

SUPPORTING A CLIMATE FOR CHANGE



The EU and developing countries
working together

2011



EUROPEAN
COMMISSION

This text was adopted by the European Commission on 18 November 2011

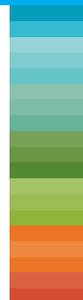
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Cataloguing data can be found at the end of this publication.

Luxembourg: Publications Office of the European Union, 2011

ISBN 978-92-79-21870-5

doi:10.2841/33770

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Printed in Belgium, November 2011

Printed on Cyclus offset 100% recycled paper

Conception/pre-press: Wow Communication



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FOREWORD



José Manuel Barroso

*President of the
European Commission*

Climate change is a harsh reality, posing one of the most pressing challenges to humanity. Only a joint global response will ensure that we can counter this threat effectively.

The European Union continues to lead by example - by working towards the success of international climate negotiations, and by taking strong action within the borders of our Union. The EU has adopted a very ambitious set of targets to reduce our impact on the climate by 2020 and 2050 and to lay the foundations for sustainable growth. This European leadership makes a difference – but we cannot do it alone: The EU only accounts for 11% of global greenhouse gas emissions; thus equally bold commitments and actions are needed from all other major emitters.

The EU therefore continues to fully support the UN Framework Convention on Climate Change (UNFCCC) process. The ongoing talks are challenging, yet we note the growing momentum around key agreements so far. We will continue to work with partners to make sure that further agreements i) raise the level of ambition; ii) fully embed transparency and accountability; iii) ensure cost-efficiency; and iv) guarantee appropriate long term climate finance and streamline the current finance architecture by further supporting the establishment of the Green Climate Fund.

The 17th Conference of the Parties (COP 17) in Durban will be a key milestone in this regard. The EU hopes a clear and detailed Road Map will emerge from the Durban discussions, which should guide the international community to a legally binding agreement on emissions after 2012. It should at the same time indicate possible avenues towards climate-compatible development.

The EU is particularly concerned about the additional challenges developing countries face as a result of a changing climate. The Least Developed Countries (LDCs) and Small Island Developing States (SIDS) are particularly threatened. Africa is already enduring the impacts of climate change on many levels. Hence, the EU is increasingly mainstreaming adaptation and mitigation in our partnerships with African countries, at national, regional and continental level. The guiding principles for this collaboration are set out in the EU-Africa Strategic Partnership on Climate Change and Environment.

Similar partnerships have also been set up with other regions. They allow for a deepening of the dialogue and financial support to an ever increasing number of countries. A flagship EU initiative is the Global Climate Change Alliance (GCCA). Since 2007, the GCCA has allocated more than EUR 250 million to programmes in over 40 countries and regions. In Africa, the EU is working with 16 countries and regional organisations under the GCCA and we are expecting to further widen this collaboration in the next years. The GCCA complements the wide array of EU climate programmes and innovative instruments, such as the regional investment facilities through which we leverage a considerable amount of concessional loans in support of climate investments, especially in the energy sector.

This brochure highlights key joint actions with our partner countries. The diversity of initiatives presented certainly tells us that climate change is indeed a challenge – but not an insurmountable one. I am confident that we can and will define joint global solutions, not only to protect our planet but also to harness our shared potential of green growth and promote development. Europe and its partners have the necessary means and skills – now we need to make it happen.

INTRODUCTION

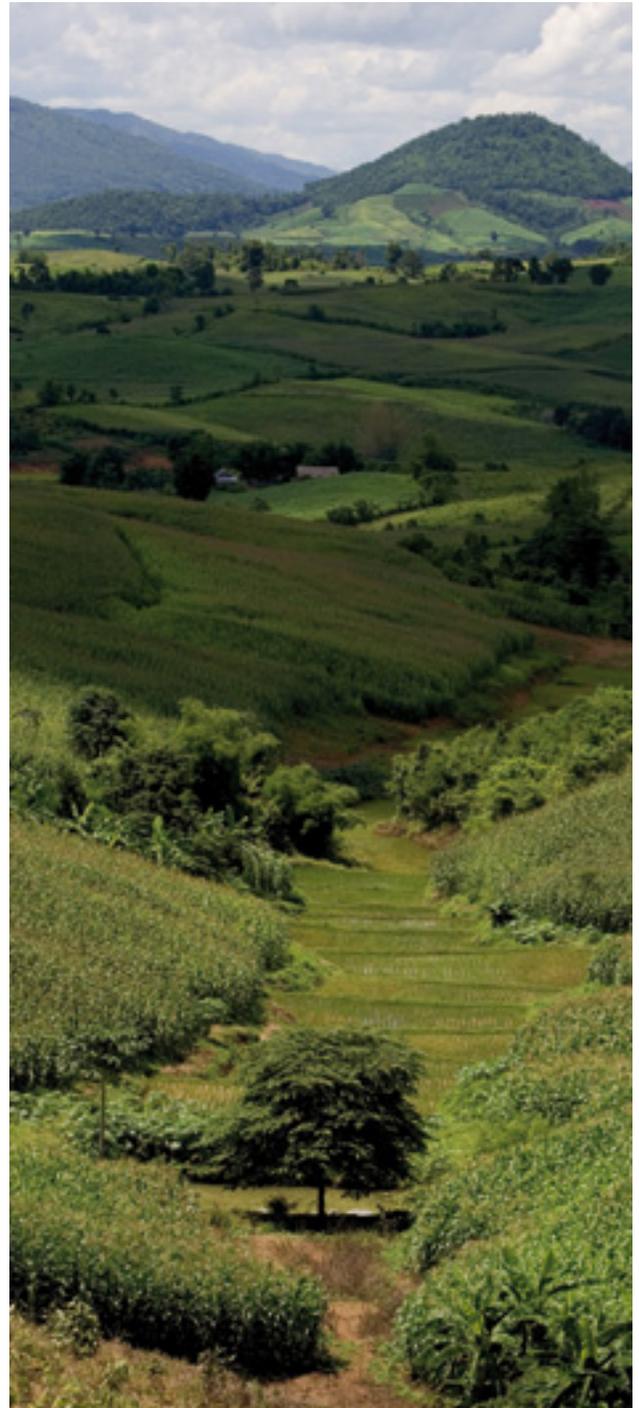
In the absence of timely planning and preparation, climate change has the potential to bring about unprecedented reversals in progress with poverty reduction and undermine efforts towards achieving the Millennium Development Goals (MDGs).

The effects of climate change already constrain the challenging objective of ensuring sustainable development in developing countries. Climate change is a global problem and it will affect all countries. However, developing countries and, in particular the most vulnerable segments of populations will be hit earliest and hardest. These are the countries and groups with the smallest capacity to deal with climate change. Developing countries with economies heavily dependant on natural resources, such as agriculture, forestry and fisheries, will be disproportionately affected. But developing countries with more diversified economies are also vulnerable since a lack of financial resources, adequate technology and effective institutions may limit their capacity to adapt. Robust adaptation strategies need to be owned, developed and implemented by developing countries. The donor community will contribute to enhanced action and international cooperation to support these strategies. In order to maximise impacts, the plethora of climate related strategies must be integrated into singular, ambitious national development plans and strategies that adequately mainstream the issues, establish priorities and set in place required institutional frameworks. Coping with current climate variability and attempting to anticipate future climate changes is no longer an option, but a policy imperative. There are many synergies to exploit and full benefit should be taken thereof, and as will be seen in this brochure the EU is playing a catalysing role on many levels.

Respecting the principles of equity and common but differentiated responsibilities, the EU recognises the need for developed countries to take the lead in cutting emissions. This is, however, also based on the understanding that developing countries and in particular more advanced economies must also acknowledge their responsibilities. The combined 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 therefore vital that developing countries start to reduce 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.

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. In addition to the financial transfers mentioned above. Capacity-building is also crucial and the EU programmes seeks to integrate tailor-made support and strengthen partner countries capacities on adaptation, mitigation, technology or finance throughout our development programmes.

Adaptation to climate change and shifting towards low-emission growth require a different economic path, and therefore a re-thinking of development strategies. This brochure provides an overview of the EU's multifaceted approach to supporting developing countries in adapting to the effects of climate change, mitigating the causes and seizing related opportunities.



Combating climate change has formed an **integral part of the EU development agenda**. For many years the EU has taken decisive action to integrate climate change issues in development cooperation and has steadily increased climate finance for developing countries since 2002.

In 2010 in Cancun, Mexico, parties to the UNFCCC (United Nations Framework Convention on Climate Change) confirmed pledges made in Copenhagen to provide scaled-up, new and additional resources to support developing countries' 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. In that context, **the EU has provided significant amounts for Fast Start Finance** for the period 2010 – 2012 – a greater share than could be expected. The EU is committed to ensuring that fast start funding does not undermine the fight against poverty and complements continued progress towards the Millennium Development Goals (MDGs). However, the climate change challenge cannot be tackled only with funds from public sources: the **private sector** already plays a key role for important investments to attain climate resilient, low-carbon economies. Hence, the EU acknowledges 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 (PPPs) need to be scaled up to meet the long term commitments of developed countries for climate change finance. As an example, the European Commission has established specific **“Climate Change Windows”** in existing financing instruments designed to leverage loans and private investments and is planning to do so also for future instruments and mechanisms.

BRINGING ABOUT THE CHANGE



CLIMATE CHANGE IS A MULTIFACETED CHALLENGE AND REQUIRES A COMPLEX ARRAY OF ACTIONS TO ENSURE IT IS APPROPRIATELY ADDRESSED. THE EU THEREFORE UNDERTAKES INITIATIVES AT DIFFERENT LEVELS, RANGING FROM POLITICAL DIALOGUE WITH ITS PARTNERS TO AD-HOC SUPPORT FOR CLIMATE ACTION AS WELL AS INTEGRATING THE CLIMATE CHANGE ASPECTS INTO ITS DEVELOPMENT COOPERATION ACTIVITIES AND OTHER POLICY AREAS. THIS CHAPTER FOCUSES ON THE DIFFERENT FORMS OF EU CLIMATE ACTION IN SUPPORT TO DEVELOPING COUNTRIES.

1.1 INTERNATIONAL ENGAGEMENT AND POLITICAL DIALOGUE WITH PARTNERS

The magnitude, complexity and level of threat posed by the climate change phenomenon are understood by a wide range of countries as **requiring a joint global response**. Climate challenges will touch on the life of all humanity, but the biggest tests will be faced by those already most vulnerable.

Hence, the EU has placed **climate change at the heart of our external relations**; and in particular in our relations with developing countries. Firstly, climate change is now regularly discussed in the framework of our Policy Dialogue with Partner countries. Climate change issues related to international negotiations under the UNFCCC are frequently covered but substantial policy discussions on integrating climate change into development cooperation and national development processes are also taking place. In addition, the **Green Diplomacy Network (GDN)**, which has existed since 2003, is used for specific diplomatic demarches involving the EU and its 27 Member States. In our work we draw on the extensive resources and networks of EU Delegations and diplomatic representations and development co-operation offices of the EU Member States.

The **EU strongly supports the UNFCCC** process and is actively leading the work towards a global, ambitious and balanced agreement. The EU speaks with a strong voice representing a constructive multilateral approach in a complex process that needs a complex multilateral setting. The EU also demonstrates leadership by taking ambitious measures within its borders and, backed by this strong commitment, naturally engages with countries such as the USA, China, Brazil, Russia and India to seek equal levels of ambition.

Our goal remains to limit the temperature increase to 2°C.

African countries are key partners in our work. They represent a complex and diverse grouping, with many Least Developed Countries (LDCs) and it is in this continent that the adaptation challenge is perhaps greatest. For these reasons we note that

EU and African countries share common views and objectives and have the opportunity to form strong alliances to reach global agreement. The Africa – EU summit of 2010 again concluded that Climate Change should be a key area of collaboration.

This EU engagement with Africa is put in practice e.g. through the **Africa-EU Strategic Partnership** on Climate Change and Environment, including support to ClimDev which seeks to make required information on climate change available to African decision makers. In October 2011, the EU also organised an outreach meeting between EU and African negotiators to exchange views on negotiation positions and progressively build common ground. In addition the EU is occasionally participating to the African Environment Ministries (AMCEM) process.

In 2011 the EU commenced cooperation on Climate Change with the **Caribbean Community** as a group, providing significant support to the Caribbean Community Climate Change Centre (CCCCC). In the Pacific Region, 2010 saw major high level meetings and workshops arranged in the context of **EU-Pacific** relations. These efforts are also supported through the Global Climate Change Alliance, the EU initiative to step up dialogue and cooperation with developing countries (see box for further details).

Recognising also that the potentially significant **security implications** associated with a changing climate, the EU has commenced work with partners on a regional basis on this aspect. Hence, exploratory studies have been prepared with Central America, South East Asia, South West Asia and Indian-Pacific Ocean Island States, and it is expected that this work will result in joint “early warning” reviews with these regions. Significantly, the EU regularly convenes an EU roundtable on climate and security, bringing together EU experts and external relations services from MS, the European Commission and the EEAS (European External Action Service) to discuss and coordinate EU action on this important topic.



1 THE GLOBAL CLIMATE CHANGE ALLIANCE - PROMOTING INNOVATIVE AND EFFECTIVE APPROACHES TO ADDRESS CLIMATE CHANGE

The Global Climate Change Alliance (GCCA) provides technical and financial support to developing countries to **integrate climate change into their development policies** and budgets and to implement adaptation and mitigation interventions. The technical and financial cooperation in turn informs the **dialogue and exchange of experiences** between the EU and developing countries.

From 2008 to 2011, the GCCA has committed and engaged **over EUR 200 million in support** of 31 programmes across the world while an additional 11 countries and regions are expected to benefit from the initiative in 2012-2013.

The GCCA promotes innovative and effective approaches to address climate change. EU member states like Czech Republic, Cyprus, Denmark, Estonia, France, Germany, Ireland, United Kingdom, and Sweden, and the European Commission join hands and provide common donor support through joint financing and/or programming. The EU also makes use of effective delivery methods such as general and sector budget support, multi-donor trust funds and innovative approaches like climate change mainstreaming, ensuring full alignment with developing country's agendas, the use of country systems and long-term capacity-building, ownership, and sustainability.

By the end of 2011, the GCCA will have national programmes in 25 countries in areas like climate change **mainstreaming** (Bhutan, Cambodia, Ethiopia, Laos, Mozambique, Nepal, Seychelles, Solomon Islands), adaptation in climate sensitive sectors like **agriculture** (Uganda), coastal zone management (Gambia, Guyana, Senegal), land (Rwanda), and **water** (Belize, Samoa), and both at the national level (Vanuatu) and at the local level (Tanzania). The GCCA is also active in the fields of **clean energy** (Mauritius), **forestry** (Mali, Benin, Sierra Leone, the Democratic Republic of Congo), **disaster risk reduction** (Jamaica), and adaptation or mitigation more generally (Bangladesh, Maldives, Vanuatu).

These national programmes are complemented by **regional programmes** in Africa, with Climate for Development in Africa (ClimDev Africa), the Common Market for Eastern and Southern Africa (COMESA), the Economic Community Of West African States (ECOWAS) and the Comité Permanent Inter-Etats de lutte contre la Sécheresse dans le Sahel (CILSS); in Asia with the Mekong River Commission (MRC); in the Caribbean with the Caribbean Forum (CARIFORUM) and the Caribbean Community Climate Change Centre (CCCCC); and in the Pacific with the University of South Pacific (USP) and with the Secretariat of the Pacific Community (SPC).

To support country and regional programmes, the EU is also organising Regional Workshops on Mainstreaming Climate Change into National Development Planning and Budgeting, and has already **trained over 180 Senior Officials** from ministries of finance, planning and environment over the last two years.

See also Chapters 2 and 5

WEB: www.gcca.eu (info@gcca.eu)



2 CLIMDEV AFRICA: CLIMATE CHANGE INFORMATION FOR AFRICAN POLICY MAKERS

ClimDev Africa is a programme aiming to guide the effective integration of climate information and services into development planning and to ensure the mainstreaming of climate considerations. ClimDev Africa aims at facilitating the development of policies, practices, services, observation networks and communication with stakeholders to enable effective management of the response to climate change in Africa.

With its secretariat, the African Climate Policy Centre at UNECA, working in close link with the African Union Commission and the African Development Bank, the programme is designed for all African countries and the seven Regional Economic Communities (RECs).

Activities are directed at national and regional African actors and comprise advocacy services, capacity development, technical cooperation and knowledge sharing. Some specific activities are: training of Climate Change and Desertification negotiators in each AU member state, training programs for the RECs on sustainable land management, dissemination of policy recommendations and the creation of a Fellowship Program to support sub-regional work programmes on Climate Change.

ClimDev is in an early stage of implementation, EU has pledged EUR 8 millions in support.

For more information:

<http://www.uneca.org/acpc/>

http://eeas.europa.eu/delegations/african_union/eu_african_union/development_cooperation/index_en.htm



1.2 TRANSLATING POLITICAL DIALOGUE INTO ACTION

The EU continues to be the largest contributor of climate finance flows to developing countries and has been so since well before Copenhagen. The European Commission alone has provided traditional ODA for CC related interventions around EUR 3.3 billion since 2002. Significant contributions directly from EU Member States must be added to this. Support from the European Commission has to a large extent been focused on **energy** (supporting both renewable and efficiency measures), **forestry, biodiversity including protected areas and disaster risk reduction**. As the figure below indicates several other areas are also supported – and in particular **the important contributions to capacity building must be highlighted**.

With regard to Fast Start Financing, the European Union continues to honour its commitments. As of August 2011, a total of EUR 4.68 billion has already been mobilised. The majority of EU Fast Start Finance is provided bilaterally by Member States. Despite the difficult economic situation and strong budgetary constraints, all 27 Member States and the European Commission continue to contribute to this funding. This is done in such a way that international public funds are not diverted from long-term commitments to support development in poor countries. The potential of achieving multiple objectives in terms of poverty alleviation, increased resilience to climate change and decreased greenhouse gas emissions with the same amount of funding is being tapped into in full.

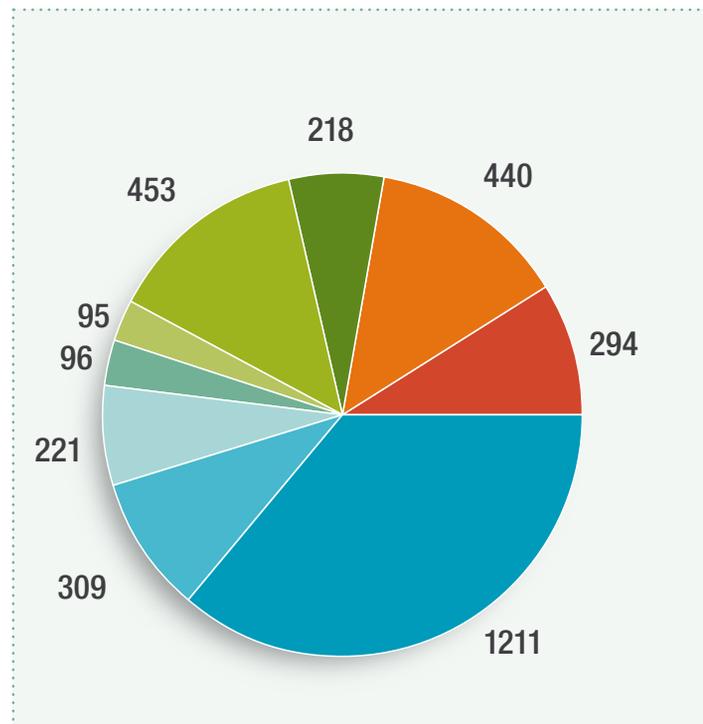
To be effective and to enable the fastest possible deployment of the available funds, the EU is using existing bilateral and multilateral delivery channels as well as reinforcing existing initiatives. This facilitates access as developing countries are able to strengthen existing working relationships with bilateral agencies and multilateral institutions.

The European Commission's proper fast start finance "package" amounting to EUR 100 million in 2011 includes finance to support: adaptation (EUR 50 million); mitigation (EUR 33 million); reductions in emissions from deforestation and forest degradation in developing countries; technology cooperation and capacity-building, including for MRV and design of mitigation measures (EUR 17 million).

The EU is striving to allocate both bilateral and multilateral funding where it is most needed. In terms of new bilateral projects, in particular for adaptation, the EU and its Member States give priority consideration to most vulnerable and least developed countries. **This includes support for capacity building efforts as well as for the development and transfer of technologies.**

Fast start climate finance marks **the beginning of a longer term commitment** to mobilise USD 100 billion per year by 2020 as part of a balanced, comprehensive and legally binding international agreement.

Over the longer term, support for mitigation and adaptation in developing countries will require additional resource mobilization from a wide range of financial sources, including private and innovative sources. ODA will also continue to play a role, particularly in the most vulnerable and least developed countries.





1.3 MAINSTREAMING CLIMATE CHANGE

In order to complement traditional grant funding and to leverage additional funding from other sources, the European Commission has established a number of regional investment facilities. The facilities address the investment needs in different sectors as well as aim to support the private sector. There is a great potential for climate change actions under these facilities. The European Commission has created Climate Change Windows in each of them (for more details see chapter 3.2).

The impacts of climate change pose a serious challenge to growth and development. The least developed countries are particularly vulnerable because their economies often depend more on climate-sensitive natural resources, and because they possess less resources to cope with the challenge of adapting to the impacts of climate change. Similarly, the development path chosen has important implications for the capacity of countries and communities to adapt to climate change and for their contribution to emission of greenhouse gases. Thus, climate change issues be they related to adaptation or mitigation are in reality integral to all development activities, including social and economic development. The ultimate goal of both climate related traditional development assistance and the additional climate specific financing modalities is to contribute to sustainable development. The EU is working on mainstreaming on two fronts: i) with regard to policies and strategies of the institutions of the EU and the individual member states and ii) with regard to policies and strategies of our partner countries.

In our collaboration with partner countries we seek to ensure that our normal assistance is constantly working to help strengthen country systems and build capacity to integrate climate change considerations in their development planning, in programming investment in social and physical infrastructure and in national sector programmes. E.g. in Ghana, the EU supports an innovative Sector Budget Support initiative for Natural Resource and Environmental Governance (NREG), which brings together a number of the instruments available to EU in efforts to support partner countries prepare for climate change. Further details are provided in the box below.

With regard to trade, innovative policies that seek to ensure policy coherence and reinforce our development assistance work have been developed. Most significant is the recent Timber Regulation which will ensure that from 2013 onwards only timber produced in compliance with legal requirements of partner countries may be placed on the EU market. This is recognised by partner countries to strongly complement our joint work on Voluntary Partnership Agreements regarding export of legal timber, an important stepping stone towards global sustainable forestry management.

EUROPEAN COMMISSION'S CLIMATE CHANGE RELATED ACTIONS PER MAIN SECTOR (MILLION EUROS, 2002-2010)

- Renewable Energies and Energy Efficiency
- Support to Environment Policy and Capacity Building
- Water Management
- Pollution Control and Waste Management
- Marine and Coastal Resources
- Other (GCCA, DRR...)
- Agriculture
- Forestry
- Protection of Natural Areas

GHANA: NATURAL RESOURCE AND ENVIRONMENTAL GOVERNANCE SECTOR BUDGET SUPPORT (NREG SBS)

As a “**threat multiplier**” climate change has the potential to place additional strain on existing weak governance structures. Thus, it becomes ever more important to **strengthen accountability and transparency** related to the management of the natural resource sector in developing countries where this constitutes a significant part of the economy. This is the case in Ghana, which also currently experiences significant, well **documented costs due to poor management of natural resources**. In realisation of this, the Government of Ghana embarked on a Natural Resource and Environmental Governance Sector Budget Support initiative with five donors in 2007. The NREG SBS entails **financial transfers** to the national treasury, combined with **intense policy dialogue around sector reforms**. Annual performance assessments take place on the basis of a mutually agreed assessment framework. As an innovative approach the initial phase did face considerable challenges in defining scope and appropriate monitoring indicators. However, the undertaking has already demonstrated **important results in ensuring transparency** around mineral and forestry sector revenue flows, financing of the implementation

of the Ghana-EU Voluntary Partnership Agreement and establishing a framework for Climate Change policy formulation. NREG SBS has seen **increased awareness** and to a certain extent inclusion of Civil Society in management of natural resources, and also strengthened national planning and budgeting processes - most notably demonstrated by enhanced relationships between line ministries and the Ministry of Finance.

Despite initial challenges, the Ghana NREG SBS has thus shown itself as an example of **strengthening natural resource governance structures based on country systems**. This shows that ODA can play an important part a) in adaptation work itself, and also crucially b) to establish or strengthen existing systems and processes in preparation of the expected large flows of climate financing. The contribution from the EU has been substantial. The European Commission has provided EUR 8 million in funding.

http://eeas.europa.eu/delegations/ghana/projects/list_of_projects/21678_en.htm

GIIF: THE GLOBAL INDEX INSURANCE FACILITY FOR ACP COUNTRIES

The European Commission supports the Global Index Insurance Facility (GIIF) with EUR 24,5 millions to expand the use of index-based insurance as a **risk management tool** in developing countries and especially in African, Caribbean and Pacific (ACP) countries. Index-based insurances are increasingly recognised as effective instruments in reducing risks related to **natural disasters or catastrophic events** such as droughts, floods, cyclones, etc. By covering part of the financial risks related to such types of ‘external shocks’, insurance can **assist in preserving livelihoods**, thereby preventing a fall into poverty.

Index-based insurance pays out benefits on the basis of a parameter or a pre-assigned value for losses resulting from weather and catastrophic events, irrespective of the actual loss. As a consequence, they guarantee beneficiaries, including smallholders, rapid payments following natural disasters once a pre-determined index (e.g. centimetres of rainfall) has been triggered.

The project is implemented by the International Finance Corporation of the World Bank Group. The GIIF offers financing for advisory services projects to generate the following developmental results: i) increased levels of **awareness of index insurance**, ii) **improved technical and commercial capacity** to develop and market index based insurance products, iii) **improved legal and regulatory capacity**, which will create the pre-conditions necessary to launch and regulate index insurance products.

Since the formal launch in December 2009, the GIIF has financed eight (8) projects in Africa. In November 2010 the GIIF conferred two grants in Kenya and one in Rwanda totalling app. USD 4.1 million to help expand access to insurance in East Africa. These grants will help bring weather-related, index-based insurance to about **35,000 farmers and 5,000 livestock herders** over the next three years

<http://www.ifc.org/ifcext/gfm.nsf/Content/Insurance-GIIF>



ADAPTATION IS CLEARLY THE MAJOR CLIMATE-RELATED CHALLENGE FOR MOST OF DEVELOPING COUNTRIES. THIS IS WHY THE EU HAS TAKEN IMPORTANT STEPS TO STRENGTHEN ITS SUPPORT TO ADAPTATION IN THE FIELD. NEW AREAS OF WORK SUCH AS LINKING ADAPTATION AND DISASTER RISK REDUCTION ARE ALSO BENEFITTING FROM EU SUPPORT. IN ADDITION, THE EU SEEKS MULTIPLE BENEFITS FROM THE SUPPORT IT PROVIDES AND SEVERAL IMPORTANT ADAPTATION AREAS ARE ALSO PRESENTED IN CHAPTER 4 (ADAPTATION AND MITIGATION).

2.1 SUPPORTING ADAPTATION IN THE FIELD

Poor population groups in developing countries are among the **most vulnerable** to climate change. These groups will need to adapt and strengthen their resilience to the impacts of climate change and ensure that they are able to maintain and improve their livelihoods. Climate change will have **impacts on nearly all aspects of their lives**. Thus, adaptation will clearly be a vast and cross-cutting development challenge. International support for adaptation is essential for reasons of fairness, poverty reduction and global responsibility.

To ensure that adaptation efforts are effective, they should target firstly – and involve - the most affected populations, and must be integrated across all areas of development strategies in order to ensure that development contributes to **effective adaptation**.

Many developing countries among the most vulnerable to climate change have identified their most urgent needs regarding adaptation to climate change and translated them into adaptation strategies, such as the National Adaptation Programmes of Action (NAPAs). The EU continues, and will continue to support these priorities both through multilateral and bilateral channels.

The EU also strongly backs the UNFCCC **Nairobi Work Programme** on adaptation and 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 wide range of specific bilateral or regional projects to help adaptation and capacity-building efforts by developing countries. Finally, the EU also addresses adaptation via the integration of climate change concerns into national and sector development strategies and planning as well as in development cooperation in general.

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 Global Climate Change Alliance**. These initiatives, while building essential experience, should gradually lead to effective integration of adaptation into country's national and sector development strategies and planning. The EU also notes with interest the decision taken by several developing countries to move towards a greater integration of their strategies in other fields such as the merge of adaptation and disaster risk reduction strategies. Such integration greatly contributes to effectively addressing the climate change challenge.



1 THE GREAT GREEN WALL FOR THE SAHARA AND SAHEL INITIATIVE (GGWSSI) AND TERRAFRICA

Sustainable Land Management (SLM) brings together the necessary elements to obtain multiple ecological and socio-economic benefits. SLM is acknowledged to be a thread that fundamentally links multiple sectors, actors and scales. Through multi-stakeholder partnerships, **TerrAfrica** seeks advancing the NEPAD and CAADP -Pillar 1 vision and approach to promote SLM. The **GGWSSI is an African-owned programme** aligned to TerrAfrica. With the support of TerrAfrica at least twelve (12) Sub-Saharan African countries (Burkina Faso, Chad, Eritrea, Ethiopia, Gambia, Mali, Mauritania, Niger, Senegal, Somalia and Sudan) have made progress in creating the legal and policy conditions necessary to support SLM. The GGWSSI has the **potential** to ensure that the benefits of the TerrAfrica activities which have focused on the national level are reaped also at the local level with communities and land users. It is expected that the GGWSSI will unite the countries of the Sahara and Sahel to not only adapt to climate change but also to ensure they benefit from the post Kyoto climate agreement, gaining recognition for the fact that there are huge opportunities for low cost carbon storage in dryland soils. The GGWSSI complements TerrAfrica as it will include countries north of the Sahara – and hence provide a unique ecosystem focus.

As of 2011, the EU is funding an EUR 1.4 million project for the GGWSSI with a focus on capacity development for the planning and implementation of best practices at local and international levels, establishing a networking platform for knowledge sharing and technology transfer, developing a harmonized strategy for the Great Green Wall initiative and setting up a platform for partnership and resource mobilisation. The EU contribution to TerraAfrica is EUR 10 millions.

<http://www.terrafrica.org/>

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. **Regional cooperation** is of particular importance when natural resources affected by climate change are shared, such as in the case of trans-boundary river basins and aquifers.

At the same time, communities have to 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. In many cases, climate change adds to the existing challenges of dealing with climatic variability and recurrent drought and flood events. Thus, diversifying agriculture and improving water resources management are in this regard crucial sectors for many communities and local authorities. Local coping strategies and traditional knowledge need 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.

2 RWANDA: BUDGET SUPPORT FOR DECENTRALISED AGRICULTURE, AND ENVIRONMENT AND NATURAL RESOURCES

Rwanda is characterised by abrupt, hilly topography. Thus, **land erosion** is a major environmental problem in the country. Amongst others, soil loss causes degradation on high slopes, decrease fertility in agricultural areas and damages (life-reduction) of hydro-electrical infrastructure.

The problem is exacerbated by deforestation due to the insufficiency of affordable, non-wood energy sources, intensive agricultural use and the very high population density (370 people/km²) and a population growing at 2.8% per year.



3 KENYA DROUGHT TOLERANT “GADAM” SORGHUM PROJECT

Poverty rates in the Arid and Semi-Arid Lands (ASALs) of Kenya are between 60 and 80%. They are highest amongst female-headed households. In the ASALs maize fails every three out of five seasons leading to food insecurity and making thousands of people dependent on food relief. The impact of climate change is manifested by erratic rain patterns and calls for adapted seed varieties and livestock systems to minimise the impacts at the household level.

The Kenya Arid and Semi-Arid Research programme (KASAL) has focussed on developing site-specific agricultural technologies which help farmers and livestock keepers in the region adapt to climate change. KASAL is implemented by the Kenyan Agricultural Research Institute (KARI), and has received EUR 8 millions in support from the EU. The programme developed models for private and public sector players to work together to assist the farmers and livestock keepers produce and market drought tolerant crops (sorghum, cassava and amaranth grain) and appropriate animals (indigenous chicken and camels).

As an example, in a Public Private Partnership, KASAL, East African Breweries Limited (EABL), Smart Logistic Solutions Ltd and Equity Bank developed a model through which smallholder farmers produce “Gadam” sorghum. This new sorghum variety enables farmers to produce a crop in most seasons. There is an annual demand of 24,000 t, worth about KES 408 million (EUR 3 Million), and this will contribute significantly to ensuring food security for the region.

www.kari.org/kasal

Recognising the **perils linked with climate change** the Government of Rwanda has developed a National Strategy for Climate Change and Low Carbon Development. This Strategy aims to guide the process of mainstreaming climate resilience and low carbon development into key sectors of the economy via the different Ministerial sector strategies, as well as into national strategic planning documents such as Vision 2020 or the Economic Development and Poverty Reduction Strategy (EDPRS). Furthermore, as in many African countries decentralisation is a key policy of the Government of Rwanda; the National Decentralisation Policy was adopted (2000).

The **EU is providing EUR 20 million in Sector Budget Support for Decentralised Agriculture**, giving particular

attention to the issue of soil erosion on arable land, as well as funding a **Strategic Environmental Assessment** in order to facilitate the mainstreaming environmental considerations in the agricultural sector. In the environment sector, the EU is providing EUR 4.5 million in Sector Budget Support for Environment and Natural Resources. This aims to support the introduction of a **new tenure system**, which should protect the resource base of rural communities and hence, provide an important incentive to protect this base, in particular against the effects of climate change. Both interventions require significant **policy dialogue** amongst a wide range of stakeholders.

<http://www.delrwa.ec.europa.eu/>

UNDERSTANDING CLIMATE-INDUCED CHANGES ON WATER AND SECURITY IN THE MEDITERRANEAN, MIDDLE EAST AND THE SAHEL: THE CLUSTER OF PROJECTS CLIWASEC

The Mediterranean, Middle East and the Sahel regions are already experiencing a broad range of natural and man-made threats to water security. On the basis of climate projections, it is expected that these will be even more acute in the future. The changes in hydrological budget and climate extremes are expected to have strong impacts on the management of water resources and on key economic sectors. There is a high risk of exacerbating tensions, and even intra- and inter-state conflict in the region. Through the 7th Framework Programme for Research and Technological Development (FP7) the European Commission has funded a cluster of projects aimed at analysing the effects of climate change on water and human security. A multidisciplinary approach has been adopted with the aim of identifying effective adaptation and prevention measures.

The “**Climate Change, Hydro-conflicts and Human Security**” (CLICO) project mobilises a trans-disciplinary team of researchers from Europe, North Africa, Sahel and the Middle East to analyse issues related to the impacts of climate change on water resource availability, vulnerability, and linkages with peace and security. A large dataset – **the first of its kind** – of hydro-conflicts in the region will be regressed against climatic, hydro-

logical and socio-economic variables. CLICO complements existing considerations on climate change/water resources/national security/armed conflict with attention to the regional and local levels with a concern for the impacts of climate change on vulnerable livelihoods. CLICO will map existing policies at the national and international level and propose an improved overarching framework with improved links between existing policies.

The **Climate Induced Changes on the Hydrology of Mediterranean Basins (CLIMB)** and the **Water Availability and Security in Southern Europe and the Mediterranean (WASSERMed)** projects will analyse, in a multi-disciplinary frame, ongoing and future climate induced changes in hydrological budgets and extremes in southern Europe, North Africa and the Middle East. This will be linked to climatologic models and used to better identify impacts and vulnerabilities and response options. While WASSERMed addresses macroeconomic and sectoral consequences of water scarcity, in particular through investigation of virtual water trade, CLIMB will enable the development of a GIS-based Vulnerability and Risk Assessment Tool, serving as a platform for dissemination of project results, including communication and planning for local and regional stakeholders.

www.cliwasec.eu

Total European Union contribution EUR 9 millions. Duration of the projects: CLICO and WASSERMED from 01/01/2010 – 31/12/2012; CLIMB from 01/01/2010 – 31/12/2013





BANGLADESH: EU CLIMATE SUPPORT PROGRAMME

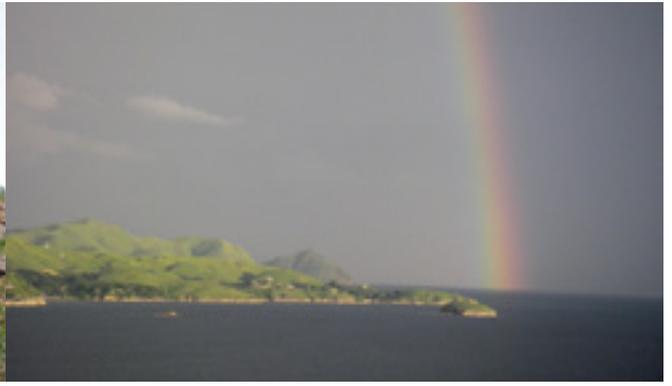
Bangladesh is **one of the most climate vulnerable countries** in the world. Hence, it is clear that climate change may have further profound effects on the lives of all Bangladeshis. Floods, tropical cyclones, storm surges and droughts are likely to become more frequent and severe in the coming years and decades.

Cognisant of this, **Bangladesh has invested more than USD 10 billion** over the last 35 years, to reduce vulnerability to natural disasters. In November 2005, as **one of the first of the LDCs**, Bangladesh submitted a National Adaptation Programme of Action (NAPA) in which a shortlist of 15 priority actions was identified. These included flood management schemes, coastal polders, cyclone and flood shelters, and the raising of roads and highways above flood levels. In addition, the country has developed state-of-the-art warning systems for floods, cyclones and storm surges, and is successfully expanding community-based disaster preparedness. Climate resilient varieties of rice and other crops have been and are being developed.

The EU has been an important partner for Bangladesh in these efforts. Currently, the EU provides a total of EUR 28.5 million to the implementation of Bangladesh's Climate

Change Strategy and Action Plan (BCCSAP). The BCCSAP is implemented in the following six (6) programme areas: **Food Security**, **Social Protection and Health**, mainly by carrying out a series of activities related to food security, safe housing, livelihood, employment and access to basic services, **Comprehensive Disaster Management**, i.e. carrying out a series of activities related to the strengthening of comprehensive disaster management systems to deal with the increasingly frequent and severe natural catastrophes that are likely to occur as a result of climate change, **Building Resilient Infrastructure**, by carrying out a series of activities to climate proof existing infrastructure and build new infrastructure necessary to deal with the short and medium-term impacts of climate change in climate-risk areas, including the coastal zone, **Increasing the Knowledge Base**, by carrying out a series of activities to estimate the likely scale and timing of climate change impacts on different sectors of the economy in order to better plan future investment strategies, **Mitigation and Low Carbon Development**, by carrying out a series of activities to lower carbon development and reduce carbon emissions, And finally, **Capacity Building and Institutional Strengthening**, by carrying out a series of activities to strengthen the capacity of Recipient's ministries and agencies, civil society and the private sector,

<http://www.moef.gov.bd/>



6

LATIN AMERICA: RALCEA - NETWORK OF KNOWLEDGE CENTRES IN THE WATER SECTOR

In Latin America, the **availability of water resources** varies widely between and inside countries. In parts of the region, the current patterns of water use are unsustainable. Many countries in the region are vulnerable to recurring **natural disasters**, a situation that is becoming worse with climate change. An example is the melting of the Andean glaciers and the increase in desertification that are having direct consequences on water resources at regional watershed level.

In order to foster **information-based policy formulation and promote south-south cooperation** on capacity development in the water sector, the EU supports the RALCEA

project. The project, totalling EUR 2.4 million, is aligned with the EU Water Initiative and will support a Network of Knowledge Centres. The project will benefit eighteen (18) Latin American countries (including Cuba) and has a four (4) year duration, starting in 2010. It is expected that the project will lead to poverty reduction and intergovernmental cooperation through increased capacity and **improved governance in water resources management** at regional level. The objectives of the RALCEA project, listed below, strive to have an impact at the political level to reduce water resources vulnerability to climate change.

http://ec.europa.eu/europeaid/where/latin-america/regional-cooperation/ralcea/index_es.htm



2.2 MAKING THE LINK: CLIMATE CHANGE ADAPTATION AND DISASTER RISK REDUCTION

Climate change is increasingly becoming a **key humanitarian** challenge also. It is estimated that due to the combined effects of environmental degradation and global warming, weather related disasters claim 300,000 deaths per year, affect app. 300 million people, cause USD 100 billion in economic losses and displace 20 million people. With a “business as usual” approach it is projected that by 2030 the impact of **climate related disasters** will more than double the victims and multiply by three the economic losses and the number of displaced persons.

Thus, adaptation to climate change and natural disaster risk reduction strategies should become a joint priority agenda. The challenge is to ensure that the policies and strategies of international donors, development institutions and developing countries’ governments will adopt a systematic approach for assessing and addressing disaster risks and climate change issues.

To be effective, climate change adaptation (CCA) policies must build on and expand existing DRR efforts, in the same way DRR

to be sustainable must take into account the impact of climate change.

The **EU adopted a Strategy on Disaster Risk Reduction** in Developing Countries in 2009. This highlighted the need to link DRR and climate change adaptation and **thus aligning** the 2007 Bali Action Plan and the 2005 Hyogo Framework for Action. In 2011 the EU adopted a DRR Implementation Plan. The overarching objective of the plan is to harmonise and increase effectiveness of 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 strengthening of information systems and risks analysis for integrating climate change into DRR.

7 UNDERSTANDING AND RESPONDING TO CLIMATE CHANGE VULNERABILITY IN URBAN AREAS

The Climate change and Urban Vulnerability in Africa (CLUVA) project seeks to develop methods and knowledge to be applied to African cities to manage climate risks, to reduce vulnerabilities and to improve coping capacity and resilience towards climate change. Using selected African cities (Addis Ababa, Dar es Salaam, Douala, Ouagadougou, St. Louis) as case studies, CLUVA will assess the environmental, social and economic impacts and the risks of climate change-induced hazards expected to affect urban areas (floods, sea-level rise, storm surges, droughts, heat waves, desertification, storms and fires) at various time frames. The project aims at improving the capacity of scientific institutions, local councils and civil society to cope with climate change and will develop innovative climate change risk adaptation strategies based on strong interdisciplinary components.

www.cluva.eu

Total European Union contribution EUR 3.5 millions
Duration of the project: from 01/12/2010 – 30/11/2013

The project **“Collaborative Research on Flood Resilience in Urban areas” (CORFU)** is a major project involving seventeen (17) European and Asian research institutions. Funded by the FP7, CORFU aims at enabling European and Asian partners to learn from each other through joint investigation, development, implementation and dissemination of short to medium-term strategies that will enable more scientifically sound management of the consequences of urban flooding in the future. Flood impacts in urban areas – potential deaths, damage to infrastructure and health problems in the first place and consequent effects on individuals and on communities – and possible responses will be assessed by envisaging different scenarios of relevant drivers: urban development, socio-economic trends and climate changes. The cost-effectiveness of resilience measures and integrative and adaptable flood management plans for these scenarios will be quantified.

www.corfu7.eu

Total European Union contribution EUR 3.5 millions
Duration of the project: from 01/04/2010 – 31/03/2014



8

DROUGHT PREPAREDNESS IN THE HORN OF AFRICA (DG ECHO)

The Greater Horn of Africa (Djibouti, Eritrea, Ethiopia, Kenya, Somalia, Sudan and Uganda) is one of the poorest and most conflict-prone regions in the world. In some areas of this region, climate change is leading to a longer-term decline in rainfall, and is also changing rainfall patterns. The combination of this climate related development and low levels of economic development results in further challenges for people living in arid areas, to recover after one drought before the next one occurs.

Traditionally, pastoral communities have a well-defined system of assisting less fortunate members to re-establish their herds after disasters. However, repetitive droughts have severely limited resilience and an increasing number of pastoralist households are losing their livelihood assets, leaving people with little capacity to provide for them. Vulnerable local communities affected by the impact of drought cycles are the main focus of the Commission's drought preparedness

programme in the Greater Horn of Africa. This programme targets mainly populations whose subsistence is based on pastoralism and agro-pastoralism.

In the communities which have been supported, the project has reduced the impact of "slow onset" disaster through preparedness activities which have led to an improved local response: selling livestock on time to generate income for the drought period; maintenance of critical water points; mapping of water sources; providing water maintenance parts and equipment; establishing community networks; support for traditional systems and means such as introduction of camel as drought resistant livestock; improved access to unused rangelands (where possible and appropriate); support for early warning systems and institutions responsible for disaster risk reduction and preparedness at regional and district level. The EU is planning more and longer term support allowing scaling up efforts considerably and increasing resilience.

http://ec.europa.eu/echo/index_en.htm



ALTHOUGH ADAPTATION IS CERTAINLY A HUGE CHALLENGE FOR DEVELOPING COUNTRIES, REALITY SHOWS THAT GREENHOUSE GAS EMISSIONS FROM DEVELOPING COUNTRIES ARE ON THE INCREASE AND WILL SO REPRESENT AN IMPORTANT SHARE OF GLOBAL EMISSIONS. SUSTAINABLE AND LOW EMISSIONS DEVELOPMENT PATHWAYS THEREFORE NEED TO BE DESIGNED AND IMPLEMENTED. THIS CHAPTER HIGHLIGHTS THE EU SUPPORT TO DEVELOPING COUNTRIES AS REGARDS REDUCTION OF EMISSIONS, FROM CLEAN DEVELOPMENT MECHANISMS TO LOW CARBON TECHNOLOGIES.

3.1 STIMULATING CLEAN DEVELOPMENT THROUGH EMISSIONS TRADING

The EU is by far the biggest buyer of **emission reduction credits** from third countries, and provides for continued financial flows and technology transfer to developing countries. It is expected that this will also be the case after 2012. A well designed **international carbon market** underpinned by robust targets can play a major role in global mitigation efforts, and create increasing financial flows to support mitigation activities in developing countries.

The **EU Emissions Trading System** (EU ETS) began operating in January 2005 and forms the cornerstone of the EU's strategy for cutting greenhouse gas emissions cost-effectively, and meeting our Kyoto targets. It has rapidly become the driving force behind the expansion of the global carbon market. For the period between 2008 and 2020 companies participating in the EU ETS are able to buy international emission reduction credits equivalent to at least 1.6 billion tons of CO₂.

The ETS caps overall CO₂ emissions from app. 10,500 large EU emitters in energy-intensive industrial and power generation sectors and **from 2012, all aircraft flying to and from airports in the EU will also be covered by the ETS.**

The **Clean Development Mechanism** (CDM) aims to help developing countries move towards more sustainable development, by promoting projects that use clean technologies to reduce greenhouse gas emissions. The CDM projects yield emission reduction credits, which can be bought by governments or companies in industrialised countries to help meet their emission targets.

Several **EU Member States** have set up programmes to buy international emission reduction credits, either directly or through government-financed 'carbon funds', to further help them meet Kyoto targets. During the first commitment period (from 2008 to 2012) EU governments committed to purchasing credits equivalent to app. 550 million tons of CO₂, at a cost of EUR 2.9 billion.

Under a post-2012 global climate agreement, the EU considers the CDM must be reformed to improve the effectiveness and environmental integrity of the mechanism. The EU deems it critical that over a short period of time the **focus of the CDM should shift to Least Developed Countries (LDCs)**. To ensure that the CDM contributes positively to sustainable development and global emission reductions in the LDCs, additional assistance is needed to further enhance their capacity to participate in the carbon market mechanisms. To increase participation of LDCs, the EU ETS and Effort Sharing Decision stipulate that after 2012, even without an international agreement, these instruments can provide a market for CDM credits from new projects in Least Developed Countries. CDM credits from existing projects in other countries can continue to be used. Despite some advantages of the CDM, it is acknowledged that the CDM is not designed to drive the structural transformation of industry in developing countries that the transition to a low-carbon economy requires, due to the project base approach it adheres to. Hence, the EU with other partners is advocating for the creation of **new and more ambitious sectoral mechanisms** that make it possible to tap into much greater emissions-saving potentials and provide more revenue for financing reductions in developing countries. With the development of such new mechanisms, the CDM should increasingly focus on targeting low cost options for saving emissions in LDCs. For the major emerging economies in the developing world, the CDM should gradually be replaced by new sectoral mechanisms.

The EU vision for the international carbon market remains to link up the EU ETS with other compatible emission trading systems around the world and to develop robust sectoral mechanisms. This should foster a network of cap and trade systems forming the backbone of an expanded and strengthened international carbon market. In this perspective, sectoral crediting is a necessary step beyond the CDM's project-based approach.



3.2 LEVERAGING FUNDS FOR CLIMATE ACTION IN DEVELOPING COUNTRIES

In order to complement traditional grant funding and to leverage additional funding from other sources, the European Commission has established, beginning in 2007, a number of regional investment facilities. The facilities address the investment needs for infrastructure projects in different sectors as well as for support to the private sector, particularly small and medium sized enterprises. The facilities aim at creating a partnership, pooling together grant resources from the EU budget and the EU Member states and using them to leverage loans from European Finance Institutions as well as own contributions from partner countries. Since 2007, app. EUR 570 million in grants from the EU budget, the European Development Fund and additional grant resources from EU member states have been committed to about 100 projects in various sectors. Through grant co-financing EU contributions have leveraged app. EUR 8 billion in loans from European finance institutions. This has unlocked total project financing for EU development policy of more than EUR 20 billion.

The main success factor of these facilities is their flexibility, covering a wide scope of sectors and financial products. This flexible approach has allowed financing to be adapted to the specific needs of partner countries and of the promoters while at the same time supporting key policy objectives. The investment volume of projects addressing the effects of climate change in all regional EU investment facilities already amounts to more than EUR 8 billion. The further potential for climate action under EU investment facilities is deemed to be tre-

mendous. In order to harness this potential, the EC has decided to create Climate Change Windows in all regional EU Investment Facilities. These Windows create the opportunity to bring new, additional resources while allowing an immediate start of additional project financing in the fields of **mitigation** and **also adaptation**. The new Windows encompass both public and private climate investments in strategic areas such as transport, energy, environment, water and sanitation and enable a transparent tracking of all climate change related projects funded by the EU and European Finance Institutions through regional facilities. Especially the involvement of the private sector is an essential part of the concept of the new Windows. Reporting on the financial resources leveraged through the Windows will clearly separate existing and additional resources and by such improve EU accountability and transparency in the field of climate action towards international community and our partner countries. To date, the pipeline of projects to combat climate change already amounts to more than EUR 9 billion in all regional facilities.

One example of the facilities' contribution to combat climate change is the project "Wind Farm Gulf of el Zayt" in Egypt – see box below

1 EGYPT: WIND FARM GULF OF EL ZAYT

Along the west coast of the Gulf of Suez in the Red Sea, the prevailing wind regime ranks among the best in the world with average wind speeds of more than 10m/s. The 200 MW wind farm project supports the governmental objective of expanding electricity production from renewable energy sources to achieve a target of 20% renewable electricity generation by 2020. It contributes to a **substantial reduction of CO2 emissions** (estimated to 400,000 tons per year). The total investment costs of EUR 340 million are financed by combining EUR 30 million grants from the EU budget, EUR 240 million of loans from the European finance institutions and a contribution from the Government of Egypt of EUR 70 million.

<http://www.eib.org/projects/pipeline/2007/20070089.htm>



2 THE ACP-EU ENERGY FACILITY (EF)

The Energy Facility is a co-financing instrument, established in the framework of the EU Energy Initiative for Poverty Eradication and Sustainable Development in 2005. The aim is to support projects on increasing access to sustainable and affordable energy services for the poor living in rural and peri-urban areas in **African, Caribbean and Pacific (ACP) countries**.

Since 2007, it has financed around 140 national and cross-border projects totalling app. EUR 300 million and leveraged a further EUR 340 Million. As a result, **about thirteen (13) million people should benefit from improved energy services**.

The projects focus mainly on the use of renewable sources and technologies such as mini-hydropower, solar PV, bio-fuels, biogas and wind, including capacity building activities aimed at improving governance and framework conditions in the energy sector at regional, national and local levels. The EF has also financed grid extensions especially in rural

areas as well as efficient cooking stoves and micro-finance for energy services projects.

The EF has also provided institutional support to the four regional Sub-Saharan African Power Pools and to the African Forum for Utility Regulators, in order to facilitate future large scale investment programmes in cross-border interconnections, grid extensions and rural distribution.

A new blending instrument, the **Pooling Mechanism** endowed with EUR 40 million, was created within the EF in 2010 to promote medium-size investment projects for access to energy in rural and peri-urban areas in ACP countries. This new mechanism has been conceived as a flexible tool to enhance private sector participation, to maximise the impact of the EF grants through leverage of, and blending with, additional resources (e.g. private sector funding and loans) and to better coordinate at EU level available resources and expertise in the energy sector.

<http://ec.europa.eu/europeaid/energy-facility>

<http://www.euej-pdf.org>

3 MALAWI MSAMALA SUSTAINABLE ENERGY PROJECT - 9 ACP RPR 49/29

Overall Objective: To contribute to the eradication of extreme poverty and hunger of poor rural people in Balaka District in Malawi. **Specific Objective:** Improved sustainable access to and use of energy in TA Msamala.

Impact on development: Vulnerable and disadvantaged groups like women and children have seen a reduction in their burden of collecting firewood (in terms of distance and frequency) by 30% due to energy efficient stoves. The instal-

lation of Solar PV systems will increase the safety and the hours of teaching time for 8,860 students and 66 teachers. 34 small scale business groups have been mobilized and trained in *stove production and marketing, beekeeping and mushroom growing*. Income generated is invested in household asset growth such as livestock, or purchase of food to supplement the recent harvest. The project is also very ambitious in raising awareness on energy issues, and providing opportunities for knowledge sharing through their REFLECT literary circles, while also organizing training and workshops on sustainable business and energy efficiency.



4 ENERGY FACILITY: SOLAR ENERGY IN AFRICA

In Somalia, Burkina Faso, Malawi and Ethiopia, the Energy Facility has funded the installation of solar PV technology. The projects have been successful in terms of offering a basic level of electricity services, achieving energy efficient improvements and reducing energy consumption. Basic details for the individual projects are provided below:

- **Somalia:** Energy and Livelihood Project – From 2007 to 2011 PV systems were installed at twenty-one (21) rural clinics, mainly for **lighting and powering basic health instruments** such as microscopes, refrigerators, radio, television and providing lights. About 12,626 people benefit monthly from the energy services derived from these solar PV systems. Between 7-10 % of patients are attended to in the evenings/night time. The EU contribution is EUR 1.5 million.
- **Burkina Faso:** Solar Energy for Improved Energy Services in Rural Areas. Also running from 2007 to 2011, this project targeted 3,000 households for use and installing of **solar home systems** in the Kéné Dougou province. As an example, a small company in Koloko specialised in frozen fish changed a gas driven freezer to a Solar PV

system and was able to save EUR 2,744 per year, at the same time selling more due to the fact that they could be open longer with their new light source. The EU is EUR 2.1 million

- **Malawi:** Msamala Sustainable Energy Project in the Bakala district. From 2007 to 2012 the project targets 5,000 school children and teachers, 12 health centres and small business enterprises to ensure a sustainable access to energy. **Provision of solar PV to schools** has improved recruitment and retention of teachers in remote rural areas and permitted evening study for school pupils and adult learners. The EU contribution is EUR 1.8 million.
- **Ethiopia:** Community Managed Renewable Energy Project. From 2008 to 2011 the projects aimed to benefit a total of 83,000 people in terms of **water supply and improved health services**. Additionally 6,000 households will benefit of **Fuel Saving Stoves**. Finally 8,700 students and 108 school staff will get **solar power in the schools**. The EU contribution is EUR 0.97 million.

http://energyfacilitymonitoring.eu/images/stories/publications/thematic_fiche_5.0_solar_pv.pdf

5 LOW EMISSION CAPACITY BUILDING PROGRAMME: A GLOBAL INITIATIVE TO SUPPORT NAMA, LEDS AND MRV

Funded by the European Commission and Germany with a total of app. EUR 20 million, the “Low Emission Capacity Building Programme” is implemented by the United Nations Development Programme (UNDP) and national institutions in participating countries. This global initiative aims at supporting developing and emerging countries in their national climate change mitigation efforts, **low emission development strategies** and **enhanced measuring, reporting and verification** systems.

The four-year programme strengthens capacities in at least fifteen (15) to twenty (20) developing countries and emerging

economies in Africa, Latin America and Asia, as follows:

- To develop **greenhouse gas (GHG) inventory** management systems;
- To identify opportunities for nationally appropriate mitigation actions (NAMA);
- To support and design **low emission development strategies (LEDS)** in the context of national priorities;
- To design systems for **measuring, reporting, and verification** of proposed actions and means to reduce GHG emissions;
- To facilitate the design and adoption of mitigation actions by selected sectors

The methodology follows a **country-driven**, multi-stakeholder approach, with participation of both the public and private sector. The key outcomes of this programme include solid support



3.3 THE ROLE OF CLEAN ENERGY

The European Union's development policy strongly emphasises sustainable energy as a driver for inclusive and sustainable growth. The 2011 Agenda for Change proposed by the European Commission further highlights the provision of sustainable energy as one of the factors that have the strongest multiplying impact on developing countries' economies and, at the same time, contribute to environmental protection and climate change prevention and adaptation. Already in 2002, the EU launched the Energy Initiative for Poverty Eradication and Sustainable Development (EUEI¹) at the World Summit for Sustainable Development (WSSD) in Johannesburg. The EUEI is the EU's global framework for dialogue and partnerships with developing countries to meet the energy challenge.

The EUEI seeks to end the limited access to energy services and heavy reliance on traditional biomass which 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. Key areas are maximising energy efficiency as well as increasing the use of renewable energy, thus also contributing to climate change mitigation. Activities implemented under the

¹ For further information see www.euei.net

frameworks and practical materials to achieve robust national greenhouse gas (GHG) emission inventory systems, development of NAMAs and LEDS.

These will be supported through focused capacity building activities that would address, among others, actions to improve collection of relevant data, design of measuring, reporting and verification (MRV) systems, **linkages with outcomes and processes of National Communications (NC)**, and sustainability of climate change efforts by national governments.

http://www.beta.undp.org/content/dam/undp/library/Environment%20and%20Energy/Climate%20Strategies/LECBPBrochure_2_6WEB.pdf

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

6 EASTERN NEIGHBOURHOOD, RUSSIA AND CENTRAL ASIA: CLIMATE CHANGE COOPERATION

The EU has been supporting countries of the EU "eastern Neighbourhood" (Armenia, Azerbaijan, Belarus, Georgia, Moldova, Ukraine), the Russian Federation, and Central Asia (Kazakhstan, Kirgizstan, Tajikistan, Turkmenistan, Uzbekistan) for a considerable time on issues related to climate change. The **Support to Kyoto Protocol Implementation (SKPI)** project (EUR 4.7 million), advises partner countries' governments and companies on **energy efficiency and renewable energy**, helps prepare projects for financing under the Joint Implementation - and Clean Development Mechanisms, and assists with the preparation of carbon market regulation, e.g. in Ukraine and Kazakhstan.

SKPI has ended in 2011 and is being replaced by a **more comprehensive project package** "Clima East" (EUR 18 million) that will **increase focus on national climate change policies**, and an improved information access to EU climate change policies and expertise. This will be done, amongst others, through a **demand-driven expert facility**, a high-quality internet site in Russian and English, and regional **training seminars** and **exchange visits** at expert level. Additional to this technical assistance, concrete projects will use **ecosystem-based approaches** to support permafrost and boreal forest protection, peatland rehabilitation, and improved pasture management in selected pilot regions. Co-operation with relevant EU Member State initiatives, e.g. the German International Climate Initiative, will be sought.

<http://www.ener-eff.ru/index.php/en.html>



A major outcome of the EUEI is the Africa-EU Energy Partnership (AEEP), launched in December 2007. The AEEP is a long-term framework for structured political dialogue and co-operation between Africa and the EU on energy issues of strategic importance. A second Action Plan (2011-2013) for the partnership is currently being implemented.

The implementation of the partnership is supported by the EUEI Partnership Dialogue Facility (EUEI-PDF) together with financial instruments such as the ACP-EU Energy Facility, the EU-Africa Infrastructure Trust Fund, Regional and National Indicative Programmes under the European Development Fund and numerous bilateral instruments of EU Member States. In 2010, on the occasion of the Partnership's High Level Meeting, Ministers from the EU and Africa adopted targets to be reached by 2020 as follows:

1. Bring access to modern and sustainable energy services to at least an additional 100 million Africans;
2. (a) double the capacity of cross border electricity interconnections, both within Africa and between Africa and Europe,

and (b) double the use of natural gas in Africa, as well as doubling African gas exports to Europe;

3. (a) increase the use of renewable energy in Africa: 10,000 MW of new hydro-power facilities; at least 5,000 MW of wind power; 500 MW for all forms of solar energy; and tripling the capacity of other renewables; and (b) improve energy efficiency in Africa in all sectors, starting with the electricity sector.

An Africa-EU Renewable Energy Co-operation Programme (RECP) was also launched at the High Level Meeting, to bring relevant renewable energy technologies to the market in Africa. The African Continent has a vast untapped renewable energy potential, ranging from hydro, to solar, wind, geothermal and biomass which could be used to ensure access to electricity for millions of people. The RECP will run until 2020, focusing initially on (i) policy advisory services; and (ii) capacity development for project preparation and mobilisation of financing. Preparations are ongoing to also include the promotion of renewable energy applied research, development and technology transfer.

7

THE GLOBAL ENERGY EFFICIENCY AND RENEWABLE ENERGY FUND (GEEREF)

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 investments in Private Equity funds, GEEREF finances a broad mix of energy efficiency and renewable energy projects and technologies. Over a 15-year period, investments should bring almost 1 GW of clean energy capacity to recipient countries, providing sustainable energy services to 3 million people and saving up to 2 million tons of carbon dioxide emissions.

Investments will also enable the transfer of low carbon technologies in targeted regions, which makes GEEREF an innovative and groundbreaking financial instrument for sustainable development.

GEEREF has invested more than EUR 45 million in four regional funds, covering Southern Africa, East Africa, South Asia and Latin America. A leverage factor of ~5 has been obtained with the combined current closing size of EUR 250 million, out of which EUR 85 million comes from purely private sources. The EC, Germany and Norway are the current investors of the GEEREF.

Evolution One (EO) is one example of a GEEREF investment. EO focuses on "CleanTech" in southern Africa; Joint development of 22 MW of solar PV assets in the Western Cape, South Africa; a CDM-compliant Combined Heat and Power Plant in Tanzania with an installed capacity of 8MW and several wind sites in the Kouga region of the Eastern Cape, South Africa with a total potential of 300 MW.

- <http://geeref.com/>
- <http://inspiredevolution.co.za/>



IT IS INCREASINGLY DIFFICULT TO DRAW A CLEAR-CUT LINE BETWEEN ADAPTATION AND MITIGATION. THERE ARE MANY SYNERGIES TO BUILD UPON BETWEEN THESE TWO AREAS. THE EU PROVIDES SUBSTANTIAL SUPPORT TO SEVERAL OF THESE CROSS-CUTTING SECTORS SUCH AS FORESTRY, AGRICULTURE, ECOSYSTEM-BASED APPROACHES AND ITS RESEARCH EFFORTS ALSO PROVIDE IMPORTANT CONTRIBUTIONS TO SETTING-UP MORE INTEGRATED STRATEGIES FOR CLIMATE ACTION.

4.1 PROMOTING SUSTAINABLE FORESTRY

Forests are vital in global terms and in particular for many developing countries. For developing countries forest resources i) represent a significant contribution to the development of the **local and national economy**, and ii) are important bases for **livelihoods** - estimated at 1.2 billion people. In addition, forests harbour 70% of all the world's **biodiversity** and provide invaluable **environmental services**.

Of significant importance is also the role of forests in **mitigating climate change**. Forests act as 'sinks' that absorb carbon dioxide (CO₂) and hence play a large part in maintaining a CO₂ balance in the atmosphere. Tragically, deforestation and land use change are responsible for some significant CO₂ emissions (estimated at 15% of global emissions). Work on **reducing emissions from deforestation** and forest degradation is thus essential.

Regarding climate change adaptation healthy natural forests, plantations or naturally regenerated forests have also an adaptation function by for example **protecting watersheds** and may limit a desertification process. **Agroforestry** and silvo-pastoralism 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. The effects of climate change will alter the extent to which forests can fulfil these roles.

Despite its importance, **forest cover is being reduced at alarming rates** as a result of poor forest governance, inappropriate enforcement of forest laws and market failures in valuing environmental services. **Illegal logging** is a symptom of these failing systems. The EU is active on these issues and the main policies guiding our work are the **EU Forest Law Enforcement, Governance and Trade (FLEGT) Action Plan (2003)** – see box below, the Communication on deforestation and Climate Change (2008), and our contribution to REDD+.

The EU strongly supports and is actively contributing to negotiations under the UNFCCC on actions to reduce emissions from deforestation and forest degradation (REDD+). **Incentives need to be created** to support developing countries to slow, halt and reverse deforestation and forest degradation, while promoting a range of social and environmental benefits. The **EU target** is to reduce gross tropical deforestation by at least 50% of current levels by 2020 and halt the global loss of forest cover by 2030, at the latest.

Since 2002 the EU has provided about **EUR 600 million for sustainable forest management** and climate change in developing countries.

A major instrument of co-operation with partner countries is the Voluntary Partnership Agreement (VPA) on export of legal timber, aligned with the above mentioned FLEGT Action Plan. VPAs have been concluded with Cameroon, Central African Republic, Ghana, Indonesia, Liberia and Republic of Congo, while negotiations are ongoing with Democratic Republic of Congo, Gabon, Malaysia and Vietnam. These agreements will help to improve governance in the forest sector and ensure the legality of timber exports to the EU, in particular through a licensing scheme, reducing forest degradation from illegal logging. Preparation of VPAs in all countries entails **extensive stakeholder** engagement, sharing of information and **transparency**, strengthening of **enforcement** of laws and regulations, support to national and local institutions, increasing government accountability and support to an active civil society. The result has been **improved frameworks for national forest sector governance**.



In 2010, the EU adopted a **“Timber Regulation”** which requires companies to implement a **“due diligence”** system to minimise the risk that timber they sell was harvested illegally. The EU Timber regulation complements the FLEGT Voluntary Partnership Agreements, by also introducing a prohibition to place illegal timber and timber products on the EU market. The **Timber Regulation will come into application in March 2013.**

The EU contributes technically and financially to global programmes such as the World Bank Forest Carbon Partnership Facility and the European Forest Institute Facility in the context of REDD+. The EU deems it critical that lessons from and linkages with VPA processes are maximised and that partner countries streamline both processes in national forest sector institutions.

1

The European Commission has developed a touch screen software which provides a user friendly platform to get an easily access to the Commission activities in the areas of Climate Change and Environment at country and sector levels.

Further information could be found at the following address: <http://ec.europa.eu/europeaid/climate-change-actions>





2

DR CONGO: FUELLING STABILITY: IMPLEMENTING MULTIPLE STRATEGIES FOR FOREST PROTECTION IN A REGION OF ARMED CONFLICT. THE CASE OF VIRUNGA NATIONAL PARK

As in many African countries, charcoal is the dominant domestic fuel in eastern Congo. Exponential population increases in the region, the Congolese civil war and a consequent break-down of the rule of law, and the arrival of the Rwandan refugees in 1994, led to a rapid outstripping of available resources. This led to unsustainable and illegal exploitation of charcoal from the Virunga National Park. As an example it is estimated that the town of Goma alone demands app. 60,000 t of illegal charcoal per year, with no available estimates for the combined demand of the more than 1 million internally displaced people in the region. Illegal charcoal poses profound challenges for peace building and economic development in the region, as well as for the protection of forests.

Trade in charcoal is estimated at over USD 35 million a year and lies at the heart of the illegal exploitation of natural resources in Eastern DRC. It is a primary source of instability as the financial benefits are accessed by illegal armed groups and militias. As transporters of charcoal, women are heavily exposed to acts of violence, as they travel on foot through militia controlled areas. Furthermore, more than 150 government rangers have been killed since 1996, the majority by armed groups exploiting the Park. Illegal charcoal

is also extremely damaging to old growth forests, with over 90% of fuel wood energy lost in inefficient production and transport.

In 2008, the European Union commenced a five years multi-sectoral approach supporting, ICCN, the Congolese Protected Area Authority to address these problems. In partnership with the WWF 6,000 hectares of community based plantation forest are being established around the national park to provide an alternative source of fuel wood. A biomass briquette programme has created more than 1,000 rural jobs. The waste from the charcoal industry is recycled and transformed into high-grade chardust briquettes to reduce the demand on the forest. Investment in tourism has seen a growth in forest dependant activities, resulting in more than 100% annual growth since 2009, with a current turnover of over US\$ 1 million. A wide-reaching reform programme and institutional support for the Protected Area Authority to enable park rangers to more effectively protect the forest and discourage the presence of armed militias has been executed.

EU funds EUR 12 millions have played a central role in reinforcing DRC capacity to protect the Virunga forests and supplying solutions for local communities attracting other private and institutional donors.

Virunga websites:

<http://gorillacd.org>

www.iccnvirunga.net

www.visitvirunga.org



3

THE FLEGT ACTION PLAN

The European Union's policy to fight illegal logging and associated trade is defined in the Forest Law Enforcement Governance and Trade (FLEGT) Action Plan. The key regions and countries targeted in the FLEGT Action Plan, which **together contain nearly 60% of the world's forest** and supply a large proportion of internationally traded timber, are Central Africa, Russia, Tropical South America and Southeast Asia. The FLEGT Action Plan **covers both supply and demand** side measures to address illegal logging, and was endorsed by the EU Council of Ministers in November 2003.

The FLEGT Action Plan has led to two key pieces of legislation:

1. **FLEGT Regulation** adopted in 2005, allowing for the control of the entry of timber to the EU from countries entering into bilateral FLEGT Voluntary Partnership Agreements (VPA) with the EU;
2. **EU Timber Regulation** proposed by the Commission in October 2008 and adopted by the European Parliament and by the Council in October 2010, as an overarching measure to prohibit placing of illegal timber and timber products on the internal market.

However the EU response has not been limited to legislative measures. The EU has sought to increase demand for legal

and sustainable timber and timber products by encouraging both private and public sector procurement policies that give preference to legally harvested timber and timber products.

In the public sector these form part of a broader effort to **"green" public procurement policies**. An increasing number of EU Member States are adopting green public procurement policies requiring timber and timber products to be from legal and sustainable sources. Countries implementing such policies include Belgium, Denmark, France, Germany, Netherlands and the UK.

Many **EU private sector** timber trade and retail federations and companies have made commitments through Codes of Conduct to eliminate illegally harvested timber from their supply chains. In addition some banks have put in place policies to ensure their clients are not associated with illegal logging activities.

Capacity-building is an important element of the FLEGT Action Plan, particularly for developing countries. The **EC is working with the EU Member States** to provide such capacity-building through its development cooperation instruments including support to NGOs and private sector actions.

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52003DC0251:EN:NOT>

http://ec.europa.eu/environment/gpp/index_en.htm

4

PREPARING THE FLEGT VPA IMPLEMENTATION IN THE REPUBLIC OF CONGO (BRAZZAVILLE)

The FLEGT VPA with the Republic of Congo was signed in May 2010. In order to support **implementation of the VPA**, the EC currently contributes app. EUR 10 million to the following projects:

- Development of a national **Legality Assurance System**
- Technical Assistance for legality verification
- Pilot support to timber companies to assess compliance
- Support to civil society for **Independent Monitoring**

- **Participation of civil society** in VPA implementation
- Revision of the Forest Law and other related regulations
- **Public information** on FLEGT VPA

The EC and the Government of Congo are currently working on **promotion of synergies between REDD+ and FLEGT**, particularly on (1) multi-stakeholder process, (2) legality assurance system and monitoring, reporting and verification, including baseline surveys and (3) capacity strengthening of different stakeholders.

http://www.euflegt.efi.int/portal/home/vpa_countries/in_africa/republic_of_congo/



5 EU FLEGT ACTION PLAN IMPACTS

Recent studies have indicated significant impacts of the FLEGT Action Plan.

- In **Indonesia and Cameroon** between 2001 and 2006 tax losses of USD 4 billion have been avoided and 1.6 billion tonnes of CO₂ emissions prevented. In **Cameroon** tax revenues increased from USD 0 in 1994 to USD 50 million a year in 2004, including USD10 million for local authorities
- **Globally**, USD 8 billion in tax losses have been avoided
- Livelihoods of tens of millions of **forest dependent people** have been protected with income increases of up to 25%.
- 17 million ha of **forests have been protected** from forest degradation with consequent biodiversity safeguarded and carbon emissions prevented.
- **Reduced imports of illegal timber** in consumer countries more than 25%.

<http://illegal-logging.info/uploads/CHIlegalloggingreportcardpackhighres.pdf>

6 PROMOTING GLOBAL RESEARCH ON REDD+

Further to the commitment of COP 15 in Copenhagen to develop a mechanism for Reducing Greenhouse Gas Emissions from Deforestation and Forest Degradation and Enhancing Carbon Stocks (REDD+), the EU has been funding, under its 7th Framework Programme for Research, major inter-disciplinary research projects aimed at creating a better understanding and at monitoring the impact of REDD+ activities in developing countries on climate policy effectiveness, cost efficiency, equity and co-benefits. The two FP7-funded projects **Impacts of Reducing Emissions from Deforestation and Forest Degradation and Enhancing Carbon Stocks (I-REDD+)** and **Reducing Emissions from Deforestation and Degradation through Alternative Land uses in Rainforests of the Tropics (REDD-ALERT)** are generating a) improved understanding of carbon stocks and greenhouse gas emissions in different land use systems in Southeast Asia (China, Indonesia, Laos, Vietnam), Africa (Cameroon, Kenya, Nigeria) and Latin America (Colombia, Peru); 2) better knowledge on drivers of deforestation and policy options, and assessment of costs and benefits of REDD+, including impacts on local livelihoods; 3) analyses of different, country-specific REDD+ governance structures, including requirements for adequate Monitoring, Reporting and Verification systems, and mechanism for distribution of financial benefits of REDD.

Projects Web Sites:

www.i-redd.eu and www.redd-alert.eu

Total European Union contribution EUR 6.6 millions
Project duration: I-REDD+ from 01/01/2011 – 31/12/2014; REDD-ALERT 01/05/2009 – 30/04/2012



4.2 ECOSYSTEM-BASED APPROACHES

Healthy resilient ecosystems have a greater **potential to mitigate and adapt** to climate change. Working with nature (ecosystem-based approaches for climate change adaptation and mitigation) while helping to conserve nature also reduces the vulnerability of people and their livelihoods in the face of climate change. As an example, coastal ecosystems such as wetlands, mangroves, coral reefs, and barrier beaches provide natural shoreline protection from storms and floodings in addition to other functions. Nature conservation and restoration are therefore major components in the fight against climate change.

However, **climate change impacts biodiversity and ecosystems** and often exacerbates other pressures such as pollution, over-exploitation, invasive species, habitat fragmentation, degradation and loss. The Intergovernmental Panel on Climate Change (IPCC) has concluded that **20 % to 30 % of species assessed may be at risk of extinction** from climate change impacts within this century if global mean temperatures exceed 2-3 °C. By conserving nature and restoring ecosystems the vulnerability of ecosystems can be considerably reduced.

Ecosystem-based approaches are cost-effective, ready for use and accessible to rural and poor communities. The protection of ecosystems is thus a crucial part of the European Union effort to combat climate change. For the past 10 years, the EC has committed an average of EUR 120 million per year to support biodiversity related actions in developing countries. The EU also strongly supports and actively contributes to negotiations under the **Convention on Biological Diversity**. At the CBD COP-10 in 2010, a Strategic Plan for Biodiversity, for the 2011-2020 period was adopted, including the Aichi Biodiversity Targets. The EU has already made good progress in implementing the Plan. In May 2011, **a new EU Biodiversity Strategy to 2020** was adopted, reflecting many of the Aichi targets. The new Strategy sets the framework for the EU to reach our own ambitious headline target **of halting the loss of biodiversity** and the degradation of ecosystem services in the EU by 2020 - while stepping up the contribution to averting global biodiversity loss.

7

GUYANA: SUSTAINABLE COASTAL ZONE PROTECTION THROUGH MANGROVE MANAGEMENT

The **link between climate change and mangroves is strong**, since mangroves contribute both to resilience to extreme weather events and sea level rise and to the abatement of climate change through carbon sequestration. Mangroves contribute substantially to sea defence by damping wave actions and protecting coastal banks against the effect of heavy storms, thus playing an important role in disaster risk reduction. They also provide a number of **ecosystem services** essential for human populations, including food and wood sources, water sanitation and waste absorption. And lastly, mangroves act as **nurseries for many species of tropical fish** providing a complex habitat that attracts food and creates refuge from predators.

Climate change is a major issue for Guyana and the new “Low Carbon Development Strategy” has become a central theme in forest conservation and protection of coastal areas. As 90% of the population in Guyana lives in the low lying coastal area, the coastal ecosystem, and especially the mangrove forests, is threatened. While mangrove management does not constitute a formally recognised sector as such, it is addressed in several policy documents and legal instruments. The National Mangrove Management Action Plan in particular includes **public awareness** activities, replanting, research, monitoring and development of a code of practice and constitutes the reference document of a recent EU funded programme.

In the context of the GCCA, the EU is providing EUR 4.2 million for an innovative **Sector Budget Support for sustainable coastal zone protection** through mangrove management in Guyana. The general objective of the support programme is to abate climate change through **carbon sequestration**, but also to mitigate its effects through sea defence and biodiversity pro-



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.

tection. The results foreseen from the support programme include rehabilitation of mangrove fields, mapping of existing mangroves for a better monitoring, **mainstreaming** mangroves issues in the national Forest Plan, and raising the awareness of the general public and the **involvement of local communities** living close to mangroves.

Thanks to the support, Guyana has planted 200,000 mangrove seedlings in an area of 4,5 km along different sections of the coastline; surveys of project sites designs for hard structures to increase sedimentation in selected areas has been undertaken; and a mangrove ranger unit to monitor and protect the mangroves have been established. As the seedlings are very sensitive to erosion and wave action, the selection of suitable sites for planting was done with considerable preparatory efforts.

<http://www.mangrovesgy.org/>

<http://www.gcca.eu>



8

ZAMBIA: ENHANCING LIVELIHOODS, ADAPTING TO CLIMATE CHANGE, AND CONTRIBUTING TO MITIGATE: CONSERVATION AGRICULTURE

In Zambia, the **smallholder sector** constitutes 80% of the national food production. The sector is characterised by poor yields due to low use of inputs, over dependence on climate conditions and a lack of improved cultivars.

In conjunction with the FAO, the EU is supporting, a project on conservation agriculture. The EU contribution is EUR 16.9 million. The aim is to assist the Government of Zambia (GoZ) to boost small farmers' food production through improved access to agricultural inputs and the promotion of conservation agriculture (CA) principles. At the end of the project late

2011, more than 19,500 lead farmers will have been trained in conservation agriculture, and also app. 500 camp extension officers.

Preliminary results of a post harvest study indicate that productivity in the conservation agriculture project areas has increased by 44%. Official estimate indicate that conservation agriculture was one of the three major factors contributing to the bumper 2009/10 maize harvest. Accordingly, GoZ has integrated conservation agriculture with the Sixth National Development Plan.

http://eeas.europa.eu/delegations/zambia/eu_zambia/dev_coop/eco_rural_dev/rural_dev/index_en.htm

4.4 STRENGTHENING THE KNOWLEDGE BASE: ASSISTING DEVELOPING COUNTRIES THROUGH CLIMATE RESEARCH

Enough evidence exists to demonstrate that human-induced climate change is unquestionable and thus informing action. However, 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 (FP7) for the period 2007 - 2013, provides a key framework for international collaborative research in the field of Environment and Climate Change. "Horizon 2020", the future EU-funding programme for research and innovation for the period 2014-2020 is currently under development and will continue to give priority to climate change and resource efficiency. EU research programmes have a strong international dimension as they are open to cooperation with research institutions in third countries. Researchers and research organizations from developing countries participate directly in a range of EU projects, many of them focusing on climate-relevant issues such as food security, health and ecosystem management. In addition, the programme supports specific initiatives aimed at increasing co-

operation between Europe and developing countries on jointly identified priorities. For example in 2010 a cross-thematic call on Water, Food Security and Health focused on Africa and resulted in a cluster of Africa-EU research projects focusing on the impacts of climate change and response options.

Numerous projects carried out under the EU's research 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, the potential impacts and options for adaptation and mitigation.

In the following pages, we present a selection of examples of climate-relevant research projects funded by the European Union. For more details on FP7 funded projects kindly consult:

http://ec.europa.eu/research/environment/index_en.cfm?pg=climate

cordis.europa.eu/fp7/projects_en.html.

AFRICA

The “**Quantification, understanding and prediction of carbon cycle and other greenhouse gases in Sub-Saharan Africa**” (**CarboAfrica**) project studied the carbon cycle and other greenhouse gases in Sub-Saharan Africa, evaluated the region’s potential as a global carbon ‘sink’, and contributed to developing local capacity for carbon monitoring. The project’s results showed a higher than expected potential for carbon sequestration in the continent. The “**Climate change predictions in Sub-Saharan Africa: impacts and adaptations**” (**ClimAfrica**) project takes stock of **CarboAfrica**’s experience and moves on to assess the climate change implications in Africa. It is developing improved climate predictions for Sub-Saharan Africa at seasonal to decadal scales to assess climate impacts on the region’s key economic sectors (eg. water resources and agriculture) and livelihoods, and evaluate the vulnerability of ecosystems and civil population to inter-annual variations and decadal trends in climate. It will capitalise on these insights to propose adaptation strategies tailored to local features and needs. The project involves partners from Burkina Faso, Congo, Ghana, Kenya, Malawi, South Africa Sudan, and Togo.

Project websites: www.carboafrica.net and www.climafrica.net

Total European Union contribution: EUR 3.5 millions

Project duration: 01/10/2010 – 30/09/2014

The projects “**Health, environmental change and adaptive capacity: mapping, examining and anticipating future risks of water-related vector-borne diseases in eastern Africa**” (**HEALTHY FUTURES**) and “**Quantifying Weather and Climate Impacts on Health in Developing Countries**” (**QWeCI**) assess the interplay between climate variability and a number of human and animal diseases with major socio-economic impacts in Africa, particularly high-impact vector-borne diseases such as malaria and Rift Valley fever. Outcomes of the projects 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. Partners from Kenya, Malawi, Rwanda, Senegal, South Africa and Uganda are involved in the projects.

Project websites: www.healthyfutures.eu and www.liv.ac.uk/qweci

Total European Union contribution: HEALTHY FUTURES EUR 3.4 millions, QweCI EUR 3.5 Millions

Project duration: HEALTHY FUTURES 01/11/2011 – 31/12/2014, QweCI 01/02/2010 – 31/07/2013

SOUTH AMERICA

The “**Europe-South America Network for Climate Change Assessment and Impact Studies**” (**CLARIS**) promoted the development of 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 and involving institutions in Argentina, Brazil, Chile and Uruguay, is currently implemented, with the aim of predicting regional climate change impacts and designing adaptation strategies for different sectors (e.g. land use, agriculture, hydro-electric power generation, river transportation, and water resources). So far, the project has compiled relevant past climate observations and has performed regional simulations of climate variability; at the same time, it has set up hydrological models for the concerned basin, including a related GIS database and Digital Elevation Model.

Project website: www.claris-eu.org

Total European Union contribution: EUR 3.4 million

Project duration: 01/10/2008 – 30/09/2012

Involving partners from Europe, Bolivia, Brazil and Colombia, the project “**Raising the alert about critical feedbacks between climate and long-term land use change in the Amazon**” (**AMAZALERT**) aims at studying and raising awareness about critical feedbacks between climate, society, land-use change, vegetation change, water availability and policies in Amazonia. The project will also assess the role of regional and global policies and societal responses in the Amazon region for altering the trajectory of land-use change in the face of climate change and other anthropogenic factors and finally contribute to the establishment of i) an Early Warning System for detecting any imminent irreversible loss of Amazon ecosystem services, ii) policy response strategies to prevent such loss.

Project website: www.eu-amazalert.org

Total European Union contribution: EUR 3.5 million

Project duration: 01/09/2011 – 31/08/2014



11 ASIA

The projects **Public health impacts in URban environments of Greenhouse gas Emissions reduction strategies (PURGE)** and **Urban Reduction of GHG Emissions in China and Europe (URGENCE)** will examine the health impacts of greenhouse gas (GHG) reduction policies in Europe, China and India. Health-related exposures will be modelled in different urban settings and methodological frameworks will be developed to assess urban GHG reduction policies with the greatest co-benefits on health and well-being of local populations. In doing so **PURGE** and **URGENCE** aim to deliver assessment tools and guidance that are useful for the development of win-win mitigation policies for different urban areas in Europe and Asia.

Total European Union contribution: URGENCE EUR 3.5 millions, PURGE EUR 3.4 Millions
Project duration: URGENCE 01/06/2011 – 31/05/2014, PURGE 01/02/2011 – 31/07/2014

The project **“Quantifying projected impacts under 2°C warming” (IMPACT2C)** undertakes extensive studies on projected impacts, vulnerabilities, risks and cost for adaptation. In addition to Europe, the project will also develop a number of case studies for the assessment of climate change impacts in some of the world’s most vulnerable regions: Bangladesh, Africa (Nile and Niger basins), and the Maldives.

Total European Union contribution: EUR 6.5 millions
Project duration: 01/10/2011 – 31/09/2015

The **“Policy Options to Engage Asian economies in a post-Kyoto regime” (POEM)** 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. Project website: www.chalmers.se/ee/poem-en

Total European Union contribution: EUR 1 million
Project duration: 01/10/2009 – 31/03/2012

The project **“Low Climate Impact Scenarios and the Implications of Required Tight Emission Control Strategies” (LIMITS)** will identify global mitigation strategies and focus on the actions required from major economies to meet the 2°C target. The project will assess a number of aspects concerning the implementation of such strategies, including the policy, institutional and financing needs that they would generate, as well as the changes in the energy infrastructure and land use that they would require. Synergies and trade-offs with other pressing priorities such as energy security, air pollution and economic development will also be explored. The consortium includes research organisations from China and India as well as the EU, and benefits from links with US and Japanese centres.

Project website: <http://www.feem-project.net/limits/>
Total European Union contribution: EUR 3.5 million
Project duration: 01/10/2011 – 30/09/2014



5

MORE EXAMPLES FROM THE FIELD



EAST AFRICA

DEVELOPING ENERGY ENTERPRISES PROJECT EAST AFRICA



EUROCLIMA

A REGIONAL PROGRAMME FOR LATIN AMERICA



CAMBODIA

GLOBAL CLIMATE CHANGE ALLIANCE-CAMBODIA CLIMATE CHANGE ALLIANCE



SOLOMON ISLANDS

SOLOMON ISLANDS CLIMATE CHANGE ASSISTANCE PROGRAMME (SICAP)



CARIBBEAN

INCREASING THE SUSTAINABILITY OF THE ENERGY SECTOR IN THE CARIBBEAN THROUGH IMPROVED GOVERNANCE AND MANAGEMENT

EAST AFRICA



DEVELOPING ENERGY ENTERPRISES PROJECT EAST AFRICA

This project has established a loan guarantee scheme, which is intended to encourage lending by MFIs to small and medium sized energy enterprises. With the loan guarantee that is given, MFIs are expected to provide favourable conditions such as a lower interest rate and longer pay back period. While the sustainability of this scheme is not ensured it has the advantage that MFIs build up their confidence in relation to energy lending.

LOCATION

Kenya, Tanzania and Uganda

IMPACT & SUSTAINABILITY PROSPECTS

- Cooking facilities have been improvedProject has led indirectly to a decrease in proportion of population living below poverty line.
- Environmental impacts: ICS consumers are using less fire wood and those who have obtained solar panels for their homes no longer use kerosene for lighting.
- Sustainability is positive due to independency of entrepreneurs

DURATION 2008 - 2013.

PARTNERS

GVEP International, The Aga Khan Foundations' Coastal Rural Support Project Kenya (CRSPK) IT Power East Africa, Practical Action East Africa and the East African Energy Technology Development Network (EAETDN).

PROJECT OBJECTIVE

- 1) Increase the availability of sustainable, affordable and appropriate energy services to those un-served or underserved in rural and peri-urban areas of Kenya, Tanzania and Uganda;
- 2) increase the availability of employment opportunities in rural

and peri-urban areas. Specific objective: Enable the development of a sustainable and widespread industry of micro and small energy enterprises providing rural and peri-urban energy services and employment in Kenya, Tanzania and Uganda.

MAIN RESULTS

- 1,387,086 beneficiaries accessing energy in rural and peri-urban areas (target 1,800,000).
- 898 energy enterprises have been started up (target 1,800).
- 1,964 people are accessing employment opportunities in energy enterprises supported by DEEP (target 1,300)
- Cooking facilities have been improved
- Project has led indirectly to a decrease in proportion of population living below poverty line.
- Environmental impacts: ICS consumers are using less fire wood and those who have obtained solar panels for there homes no longer use kerosene for lighting.
- Sustainability is positive due to independency of entrepreneurs

WEBSITE:

http://energyfacilitymonitoring.eu/images/stories/publications/fiche_thematique_4.0_fourneaux.pdf



VOICES FROM THE FIELD

The technology and business training she received helped to expand her production.

Mary Itenyi's improved cook stoves business in Uganda.

"People like the product and we are overwhelmed by the demand"

Maimuna Kageza is part of a group of briquettes producers.

Record-keeping training for his mobile phone solar.

Michael Kiddungu, charging business in rural Kenya. He can now look forward to expand.

EUROCLIMA



EUROCLIMA

EUROCLIMA is a regional programme for Latin America addressing complex multisectoral issues such as policy dialogue; scientific, technological and socio-economic perspectives, institutional capacity building, experience sharing and information dissemination. EUROCLIMA was conceived in the Lima Declaration, subscribed at the 5th Summit between Heads of State and Government of the EU and Latin American and Caribbean countries, held in Lima in May 2008.

NAME OF THE ACTION EUROCLIMA

DURATION 2010 - 2013.

PARTNERS

Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panamá, Paraguay, Peru, Uruguay, Venezuela; the EU Joint Research Centre (JRC); the UN Economic Commission for Latin America and the Caribbean (CEPAL).

PROJECT OBJECTIVE

The specific objective of EUROCLIMA is to improve Latin American policy makers and scientific community's knowledge on problems and consequences of Climate Change, particularly in view of integrating these issues into sustainable development strategies. In this context, EUROCLIMA aims to contribute to the reduction of people's vulnerability to the effects of Climate Change in conjunction with the fight against poverty. It targets

Climate Change-induced social inequalities and socio-economic impacts and it reinforces regional integration dialogue through regional networks.

MAIN RESULTS

EUROCLIMA started in mid 2010. It is expected to:

- enhance policy dialogue addressing Climate Change issues to increase awareness and raise political visibility at national, sub-regional and regional level;
- improve relevant information and data sharing systems on scientific and socio-economic matters concerning Climate Change issues;
- strengthen technical capacities to help ensure beneficiaries' greater ownership and the empowerment of national and regional expertise and skills.

WEBSITE: <http://www.euroclima.org/>

VOICES FROM THE FIELD

"Something very positive about these regional meetings, where representatives of all Latin-American countries get together, is the reinforcement of the bonds between countries and between colleagues who work on the same climate change issues. As a result, exchange of information becomes easier and we leave here with our relations strengthened, as colleagues and as friends." Honduras Focal Point, Irina Piñeda Aguilar – Secretaría de Recursos Naturales y Ambiente (EUROCLIMA regional workshop – September 2011)

"For us in Paraguay, it is very useful to listen to experiences other countries are presenting in this workshop, and in particular the discussion we had on lessons learned and best practices, because we are just now entering the process of defining our own National Policy on Climate Change with relevant actors in our country. Hearing and discussing the experience of others, guides us and allows us to develop an agreed strategy in a shorter period of time, in a more efficient way, avoiding some of the problems others encountered along the way." Paraguay Focal Point, Fredy Genez – Secretaría del Ambiente (EUROCLIMA regional workshop – September 2011)



CAMBODIA

GLOBAL CLIMATE CHANGE ALLIANCE-CAMBODIA CLIMATE CHANGE ALLIANCE

Cambodia's vulnerability to climate change is linked to its characteristics as a post-civil war, least developed, agrarian country, with 80% of the population relying on subsistence crop yields in rural areas and poor infrastructure. Climatic variations are anticipated to further increase the severity and frequency of flood and drought events, with the potential for severe impacts on food security and poverty exacerbation in Cambodia. This would create degradation of forest, wetland ecosystem and make the agriculture and fisheries sectors vulnerable. In addition climate change would increase the incidents due to infectious, water-borne and vector-borne diseases and heat stress.

NAME OF THE ACTION

Global Climate Change Alliance-Cambodia Climate Change Alliance

DURATION 2009 - 2012.

PARTNERS

Cambodian Ministry of Environment, DANIDA, SIDA and UNEP.

PROJECT OBJECTIVE

To strengthen the capacity of the National Climate Change Committee to fulfil its mandate to address climate change and to enable line ministries and Civil Society Organizations (CSOs) to implement priority climate change actions.

MAIN RESULTS

- Improved capacity to coordinate national policy making, capacity development, outreach / advocacy efforts, and to monitor the implementation of national climate change strategy, policy and plans.
- Improved access to updated CC information, knowledge and learning opportunities at all levels
- Strengthened capacity within the NCCC to mobilise and to effectively administer climate change funds and to prepare for a nationally owned trust fund.

WEBSITE: <http://www.gcca.eu/>



VOICES FROM THE FIELD

Quotes

"(...) climate change is becoming a constant threat, as drought and flooding had become more severe and frequent. Cambodia had successfully launched the Cambodia Climate Change Alliance to strengthen national institutions".

(H.E. Hor Namhong, Deputy PM, at the 66th Session of the General Debate at the UNGA, 26 Sept 2011)

Testimonials / sourced quotation(s)

"The Fisheries sector is vital to everybody in Cambodia. To those who work in the sector and whose livelihoods depend on it, and to the whole population who rely on it for their food and nutrition (...). It is vital, therefore, that we understand how the effects of climate change are likely to impact on our Fisheries and what actions we can take to both adapt to these changes and to mitigate their effects"

(Dr. Kao Sochivi, Deputy Director-General, Fisheries Administration at the 2nd National Forum on CC, 4 Oct 2011)

"Cambodia has been recognized internationally for its success in responding to HIV/AIDS. Part of this success is due to strong commitment and action by the Government, and the role NGOs have also played in delivering services at the community level. We hope that in 10 years time people will say the same thing about Climate Change"

Mr. Chea Sarith, President of a local NGO "WOMEN" at the 2nd National Forum on CC, 4 Oct 2011)

SOLOMON ISLANDS



SOLOMON ISLANDS CLIMATE CHANGE ASSISTANCE PROGRAMME (SICAP)

The economy of Solomon Islands is highly vulnerable to external shocks and natural disasters. GDP contracted by 2.2% in 2009, after growth figures of 7.3% in 2008 and 10.7% in 2007. Climate change causes coastal erosion, damages to physical infrastructure and salinisation of water and soil. The heavy rainfalls in 2009 damaged roads and bridges in three provinces, burdening Government to restore connectivity and access to social services for the population. Vulnerability to natural disasters and climate change has been addressed by the National Adaptation Programme for Action (NAPA) and National Disaster Risk Management Plan for Disaster Management and Disaster Risk Reduction including for Climate Change (NDRMP).

NAME OF THE ACTION: Solomon Islands Climate Change Assistance Programme

DURATION: 2011 - 2014.

PARTNERS: Climate Change Division and National Disaster Management Unit at Solomon Islands Ministry of Environment, Solomon Islands Ministry of Finance and Treasury and Development Planning and Aid Coordination.

PROJECT OBJECTIVE: Contribute to climate change adaptation and reduction of vulnerability of people and communities in Solomon Islands to support the Government of Solomon

Islands capacity for policy enhancement, coordination and implementation of its national Climate Change strategy to contribute to climate change adaptation and reduction of vulnerability of people and communities in Solomon Islands.

MAIN RESULTS: SICAP contributes to the implementation of the Solomon Islands Government Economic and Financial Reform and the National Adaptation Programme for Action

WEBSITE: <http://www.gcca.eu/>



VOICES FROM THE FIELD

“Support to Climate Change is of utmost importance to our country, which is not only vulnerable to natural disasters and sea-level rise but also faces development challenges of its people. In fact, Solomon Islands has the worst social and health indicators of the entire Pacific region and struggles in achieving the Millennium Development Goals”

Prime Minister of Solomon Islands, Hon. Danny Philip

CARIBBEAN



INCREASING THE SUSTAINABILITY OF THE ENERGY SECTOR IN THE CARIBBEAN THROUGH IMPROVED GOVERNANCE AND MANAGEMENT

The project covers seven countries: Antigua & Barbuda, the Bahamas, Dominica, Grenada, St. Kitts & Nevis, St. Lucia, and St. Vincent and the Grenadines.

OBJECTIVES AND TARGET-GROUPS: The project seeks to improve the sustainability of the energy sector in the Caribbean by catalyzing a transition away from fossil fuels, towards systems based on renewable energy and energy efficiency, in order to create socio-economic benefits that contribute to poverty alleviation. The target groups are policymakers, electric utilities, and energy consumers. Total final beneficiaries are about 858,429 people. It is expected that in each project country renewable energy and energy efficiency systems and practices will be increasingly deployed. It is estimated that at least 200 MW of renewable energy projects among the project countries will be installed within ten years of the conclusion of this project. Further, it is estimated that energy demand will be reduced by 15% versus the projected baseline during the same period, and also significant reductions in greenhouse gas emissions (GHG) are anticipated.

MAIN ACTIVITIES: Setting the energy sector policy/regulatory reforms that favor sustainable energy. Capacity building of energy sector stakeholders, including the establishment of national sustainable energy offices in the appropriate energy ministries. Technical assistance for the identification, preparation and commercialization of project opportunities. Facilitation of sustainable energy project financing.



VOICES FROM THE FIELD

"The island nations of the Caribbean are among the most vulnerable to climate change, while their citizens face electricity rates that are among the highest in the world. This project is specifically addressing the governance and policy conditions in seven countries of the region and is expected to result in the sustainability of the energy sector. Several countries have already made considerable efforts to include renewable energy alternatives and/or energy efficiency measures in their overall approach to electricity supplies."

Mark Lambrides, Energy and Climate Change Mitigation Division Chief, OAS



European Commission

Supporting a climate for change

The EU and developing countries working together

Luxembourg: Publications Office of the European Union

2011 – 44 p. – 19x27 cm

ISBN 978-92-79-21870-5

doi:10.2841/33770

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Publications Office

doi:10.2841/33770

ISBN 978-92-79-21870-5



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