Supporting a climate for change

The EU and developing countries working together

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Foreword

Manuel Barroso
President of the
European Commission

Climate change is the greatest challenge to our planet and it threatens to undo years of progress in development. Extreme weather events are on the increase and this year's weather related disasters remind us yet once again that we need to act now. The international community needs to be more determined than ever and the EU will continue to strive for globally meaningful solutions through exercising its leadership in this area. Europe is going ahead with its unconditional commitment to cut greenhouse gases emissions by 20% below 1990 levels as agreed in the Climate and Energy Package. Europe's 2020 Strategy for Sustainable and Inclusive growth also shows how tackling climate change is a dynamic element in creating jobs and boosting energy security. We have pegged our own low-emission future and economic growth strategy through a sophisticated set of regulatory measures that are already bringing results. The EU is meeting its Kyoto commitments and is well on track to achieve the unilateral 20% reduction in greenhouse gases emissions. At the same time it remains ready to scale up this reduction to 30% provided other developed countries commit to comparable emission reductions and emerging economies contribute adequately to the global effort according to their responsibilities and respective capabilities.

Whilst we acknowledge that the developing countries have contributed the least to the emission of greenhouse gases, it is also evident that with the current growth paths their future emissions, in particular those of the emerging economies, must be addressed in the new climate regime. Only through concerted, truly global and meaningful mitigation actions by all emitters will we have a chance to keep global average temperature increase below critical levels.

The international front is as important as ever to tackling the threat of climate change. We need urgent progress in the international process through the adoption of a concrete set of balanced and action oriented decisions in Cancun, building on the progress achieved in Copenhagen. International support and transparency in tracking the relevant financial flows are critical elements in this respect and contribute to building confidence. Europe has pledged financial assistance of €7.2 billion over the period 2010-12 to help developing countries make a fast start on strengthening their capacities to tackle climate change for both adaptation and mitigation, including forestry. Fast start finance is a critical vehicle for equipping developing countries to meet immediate adaptation needs, including facing severe weather events and other adverse impacts of climate change, and for providing and facilitating investments that decouple economic growth and emissions. Most importantly Fast Start financing will build capacities for the implementation of a new climate regime and scaled-up financial flows in the longer term, as foreseen in the Copenhagen Accord.

As the largest global contributor to development assistance, the EU has been providing substantial international climate finance flows since well before Copenhagen. Ensuring food security and sustainable management of natural assets, access to water and sanitation, to renewable energy sources and clean technologies, the protection of forest and biodiversity, fighting desertification were already at the very heart of the EU's development assistance, and will remain core elements to enable us to embark upon a sustainable, climate resilient, low emission development path.

This brochure highlights through practical examples key areas of intervention by the European Union and its partner countries to face the climate change challenge. Responding to climate change is not an option, it is a necessity. It also brings major new opportunities for the world. The time has come to seize them with confidence.

Introduction

EU Action against climate change

Combating climate change, one of the gravest challenges facing mankind, has formed an integral part of the EU development agenda for many years. Since as early as 2002, the EU and its Member States have taken decisive action to integrate climate change issues in development cooperation and stepped up their climate finance for developing countries.

In Copenhagen, Parties to the UNFCCC have acknowledged the need for scaled-up, new and additional resources to support developing countries' capacity to deal with the negative effects of climate change as well as to prepare for the effective and efficient implementation of a new climate regime. The EU, in line with developed countries' commitments in the Copenhagen Accord, has pledged to provide €7.2 billion in climate change fast start finance for the period 2010 – 2012. The EU and its Member States are committed to ensuring that fast start funding does not undermine the fight against poverty and complements continued progress towards the Millennium Development Goals (MDGs). In 2010, the EU and its Member States have mobilised more than € 2 billion of fast start finance as part of their overall commitment, while EU 'traditional' development assistance accounts for a 60% share of the world's total Official Development Assistance (ODA). The European Commission has pledged €150 million additional grant funding as its contribution to fast-start finance in the period 2010-2012.

However, the climate change challenge cannot be tackled only through public support: the private sector is already playing a key role for important investments in climate resilient, low-carbon economies. For this reason, the EU recognises that using grants to leverage additional contributions from the private sector will be critical to fully meet the challenge. Innovative instruments that foster and strengthen Public Private Partnerships need to be scaled up to meet the long term objective of climate change finance. In this context, the Commission regards the establishment of specific "Climate Change Windows" in existing and new innovative financial instruments as a suitable mechanism to help achieve this objective.

The European Commission's 2010 fast-start commitment

In 2010, the Commission mobilised €50 million, which has been allocated in a balanced manner between adaptation and mitigation (including REDD+):

- Adaptation: €25 million under the Global Climate Change Alliance (GCCA) to accelerate action to help least developed countries and Small Island developing States adapt and build resilience to the impacts of climate change. Funding for 2010 will support Ethiopia, Nepal and Pacific islands in the area of institutional capacity-building to develop policies and measures aimed at mainstreaming climate change in key development sectors.
- Mitigation: €18 million to accelerate the transition to a low-emission economy and to reduce greenhouse gas emissions. Funding is promoting projects on: capacity-building for Monitoring, Reporting and Verification (MRV) and the development of nationally appropriate mitigation actions and low emission development strategies in Latin America, Africa and Asia; renewable energy in Africa; and capacity building to develop sectoral crediting mechanisms in emerging economies.
- REDD+: €7 million to reduce greenhouse gas emissions by reducing deforestation and forest degradation in developing countries. Funding will partly be allocated to the support the Forest Carbon Partnership Facility; as well as to the creation of the EU REDD Facility, aimed at building developing country capacities for REDD.

Most of this funding is being deployed through existing and already operational cooperation instruments and initiatives to ensure timely and efficient delivery.

Climate change and development

Climate change has a development impact that could bring unprecedented reversals in progress with poverty reduction, nutrition, health and education, thus undermining efforts towards achieving the Millennium Development Goals.

Abiding by the principles of equity and common but differentiated responsibilities, developed countries must take the lead in cutting emissions. Yet, without commitment by developing countries and in particular more advanced economies any deal will have insufficient environmental effectiveness.

The combined fossil fuel emissions of developing countries and emerging economies are projected to overtake those of the industrial world by around 2020; indeed, they already have if emissions from deforestation, agriculture and land use changes are counted. It is thus vital that developing countries start to slow the growth of their emissions as soon as possible and prepare for absolute reductions from 2020 onwards. Furthermore, rapid and uncontrolled deforestation in tropical countries has to be halted and reversed if the fight against climate change is to be successful: deforestation is currently responsible for around one-fifth of global greenhouse gas emissions.

Even if these measures are effective, global average temperatures will continue to rise in the coming decades, and both industrialised and developing countries need to adapt to the already evident changes in climate in order to minimise their impact. Richer economies need to provide concrete support to assist developing countries coping with the consequences of global warming.

The EU recognises that the most effective way to promote adaptation to, and mitigation of climate change, is to integrate these objectives into strategies for poverty reduction and sustainable development. It also attaches great importance to ensuring that these strategies are owned and driven by developing countries themselves. Such processes shall identify specific actions that developing countries will undertake to contribute to the global mitigation effort and to increase resilience to climate change, while reducing vulnerabilities. Coping with current climate variability and attempting to anticipate future climate changes is no longer an option, but a policy imperative.

Climate change is an environmental problem that poses a clear risk to development. While climate change will affect all countries, it is developing countries and in particular the poorest populations that will be hit earliest and hardest. Increasing food insecurity, water scarcity, spread of diseases to new areas, damage from floods, forced migration due to desertification of previously arable land and sea-level rise are some of the likely effects that will concern developing countries the most.

Poorer countries with economies heavily depending on natural resources, such as agriculture, forestry and fisheries, will be disproportionately affected. But even developing countries with more diversified economies are vulnerable, since the lack of financial resources, adequate technology and effective institutions limits their capacity to adapt to the consequences of climate change. Adaptation to climate change and shifting towards low-emission growth, requires a different economic path, and therefore a rethinking of development strategies. This brochure provides an overview of the EU's multifaceted approach of supporting developing countries in adapting to the negative effects of climate change and in mitigating its causes.

1 Bringing about change: EU cooperation with developing countries

1.1. Climate change, a global issue: international engagement and political dialogue with partners

Climate change has been an issue of growing concern in the relations between the EU and developing countries, since the UN Framework Convention on Climate Change (UNFCCC) was signed in 1992. It has become an integral component of EU External Relations, and today features as a priority on the agenda of the EU's dialogue with third countries.

The EU is actively supporting partner countries in facing the climate change challenge, both multilaterally, and through regional and bilateral cooperation with partner countries in all developing country regions. While support for mitigation and adaptation will require additional resources from a wide range of financial sources, including private and innovative sources, ODA will continue to play a role, particularly in support for adaptation in the most vulnerable and least developed countries. To be effective and to enable the fastest possible deployment of the available funds, the EU will continue to use existing bilateral and multilateral delivery channels as well as reinforce existing initiatives. Funds are also made available through multilateral channels such as the Climate Investment Funds, Global Environment Facility, Adaptation Fund, Forest Carbon Partnership Facility, and the Multilateral Development Banks.

In 2004, the EU substantiated its commitment to help developing countries tackle climate change by adopting an Action Plan on Climate Change in the Context of Development Cooperation for the period up to 2008[1]. The Action Plan was centred on mainstreaming aspects of climate change into development cooperation in four strategic areas: policy dialogue, mitigation, adaptation and capacity-building. One of the Action Plan's strategic objectives was to raise the policy profile of climate change. This is being achieved in practice, by ensuring that climate change is systematically addressed in the context of the EU's relations with international partners, at the multilateral, regional and bilateral levels.

Applying the principle that climate change must be integrated into a country's own strategies and actions, the EU has established dialogue with numerous emerging economies on climate change, to share experiences, expertise and develop common understandings. On a bilateral basis, since 2005, the EU has stepped up its cooperation with both China and India in

1 See http://europa.eu/legislation_summaries/development/sectoral_development_policies/r12542_en.htm

the field of climate change, through the establishment of the EU-India Clean Development and Climate Change Initiative and the EU-China Partnership on Climate Change. A dialogue on environment and climate change has also been established with Brazil, South Africa, South Korea, as well as in the context of the European Neighbourhood Policy (ENP)[2]. Concrete initiatives for closer cooperation on climate change are under way with Mexico. Climate issues are also high on the agenda in multilateral and regional fora, including the Eastern Partnership, the Black Sea Synergy, the Union for the Mediterranean, the African Union, ASEM, ASEAN[3], the Pacific Islands Forum, the Rio Group and Cariforum.

In addition, the EU is working with third country partners to better understand the international security implications of climate change. This initiative stemmed from joint EU High Representative/European Commission paper on "Climate Change and International Security" published in March 2008[4], and was followed by the update of the European Security Strategy, of which Climate Change has now become a building block. In December 2009, the Foreign Affairs Council further underlined the possible international security implications of climate change. It concluded that adaptation to climate change, sound policies on displacement, migration and conflict prevention are the most effective ways of dealing with the international security implications of climate change, to be addressed in a spirit of partnership between developed and developing countries. An ambitious and comprehensive international agreement (UNFCCC) will be an important factor in preventing and reducing the security implications of climate change.

Building on the 2004 Action Plan, the Commission launched in September 2007 the Global Climate Change Alliance (GCCA) between the EU and the developing countries most vulnerable to climate change, in particular the Least Developed Countries (LDCs) and Small Island Developing States (SIDS).

In addition to concrete support actions, the GCCA involves regional dialogues which resulted in Joint Declarations on climate change between the EU and the Caribbean (May 2008), the Pacific (November 2008), Africa (December 2008), the African, Caribbean and Pacific States (ACP) (May 2009) and, more recently, with Asian GCCA beneficiaries (May 2010).

The Global Climate Change Alliance

The GCCA is an EU initiative aimed at strengthening political dialogue and cooperation on climate change with the most vulnerable and poor developing countries, in particular LDCs and SIDS. Through the GCCA, support is being tailored primarily towards actions integrating climate change in developing countries' policies and focussing on adaptation activities, especially in the water and agricultural sectors, on reducing emissions from deforestation and forest degradation, on disaster risk reduction, and on enhanced participation of LDCs in the carbon market.

Seventeen countries and two regions are benefitting from the GCCA support: Vanuatu, Maldives, Cambodia, Tanzania, Bangladesh, Guyana, Jamaica, Mali, Mauritius, Rwanda, Senegal, the Seychelles, Belize, Mozambique, the Solomon Islands, Ethiopia, Nepal, the Pacific Region and the African, Caribbean and Pacific (ACP) region. The GCCA support to Ethiopia, Nepal and the Pacific Region counts as part of the EU fast start finance commitment for supporting adaptation in 2010 announced in Copenhagen (2009). More countries will be able to benefit from this support as additional funds become available over the coming years.

A GCCA Support Facility was established in 2009 to support capacity-building, to improve knowledge on the expected impacts of climate change, to effectively integrate climate change vulnerability into national plans and budgets, and to identify and prepare GCCA activities in particular sectors. A specific ACP capacity building programme is being set up and will start during 2011.

For more information, visit the GCCA website at:
http://www.gcca.eu

2 The ENP covers Algeria, Armenia, Azerbaijan, Belarus, Egypt, Georgia, Israel, Jordan, Lebanon, Libya, Moldova, Morocco, the Occupied Palestinian Territory, Syria, Tunisia and Ukraine.

3 ASEM: Asia-Europe Meeting; ASEAN: Association of Southeast Asian Nations

4 http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/reports/99387.pdf

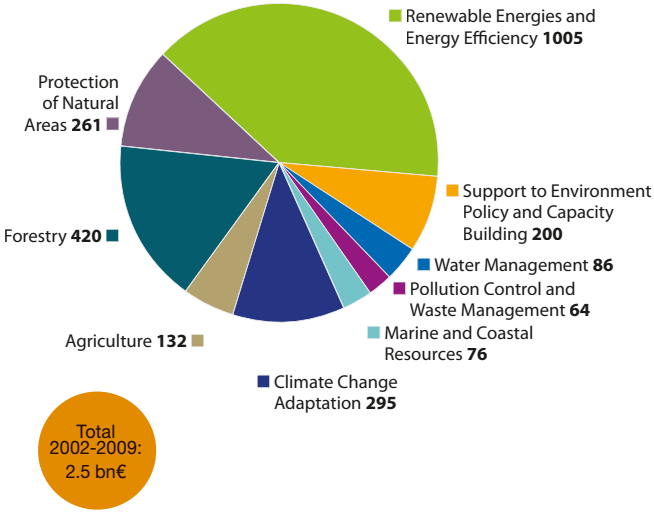
1.2. Translating political dialogue into action

The efforts at the political level are reflected in the EU's development cooperation with third countries. An analysis of the Commission's portfolio in 2009, shows that commitments for climate specific and climate related interventions have increased since 2002, totalling now around €2.5 billion[5]. This demonstrates that a significant amount of climate change integration has already taken place in development cooperation, and will continue to be prioritised in the years to come, to ensure that EU development cooperation becomes increasingly sustainable. Preliminary estimates indicate that, for the period 2010-2012, Commission's support to climate-relevant activities in developing countries will be in the order of €900 million (fast-start not included).

While ODA will continue to be an important element to tackle climate change, the private sector will increasingly play a key role: leveraging additional financial resources through public finance is thus critical, in particular for mitigation. In the last two years, innovative mechanisms have been developed by the Commission to pool grants with loans from European Finance Institutions. These EU-funded investment facilities cover almost all regions of EU external aid and devote significant attention to climate-related sectors[6]. Several projects linked to climate change are already being financed, and significant funding has been leveraged. For instance, since May 2008, the Neighbourhood Investment Facility (NIF) has approved more than €100 million of grants for climate related projects, leveraging total investments reaching more than €3.5 billion – a leverage effect of 1:33. The Commission is committed to enhancing the role that innovative financing instruments already play, by providing a vehicle for leveraging additional financing, enhancing private investments and Public Private Partnerships.

Many projects and programmes already deal with climate change issues, without crowding out the poverty alleviation focus: protection and sustainable management of forests, promotion of energy efficiency and renewable energies, conservation of natural areas are for instance important sectors in which the Commission's cooperation has been intervening for years.

Committments on climate change related actions per main sector (Million €, 2002-2009)



5 For activities that only partially address the objectives of the UNFCCC, we only consider 40% of the total allocated budget.

6 Neighbourhood Investment Facility (NIF), EU-Africa Infrastructure Trust Fund (ITF), Western Balkans Investment Framework (WBIF), Latin America Investment Facility (LAIF), Investment Facility for Central Asia (IFCA).

Alongside actions to support mitigation and adaptation, the EU is promoting mainstreaming climate change concerns into development strategies. Integration for development has to happen in two complementary ways: on the one hand, efforts to pursue this goal should start from within EU development cooperation activities, to ensure supported activities pay due consideration to climate change and environmental sustainability issues as a key horizontal dimension in all sensitive sectors. On the other hand, there is the need to advance with the integration of these aspects in partners' policies and strategies, from the poverty reduction strategy papers to sectoral policies. The EU is promoting a bottom-up approach, which calls for the gradual integration of adaptation into national development strategies and poverty eradication plans. Integration is crucial because adaptation efforts concern sectors which are usually at the core of each country's development.

SWITCH Programme (Asia):

With a budget of €90 million, the SWITCH Asia programme offers co-funding to partnerships of SME supporting organisations and networks boosting the use of information, knowledge, training, awareness, technologies and processes that cut down on pollution during production. The programme also addresses consumers and the changes in behaviour that can minimise waste and stimulate the production of cleaner products. It follows a bottom-up and a top-down approach, by working simultaneously on the ground and supporting formulation and implementation of sustainable consumption and production policies at national level in four selected countries (Indonesia, Malaysia, Philippines and Thailand) and at regional level. An important element is the Programme's own Network Facility, which facilitates networking among projects, supports the replication of best practices, and communicates the results to various stakeholders.

Each SWITCH Asia project will improve the production and consumption patterns of 100-300 SMEs in the country where it is implemented. It will bring about quantifiable reductions of waste, energy and water consumption and CO_2 emissions. A practical example of the programme is "Improving the Operating Efficiency of Chinese Electric Motor Systems". The project aims to assist industrial users of electric motor systems in switching to high efficiency systems, thus reducing their electricity costs and emissions of greenhouse gases. Over its three years of duration, the project will facilitate over 400 major industrial users of electric motor systems to improve the operating efficiency of their systems, saving about a total of about 1 million tons of CO_2 emissions per year.

For more information, see **http://www.switch-asia.eu/**

The June 2009 Council Conclusions on the integration of environment in development cooperation acknowledge that sustainable management of natural resources and adaptation to climate change are fundamental to ensure sustainable urban and rural development and progress in poverty eradication, in particular the achievement of the Millennium Development Goals (MDGs). The Council emphasises the importance of supporting the integration of environment, both as a sector and as a cross-cutting policy issue, in national development strategies, in particular Poverty Reduction Strategies and in sector/programme/project planning and implementation, notably in EU supported programmes. Furthermore, in line with the Paris Declaration and Accra Agenda for Action, it flags the importance of coordinating approaches towards environmental integration and of promoting low emission development, as a way to address climate change and as a potential opportunity for development.

To enhance this process of integration, continuous efforts are underway and will be stepped up in the near future, supporting the development of human and institutional, as well as regulatory, capacities of developing countries to deal with climate change.

Mainstreaming in practice: building climate resilience in the Commission's Development Cooperation

The European Commission has put in place a comprehensive approach to promote integration of environment as a critical cross-cutting theme under main areas of cooperation and is building upon this approach to strengthen consideration of climate change concerns:

- Tools and methods for environmental integration in programmes and projects have been revised to strengthen links with climate change mitigation and adaptation. This is based on the recognition that sound natural resource and ecosystem management can play a critical role in reducing vulnerability and building resilience to climate change while producing other benefits also under existing conditions: it should therefore be seen as "no regret" options.
- Training seminars delivered at Headquarters and cooperation countries reflect this new approach. Activities in the Commission's portfolio are now systematically screened for environmental and climate change opportunities.
- A majority of European Commission partner countries now have Country Environment Profiles (CEPs) in place and there is increasing use of Strategic Environment Assessments (SEAs) in relation to programmes in environmentally sensitive sectors. Some environmental profiles are being updated in order to adequately take into account climate change vulnerabilities and impacts. This is planned to be generalised in relation to the preparation of the new programming cycle starting in 2014.
- The European Commission is an active member of the OECD Task Team on integrating climate change adaptation into development cooperation, as well as of related task teams dealing with reporting on ODA to environment conventions and with environment and SEAs more broadly. The European Commission is also participating in other “best practice circles” for the exchange of experiences and harmonisation of methods and practices.

2 Adapting to climate change: supporting our partners in meeting the challenge

2.1. Supporting adaptation in the field

Considering the higher vulnerability of poor people in developing countries, adaptation strategies are needed to strengthen their resilience to the impacts of climate change. International support for adaptation is essential for reasons of fairness, poverty reduction and global responsibility.

> "Fighting poverty and fighting climate change are the ultimate issues of our time. They are inseparable and have to be addressed together" ***Ms Gunilla Carlsson***
>
> *Swedish Minister for International Development Cooperation and Chair of the international Commission on Climate Change and Development.*

Adaptation is different from mitigation as the direct benefits of adaptation actions are local or regional, while the benefits of mitigation actions are also shared globally. To ensure that adaptation efforts are effective, they should target firstly the most affected populations, and must be integrated across all areas of development cooperation in order to ensure that development does not lead to mal-adaptation.

Specific actions addressing the most immediate and urgent needs of vulnerable populations, for instance as identified in the National Adaptation Programmes of Action (NAPAs), will continue to be financially supported, both through contributions to the Least Developed Countries Fund and bilateral support. The EU also strongly backs the UNFCCC Nairobi Work Programme on adaptation and welcomes the operationalisation of the Kyoto Protocol's Adaptation Fund. The Nairobi Work Programme provides an opportunity to strengthen understanding of the impacts of climate change and of countries' vulnerabilities, adaptation needs and responses. Beyond the multilateral framework, the EU is also supporting a range of specific bilateral or regional projects to help adaptation and capacity-building efforts by developing countries.

While NAPAs need to be implemented urgently and require increased donor support, it is essential to ensure in the medium and long term a move beyond NAPAs and towards a programmatic approach to adaptation. In this respect the comprehensive work undertaken by several LDCs to shape long-term national

adaptation strategies beyond their NAPAs is extremely valuable and should be capitalised upon through specific initiatives such as those promoted by the EU's GCCA. These initiatives, while building essential experience, should gradually lead to effective integration of adaptation into a country's broad development strategy.

Adapting to climate change will entail adjustments and changes at every level – from local, to national and international. In many instances, regional coordination will provide great opportunities for dealing with the climate change response, as many countries may face similar challenges as those of their neighbours. Regional organisations can therefore play an important role in analysing lessons learned, exchanging experiences, ensure diffusion of information on best practices and develop regional response strategies and tools. At the same time, communities must build their resilience, including adopting appropriate technologies while making the most of traditional knowledge, and diversifying their livelihoods to cope with current and future climate stress. Local coping strategies and traditional knowledge needs to be used in synergy with national interventions. Local authorities know their community best and should be given increasing responsibility both for identifying groups at risk, and for supporting them in their efforts to increase resilience.

EuroClima (€5 m)

EUrocLIMA aims to provide Latin American decision-makers and the scientific community with better knowledge of climate change and its consequences, particularly in view of integrating these issues into sustainable development strategies. The objectives of the EUrocLIMA Programme are to help:

- Reduce people's vulnerability to the effects of climate change in conjunction with the fight against poverty and promote sustainable development by increasing understanding of how action at national level affects the rest of the region.
- Reduce social inequalities, especially those linked to climate change and facilitate social sustainable development.
- Reduce the socio-economic impact of climate change through cost-efficient adaptations, capable of generating sub-regional and regional synergies.
- Reinforce regional-integration dialogue with the aim of setting up a permanent consultation mechanism for a joint review of shared goals.

2.2. Making the link: climate change adaptation and disaster risk reduction

Hydro-meteorological hazards such as floods, droughts and tropical cyclones afflict many regions of the world, but their impact in terms of lives lost and livelihoods disrupted tends to fall most heavily on the poor in developing countries. Climate change threatens to heighten these impacts in many areas, by increasing the frequency and/or intensity of extreme events. The result in the decades to come may be an increase in the global burden of climate and weather-related disasters – events that can threaten the sustainability of development processes and undermine progress toward poverty reduction.

Disaster Risk Reduction (DRR) is an essential part of successful adaptation to climate change. Most vulnerable developing countries and societies should be supported in reducing disaster risk through focussed action on disaster prevention, mitigation and preparedness. Effective DRR reduces the risk of disaster, thereby decreasing the loss of life and property and the costs of humanitarian aid.

Following adoption of an EU Strategy on Disaster Risk Reduction in Developing Countries in 2009, highlighting the need to inter-link DRR and climate change adaptation in line with the 2007 Bali Action Plan and the 2005 Hyogo Framework for Action, a DRR implementation plan with concrete measures is expected to be adopted by end of 2010.

The plan's overarching objective is to harmonise and increase effectiveness of the EU external action in DRR, by focusing on four main priorities: i) Enhancing multilevel and multi-stakeholder dialogue on DRR; ii) Supporting regional approaches to DRR planning, implementation and capacity building; iii) Greater integration of DRR into EU's external action and; iv) Coordination of EU support to key DRR investments, including to strengthen information systems and risks analysis for integrating climate change into DRR.

In parallel to the development of an implementation plan, important steps have been made with the establishment of an EU-ACP Natural Disaster Facility, following the signature of an agreement with the African, Caribbean and Pacific (ACP) group of developing countries. A number of concrete actions have been identified in this framework among which a €60 million Commission's contribution to the World Bank-managed Global Facility for Disaster Risk Reduction (GFDRR), to address prevention, mitigation and preparedness to natural hazards in ACP States, focussing on the following priority areas:

- mainstreaming of disaster risk reduction;
- risk identification and assessment;
- early warning systems and communication on DRR;
- risk transfer and integration of DRR into recovery.

European Commission-India Disaster Preparedness Programme

India is highly vulnerable to earthquakes, cyclones, floods and drought. The majority of urban construction and urban development in the populous cities of India are not earthquake resistant and, more generally, disaster prone areas and cities are not adequately prepared to face natural disasters of high magnitude. Considerable efforts and full-scale management mechanisms are needed to reduce the vulnerability of communities in high risk cities and multi-hazard prone states in order to develop basic capacities for disaster mitigation and management.
The idea for the Natural Disaster Preparedness & Recovery programme emerged from the experiences gained from the Orissa Super Cyclone of 1999 and the Gujarat Earthquake of 2001. Over a period of 2 years, a large number of women, women's groups, village councils, and various village committees were consulted and involved in the need assessment process and formulation of the programme's objectives.
Based upon the success of pilot initiatives in Orissa, the Ministry of Home Affairs (MHA), State Governments, Civil Society Partners, and other stakeholders have requested an enrichment and expansion of these experiences to other vulnerable areas. Disaster management and disaster preparedness are multi-disciplinary fields covering a wide variety of subjects and sectors and involving many different actors.
One of the key elements which makes the project a success is the participation of all stakeholders in the activities undertaken. This is achieved through awareness generation at multiple levels and has led to stakeholder ownership of the initiatives. A bottom-up approach has ensured that the activities address local needs and take local resources and capacities into consideration.
The project was carried out by the United Nations Development Programme (UNDP) and UN-volunteers who provided technical expertise. They ensured that the process was fully owned by the communities and driven by the local government at State, district, block and village levels.

3 The path to low emission growth

3.1. Stimulating clean development through emissions trading

The EU's strong support for the Kyoto Protocol's flexible mechanisms – the Clean Development Mechanism (CDM) and Joint Implementation (JI) – aims to help developing countries and economies in transition move towards more sustainable development, by promoting projects that use clean technologies to reduce greenhouse gas emissions.

Emission-saving projects located in developing countries are carried out under the CDM while those in transition countries are covered by JI. CDM and JI projects promote sustainable development by transferring environmentally sound technologies to the host nation. The projects yield emission reduction credits, which can be bought by governments or companies in industrialised countries to help meet their emission targets.

The vast majority of investment in CDM and JI projects is spurred by the EU Emissions Trading Scheme (EU ETS), which caps overall CO_2 emissions from some 10,500 large emitters in energy-intensive industrial sectors and power generation in the EU. The scheme, launched in January 2005, is the cornerstone of the EU's strategy for cutting greenhouse gas emissions cost-effectively and meeting its Kyoto targets. It has rapidly become the driving force behind the expansion of the global carbon market.

For the period between 2008 and 2012 – the Protocol's first commitment period – companies participating in the EU ETS are able to buy emission credits from CDM and JI projects equivalent to 1.38 billion tonnes of CO_2. The inclusion in the EU ETS of the aviation sector from 2012 will further increase the demand for credits from developing countries.

Several EU Member States have set up programmes to buy emission reduction credits generated by CDM and JI projects, either directly or through government-financed 'carbon funds', to help them meet their Kyoto targets more cost-effectively. During the first commitment period, EU governments plan to buy CDM and JI credits equivalent to around 550 million tonnes of CO_2, and have budgeted €2.9 billion for these purchases.

This combined demand from the private and public sectors means that the EU will be the main buyer of CDM credits between 2008 and 2012.

The EU sees an enlarged and reformed international carbon market, with linked-up domestic emission trading systems at its heart, as an essential tool for achieving, at least cost, the deep reductions in global greenhouse gas emissions that are needed.

Under a post-2012 global climate agreement, the EU wants the CDM reformed to improve its effectiveness and environmental integrity and to broaden the participation of developing countries, particularly the least developed countries. Indeed, the CDM has a high potential to contribute to sustainable development, by channelling private investments into development activities with economic, social, and environmental benefits. Unfortunately, investments have tended to flow outside LDCs, where CDM activities provide higher returns. To ensure that the CDM positively contributes to sustainable development and to global emission reductions in LDC, additional assistance is needed to further enhance their capacity to participate in the carbon market and its mechanisms. To increase participation of LDCs, the EU will continue to accept credits from new CDM projects in the LDCs registered post-2012.

The EU also proposes integrating economically more advanced developing countries gradually into the international carbon market, through the introduction of sectoral crediting and trading mechanisms in place of the CDM for their most internationally competitive sectors.

The Haryana Community Forest Project (India)

The Haryana Community Forestry Project (HCFP), co-funded by the Government of Haryana State in India and the European Commission, was implemented in 338 villages in 11 districts of Haryana with the objective of conserving and rejuvenating natural resources, mainly through forestry development, with the active participation of communities, especially women. A number of participatory appraisal exercises with stakeholder farmers were carried out, by-laws for a farmers' society to implement the project were framed and the society was registered.

Within the broader framework of the HCFP, an afforestation area of 370 hectares of sand dunes belonging to 227 farmers in eight villages in the Sirsa district has been selected for a carbon trading project within the Kyoto Protocol Clean Development Mechanism (CDM), under the United Nations Framework Convention on Climate Change (UNFCCC). Validation of the proposed project activity by a company accredited by UNFCCC was carried out through site inspection in April 2008 and the proposed CDM project was approved by the UNFCCC CDM Executive Board on the 23 March 2009. This CDM pilot project is the first small scale afforestation project in the world to get certified by the Clean Development Mechanism.

For more information, see **http://hcfp.gov.in/**

3.2. Promoting the transfer of low carbon technologies

A major boost must be given to research, development and demonstrating low-carbon and adaptation technologies in all economic sectors and activities. International cooperation, on research or the setting of international standards, is vital to stimulate the global development, commercialisation, deployment and access to low carbon technologies. International public funding required for capacity building and cooperation for research and technology demonstration has been estimated at an additional € 2–6 billion in 2020[7]. Public finance in the short and medium term and beyond should also fund, in addition to urgent adaptation needs, capacity building and technology research, development and demonstration. It is also crucial that public funds help to leverage private sector investment, e.g. by covering the financing needs during early uptake of new technologies.

EU-Mexico Fund for Science and Technology Cooperation (Spanish acronym: FONCICYT)

FONCICYT is the bilateral EU-Mexico Fund for Science and Technology Cooperation, which was inaugurated on the 11th of February 2008. FONCICYT aims at strengthening the cooperation between the European Union and Mexico in the field of science and technology, and contribute to solve environmental and socioeconomic problems. With the implementation of the programme both partners underline their commitment to further increase cooperation efforts in the sector. The programme has a budget of € 20 million, co-financed between the European Commission and the Mexican National Council on Science and Technology (CONACYT). Following a call for proposals launched in late 2008, ten networks and twenty-four joint applied research projects were selected in targeted specific areas of common interest, notably: environment and climate change, biomedicines and health, agriculture (including forestry and fishery), industrial and manufacturing technologies, electronics, materials and meteorology, non-nuclear energy, transport, information society technologies, economic and social development, biotechnologies, aeronautics and space research.
In the specific fields of environment, climate change and energy, ten projects are currently implemented, for a total amount of 3.7 M€, and will culminate in June 2011:

- Research, development and implementation of solar cooling systems for freezing and air conditioning
- Development of catalytic materials for the production of ultraclean fuels
- Underwater geothermal resources in the North of the Gulf of California
- Sliding mode control and monitoring for process automation in energy production
- Community conservation: the role of local participation in biodiversity conservation
- Field and instrumental observations and experimental survey applied to volcanic disaster prevention: development of new instruments and methods for studying volcanic activity
- Theoretical chemistry network for environment and health
- Bioprocesses and control for water treatment
- Research network for sustainable management of land ecosystems
- Comprehensive treatment of complex wastewater products from the oil industry

FONCICYT has been an excellent instrument for discovering the great potential for collaboration in research and technological development between the EU and Mexico, and for promoting international cooperation. It creates the conditions for improving the Mexican participation in Seventh Framework Programme for Research and Technological Development.
This programme reflects the objectives and philosophy of the international cooperation in Science and Technology between both regions. For more information: http://www.pcti.gob.mx

7 COM(2009) 475/3, http://ec.europa.eu/environment/climat/pdf/future_action/com_2009_475.pdf

To accelerate the development and kick-start deployment of strategically important low-carbon technologies, the EU is implementing the European Strategic Energy Technology Plan (SET-Plan). For developing and emerging economies, the European Community interest lies in helping those countries develop and grow in a more sustainable manner, while building new market opportunities for EU industry and ensuring effective collaboration in accessing and developing resources. Options for further engaging and cooperating with such countries include: networking energy technology centres; setting up large-scale demonstration projects on technologies with the highest potential in those countries; increasing the use of innovative financing mechanisms, such as the Global Energy Efficiency and Renewable Energy Fund (GEEREF); reinforcing the CDM in Least Developed Countries and the use of sectoral crediting and trading mechanisms for the more advanced developing countries.

3.3. The role of clean energy

Ensuring people in developing countries obtain access to modern and affordable energy services is a prerequisite for achieving the Millennium Development Goals, and in particular for eradicating poverty. The EU's framework for dialogue and partnerships with developing countries to meet this challenge is the EU Energy Initiative for Poverty Eradication and Sustainable Development (EUEI), launched at the 2002 World Summit for Sustainable Development (WSSD) in Johannesburg.

The EUEI seeks to help end the limited access to energy services and heavy reliance on traditional biomass that are hallmarks of poverty in developing countries.

It is also a catalyst for action. Through the Initiative, the EU is working with developing countries to create the necessary conditions in the energy sector to achieve their national economic, social and environmental objectives. This is being done in particular by maximising energy efficiency, including and increasing the use of renewable energy. In this way the Initiative is also contributing to mitigating climate change.

Activities implemented under the EUEI are driven by the needs and priorities of the participating developing countries. Their ownership of activities is a key feature. Official Development Assistance provides a basic funding framework for the Initiative but the aim is also to attract considerable funding from private resources for further investment.

The Africa-EU Energy Partnership (AEEP) was launched during the 2nd Africa-EU Summit in December 2007, Lisbon, Portugal where the First Action Plan (2008-2010) was adopted. It is a long-term framework for structured political dialogue and co-operation between Africa and the EU on energy issues of strategic importance. Its objective is to increase European and African investments in energy infrastructure and in energy interconnections within Africa and between Africa and Europe through instruments such as the Energy Facility, the EUEI Partnership Dialogue Facility, the EU-Africa Infrastructure Trust Fund as well as numerous bilateral instruments. The AEEP also seeks to promote renewable energy and energy efficiency, and to improve the management of energy resources. The Renewable Energy Cooperation Programme (RECP) was launched by the

The Global Energy Efficiency and Renewable Energy Fund (GEEREF)

Global Energy Efficiency and Renewable Energy Fund (GEEREF) is an innovative Public Private Partnership initiated by the European Commission and managed by the European Investment Bank group to transfer clean and renewable energy technologies to developing countries. Through its investments in Private Equity funds, GEEREF finances a broad mix of energy efficiency and renewable energy projects and technologies, such as small hydropower, biomass, wind farms as well as solar power technologies. Not only should investments bring almost 1 gigawatt of clean energy capacity to recipient countries, providing sustainable energy services to 3 million people and saving up to 2 million tonnes of carbon dioxide emissions, they will also enable the transfer of low carbon technologies in targeted regions. This makes GEEREF an innovative and groundbreaking financial instrument for sustainable development that has already commenced investments in India, Nepal, Bangladesh, the Philippines and South Africa. The EC, Germany and Norway are GEEREF's first investors.

EU and the African Union in 2010. RECP, being Part of the EU and Africa Energy Partnership[8], will contribute to the African renewable energy targets for 2020, as well as to Africa's efforts to reach the Millennium Development Goals and to secure future low-emission growth. Africa has a vast untapped renewable energy potential, ranging from hydro, to solar, wind, geothermal and biomass which could be used to ensure millions of people access to electricity. The RECP aims at bringing relevant renewable energy technologies to the market in Africa. The programme is established for a 10 years period, and it provides a framework for joint cooperation between EU and the AU which comes in complement to ongoing initiatives such as the EU Africa Infrastructures Trust Fund or the ACP-EU Energy Facility.

The ACP-EU Energy Facility:

The ACP-EU Energy Facility aims to alleviate poverty by incrementing access to adequate, affordable and sustainable energy services to the poor in Sub-Saharan African, Caribbean and Pacific countries.

The first Energy Facility was launched in 2006 with a total budget of €220 m. It has co-financed 74 projects selected through a call for proposals, aimed at increasing access to modern energy services in rural and peri-urban areas (small and medium infrastructure projects) and improving governance and management in the energy sector. Almost seven million people are expected to benefit from these projects. The projects related to energy generation focus mainly on renewable energy as only source of energy (78%) or in hybrid systems (20%).

In order to facilitate future large scale investment programs in cross-border interconnections, grid extensions and rural distribution, the 1st Energy Facility also provided an institutional support to the four regional Sub-Saharan African Power Pools and to the African Forum for Utility Regulators.

For the period 2009–2013, the European Union and the ACP States have agreed to establish a new Energy Facility endowed with €200 million under the 10th European Development Fund. The overarching goals of the Energy Facility are access to energy services in a perspective of combating Climate Change and achieving the Millennium Development Goals (MDGs) and the World Summit on Sustainable Development (WSSD) objectives on energy. In the pursuit of these goals, the Energy Facility is focussing on improving access to modern, affordable and sustainable energy services in rural and peri-urban areas, with emphasis on the use of renewable energy sources and energy efficiency measures. Around 70 projects selected through a call for proposals launched at the end of 2009 are expected to be co-financed by the Energy Facility.
In addition, the ACP-EU Energy Facility will finance institutional support and sectoral studies in the energy sector through a contribution to the EUEI-Partnership Dialogue Facility, an instrument developed and funded by a number of EU member states and the European Commission in the context of the EU Energy Initiative (EUEI) (see http://www.euei-pdf.org).
The Commission has also created a new mechanism, called the Pooling mechanism, to blend Energy Facility grants with loans from the EU multilateral and bilateral financing institutions to fund projects for access to energy services. This process is expected to increase the leverage effect of the financial aid, to enhance private sector participation, and to increase the complementarity of expertise and resources at EU level.

For more information, see
http://ec.europa.eu/europeaid/energy-facility

8 http://www.africa-eu-partnership.org/partnerships/energy

4 Pursuing multiple goals: mitigating while helping to adapt

4.1. Strengthening the knowledge base: assisting developing countries through climate research

Enough evidence has been gathered to justify climate policy action, but further knowledge is needed to better understand the climate system, evaluate the impacts of climate change, and identify and assess options for mitigation and adaptation. The EU's 7th Framework Programme for research and technological development, which runs from 2007 to 2013, provides a key framework for international collaborative research in this field. The programme has a strong international dimension as it is open to cooperation with research institutions in third countries and facilitates collaboration with researchers from developing countries who participate directly in a range of EU projects, many of them focusing on climate-relevant issues such as food security, health and ecosystem management.

Numerous projects carried out under the EU's RTD programmes concern global or regional climate change questions of relevance to developing countries. The results are also an important contribution to the Intergovernmental Panel on Climate Change's (IPCC) work on assessing climate change, its potential impacts and options for adaptation and mitigation.

What follows is a selection of examples[9] of climate-relevant research projects funded by the Commission that involve and directly benefit developing countries in different areas of the world.

9 Detailed information on the European Commission research activities in the field of Climate Change can be found at: http://ec.europa.eu/research/environment/index_en.cfm?pg=climate

Asia

The **URGENCHE (Urban Reduction of GHG Emissions in China and Europe)** project - in close collaboration with partners in China - develops and applies a methodological framework for the assessment of the overall risks and benefits of alternative greenhouse gas (GHG) emission reduction policies for health and well-being. URGENCHE will deliver a validated, methodological framework to assess urban GHG policies with the greatest co-benefits for health and well-being in cities ranging in population from 50,000 to 10 million, across various climatological conditions and different socio-economic backgrounds.

The **POEM (Policy Options to Engage Asian economies in a post-Kyoto regime)** project is applying an integrated modelling framework to explore possible pathways for China and India to contribute to international climate initiatives without compromising their national development priorities. One of the key objectives of the project is the identification of international climate policies for future commitments and participation of emerging economies.

Africa

The **CarboAfrica project** focused on the quantification and prediction of the cycle of carbon and other greenhouse gases in sub-Saharan Africa, in order to evaluate the region's potential as a global carbon 'sink'. It provides a better understanding of photosynthesis and respiration of African ecosystems, which are subject to regular modification due to continual changes in land-use. The three-year project includes the following countries: Benin, Botswana, Burkina Faso, Congo, Gabon, Ghana, Mali, Niger, South Africa, Sudan and Zambia.

The **QWeCI (Quantifying Weather and Climate Impacts on Health in Developing Countries)** project focuses on Climate variability as an important determinant for the incidence of a number of significant human and animal diseases and associated socioeconomic impacts. QWeCI developments will allow health stakeholders and planners to react in a timely and cost-effective manner to reduce the severity of epidemic outbreaks and make long-term decisions regarding health infrastructure investment

The **CLIMAFRICA (Climate change predictions in Sub-Saharan Africa: impacts and adaptations)** project focuses on the development of improved climate predictions on seasonal to decadal climatic scales, especially relevant to Sub-Sahara Africa. It assesses climate impacts in key sectors of livelihood and economy, especially water resources and agriculture, and evaluate the vulnerability of ecosystems and civil population to inter-annual variations and longer trends (10 years) in climate. New suited adaptation strategies, focused on local needs, will be suggested and analysed.

South America

The EU has contributed through **CLARIS** to build a Europe-South America climate research network. This was the goal of the **Europe-South America Network for Climate Change Assessment and Impact Studies**, established to promote common research strategies to monitor and predict climate change and its socio-economic impact across South America. A new project **CLARIS–LPB**, focusing on the "La Plata Basin", is being implemented. The project contributes to the development of adaptation strategies for sectors such as land use, agriculture, hydro-electric power generation, river transportation, and water resources. It involves institutions in Argentina, Brazil, Chile and Uruguay.

The **CENSOR (Climate variability and el Niño southern oscillation: implications for natural coastal resources and management)** project has the objective to enhance the detection, compilation and understanding of el Niño /la Nina in order to reduce their negative effects on coastal marine environments and resources, which have drastic implications for the ecology, socio-economy and infrastructure of the countries concerned. The project includes partners from Peru, Chile, and Argentina.

4.2. Promoting sustainable forestry

Forests play a crucial role in regulating the global climate, while also being a vital resource for many developing countries.

They are important on a global scale for the biodiversity they host (70% of all the world's biodiversity is found in forests, a large part of it yet to be known); the valuable timber they produce; the livelihood they provide to local poor people in terms of food, fuel, medicines, etc. (over 90% of the 1.4 billion people living in extreme poverty depend on forests for some part of their livelihoods).

Forests help prevent climate change by acting as 'sinks' that absorb carbon dioxide (CO_2), but at the same time deforestation and land use change are responsible for some 20% of global CO_2 emissions – the second largest source after the burning of fossil fuels, and more than the combined emissions from all forms of transport.

Moreover, forests facilitate adaptation to the effects of climate change: healthy natural forests as well as plantations or naturally regenerated forests protect watersheds against climate-change induced drought, floods or landslides, and they can limit the desertification process. Agroforests integrate food and wood production and supply a range of important environmental, economic and social services, that improve local communities' capacity to cope with adverse climatic events. Mangroves can protect coastlines against the effects of heavy storms and rising sea level, thus playing an important role in disaster risk reduction.

Yet, the health of forests can also be damaged by climate change, which has an impact on their ecological functions and reduces their economic productivity.

The EU strongly supports and is actively contributing to negotiations under the UNFCCC on actions to reduce emissions from deforestation and forest degradation (REDD), as part of a global climate change regime for the period after 2012. Incentives need to be created to help developing countries reduce and then stop deforestation. The EU proposes that the future climate agreement should aim to reduce gross tropical deforestation to at least 50% of current levels by 2020 and halt the global loss of forest cover by 2030, at the latest.

Supporting developing countries in managing their forest resources sustainably, combating illegal logging and monitoring changes in their vegetation helps to mitigate climate change and is an important aspect of EU development policy. Between 2002 and 2009, the EU has provided €420m for sustainable forest management in support of climate change objectives.

The EU's Forest Law Enforcement, Governance and Trade (FLEGT) Action Plan represents the EU's answer to the problem of illegal logging and the trade of illegally logged timber. It aims to help build up the capacity of developing and emerging-market countries to control illegal logging, as well as addressing the trade in illegal timber products between these countries and the EU. FLEGT Voluntary Partnership Agreements have been agreed with Ghana the Republic of the Congo and Cameroon, and are under negotiation with the Central African Republic, Liberia, Indonesia, Gabon, Vietnam and Malaysia. These agreements will help improve governance in the forest sector and ensure the legality of timber exports to the EU, in particular through a licensing scheme. In July 2010, the EU committed to ban illegal timber from entering the common market as of 2013.

TroFCCA: Tropical Forests and Climate Change Adaptation in Southeast Asia, West Africa and Central America (3M)

Besides promoting the mitigation of greenhouse gas emissions through sustainable forest management, the EU is also supporting a number of adaptation-related forest projects in developing countries and the development of improved environmental data systems as a basis for more effective decision-making. The TroFCCA project is an effort to expand the current limited understanding of climate change potential impacts on forests and to develop robust methods to assess vulnerability and plan for adaptation within these systems. This project, undertaken in Southeast Asia, West Africa and Central America, aims at addressing mainstreaming adaptation into development policy by undertaking relevant research on how impacts of climate change over forests are likely to undermine specific development policies.

Companies will be required to use a due diligence system and carry out risk assessments where illegal activities are suspected. Furthermore, they will have to trace back the timber they use to the country and place where it was harvested.

Conservation and rational use of forest ecosystem in Central Africa (ECOFAC IV) (38M)

The forests of Central Africa represent the second largest block of rainforest on Earth and are among the richest in terms of biodiversity. Over the past 20 years, biodiversity in the area has been threatened by deforestation. Moreover, bush meet trade supplying urban centres further challenges the forest wildlife, whose capacity for regeneration is in the long-term seriously compromised. The objective of the ECOFAC project are to conserve biodiversity through an improved management of protected areas, promote a rational exploitation of forest resources towards sustainable development, and encourage cooperation to develop and implement regional solutions. Together ECOFAC I, II, III have committed more than €70 million in Congo, Cameroon, Central African Republic, Equatorial Guinea, Gabon, Sao Tome and Principe and the Democratic Republic of the Congo.

REDD+ Partnership

The UN Framework Convention on Climate Change (UNFCCC) has encouraged Nations to work together in their efforts to reduce emissions from deforestation. REDD (Reducing Emissions from Deforestation and Forest Degradation) is an effort to create a financial value for the carbon stored in forests, offering incentives for developing countries to reduce emissions from forested lands and invest in low-emission paths to sustainable development. REDD+ goes beyond deforestation and forest degradation, and includes the role of conservation, sustainable management of forests and enhancement of forest carbon stocks. The REDD+ partnership is a global platform to scale up REDD+ actions and finance, while a future mechanism under the UNFCCC is negotiated and implemented. The objectives of the partnership are: focusing on support for developing countries' REDD+ efforts; providing transparency around financing, actions and results; promoting safeguards provided by the draft decision being negotiated under UNFCCC; and coordinating delivery of scaled up REDD+ financing. The European Union recently declared its support of the REDD+ Partnership on the occasion of the Partnership meeting in Nagoya 25-26 October and reconfirmed its commitment to global efforts in this regard.

4.3. Agriculture and rural development in the context of climate change

In many developing countries agriculture is a major economic sector, contributing to food security and growth and supporting the livelihoods of the rural population. However agriculture is particularly vulnerable to the impacts of climate change. Rises in temperature pose additional stresses on crop plants and animals, changes in precipitation regime lead to increased floods or drought, sea level rise and salinisation due to increased tidal surges will reduce the land suitable for agriculture. The FAO estimates that food production needs to increase by 70% by 2050 to meet growing population demands, it will be increasingly challenging to sustain progress towards the Millennium Development Goals in the face of climate change.

Developing countries suffer disproportionately from the impacts of climate change because temperature and precipitation regimes are often close to the threshold values beyond which crops fail or animals die. There is thus a clear need to focus donors' and developing countries' efforts on helping the poor to adapt. To reduce vulnerability to these potential impacts, a wide range of possible adaptation measures are available. While some of them, such as modifications in the range of crops to match changes in agro-climatic zones specifically address the effects of climate change, many potential adaptation measures constitute good practices that contribute to wider developmental and sustainability objectives.

At the same time, agriculture is also a significant source of greenhouse gas emissions, accounting for an estimated 14% of the global total. There is therefore a considerable mitigation potential in the agriculture sector, most of which is in developing countries (an estimated 70%). Such mitigation could be achieved often using available technologies at relatively low cost. Given a rational structure of incentives and sufficiently rigorous monitoring procedures, there is huge potential for developing win-win scenarios that both reduce net emissions and support sustainable development objectives for the poor.

Livestock for Livelihoods: Strengthening climate change adaptation strategies through improved management at the livestock-wildlife-environment

The project "Livestock for Livelihoods: Strengthening climate change adaptation strategies through improved management at the livestock-wildlife-environment" has been approved by the European Commission in 2009 for implementation over the period 2010-2013. It aims at improving natural resources and livestock management practices in specific sites in response to increased risks and vulnerability from climate change. It will be managed by the African Union - InterAfrican Bureau for Animal Resources (AU/IBAR) in areas falling under three regions in Africa: Inter-Governmental Authority on Development (IGAD), Economic Community of Central African States (ECCAS) and Economic Community of Western African States (ECOWAS).

Natural resources management systems will be improved at the livestock-wildlife-environment interface, using policy entry points, developing management plans, strengthening peace building and conflict resolution mechanisms and participatory monitoring systems. Ten thousand hectares of land in demonstration zones will be restored and rehabilitated through community-based interventions. Livestock productivity and livelihoods will be enhanced in (agro-) pastoral production systems of arid and semi-arid regions. It is hoped that livestock production indices be increased by 20%, as well as income accruing to women. Capitalisation and exchange of best practice is an important component of the project.

BECRA Project –Bio-Economic analysis of climate change impact and adaptation of Cotton and Rice based Farming systems in Mali and Burkina Faso

Assessing policies so they become more effective at overcoming the impacts of climate change on agriculture is a challenge for both scientists and policy makers. Technical issues about production sustainability and production risks, applied to known and innovative production systems, interact with economic drivers at micro and macro level. An integrated bio-economic analysis is required for impact assessment and to develop adaptation scenarios for agricultural production.

Models of different nature can be used to get a better insight on how systems respond to changing environments at different scales and in time. Such analyses mobilize different competencies and disciplines:

- Bio-physical modelling seeks to represent cropping systems, that is, the set of technical actions which impact on the crop-soil systems in a given environment.
- Bio-economic modelling combines models that represent the bio-physical systems and models that simulate economic (and environmental) drivers that lead farmer to make certain management choices.

The BECRA project, financed by the European Commission and implemented by the Joint research Centre in Ispra, is testing the applicability of the modelling tools (bio-physical and bio-economic) to developing countries context through two cases studies, the Office du Niger in Mali – essentially rice producing, and the cotton production area of Bobo-Dioulasso in Burkina Faso. It proposes to explore how outputs of such assessments can improve knowledge and information sharing amongst stakeholders on climate change impact on agriculture. The project will provide scenario-based inputs to deepen policy dialogue on climate change impact on agriculture and rural development, to discuss possible adaptation strategies at local level, and agriculture contribution to climate change mitigation.

For more information, contact
Europeaid-E6-natural-resources@ec.europa.eu

5 Examples from the ground

ACP Pacific Islands

Solar energy for remote islands

Caribbean

Strengthening the national capacity for disaster risk reduction in Dominican Republic

Latin America

EURO-SOLAR Programme

Africa

Catalysing modern energy service delivery to marginal communities in Southern Africa

Asia

Community based disaster preparedness in Vietnam

Worldwide

The Global Climate Change Alliance (GCCA)

ACP Pacific Island

The Support to the Energy Sector in Five ACP Pacific Island Countries (REP-5) programme is a 9th European Development Fund (9th EDF) multi-country initiative which funds renewable energy and energy efficiency projects in five Pacific Island Countries. The project is executed by the Pacific Islands Forum Secretariat.

The REP-5 programme aims at reducing these countries' dependence on imported fossil fuel as a means of achieving fiscal balance, as well as increasing the availability of electricity services to their outer island communities.

After the successful implementation of REP-5, the same five countries will continue the project under the 10th EDF. They have been joined by Kiribati and Tonga.

Voices from the field

"Reliable and efficient energy services and infrastructure as a whole, are key elements for the sustainable economic development of Niue."

Honorable Toke Tufukia Talagi, Premier of Niue

"With the new gas stove and the solar water heaters, my electricity bill has reduced significantly. I don't have to heat my water with the electric boiler any more, and I can have hot showers instead of cold ones at any time of day. This has had a very positive effect on my health and general wellbeing."

Margaret Siosikefu, recipient of a solar water heater and gas stove in Niue.

NAME OF ACTION

Support for the energy sector in five ACP Pacific island countries.

DURATION

2006-2009

PARTNERS

International consortium led by IT Power, UK, with Transenergie and Ademe, France
Web: http://www.rep5.eu

PROJECT OBJECTIVE

Isolated and relatively small in size, most Pacific island countries rely on imported fossil fuel for electricity generation. While this kind of electricity production can often be inefficient, there is potential for developing alternative sources of energy. ACP countries in the Pacific generally have plenty of sunshine. But turning this into useable energy is not so simple. This was the task undertaken in five remote island states by the REP-5 project funded by the 9th EDF.

MAIN ACHIEVEMENTS

REP-5 has implemented a series of renewable and energy efficiency projects in the five countries to help them reduce their dependency on imported fossil fuels and to expand the availability of electricity in their outer island communities. Obstacles included getting the solar panels and heavy batteries ashore and installed on remote islands as well as training teams at each location in the basic maintenance and servicing of the installations. As the equipment was being installed on small atolls close to the Pacific Ocean, it needed to be robust to resist corrosion in a high saline environment.

Besides renewable electricity for the grid, the project provides power for individual households and public buildings, including schools and dispensaries. It also provided for the installation of pre-payment meters, efficient gas stoves and solar water heaters.

The project was accompanied by an energy saving campaign directed at local communities.

Caribbean

The Dominican Republic is located in the Caribbean region and is exposed to a wide range of natural hazards, among which are hurricanes, tropical storms, floods, landslides and forest fires, among others. National capacities for preparedness, mitigation and response to these phenomena is limited, thus these conditions mean a great national vulnerability against a high variety of natural disasters that recurrently cause loss of life and monetary resources for the country.

Global warming and subsequent climate change will increase the frequency of natural disasters globally and particularly in tropical areas of the planet. The risk of disasters threatens the benefits of development, economic stability and global security.

Voices from the field

“ The basis of development must be move forward in the promotion of actions aimed at reducing loss of life. The program's mission is to prepare national institutions to acquire capacity for preparedness and prevention of disasters, so that no investment is lost in the next storm. ”

Valerie Julliand, Coordinadora Residente del PNUD

“ The program has contributed significantly in building a general proactive attitude in prevention and mitigation, and expanding a vision to reduce physical, social, economic and environmental vulnerabilities with an integral and comprehensive approach by the main sectors involved in risk management. ”

Dr. Domingo Jiménez, Ordenador Nacional para los Fondos Europeos

“ Risk assessment is considered necessary for decision making both in the context of reducing the impact of disasters and in relation to the policies of economic and social development. Therefore, it is important that society and the state are aware that risks can be assessed. ”

Ricardo Zapata, Punto focal regional de Evaluación de Desastres, Comisión Económica para America Latina y el Caribe (CEPAL)

NAME OF THE ACTION

Strengthening the national capacity for Disaster Prevention and Preparedness in the Dominican Republic

DURATION

2006-2010

PARTNERS

- The United Nations Development Program (UNDP)
- The Office of Civil Defence
- The National Red Cross (CRD)
- The Ministry of Public Health and Social Assistance (MSPAS)
- The Ministry of Natural Resources and Environment (MMARN)
- The Office of National Planning (ONAPLAN)
- Centre for Emergency Operations (COE)
- National Meteorological Office (ONAMET)
- National Institute for Hydraulic Resources (INDRHI)

PROJECT OBJECTIVE

The specific objective is to reduce the risk of natural disasters in the country, especially in the Northeast. It seeks to improve security and quality of life of vulnerable groups, trying to ensure sustained socio-economic development. The project seeks to strengthen both the overall national and in specific the north-eastern regional capacity for disaster response.

MAIN ACHIEVEMENTS

Thanks to the project, the country is better prepared for natural disasters and national emergencies that may occur. The beneficiary institutions have been widely favored by the program, which has contributed to the creation and strengthening of national capacities for prevention, mitigation and response. The program developed a lot of training sessions and produced a large number of documents and technical publications (manuals, protocols, systematization of experiences, studies, etc..).

Latin America

The use of renewable energy stands as a sustainable means to provide access to electricity without contributing to climate change. Access to electricity enables the communities to improve basic community services, such as education, health, communication and information conditions and to develop productive activities. The experience gained from the implementation of this programme can be applied to other similar regions in developing countries.

Voices from the field

“ EURO-SOLAR provides renewable energy in places without access to electricity. Here, we don't have basic services, electricity, water or roads. We stand apart from the rest of the world. Euro-Solar really gives us a chance. ”

Member of the Community El Progreso, Río Canande, Ecuador.

“ This Project allows us, teachers, to use technology in our classes. Before, in order to being able to use a computer, we had to go to the city, which we couldn't do because families just couldn't afford it. ”

Teacher, Community Nuevo Aquil, in Cobán, Guatemala.

“ This Programme has improved the self-esteem of the whole village. Not very long ago, our children didn't know what a computer was, and now they're competing with those who live in the city. This fills them with pride. My biggest wish is to create a virtual library. ”

School headmaster, Community of Camacho, Perú.

NAME OF THE ACTION
EURO-SOLAR Programme

DURATION
2007-2011

PARTNERS
Ministries of Energy, Education and Telecommunication of Bolivia, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Paraguay and Peru; Technological Institute for Renewable Energies (ITER).

PROJECT OBJECTIVE
EURO-SOLAR aims to contribute to reducing poverty by providing isolated rural communities with a renewable source of electrical energy to be used as a driver of human development. The EURO-SOLAR Programme has a novel approach to traditional rural electrification projects by mainstreaming energy. This involves linking power generation to a series of goals including improvements in education and health, development of productive activities, skills building within the community and a gender focus.

MAIN ACHIEVEMENTS
EURO-SOLAR provides six hundred rural communities without access to the electricity grid with rural electrification systems based on renewable energy (solar panels and wind generators). These systems supply electricity to a wide range of applications for community use, such as computers, Internet connection, telephones, printers/scanners, projectors, battery chargers, water purifiers, medical refrigeration equipment and lighting. Communities are trained in order to take full advantage of the potential benefits of the use of the new technologies with a long-term perspective.

WEB
http://www.programaeuro-solar.eu

Africa

Lack of access to modern energy services is a major obstacle to the delivery of socio-economic services such as education and health in most developing countries in general. This is particularly so in Southern Africa where the population living in sparsely populated rural areas are out of reach of electricity which makes it technically and economically costly to extend the national grid electricity to serve them. Micro-hydro power is the small-scale harnessing of energy from falling water, such as steep mountain rivers.

Voices from the field

“ In a community where there has never been electricity and the only source of lighting is firewood or the moon in the sky, electricity is a distant dream. Even when Practical Action started the project in the community, very few believed that it would be a reality. “Electricity from our very own river right behind our back door?” That must have been the thoughts going through people’s minds at the time, but some had a vision and worked with the project, contributing their labour and locally available material. Bit by bit, the project took shape and last night, at 1900hrs, the first light at the power house came on. ”

Chandirekera S.Makuyana - Practical Action’s Business Development Advisor - June 2010

NAME OF THE ACTION
Catalysing modern energy service delivery to marginal communities in Southern Africa

DURATION
2008-2012

PARTNERS
Kwayedza Simukai Manica (KSM), Mozambique, Mulanje Mountain Conservation Trust (MMCT), Malawi. Implementing Body: Intermediate Technology Development Group (Practical Action)

PROJECT OBJECTIVE
The Micro Hydro project seeks to promote the use of renewable energy by creating a residue of micro hydro expertise in poor communities, and to promote the uptake of sustainable alternative energy among key stakeholders.

MAIN ACHIEVEMENTS
The micro-hydro schemes will provide the communities with affordable, easy to maintain and long-term solutions to their energy needs.

WEB
www.energyfacilitymonitoring.eu/
and
http://practicalaction.org/southern-africa/main06f

Asia

Vietnam remains one of the most vulnerable countries in the Asian Pacific region with regard natural disasters and community crisis. Its long coastline and unique mix of geography exposes it to frequent typhoons, floods and drought.

Since 1953, over 68 million people in Vietnam have been affected by extreme climate events. The frequency and impact of these weather-related disasters has doubled since the mid-90s. The increase of disasters at such an alarming rate hit especially the poor population of the coastal areas. The total estimated economic loss due to natural disasters in Vietnam during 2009 was approximately 23,700 billion VND (in equivalent 1.281 billion USD).

Voices from the field

“ Vietnam is annually hit by typhoons, flood and drought. Time and time again this cause casualties and damages of houses and livelihood. The Vietnam Red Cross aims to reduce the impact of recurrent natural disasters by helping people to be better prepared. ”

Vietnam Red Cross

“ In order to ensure that the community can Prepare, Respond and Mitigate Disasters and adapt to Climate Change effectively from my experience it is essential to start with raising the communities awareness on these issues first. ”

CAO Quang Canh
Vice Director of Quang Binh Provincial Red Cross Chapter

NAME OF THE ACTION
Community based disaster preparedness in Vietnam

DURATION 2007-2010

PARTNERS
The project is implemented by the Netherlands Red Cross (NLRC) and its partner organization the Vietnamese National Red Cross (VNRC). The project is based on the experiences of the pilot project “preparedness for disaster related to climate change” (2003-2006), funded by the Dutch Ministry of International Cooperation.

PROJECT OBJECTIVE
The project aims to decrease the impact of weather related disasters by strengthening the capacity of the populations of 16 selected vulnerable communes in the provinces of Quang Binh and Ha Tinh.

PROJECT MAIN ACTIVITIES
The project increase the awareness of more than 50% of the population in the target communes of their specific vulnerability to weather related hazards due to climate change by organizing commune trainings on Disaster Preparedness, broadcasting information, and training teachers and schoolchildren. The project facilitated the preparation of "Hazards, Vulnerability and Capacity Assessments" (HVCA) that resulted in community needs reports. Based on these, mitigating measures were selected and implemented.

MAIN ACHIEVEMENTS

Around 700 people in 16 communes have improved understanding of disaster prevention, response and mitigation as well as risk assessment as a result of commune trainings. Dissemination activities about disaster preparedness and climate change adaptation informed citizens of 16 communes. More than 400 citizens are better aware on how to act when a disaster strikes as a result of participating in or observing emergency drills. 550 members of Search & Rescue teams are better trained and equipped. Citizens in 15 communes are better protected from disaster as a result of small scale mitigation works.

Worldwide

The Global Climate Change Alliance, an initiative launched in 2007, intends to deepen dialogue and cooperation on climate change between the European Union and developing countries most vulnerable to climate change, in particular Least Developed Countries (LDCs) and Small Island Developing States (SIDS). The GCCA priority areas of intervention include: adaptation, including disaster risk reduction; the mainstreaming of climate change in development; and mitigation activities, such as REDD and participation in the CDM. Among the main activities covered by the GCCA, one can find regional dialogue events to deepen cooperation on climate change as well as technical and financial support to target countries to deliver concrete climate change actions on the ground.

Voices from the field

“ The GCCA approach should be used as "lesson learnt" to progress in the support that could be brought to developing countries on climate change because its programs, like in Senegal, swiftly put in place with the corresponding budget, and the concrete actions could start rapidly. ”

M. Wata Issoufou, Centre national de surveillance écologique et environnemental du Niger (CNSEE)

“ Togetherness is indispensable to tackle Climate Change challenges as atmosphere is a global public good ”

Hon. Minister of Forestry and Environment of The Gambia, Jato Sillah (GCCA High Level Conference, Addis Abeba, Ethiopia, Oct 12, 2010)

NAME OF ACTION
Global Climate Change Alliance

DURATION
ongoing

COVERAGE
worldwide

PARTNERS
Developing countries (with a priority for SIDS, LDCs and Africa), the European Union, regional organisations.

EC CONTRIBUTION
so far, EUR 95 million have been allocated to the GCCA implementation

MAIN ACHIEVMENTS
2 regional conferences were organised in Dhaka, Bangladesh and in Addis, Ethiopia; Joint Declarations were prepared with regional groups (EU/ACP 2008, EU/Asia LDCs 2010); Climate Change adaptation Programs were launched or are under formulation in 17 countries and two regions.

EXAMPLES
In Cambodia, the GCCA program will last from 2010 to 2012. Its objectives are to support the National Climate Change Committee in monitoring the implementation of the national Climate Change strategy, capacity building and outreach efforts. Key line ministries, agencies and civil society organizations will have access to financial and technical resources to design, implement and monitor Climate Change adaptation interventions.

Mali implements its GCCA program over the 2011-2016 period based on a EUR 5.7 Million budget. The objectives pursued include the inventory of ligneous species, communal reforestation, strengthening technical and institutional capacities for a better ownership of climate change issues by decision-makers and experts as well as a stronger integration of climate change in the national development policies

WEB
www.gcca.eu

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