting to the inevitable effects of climate change. Making the UNFCCC and its Kyoto Protocol operational has required new and increased capacities in developing countries. Many developing countries continue to seek the institutional and human capacities to comply with the reporting and other requirements of the Convention and Protocol and to access available resources to support their climate actions.

UNEP supports the Parties in building and strengthening their human, scientific, technolog-

ical, institutional and resource capabilities to implement the Convention and Protocol, comply with their requirements, and build necessary cooperation at the national, regional and international levels.

UNEP provides capacity support and undertakes enabling activities for climate change planning and reporting. UNEP has supported countries to undertake National Adaptation Programmes of Action and is now helping with National Adaptation Plans that prioritize adaptation actions. UNEP is also supporting more than 30 countries to conduct Technology Need Assessments that define clean technologies best suited for climate change mitigation and adaptation and development of Technology Action Plans that facilitate

smooth transfer of the selected technologies. UNEP has and will continue to provide support to dozens of countries as they undertake their National Communications to the Convention. Beyond planning and reporting, UNEP is providing support to countries to access finance under the Adaptation Fund, both as a Multilateral Implementing Entity and also through a support programme for countries building up and registering their National Implementing Entities. Similarly, UNEP has supported building of human and institutional capacities for the development of national Clean Development Mechanism (CDM) markets, including for accreditation of Designated National Entities and the development of investment projects.

OPENING THE LINES FOR COMMUNICATION

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The project made it clear to me as a local community leader what I can do together with my people to prevent or adapt to climate change in our farming practices.

Amadou Touré,
Community Leader,
Guinea, West Africa

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THE PROBLEM National Communications, under the United Nations Framework Convention on Climate Change (UNFCCC), are reports that signatory countries are required to submit about the work they have done or intend to do to cut greenhouse gas (GHG) emissions and implement the Convention. The production of National Communications generates a wealth of data and strengthens national expertise for mainstreaming climate change adaptation and mitigation into policy-making processes.

In addition to limited climate relevant data and insufficient systems for archiving information, the biggest challenge faced by developing countries is a lack of human and institutional capacity to prepare the reports on a regular basis.

THE SOLUTION Since 1997, UNEP has worked with national teams in 78 countries to help them build the skills they need to produce their National Communications. UNEP has made available guidance materials to country

experts, and has reviewed and provided feedback on draft reports and thematic studies.

IMPACTS With UNEP's support, 20 countries have prepared, finalized and submitted their first National Communication. Another 10 countries have submitted their second National Communication. UNEP's assistance helped countries undertake technical sectoral studies, interpret findings, and

identify priority sectors for their national or sectoral development plans.

Through the programme, UNEP has also helped more than 40 countries set up functional institutional arrangements for preparing their National Communications.

SUPPORT Global Environment Facility Trust Funds and National Governments.

WEBSITE <http://ncsp.undp.org/>

ZOOM IN

In late 2005, UNEP started to help the Republic of Moldova prepare its second National Communication. Thanks to a combination of administrative support to the project management team, technical support to national experts, and training workshops on the use of tools and methodologies, Moldova submitted its second National Communication accompanied by an elaborate national GHG Inventory to the UNFCCC in January, 2010.

Information and expertise acquired during the preparation of the National Communication played a key role in the country's formulation of a climate change strategy, which is currently under nation-wide review. As well, a number of measures to mainstream climate change considerations into development plans are being considered. The Ministry of Environment is also fostering moves to have climate change issues integrated into the national education system.

TARGETING TECHNOLOGIES

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For Senegal, the TNA project is a good way to have a view of the current situation of clean technologies in the country. The country hopes to produce a detailed Technology Action Plan which will be very useful tool for the implementation of programs and projects in many sectors. The TNA project can also facilitate the further preparation of the Nationally Appropriate Mitigation Actions and the updating of National Adaptation Programmes of Action.”

**Mass Ndour, TNA Coordinator, and
Mbaye Diagne, project consultant,
Senegal**

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THE PROBLEM Developing countries need access to advanced technologies to adapt to the consequences of a changing climate and yet at the same time achieve better economic growth and social development without adding to their greenhouse gas (GHG) emissions.

There are significant barriers to the rapid adoption of such technologies, including high costs, import and export restrictions, inadequate government policies and regulations, and a lack of experience and knowledge to operate and maintain the technologies. All of these can hinder efforts to leverage the investments that would aid in the more rapid diffusion of climate friendly technologies. Hence, developing country parties to the United Nations Framework Convention on Climate Change (UNFCCC) are encouraged to undertake assessments of country-specific technology needs, known as Technology Needs Assessments (TNAs).



THE SOLUTION Through its Technology Needs Assessments project, launched at the end of 2009, UNEP is helping 36 countries to identify the most urgent and highest impact technologies they need in a changing climate and to analyze the market and trade barriers that prevent them from accessing those technologies. The countries are also looking at their policy, institutional and financial options to overcome these barriers to prepare their National Technology Action Plan.

IMPACTS With UNEP's support, regional centres now provide on-site support by visiting countries on demand and have set up an online helpdesk to answer questions, provide information, and facilitate the review of country reports.

UNEP has also collaborated with United Nations Development Programme (UNDP) along with other organizations to develop the Climatetechwiki web platform through which

finance and energy firms can access information on a broad set of mitigation and adaptation technologies.

Some 15 countries have developed the expertise to prepare their Technology Needs Assessment and National Technology Action Plan. Seven countries have already prepared the list of prioritized technologies that they would like to see adopted and are in process of preparing their Technology Action Plans, which will help them implement the identified technologies in their countries. Another 21 countries will be involved in training workshops in 2011. Those 21 countries will benefit from the experiences of countries in the previous round through Tech-action, a web based platform gathering information on ongoing TNA activities.

By assisting countries to articulate their technology needs, this project is accelerating the pace and relevance of technology transfer in those countries.

In Senegal, a national project coordinator and two team leaders have been trained to prepare the National Technology Needs Assessment and Technology Action Plan. An institutional framework with significantly enhanced opportunities for stakeholder participation in technology planning has been established.

Senegal has reached a consensus on its technology priorities and is now looking at the barriers it faces to acquiring those technologies.

SUPPORT Global Environment Facility Trust Funds and TMA Norway.

WEBSITE <http://www.tech-action.org/>;
<http://www.climatetechwiki.org/>

BUILT CAPACITIES, ENHANCED RESILIENCE

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We, the farmers, thought that university professors were unreachable. After listening to what they said about climate change and its impact on our livelihood we understood that we and the work we do matter to them and the government, and they are taking care of us.

Farmer,
Seyhan River Basin,
Turkey

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THE PROBLEM Turkey is highly vulnerable to climate change impacts. Present climate change effects include rising summer temperatures, less winter rainfall in the western provinces, loss of surface waters, greater frequency of droughts, land degradation, coastal erosion and flooding. If no measures are taken to mitigate climate impacts, they will undo the development efforts of the country. However, Turkey lacks some of the expertise to cope with climate hazards and the level of awareness on climate change issues is low.

THE SOLUTION UNEP's support to developing countries in the identification of adaptation response measures through National Adaptation Programmes of Action, National Communications, and Technology Needs Assessments has laid the foundation for a body of knowledge, experience and lessons learnt which are now being used and replicated in other countries that wish to develop National Adaptation Strategies and Plans. A case in point is Turkey, where UNEP



worked with other UN agencies in a joint programme to enhance Turkey's ability to adapt to climate change and to manage the risks to rural and coastal developments.

IMPACTS More than 380 people were interviewed about observed climate change hazards, vulnerabilities and associated impacts at workshops in 11 provinces. The information that resulted was then fed into Turkey's National Adaptation and Development Strategies. For example, new considerations for urban infrastructure projects have been added and low-carbon and climate-resilient cities have been included in the sustainable urbanization strategies of three provinces.

Overall, through workshops and other training activities, more than 55,000 people, or 2.5 per cent of the population of the Seyhan River Basin, are now better informed and better able to cope with the effects climate change will have on their lives and livelihoods in the coming decades.

The joint programme has also helped build the expertise needed by the country to develop its Climate Change National Adaptation Strategy and Action Plan. This plan was a significant milestone in mainstreaming adaptation issues into Turkey's development planning and has since been

approved by the Ministry of Environment and Urbanization.

SUPPORT Spain/Millennium Development Goals Achievement Fund.

WEBSITE <http://www.iklimdmgf-tr.org/>

ZOOM IN



As part of the joint programme, a Knowledge Needs Survey was organized by UNEP experts, involving 67 institutions and 190 universities. The results were used to develop a comprehensive capacity development programme. This included working with the Continuing Education Centre and Earth System Sciences Department of the Middle East Technical University in Ankara on the design and implementation of the “Climate Change, Adaptation Policies and Turkey” certificate programme that has already trained 33 professionals from the government and non-governmental organizations (NGOs). The course was adopted by the university and repeated in 2011 with the participation of 20 professionals from government, NGOs and local governments. A graduate course curriculum on “Climate Change Adaptation” has also been put in place.

In other activities, more than 1400 government experts from local to central level received training on issues such as soil moisture measurement, climate change and gender, and early warning and monitoring systems for flood planning and management. In addition, as part of the Seyhan Basin Grants Projects, 1500 farmers have acquired the skills to better cope with the impacts of climate change on their farms.

THE ABCS OF CDM

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The project was the push we needed to get our project development structured, and we now have a number of developers keen to set up their projects before the expiry of the Kyoto commitment period. Also the project has enhanced awareness on CDM and assisted us in establishing our DNA.

Ann Gordon,
Deputy Chief Meteorologist (Acting),
National Meteorological Service Belize

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THE PROBLEM The Kyoto Protocol's Clean Development Mechanism (CDM) was designed to help industrialized countries reduce the cost of cutting their carbon dioxide emissions while supporting developing countries on their path to sustainable development through investment, technology transfer, environment enhancement and job creation. But some developing countries lack the abilities and expertise, policies and laws necessary to fully exploit the opportunities offered by the CDM. They need training to build the skills to identify, develop, review, authorize and implement projects under the CDM's rules.

THE SOLUTION UNEP's Capacity Development for the Clean Development Mechanism (CD4CDM) project has provided an extensive training and knowledge support programme in 33 countries in Africa, Asia and Latin America and the Caribbean.

IMPACTS Governments have been provided with coordination assistance, as well as legal and regulatory, and technical support. This has resulted in the setting up of 33 Designated National Authorities, the national institutions that approve CDM projects in host countries. CD4CDM has also boosted the CDM market in participating countries, by providing 8000 relevant stakeholders with the skills and knowledge necessary to understand the CDM project cycle (2500 of them were public and private sector experts, including 600 from the finance sector). This has led to the creation of 33 national CDM portfolios. With support from CD4CDM, some 840 project ideas have been identified of which 440 were formalized and 76 projects entered to validation. CDM portfolios have been promoted through national CDM websites, Carbon Expo and Regional Carbon Forums which

bring together buyers and sellers of carbon credits (Certified Emissions Reductions). The Latin American and Africa Carbon Forums were pioneered by CD4CDM, and have now been institutionalized as annual events.

CD4CDM has also developed a vast number of publications consisting of guidebooks, research and opinion papers, and on-line tools that together have diminished information asymmetries and provision costs. UNEP set up the CDM Bazaar, a web-based information-sharing platform which is receiving 160,000 hits a month as well as the CDM and JI pipeline, one of the leading CDM database, analysis, and market development websites.

SUPPORT The European Commission, UNEP-Risoe Centre.

WEBSITE <http://cd4cdm.org/>;
<http://www.cdmbazaar.net/>;
<http://www.cdmpipeline.org/>



Egypt was one of the first countries in which the CD4CDM project began working. UNEP's capacity building activities ran from 2002 to 2006, enabling the establishment of the Designated National Authority and helping the country become an active CDM project developer. Egypt ratified the Kyoto Protocol during the project's implementation period and today has a portfolio of about 95 CDMs at different stages of development in different sectors including renewable energy, afforestation, waste and fuel switching. Overall, Egypt has generated more than six million tonnes of CO₂ emission reductions.

THE PRACTICAL QUICK- START OF IRAQ

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The UNEP and UNDP climate change partnership programme to support Iraq in building necessary capabilities is timely since Iraq has just acceded to the UNFCCC and Kyoto Protocol. It will allow Iraq to advance its knowledge and catch up with the rest of the world in understanding the implications of climate change on sustainable development of Iraq and devise adaptation and mitigation strategies to ensure the climate resilience of the country.

Dr Kamal Lateef,
Deputy Minister,
Ministry of Environment,
Iraq

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THE PROBLEM In 2009, the Republic of Iraq became the 194th country to ratify the United Nations Framework Convention on Climate Change (UNFCCC). But, after almost three decades of isolation from the international community and because the country's Ministry of Environment has only recently been established, Iraq has some catching up to do. There is limited national expertise to help the country address the challenges of climate change, and to assess potential threats and impacts on its natural resources, environment and people.

THE SOLUTION UNEP and the United Nations Development Programme (UNDP), worked with Iraq to help build the expertise needed to implement the UNFCCC and Kyoto Protocol. This included strengthening the role of the Ministry of Environment as a lead national institution and UNFCCC focal point by establishing a climate change unit staffed with experts drawn from various departments, providing training to the Iraqi negotiation team and reaching out to other government ministries that have an important role

to play in climate change mitigation and adaptation. A number of specialized inter-ministerial taskforces were also formed.

IMPACTS Working with the Ministry of Environment, and with support from national and international experts, UNEP and UNDP supported the establishment of an inter-ministerial climate change committee. This, along with the formation of an integrated climate change programme, helped make climate change a cross-cutting national priority.

About 100 people have received specialized training and support, and climate change awareness-raising activities have been conducted across ministries and regions.

The Ministry of Environment has also been supported in acquiring the skills to prepare project proposals and mobilize financial resources. So far, four projects, on the first National Communication to the UNFCCC, adaptation of the country's marshlands, promotion of renewable

energy and capacity building for the Clean Development Mechanism, have received or are in the pipeline to receive funding. Further, the UNEP-UNDP partnership led the Ministry to request support for a more strategic review of the environment policy in the country through developing the National Environment Strategy and Action Plan.

The exact level of greenhouse gas (GHG) emissions for Iraq is not known, as the country has yet to do an inventory. However, through its

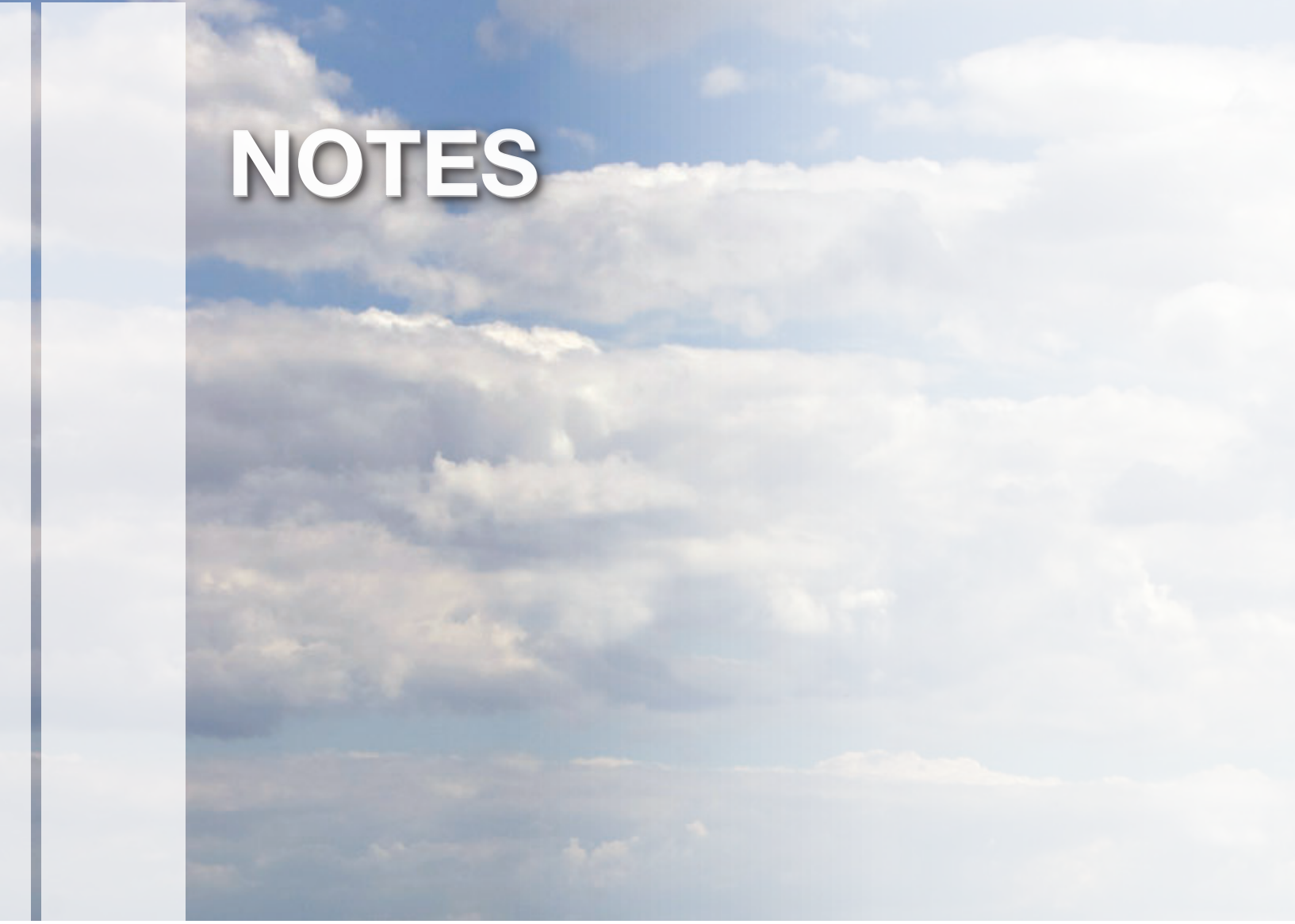
component on Renewable Energy and Energy Efficiency and its awareness-raising activities with the energy and industry sectors, the UNEP and UNDP programme has helped pave the way towards emissions cuts. Already, the Ministry of Oil has begun to develop GHG emissions management plans for oil companies.

SUPPORT United Nations Development Programme; Global Environment Facility.



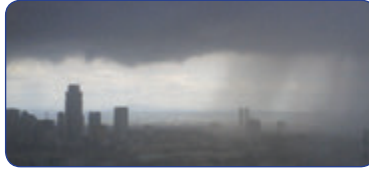
The success of the programme, which began in 2010, is due to the strong partnership between the Ministry of Environment, UNEP and UNDP. Together, the partners have been able to mobilize a large multi-stakeholder team and provide the team members with training on climate change mitigation and adaptation. Of around 100 team members overall, a strong core group of 40 Iraqi experts, pooled from government agencies and academia has formed and is receiving further training to help prepare the country's first National Communication to the UNFCCC outlining the country's activities to implement the Convention and reduce emissions, and to prepare the country's first national GHG inventory. Climate data will be assessed and analyzed to pave the way for climate modelling and science-based assessment of national climate impacts and vulnerabilities.

NOTES





UNEP'S WORK ON CLIMATE CHANGE



Climate Science

Drawing on strengths as a science-based organization, facilitate the development of climate change assessments, including for new and emerging issues, and climate impacts research to inform policies and also support countries in the development of their own climate science expertise.



Low-Carbon Growth

Support countries to make the transition to low-carbon growth and green economies by assessing emissions reduction opportunities, phasing out obsolete technologies, facilitating access to finance including stimulating private-sector involvement, and promoting the scaling up of clean and renewable energy sources and energy efficiency through policy, technology and investment choices.

UNEP's work on climate change is shaped by the UNFCCC talks and **Support** t



REDD

Support countries to develop transformative REDD+ strategies, finance approaches and institutions, and test innovative REDD+ pilot projects that include multiple benefits such as biodiversity and livelihoods. The work includes promoting consultations among stakeholders, including indigenous peoples and forest-dependent communities and engagement with the private sector to demonstrate the potential for REDD+ to be a catalyst for the Green Economy.



Adaptation

Assist countries to reduce their vulnerabilities, and increase their resilience against the impact of climate change by supporting them in the production of sound knowledge, the use of ecosystem services and ecosystem management, and the integration of adaptation into development planning and policies.



Outreach

Improve the general understanding and awareness of climate change, ensuring that national policy makers and negotiators, trade unions, youth, civil society and the private sector have access to relevant, clear and understandable climate change information.

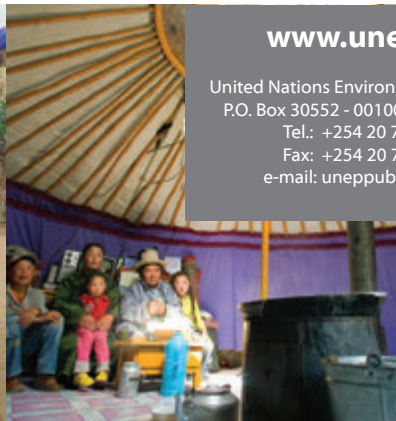
t to countries in the UNFCCC process

and outcomes, and helps countries to respond to their needs under the Convention and its Kyoto Protocol.



For more information on UNEP's work on climate change,
please visit our website:

www.unep.org/climatechange



www.unep.org

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