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# **Climate change and the Belgian development cooperation policy: Challenges and opportunities**

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Belgian Minister for Development Cooperation**

This report can be downloaded from [www.dgdc.be](http://www.dgdc.be) and [www.climate.be/vanyp](http://www.climate.be/vanyp)

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This report is dedicated to the millions who share this small planet and whose living conditions and even their very existence are threatened by climate change, even though they are the least responsible for the pollutant emissions behind these disruptions.

“The plantation is very big and you need many hands to clear it”  
(African proverb)<sup>1</sup>

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<sup>1</sup> Translated from the French version quoted by Pépin Tchouate during the Conference of 7 March 2008 in Brussels: "La plantation est très grande, pour la défricher, il faut beaucoup de mains".



## Acknowledgements

I would first like to thank Mr. Charles Michel, Belgian Minister for Development Cooperation. It is Mr. Michel who wanted to launch an in-depth study on the challenges and opportunities concerning climate change for development cooperation, just a few weeks after he came into office. The first stage of this study was the international symposium<sup>2</sup> organised by Development Cooperation in collaboration with the Federal Council for Sustainable Development: “Climate change, a new challenge for development cooperation?” This symposium took place at the Palais d’Egmont on 7 March 2008, and was placed under the honorary presidency of HRH Princess Astrid. Many people, including all the speakers, contributed to the success of this day which brought together nearly 250 Belgian and international participants. They all deserve to be acknowledged, but I would like to particularly thank the person who undoubtedly made the greatest contribution: Mme. Marie Cherchari, member of the Cabinet of the Minister for Development Cooperation. Material for the text of this report was provided through the debates of 7 March, but also through a series of written contributions received thereafter. I would also like to thank these often discreet authors. Since I am no specialist in development cooperation (even if the subject has always interested me), I greatly benefited from the constructive comments of those who were willing to proof-read the preliminary versions of this text. My thanks to these attentive readers. I tried to take into account their remarks as far as possible, but I hold myself entirely responsible for the contents of this report, with its qualities and shortcomings. Finally, I would like to thank my faithful team of collaborators at the Université catholique de Louvain's Institut d'astronomie et de géophysique Georges Lemaître: Philippe Marbaix, Ben Matthews and Andrew Ferrone, without whom I could not achieve half of what I do.

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<sup>2</sup> See the programme in the appendix

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<sup>4</sup> Intergovernmental Panel on Climate Change (IPCC, [www.ipcc.ch](http://www.ipcc.ch))

<sup>5</sup> Federal Council for Sustainable Development Belgium ([www.cfdd.be](http://www.cfdd.be))



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## EXECUTIVE SUMMARY

Developed countries are responsible for most of the of global warming but developing countries are those which are the most affected and which have the least means to adapt to it. This is "the fundamental injustice of climate change".

The answer to climate change is a combination of mitigation<sup>6</sup> and adaptation. From the point of view of Developing Countries, mitigation conditions the actual exercising of the right to develop. However, in numerous countries, vulnerability to climate change is such that adaptation also conditions development.

Since adaptation is a question of development, the policies aimed at meeting the challenge of climate change will gain from being conceived within the framework of development activities. This integration is essential if the response to climate change is to comply with the objectives of human development, especially the reduction of poverty.

We can distinguish three types of interactions between development and climate change: (i) the impact of climate change on development projects; (ii) the impact of projects on climate change; (iii) the impact of projects on the vulnerability of populations and/or ecosystems to climate change. These three types of impact combined are likely to considerably reduce the effectiveness of development aid. However, development is also a key element in reducing vulnerability.

Insofar as it is determined by a whole range of factors, vulnerability must be seen as a dynamic process, strongly defined by the specific context. Therefore, there is no "recipe" as regards adaptation. In particular, adaptation cannot be reduced to cooperation in the domain of infrastructures.

On an international level, it is quite clear that the integration of adaptation into development cooperation is certainly running late everywhere. A strong strategic conviction is required at the highest level to overcome this shortfall. As regards cooperation agencies, the report provides a list of procedures and specific instruments to be implemented.

This integration is limited by the financial budgets available. To prevent endangering development objectives, it seems vital to respect the Polluter Pays Principle, i.e., to substantially redistribute wealth on a global scale. This pleads in favour of a new international cooperation structure, especially multilateral ("less funds, more funding" to quote the image used by the Executive Secretary of the Climate Convention).

In Belgium, we have seen that development cooperation has similar trends to those seen on an international level: underestimation of the challenge, lack of attention to needs in term of adaptation, methodological difficulty in conceiving integration into existing policies and procedures.

An initial approach of the Belgian cooperation reveals a relatively serious risk because 71% of the projects depend on sectors which are directly sensitive to climate change. An initial study of the 18 partner countries points in the direction of four conclusions: (i) aid for adaptation should represent the main element of the integration of the climate problem

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<sup>6</sup> Mitigation means the implementation of policies aimed at reducing greenhouse gas emissions and enhancing sinks.

into the Belgian cooperation policy; (ii) the needs are considerable in the majority of countries and interfere very closely with the human development agenda; (iii) for more than half of the countries, climate change could have a major adverse effect on crop yield, and therefore food supply security; (iv) it is possible to also encourage mitigation strategies (reduce emissions) in developing countries, but among the Belgian Cooperation's partners, only one country (South Africa) seems to be in a position to participate in significant actions with regard to the climate; (v) five countries have forested areas whose conservation could contribute to mitigation, but according to certain conditions and within certain limits.

The integration of the climate policy into the Belgian cooperation could come up against two specific difficulties: the lack of capacities in partner countries and the lack of staff in Belgium. Without significant improvement on this second level, it seems impossible to make the Belgian cooperation opt to integrate the climate issue.

To conclude, the report proposes 13 recommendations:

**1) Use a precise diagnosis as the basis.** The DGDC's environmental strategy note should be reformulated to define the "climate" priority as a transversal priority within the transversal theme of the environment, while taking care to take into account the other problems (food supply security, biodiversity, desertification, etc.).

**2) Outline a clear strategic framework for integration.** Within the context of the ecological debt, mitigation, adaptation and capacity building must be structured as follows: maximum mitigation by developed countries, maximum involvement of developed countries in the adaptation of developing countries, and aid to build capacities in these countries on both these levels, with a view to allowing these countries to develop in a "clean" way.

**3) Prioritise the key areas of integration.** As regards the Belgian cooperation in particular, **adaptation** should be considered as the key area in the short and mid term. The main field of this integration is the rapid improvement of the existing cooperation, within the framework of the existing projects and existing structures. In the majority of the Belgian cooperation's partner countries, the projects for **mitigation** through the reduction of emissions fall under the scope of another timeframe, in the mid and long term. As for mitigation projects through sinks and energy crops usage, they must be the subject of specific attention (cf.5).

**4) First and foremost, grant greater importance to adaptation in bilateral projects.** Providing an in-depth analysis is made of the interrelations specific to each project between the social, ecological and economic impacts of climate change, the cooperation should focus more than two-thirds of its projects on sectors where climate change is likely to have significant negative impact in the mid term: basic healthcare, basic infrastructure, agriculture and food supply security, societal consolidation.

**5) Strictly supervise forest protection projects.** Besides the technical difficulties (carbon inventories), forest protection involves a series of delicate discussions. There must be a guarantee that the financial aid used to maintain the good health of the forests genuinely benefits the local populations who are the guardians of these forests. The formula of financial compensation for environmental services would seem to be, and according to certain conditions, clearly preferable to the simple exchange of carbon credits.

**6) Strictly supervise energy crop projects.** From the point of view of cooperation in view of sustainable human development, energy crop projects must be strictly subject to the guarantee of food supply security as well as food sovereignty, and be controlled by precise criteria such as the reduction in poverty, soil protection and biodiversity protection.

**7) Maintain the original spirit of the CDM.** The recourse of developed countries to carbon credits must remain complementary to domestic measures and the additional character must be guaranteed, as well as the contribution of Clean Development Mechanism (CDM) projects to the sustainable development of the host countries through the reduction of poverty.

**8) Launch pilot mitigation projects in the domain of energy.** In a second integration phase, the Belgian cooperation could contribute to the clean development of the partner countries through pilot projects or case studies. There would be grounds for focusing the means on one or two domains chosen according to the partners' characteristics, aid sectors, and environmental priorities, in particular.

**9) Create an “environment-climate” unit within the DGDC** in charge of the following missions:

- develop a strategic vision on the integration of climate change in the development cooperation policy;
- ensure specific training;
- improve collaboration between the cooperation and the scientific community;
- provide quality and user-friendly climate information;
- elaborate a “toolbox” for the environmental and climatic screening of existing projects and new projects;
- encourage the circulation of information and the exchange of good practices;
- look for complementarities within the European Union with other cooperation agencies;
- ensure coherence with the policies conducted at other levels of power and by other departments;
- elaborate recommendations to render all the activities of the DGDC, the BTC (Belgian Technical Cooperation), and the cooperation's ministerial cabinet “greener”

**10) Introduce the issue of climate change in contacts with the partners** at all levels. It would be especially useful if more of the development cooperation's delegates were to participate in the international negotiations on the climate, and that the Minister were to participate in the ministerial segment of the Conferences of the Parties to the Framework Convention on Climate Change.

**11) Increase the development aid budget.** The climate threat on the development agenda reinforces the importance for developed countries, including Belgium, to honour their promise and to increase development aid to 0.7 % of the GNP.

**12) Contribute to greater clarity, simplicity and coherence in the multilateral instruments** used to finance the fight against climate change. The increasing number of funds is harmful to the transparency and effectiveness of development aid, and undermines the appropriation by partner countries of their development strategies (“less funds,

more funding” cf. above). Belgium should support the UNDP’s proposal of consolidation in a single fund and, in the meantime, condition its participation in existing funds with respect to rigorous criteria that are coherent with the principles of the Paris Declaration.

**13) Prepare an in-depth review of development cooperation.** Belgium must play an active role in favour of respecting the polluter pays principle and contribute to creating conditions so that developed countries take responsibility for their obligations by gradually providing new sources of financing corresponding to needs. From this point of view, the auctioning of the ETS system’s emission quotas will soon provide Belgium with an important source of revenue; it would therefore be most appropriate to allocate at least a part to the financing of truly sustainable development in countries which are the main victims of climate change.

The justification and details of these recommendations can be found in the report itself.

Implementing these recommendations requires political will and budgetary priorities.

I hope that this report will demonstrate their necessity and their urgency, for “our common future”<sup>7</sup>.

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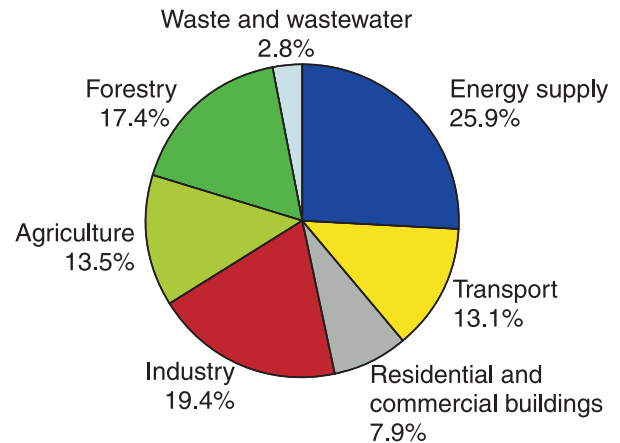
<sup>7</sup> Title of the Brundtland Report (1987), which put sustainable development on the international political agenda.

## I. CLIMATE CHANGE AND HUMAN DEVELOPMENT

### 1.1. Climate change caused by man: a reality

The greenhouse effect and its reinforcement through human activity were discovered in the 19th century. Its main characteristics are now well established, as is shown in the successive reports of the Intergovernmental Panel on Climate Change (IPCC), set up in 1988 by the United Nations. The term "greenhouse" comes from the fact that the gases in question contribute to maintaining the heat received from the sun in the vicinity of the planet's surface. The gas with the most significant effect is carbon dioxide (CO<sub>2</sub>), resulting from the use of fossil fuels, followed by methane (CH<sub>4</sub>), nitrous oxide, and fluorinated gases. The IPCC's fourth assessment report (2007) concluded that most of the warming observed halfway through the 20th century is very likely<sup>8</sup> due to the observed increase in anthropogenic greenhouse gas concentrations.

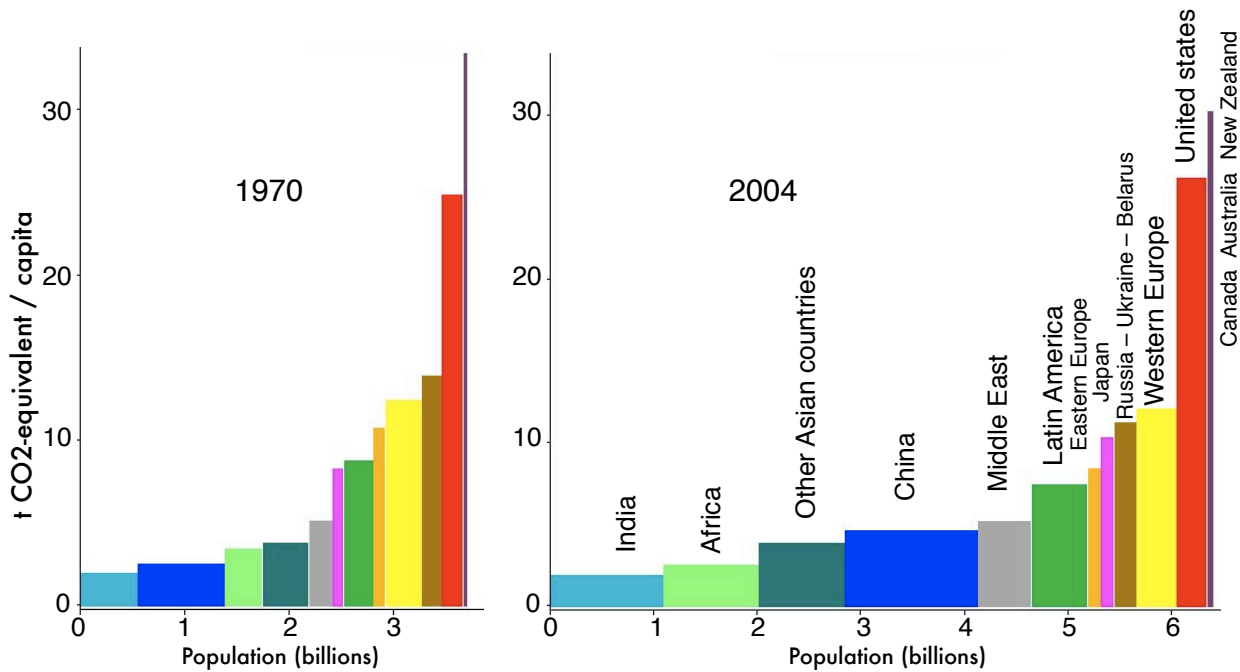
The primary cause of the increase in CO<sub>2</sub> concentrations is the use of fossil fuels. Added to this are the significant proportions of changes in land-use (20%), including deforestation. CO<sub>2</sub> is indeed the inevitable waste product of all combustion, and nearly half of the quantities emitted remain in the atmosphere for almost a century, while the other half is absorbed by the oceans and vegetation (this absorbed fraction will, however, very probably decrease in the future). The observed increase in the concentration of CH<sub>4</sub> is mostly a result of agriculture and the use of fossil fuels, while N<sub>2</sub>O is essentially due to agriculture. The distribution of these sources of greenhouse gases per sector on a global level is illustrated in figure 1. The sectors which have contributed the most to the increase in emissions during the last few decades, on a global level, are power supply (especially electricity), transport and industry.



**Figure 1:** Global annual emissions of anthropogenic greenhouse gases: share of the various sectors in the total emission of greenhouse gases in 2004 in equivalent terms of CO<sub>2</sub> (the "Forestry" share includes silviculture and deforestation). (IPCC AR4 SYR)

The quantities of greenhouse gases per inhabitant vary considerably from one global region to another, as we can see in figure 2. In this example, the surface of each regional block is proportional to its total emissions (emission per inhabitant x number of inhabitants). Between 1970 and 2004, the emissions per inhabitant decreased in certain areas (Africa) and increased in others (such as China), but the emissions in the most industrialised countries remained significantly higher. In 2004, the countries referred to in Appendix I of the United Nations Framework Convention on Climate Change (UNFCCC), i.e. developed countries represented 20 % of the world's population, produced 57 % of the world's gross domestic profit (calculated according to the purchasing power ratio) and contributed 46 % to global emissions of greenhouse gases (IPCC AR4). Even if countries in the South currently emit more greenhouse gases than those in the North, the accumulated quantities in the atmosphere shall still con-

<sup>8</sup> Probability greater than 90%, knowing that since the proof is indirect (we cannot perform contradictory experiments on the entire climate system), it is only normal that we cannot be 100% sure.



**Figure 2:** Regional distribution of greenhouse gas emissions per inhabitant in 1970 and 2004 (all gases, including changes in land occupancy) (vertical axis) and of the population (horizontal axis) for different groups of countries. The surface of each regional block is proportional to its total emissions (emission per inhabitant x number of inhabitants). Source: Java Climate Model and references of this model (JCM<sup>9</sup>).

tinue to come primarily from "developed" countries for a long time<sup>9</sup>. And yet it is these quantities accumulated over the decades that are responsible for global warming, and not directly the gases emitted in a given year.

### 1.2. Projections for the 21st century

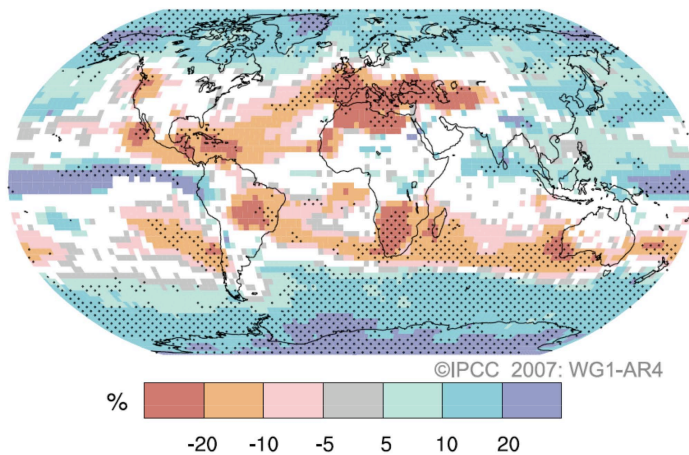
The basis for the assessment of future changes in the climate is the establishment of “scenarios” relating to population growth, its richness and its method of development, allowing us to estimate different plausible future gas emissions. By taking into account a range of possible scenarios and the uncertainty linked to climatic modelling, the IPCC concluded that, in the absence of a concrete policy to reduce emissions, the world temperature would probably increase between 1.1 and 6.4 °C in the period from 1980-99 to the end of this century. By 2050, the temperature increase will reach 0.9 to 2 °C, and is less influenced by the emission scenario studied, although we are beginning to distinguish the fact that the scenarios with the

lowest emissions, generally characterised by greater attention to the “sustainability” of the associated method of development, produces a lower rise in temperature.

Global warming is associated with numerous modifications in the climate, including the regional distribution of precipitation, illustrated in figure 3. Despite the fact that it is more difficult to make a model of such regional characteristics, there are certain conclusions we can draw: numerous sub-tropical regions, as well as the Mediterranean region, will become drier. Despite this, numerous regions will receive a higher annual rainfall, and because a warmer atmosphere can contain more water vapour, precipitation events will often become more intense, and therefore more likely to cause flooding.

The rise in sea levels, resulting from the thermal expansion of the oceans and the melting of the continental ice sheets, will reach 18 to 59 cm on average in the course of this century. Admittedly, the upper limit of this range does not fully take

<sup>9</sup> Interested readers may experiment with different climatic scenarios using the JCM model proposed on <http://www.climate.be/jcm>, which was developed in particular with the support of the Belgian federal services for the science policy (SPPPS).



**Figure 3:** Changes relating to precipitation for the period 2090-2099 compared with 1980-1999, for the summer of the Northern Hemisphere (June to August). The values are based on averages from numerous models based on the A1B scenario (with no emission reduction policy). The hatched areas indicate where more than 90 % of the models concord with the changes. The white areas are those where more than a third of the models diverge from the others in terms of change. (Source: IPCC – AR4)

into account the uncertainty associated with the ice and has probably been underestimated, because we have recently observed an acceleration in the flow of the continental ice sheet in Antarctica and Greenland. The rise in sea levels is particularly worrying in the long term: once emitted, part of the greenhouse gases actually remain in the atmosphere for several centuries, allowing time for the heat to penetrate the ocean and the ice sheets to melt, which may lead to a total rise of 5 to 10 metres over the next 1000 years.

We are beginning to perceive several of the anticipated changes for this century in the climate reading that has already been taken. Average global warming measured on the surface was 0.6°C during the 20<sup>th</sup> century, with yet higher values on the continents and neighbouring areas of the poles. The number of heat waves is increasing, as well as the proportion of rain falling in a concentrated manner, thus encouraging flooding. The majority of small continental glaciers are in the process of melting, as well as the icecap in Greenland.

However, adaptation to future climate conditions cannot simply be founded on the extrapolation of changes that have already occurred, especially when decisions have consequences on several decades. Local climate may well have changed over a relatively short period in the past for reasons that will never happen again: for instance, the emission of sulphide pollutants in Europe in the second half of the 20<sup>th</sup> century probably contributed indirectly to the drought in the Sahelian region, though this probably won't continue in the future considering the efforts already undertaken

to eliminate the pollutants in question. Natural variability over a relatively short period of time can also contribute to the fact that evolution in the past was, in a sense, opposed to what was expected for the future. Subsequently, it is necessary to have as precise knowledge as possible of regional evolution associated with global warming, just as it is essential to take into account all the uncertainties. While some measures (heavy infrastructures, forests, etc.) have effects that extend beyond the middle of the 21<sup>st</sup> century, the choices are difficult because while we can hope that limiting global emissions will be effective, nothing allows us to confirm that this will indeed be the case.

### 1.3. Impact on human development

The second IPCC workgroup assesses the scientific information available on the impact of climate change on ecosystems, socioeconomic sectors, including the food chain and water resources, and on human health, as well as the possible measures for adaptation. What follows is a summary of the current conclusions in these domains, mainly according to the fourth assessment report (IPCC AR4 WGII, 2007). The reader is also invited to read LEARY et al. (2008a).

**Ecosystems:** The rhythm of global warming, combined with the closely-related pressures (floods, drought, fires, etc.), and the other pressures on the ecosystems linked to human activities, shall exceed the capacity to adapt, and especially the possibilities for natural migration, of certain plant and animal species. An average

warming of the world's surface exceeding 1.5 to 2.5°C above the temperatures at the end of the 20<sup>th</sup> century, associated with an increase in CO<sub>2</sub> concentrations in the atmosphere, will lead to major changes in the structure and function of the ecosystems, the ecological interactions of the different species and their areas of distribution, most often to the detriment of biodiversity and the goods and services of the ecosystems (to water resources and food availability). At this level of warming, there will probably be an increased risk of 20 to 30 % of plant and animal species studied today becoming extinct; with approximately 4°C increase in temperature compared with 1990, about 40 % of species could perish..

**Food production:** Besides the factors owing to human production, food production is mainly influenced by the availability of water and nutrients, and by the temperature. The rise in temperature could open up new areas of agriculture in currently cold regions, but it will also increase the risk of heat or water stress in other regions. Farm animals (cattle, pigs and poultry) are all sensitive to heat and drought. The effects of climate change, even in the case of gradual evolution, will not be uniform. In general, the middle to high latitudes may benefit from increases in farming productivity in certain cases with moderate global warming (an average increase of up to approximately 2°C above the temperature in 1990). However, in tropical and subtropical regions – where certain types of farming are close to their limit of heat tolerance and where non-irrigated farming in dry regions predominates – production will undoubtedly decrease even if the local temperature only rises slightly (from 1 to 2°C). Furthermore, the capacity for less developed tropical countries to adapt is limited by the lack of financial means. Warming therefore risks increasing the disparity in food production between developed and developing countries. On a global level, we believe that the food production potential will increase as long as the increase in average local temperatures is 1 to 3°C, but above that, it will decrease. The majority of people concerned will be in developing countries.

**Water:** The quantity of water and its distribution greatly depends on rainfall, its evaporation, and

the reserves formed by the glaciers, all factors which will be affected by climate change. Variations in precipitation (figure 3) and warming lead to a modification in run-off and availability in water. It is estimated that between now and the middle of the century, run-off will increase by 10 to 40 % in high latitudes and in certain humid tropical regions, including populated areas in East and Southeast Asia, and will decrease by 10 to 30 % in certain dry regions in middle latitudes and dry tropical areas, owing to the decrease in precipitation and increased levels of evapotranspiration. Numerous semi-arid areas (e.g. the Mediterranean basin, the western part of the United States, the southern part of Africa and the north-eastern part of Brazil) will suffer the effects of depleted water resources owing to climate change.

Bouts of heavy rainfall are likely to greatly increase in numerous regions, including in those where a decrease in average precipitation is anticipated. The increased risk of flooding associated with heavy rainfall will have consequences on society, physical infrastructures and water quality. It is likely that up to 20 % of the world's population will live in areas where the risk of flooding from rising water levels could increase between now and the 2080s.

In general, the current capacity of water supply systems and their ability to react to changes in the demand for water determines to a large degree the seriousness of the potential impact of climate change on water supplies. It is estimated that approximately 1.4 to 2.1 billion people currently live in regions where the quantity of available water is insufficient (IPCC WGII - AR4). Within this context, climate change constitutes a significant additional stress. According to projections, the areas affected by drought will extend, which will have a negative effect on numerous sectors, such as farming, water supply, energy production and health.

**Coastlines:** According to projections, climate change and rising sea levels will lead to an increased risk for coastlines, especially in terms of erosion. This phenomenon will be exacerbated by the increasing pressure that human activities will exert in coastal areas.



Between now and 2080, we foresee that many more millions of people will suffer the consequences of flooding every year, owing to rising sea levels. The densely populated low-lying areas of the great deltas in Asia and Africa will be the most affected, with small islands being particularly vulnerable (very high degree of likelihood) (IPCC - AR4).

**Socioeconomic effects:** The above-mentioned impacts concern all human establishments, and even the conditions of development. For instance, with no adaptation, a rise in sea levels of one metre would affect almost 20 % of the surface of Bangladesh; tens of millions of people would be forced to migrate. The existence of numerous towns close to the sea, such as London, New York, Mumbai, or Shanghai, is threatened in the mid term. Certain insular states, such as the Maldives or Tuvalu, are quite simply threatened with disappearance. Besides these slow changes in average conditions, the frequency and/or seriousness of extreme events such as drought, floods, cyclones, storm surges or storms are likely to change in a hotter world, and this could have serious human and socioeconomic consequences. Their severity may depend on social organisation or the authorities and populations level of preparation. A tropical cyclone of similar intensity may have very different effects from one place to another. Poor people often do not have any other choice than to live close to worthless patches of land in areas subject to natural catastrophes, such as riverbanks, unstable hillsides in deforested areas and fragile water harnessing areas. These are conditions that not only predetermine the vulnerability of the poorest to natural catastrophes, but also their capacity to face the consequences. The poorest families are sometimes forced to get into even more debt to rebuild their homes, replace lost goods and satisfy their most elementary needs until income-generating activities resume (De Souza, 2004).

**Human health:** The impact on human health of a global climate change includes changes in geographic distribution and in the seasonality of different infectious diseases, the effects of malnutrition and famine owing to a redistribution in food and water resources, and increases in mortality

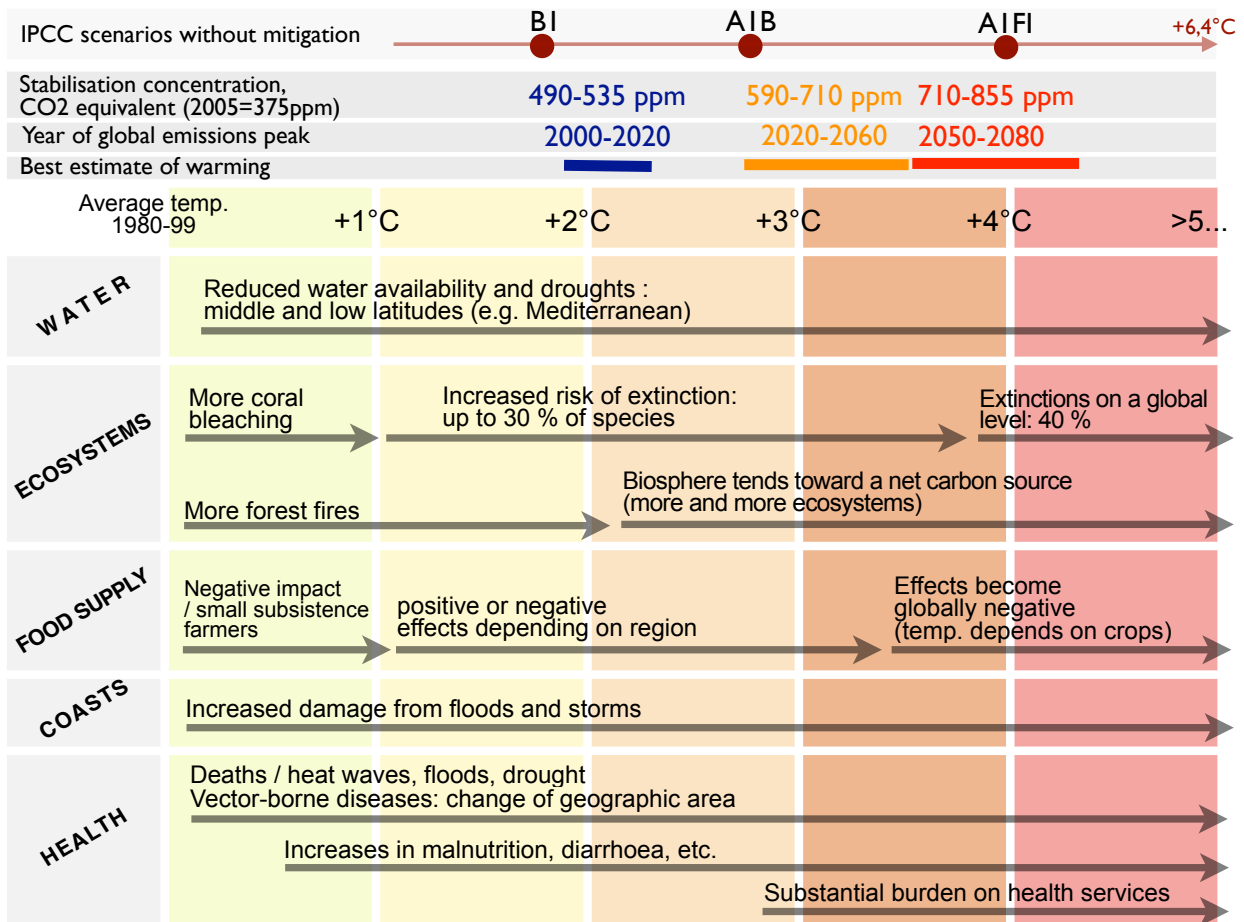
and morbidity linked to heat waves.

For each of the potential impacts above, the relative vulnerability of different regions is largely determined by their access to resources, information and technologies, and by the stability and efficiency of their institutions. This means that the possibilities of sustainable development will be more seriously affected by climate change in developing countries and among underprivileged populations. Of course, climate change will not explain all the problems encountered by developing countries in the coming century, but they will make it all the more difficult to satisfy the essential needs of their populations, both in the short term and the long term. Climate change risks increasing iniquity on a global and regional level both among present generations and current and future generations.

Figure 4 summarises the impacts of climate change with examples which are considered to be firmly established (> 80 % certainty) in the IPCC's AR4. Temperature levels to which we associate the beginning of each type of impact are also shown. The top of the figure makes a link between the warming estimations for different scenarios. The IPCC's reference scenarios, with no political measures specifically aimed at reducing emissions, illustrate the consequences of the underlying forms of development (population growth, attention to sustainable development, etc.). Scenarios for the stabilisation of concentrations at different levels are shown next. These stabilisation levels are linked to a range of years in which emissions must start to decrease at a global level in order to achieve this goal. Impacts have clearly begun at low levels of warming, and are inevitable in certain regions. Furthermore, global emissions must decrease (beyond a certain peak) sufficiently early to avoid worsening the initial impacts and the appearance of more serious impacts, especially on ecosystems. The peak in emissions should occur well before 2050 on a global level, with very little chance of not reaching the "orange" and even "red" areas shown. In its last report, the IPCC indicates, for instance, that to maintain the temperature increase below the 2 – 2.4°C range (above the pre-industrial tem-

perature), reductions in global emissions of CO<sub>2</sub> of 50 to 85 % are necessary, between 2000 and 2050, which involves even greater reductions for

developed countries: 80 to 95 % (to be achieved without purchasing quotas from developing countries) (IPCC AR4 WG3, 2007, p. 776).



**Figure 4:**

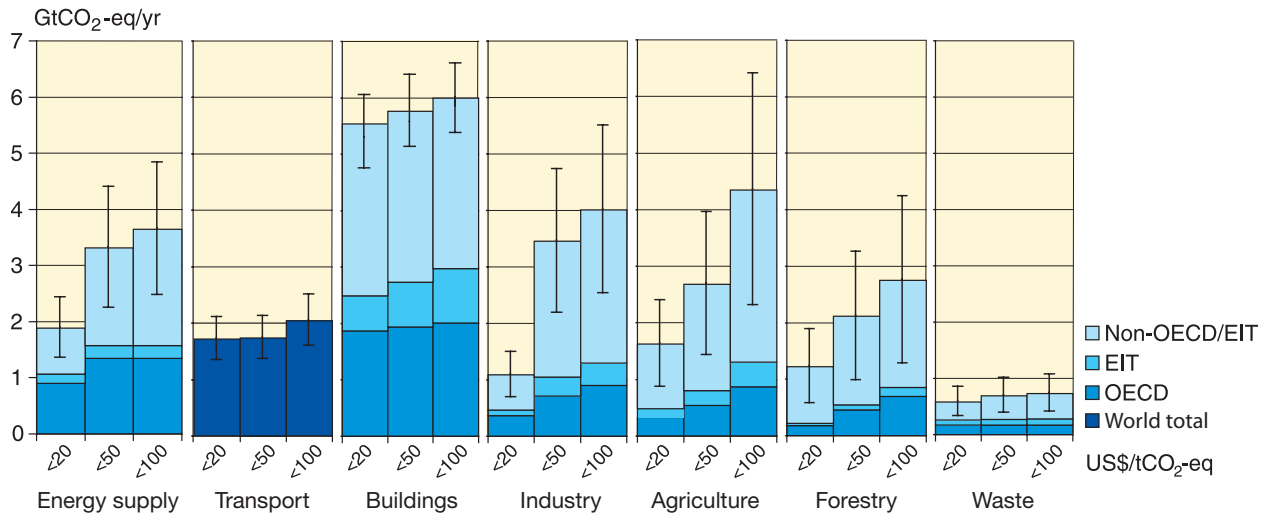
Coloured boxes: examples of impacts in the course of the 21st century for different levels of global temperature increases. The beginning of each arrow gives an estimation of the temperature level corresponding to the beginning of the impact. The ends of the arrows link similar types of impacts and remind us that the effect is continuing to increase with the temperature (source: AR4). The actual increase of the impacts depends on adaptation (not included here) and forms of development.

Upper panel:

- Scenarios without mitigation: best estimation for three examples of IPCC reference scenarios, differentiated in particular through population, the importance given to sustainable development (greater in scenario “B1”). The arrow shows the complete range of temperature projections taking into account the different scenarios and the uncertainty relating to the sensitivity of the climate.

- Stabilisation scenarios of concentrations in equivalent CO<sub>2</sub> (including other gases and aerosols) according to different studies. Stabilising the concentrations at a certain level involves reducing the emissions after a peak at a certain period, in a possible range of years which vary according to the scenario details. An average level of warming at the balance indicated by the coloured bars is associated with these levels of stabilisation (“best estimation”: the uncertainty linked to the climate models is not shown).

Source : adapted from IPCC AR4 SYR; for more information, see the Synthesis Report of the IPCC’s AR4.



**Figure 5:** Emission reduction (economic) potential, on a global level and in 2030, taking into account a global price of less than USD 20, 50 or 100 per ton of CO<sub>2</sub> eq emitted in the atmosphere.

Source: adapted from part 3 of the IPCC's AR4.

#### 1.4. Two answers: mitigation and adaptation

As John Schellnhuber, Director of PIK (Potsdam) said during a recent presentation, it is necessary for us to “avoid the unmanageable, manage the unavoidable” (SCHELLNHUBER, 2007). Limiting the risk of major impacts, as illustrated in the previous section, requires us to overcome the peak of global emissions in all the coming decades: an enormous challenge. According to the IPCC's emissions scenarios elaborated without taking into account climate protection objectives, emissions should increase from approximately 10 billion tons of CO<sub>2</sub>/year between 2000 and 2030 according to the most favourable hypothesis for socioeconomic development (sustainable development, lower population growth, etc.) to 37 billion according to the most unfavourable hypothesis. However, the emission reduction potential, illustrated in Figure 5, is able to contain this growth in emissions for the majority of development scenarios, at a cost that depends on the necessary effort, thus on the basic form of development. The maximum potential is evaluated by taking into account a global price for the CO<sub>2</sub> equivalent emitted in the atmosphere under USD 100/tCO<sub>2</sub>-eq, which is equal to USD 50/barrel of oil, or USD 0.24/litre of petrol. It appears that a large part of this potential can be found in non-

OECD countries.

There is fundamentally only one possible response to climate change if we want to avoid situations to which it is impossible to adapt: stabilise, then reduce the atmospheric concentration in greenhouse gases. As we have seen, this concentration is mainly increasing owing to the release of CO<sub>2</sub> by burning fossil fuels and, consequently (but to a significant degree), as a result of deforestation. Two strategies can therefore be envisaged, though they are not exclusive: to reduce emissions and increase absorption. Reduction in emissions requires a significant decrease – and finally, complete abandonment – in the use of fossil fuels, which involves a profound restructuring of the global production mechanism, in particular, power systems. Stopping deforestation as well as geological carbon capture and sequestration techniques (in companies with high levels of emissions: cement works, power stations, etc.) are equivalent to a reduction in emissions.

As for the increase in absorption, besides a series of possible geo-engineering techniques that we can mention here as a reminder, this can be achieved naturally through changes in land-use, especially by planting trees. However, this strategy is limited both for biological reasons (photosynthesis is not a linear function of the concentra-

tion in CO<sub>2</sub>: beyond a certain level, the carbon flow can be reversed) and for socioeconomic reasons (competition with cultivated surfaces).

A reduction in emissions and an increase in absorption form the outlines of mitigating climate change. The term "mitigation" expresses the fact that these changes are already a reality, as we saw earlier on. Since this reality has an adverse effect on human populations and ecosystems, there is good reason to complete the mitigation policies with adaptation policies for the portion of climate changes which have unfortunately become inevitable.

From what has just been said, we can clearly see that the focal point of the fight against climate change is composed of mitigation policies, and that the rapid abandonment of fossil fuels in favour of renewable energy plays a defining role here. However, we should not forget adaptation. The following pages (cf. 2.3.1 and 2.3.2) will show that adaptation actually conditions development in a certain number of regions in the world, in particular in the Least Developed Countries (LDC), in such a way that it also conditions mitigation understood as being the successful transition to a sustainable form of production and consumption.

This complementarity between adaptation and mitigation was recently summarised by John Holdren, President of the American Association for the Advancement of Science: "*We basically have three choices – mitigation, adaptation and suffering. We're going to do some of each. The question is what the mix is going to be. The more mitigation we do, the less adaptation will be required, and the less suffering there will be.*" Such indeed is the immediate issue for developing countries.

Some authors, however, see beyond the debate on the relative importance of adaptation and mitigation. During a symposium recently organised by the Tyndall Center on Climate Change Research, dedicated to the impact of climate change on development, BROOKS and GRIST, for example, questioned the future (non)viability of the development models. They lamented the fact that adaptation is reduced to the identification and imple-

mentation of measures (often technological) suitable for the protection of policies, plans, programmes and existing development practices, without fundamentally calling them into question (BROOKS & GRIST 2008).

In fact, if we take a step back, should we not admit that it is necessary to review the very paradigms of aid? Aid is indeed focused on logic: fight against poverty = promoting market economy / increase in production / generation of income, etc. Cooperation projects rarely propose "another model" of development (in the name of the right of each nation to pollute first before setting up more "sustainable" policies). In particular, we offer these countries the chance to join the economic circle as quickly as possible, which we know to be untenable in the long term. We may even consider that the more development cooperation is effective, the more it will help to worsen climate change. However, we shall only succeed in sharing our concern to change the paradigms of aid if we, in developed countries, are capable of inventing and implementing a development model other than the one which led to the climate and environment being in their current situation. If we do not succeed, the partner countries shall continue to wish but one thing: to produce more and consume more, according to the model we are showing them...

## II. CLIMATE CHANGE AND DEVELOPING COUNTRIES

### 2.1. The North is the most responsible, while the South is the main victim

While developed countries, owing to their cumulated emissions, are responsible for the majority of global warming (cf. 1.1), developing countries are those which are the most greatly affected and which have the least means and capacities to adapt to it. The Least Developed Countries are particularly threatened. This is "the fundamental injustice of climate change" (van Ypersele, 2006, Cetri, 2006). Moreover, this will undoubtedly have implications in the distribution of future reduction efforts. The Belgian Federal Council for Sustainable Development (CFDD) thus confirmed that if "the majority of countries that suffer the most from the consequences of climate change do not have sufficient means to take steps to manage and limit these consequences", then "it is the industrialised countries who must, first and foremost, make more effort because they are both responsible and have the capacity to do so" (CFDD, 2004).

#### 2.1.1. Impact on Africa, Asia and Latin America

Based on the reports of the IPCC's Workgroup II, the main incidences of climate change in Africa, Asia and Latin America can be summarised in the following manner (IPCC, Climate Change 2007: Summary Report). Unless otherwise indicated, all the elements mentioned are characterised by a high or very high level of reliability, and concern several sectors likely to be affected, i.e. agriculture, ecosystems, water, coastlines, health, industry and human establishments:

Africa:

- according to projections, 75 to 250 million people will be exposed to increased water stress by 2020;
- in certain countries, the yield of rainfed agriculture could fall by 50 % by 2020. We foresee that farming and access to food will be se-

verely affected in many countries, with serious consequences in terms of food supply security and malnutrition;

- towards the end of the 21st century, the anticipated rise in sea levels will seriously affect highly-populated low-lying coastal areas. The cost of adaptation could be 5 to 10 % of the GDP, or even more;
- according to several climatic scenarios, the surface area of arid and semi-arid land could increase by 5 to 8 % by 2080..

Asia:

- the quantities of available fresh water will have undoubtedly fallen by 2050 in the centre, south, east and southeast of Asia, in particular in the big river basins;
- coastal areas, especially in the highly populated big delta regions in South, East and Southeast Asia, will be exposed to an increased risk of coastal flooding and, in some big deltas, river flooding;
- climate change will probably amplify the pressures that rapid urbanisation, industrialisation and economic development exert on natural resources and the environment;
- modifications to the water cycles will lead to a rise in morbidity and endemic mortality in South and Southeast Asia, due to the diarrhoeic diseases that accompany flooding and drought.

Latin America:

- by the middle of the century, the tropical forests will have gradually been replaced by savannah to the east of Amazonia owing to the effect of increased temperatures and parching of the land. Semi-arid vegetation will tend to be replaced by arid-type vegetation;
- the disappearance of certain species could hugely impoverish the biological diversity in numerous tropical regions;
- the yield of some major crops and cattle breeding will undoubtedly decrease, to the detriment of food supply security. On the other hand, we

predict an increase in the yield of soya in temperate areas. From a general point of view, we predict an increase in the number of people exposed to famine (average degree of reliability);

- the modification in precipitation regimes and the disappearance of glaciers will considerably reduce available water resources for human consumption, agriculture and energy production.

To complete the panorama, we should also mention the effects on small islands, a good number of which are or belong to developing countries:

- rising sea levels will probably intensify flooding, storm surges, erosion and other dangerous coastal phenomena, threatening the infrastructure, human establishments and installations that are vital for insular populations;
- the deterioration of the state of coastal areas, for instance, the erosion of beaches and coral bleaching, will affect local resources;
- by the middle of the century, climate change may well have reduced water resources in many small islands, for instance, in the Caribbean and the Pacific, to such a degree that it will no longer be possible to meet demands during periods of low rainfall;
- the increase in temperatures will probably encourage invasions of exotic species, especially in middle and high latitudes.

### **2.1.2. The most affected sectors, systems and regions**

IPCC's Workgroup II also draws attention to the systems, sectors and regions that will be the most harshly affected by the climate's evolution. This second interpretation confirms and amplifies the higher degree of exposure of developing countries. Ecosystems at threat include Mediterranean-type ecosystems, and tropical rain forests in areas where rainfall is decreasing. The decline in water resources will affect certain dry regions in middle latitudes and dry tropical areas, as well as the tributary areas of snow and ice melt. Agriculture in low latitudes is particularly threatened, owing to the growing scarcity of water resources, while

low-lying coastal areas are exposed to rising sea levels and an increased risk of extreme weather conditions. From the sectors' point of view, the IPCC particularly draws attention to the threats to the health situation of populations with a low capacity to adapt. Apart from the Arctic and certain small islands, the most seriously affected regions are those situated in developing countries:

- Africa, owing to its weak capacity to adapt and the predicted effects of climate change;
- the great deltas in Asia and Africa, owing to the large populations and a high level of exposure to rising sea levels, storm surges and river floods.

## **2.2. Risks of human catastrophes and threats to peace**

### **2.2.1. Catastrophes**

The summary above sufficiently indicates that the effects of climate change will become increasingly serious over the coming decades. But this worsening should not be seen as a linear process: on the contrary, it is more likely that it will progress by leaps and bounds and be interspersed with catastrophes. Every time, they will emphasise the complex interaction of environmental, social, economic and political factors. Over the last few years, several crisis situations in various places in the world were determined by extreme weather conditions, such as drought, cyclones and floods. Although we cannot establish a concrete link between climate change and each of these events taken on an individual basis, it is clear that these catastrophes are increasing, giving us a foretaste of the possible consequences in the decades to come. The regions, sectors and ecosystems most exposed to climatic risks are also those where the risk of catastrophe is the greatest with the highest cost in human life. In all latitudes, the poor are the most at threat. The LDC are, however, in the front line, given the extreme poverty of a significant proportion of their inhabitants, as well as the weakness of their alarm systems, protection infrastructures and capacities at all levels.

### 2.2.2. Armed conflicts

“A crucial qualitative trait of current climate change,” observes the GTZ (German cooperation), “is its speed and expansion. Therefore, it isn’t individual crises and conflicts, of one origin, that are at stake, but rather a combination of a great number of mutually aggravating destabilisation factors. The latest scientific discoveries make it increasingly likely that there will be outbursts of local conflicts in the coming decades, relating to limited resources, and the eruption of new regional and interetatic crises” (GTZ, 2008). Climate change therefore creates a series of specific threats to peace. And more particularly in countries and regions which are currently already subject to tensions (on this subject, see: WBGU 2007).

In April 2007, upon the initiative of the British government, the United Nations Security Council held its first debate on the consequences of climate change on peace and security. For the first time, the 2007 Strategic Survey published by the International Institute of Strategic Studies identified climate change as a major stake in international security and considered that this trend would gain momentum as the effects of global warming become increasingly visible. SMITH & VIVEKANANDA consider that this stake must be placed higher on the international political agenda. For these authors, climatic threats and the increased dangers of war and violence as a result, have the same solution: “the capacities communities need to adapt to climate change are very similar to those they need to reduce the risk of violent conflict. Giving the correct response to one aspect of the problem constitutes a means to respond to the other”. This shared solution consists of sustainable development (SMITH & VIVEKANANDA 2007, CHAMPAIN 2008, GTZ 2008). This domain of analysis still has many gaps, but it is reasonable to think that the risk of conflict is greater in regions most exposed to the impacts of climate change and/or in the regions where resources are becoming scarcer, whether this is due to climate change or for other reasons.

To conclude this point, we can but agree with the prognosis of OECD researchers: “The issue of

climate change can seem remote compared with such immediate problems as poverty, disease and economic stagnation. Yet, climate change can directly affect the efficiency of resources, investments and eventual achievements of many development objectives. How development occurs also has implications for climate change itself and the vulnerability to its impacts. There is therefore a need to link climate change considerations with development priorities" (OCDE, 2005).

It is through the acknowledgement of the major risks for peace as a result of climate change that the Nobel Committee awarded the Nobel Peace Prize to the IPCC in 2007.

### 2.3. Millennium Goals, development and specific needs of developing countries

Greater impacts as a result of climate change in developing countries, increased risk of catastrophes and conflicts in these countries, and the link with poverty: it goes without saying that this combination of factors puts the Millennium Development Goals (MDG) under considerable pressure. Even more seriously: beyond 2015, it is human development as such that is at threat for hundreds of millions, even billions of men and women.

#### 2.3.1. 2015 and beyond

The 2007 report on human development (UNDP) clearly reveals the link between climate change, development and MDG: “Climate change is already affecting the poor, in such a way that increased adaptation efforts are essential in order to progress within the perspective of the MDG. Beyond 2015, climate change will hold back human development and will slow down, or even reverse, the process of human progress (...). The intensification of adaptation efforts must be perceived as an element of the post-2015 strategy (...). A lack of action in terms of adaptation will rapidly lead to an erosion of what has been achieved, in contradiction with the commitment in favour of the MDG”. For the UNDP, climate change subsequently calls for a fundamental revision of the strategies to fight poverty, based on a commit-

ment in favour of greater equality and mitigating social disparities (UNDP 2007). It is a theme that is also largely tackled in a special edition of “Alternatives Sud”, dedicated to climate change as seen by researchers from the South (CETRI, 2006).

As a rule, we could consider human development, in itself, an adequate response to climate change. This theory is mentioned here as a reminder, because it is now generally agreed to be insufficient and inadequate. As we shall see later (cf. 3.1.), climate change may well affect development and vice versa, and the type of development may affect vulnerability to warming (AGRAWALA 2008a). Five ‘tipping’ points in the development process can be identified within the framework of climate change: (i) reduction in farming, (ii) increasing water stress, (iii) extreme weather conditions, (iv) damage to natural ecosystems, (v) increased health risks (UGAZ 2008).

### 2.3.2. The viewpoint of developing countries

Faced with these stakes and within the framework of this report, we should envisage needs from the point of view of developing countries. This is especially true for the link between adaptation and mitigation. Furthermore, as regards the latter, we should make a clear distinction between mitigation via the reduction of emissions, on the one hand, and mitigation via absorption through sinks, on the other hand. We shall come back to this aspect in the following point (cf. 2.4).

From the point of view of developing countries, mitigation through the implementation of technologies with no fossil fuel emissions is strategically and structurally fundamental: it conditions the effective exercising of the right to development which, in the mid term, must become a "zero carbon" development. However, the fact that climate change is already a reality, that its effects can already be felt and that even more significant effects will transpire in the short term, means that adaptation must be considered a priority (DANIDA 2005, UNDP 2008). In fact, for many countries, the current situation is so serious

that the success of adaptation actually conditions development. For the Least Advanced Countries, in particular, adaptation is extremely urgent, because the impact of climate change is hitting them so hard that the elements of development they have been able to acquire are now threatened.

This is why the UNDP is sounding the alarm: “adaptation must be put at the top of the international agenda as regards the fight against poverty (...). Mitigation will do little to change prospects in terms of the human development of vulnerable populations during the first half of the 20<sup>th</sup> century (...). On the other hand, the adaptation policies may change many of things during the next 50 years, and will remain important thereafter. For governments who intend to continue on the path of the MDG during the next ten years, and rely on this progress, adaptation is the only option allowing them to limit the damage resulting from existing climate changes” (UNDP 2008).

### 2.4. The international community’s response

The response of the international community falls under the scope of the framework outlined by the United Nations Framework Convention on Climate Change (UNFCCC). The fight against climate change must be conducted by taking into account “common but differentiated responsibility”. All countries are concerned and must unite their efforts to save the climate, though on a pro rata basis of their historical responsibility and their possibilities.

Over the last few years, the extent of the challenge was specified thanks to various works which have endeavoured to define the respective costs of taking action against climate change and inaction. The report on the economics of climate change, written by Sir Nicholas Stern in 2006 at the request of the British government, particularly stimulated awareness. This report concluded that the annual cost of the "business as usual" scenario would rise to 5 % of the world GDP, and even 20 % of the GDP if we were to integrate a monetary evaluation of the impacts on health and ecosystems, and if we were to take into account the risk



of the positive retroactions of warming (STERN 2006).

#### 2.4.1. Mitigation and adaptation

As mentioned above, there are two responses to climate change: mitigation on the one hand, and adaptation on the other. Within the framework of “common but differentiated responsibility”, developed countries committed themselves to these two points:

- mitigation: according to the terms of the Framework Convention, developed countries are required to take any concrete initiatives to promote, facilitate and finance access to or the transfer of clean technologies and know-how to developing countries;
- adaptation: again according to the UNFCCC, this means that developed countries should help developing countries which are “particularly vulnerable to the harmful effects of climate change to face the cost of adaptation to these harmful effects”.

#### 2.4.2. Reduction in emissions and an increase in absorption

As regards mitigation – as mentioned in the previous point – we should make a clear distinction between the two paths: mitigation through the development of technologies with no fossil carbon emissions, on the one hand, and mitigation through the absorption of CO<sub>2</sub> in carbon sinks (forests for instance), on the other hand. Both paths proposed by the Framework Convention, which considers the reduction of emissions and the increase in carbon absorption as strictly equivalent.

From the point of view of the atmospheric concentration of CO<sub>2</sub>, these two paths are indeed equivalent. However, reducing the emissions and increasing absorption are two different types of activity which have different social and economic implications. From the point of view of human development, we are therefore led to formulate four additional considerations: (i) on a global level, absorption through sinks (afforestation, re-

forestation or forest protection) indisputably responds to the urgency of the matter since deforestation is responsible for almost a fifth of the world’s CO<sub>2</sub> emissions; (ii) considering the possibility that the sinks may be transformed into sources in the mid term, absorption cannot, however, be put on the same footing as emission reduction, which constitutes the only true structural response; (iii) on a regional and local level, forest sinks may serve populations who depend on adaptation (e.g. regulation of the water regime, protection through mangroves, etc.). In this case, afforestation, reforestation and forest protection must be considered as responding not only to the global urgency but also to the specific urgent matter of developing countries; (iv) for this to be the case, the development and protection of the sinks must, however, be integrated into sustainable human development offering populations, particularly the most underprivileged, prospects other than granting compensation for services rendered by the ecosystems. This raises a whole series of complex questions requiring delicate social discussion (LAMBERT 2007).

In the last few years, in particular since the Conference of the Parties in Nairobi, increasing emphasis has been put on the adaptation of developing countries to the effects of climate change, and on the integration of this adaptation into development cooperation. The increasing concern regarding these issues results from both the growing worry faced with the reality of climate change, as can be seen in numerous developing countries, and the intermediary assessment of the instruments and funds that the international community has set up to concretise the orientations of the Framework Convention and the Kyoto Protocol.

### 2.5. Main instruments and funds

*The Clean Development Mechanism (CDM)*. Established by the Kyoto Protocol, the CDM simultaneously combines two objectives: (i) to promote the sustainable development of the host country and (ii) allow the investing country to acquire carbon credits. In order to be accepted, the CDM projects must be additional: it is therefore necessary to establish that they lead to a reduction in

emissions in relation to a reference scenario. The Seventh Conference of the Parties (COP7, Marrakech) took the necessary measures to prevent development aid being used for the benefit of CDM. In the LDC, the development agencies may contribute to the costs of setting up CDM projects. In other developing countries, the agencies may only contribute through cooperation to develop the capacities of the host countries. The CDM represents a key piece in the mitigation strategy for developing countries and developed countries. At the same time, it is linked to adaptation insofar as a levy of 2 % on transactions finances the Adaptation Fund. The CDM projects in the Least Developed Countries are exempt from this levy.

*The Adaptation Fund* was created within the framework of the Protocol, to facilitate “concrete activities” in developing countries. An agreement on its governance was not reached until the Bali Conference in 2007, during which the developing countries obtained certain guarantees relating to their decision-making powers.

*The Least Developed Countries Fund (LDCF)*. Created in 2001 during the COP7 (Marrakech), it is funded by voluntary contributions and managed by the GEF. It finances the realisation of National Adaptation Programmes of Action (NAPAs): indeed, observing that the LDC do not have the means to face the challenges of adaptation to cli-

mate change, the Seventh Conference of the Parties (COP) established a work programme including the setting up of NAPAs. The purpose of NAPAs is to focus on urgent immediate needs, using the information available. They are oriented towards action. They are expected to acknowledge local communities as protagonists and take into account the strategies they develop.

*The Special Climate Change Fund*. Contrary to the Fund for LDC, this fund was set up to meet the long term adaptation needs of developing countries in the areas of health, agriculture, water and vulnerable ecosystems. Like the Fund for LDC, it is funded by voluntary contributions and managed by the GEF within the framework of the Framework Convention. It was decided upon during the COP7 and has been operational since 2005.

*The Strategic Priority on Adaptation (SPA)*. Operational since 2004, this fund finances pilot projects especially with regard to the management of ecosystems.

The structure of funds and instruments is particularly complex in the domain of adaptation. A summary of these funds is provided hereafter (table 1).

Name of fund	Source of financing	Total resources mobilised (in USD)	Operational criteria	Main activities
<b>I. Funds established according to the terms of the United Nations Framework Convention on Climate Change (articles 4.1, 4.3, 4.4, 4.5, 4.8 and 4.9)</b>				
(a) Special funds for climate change	Voluntary contributions from 11 developed countries (Canada, Denmark, Finland, Germany, Ireland, Netherlands, Norway, Portugal, Sweden, Switzerland and United Kingdom)	USD 90.3 M (contributions: USD 73.7 M funds promised: USD 16.6 M)*	<ul style="list-style-type: none"> <li>• Additional cost of adaptation measures</li> <li>• Co-financing scale</li> </ul>	<ul style="list-style-type: none"> <li>• Adaptation is considered as one of the four financing priorities</li> </ul>
(b) Adaptation funds for the least developed countries	Voluntary contributions from 13 developed countries (Canada, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, New Zealand, Norway, Spain, Sweden and Switzerland on 30 April 2006)	USD 172.8 M (previous contributions: USD 91.8 M promised funds: USD 80.9 M GEF allocations up until now: USD 31.8 M)**	<ul style="list-style-type: none"> <li>• Main principles: approach per country, fair access for least developed countries, faster support and prioritisation of activities</li> <li>• Integral financing of additional costs for planned and priority adaptation activities in the NAPA***</li> <li>• Co-financing scale</li> </ul>	<ul style="list-style-type: none"> <li>• Implementation of NAPA*** (total resources of USD 9.6 M were approved to support the elaboration of NAPA in 44 countries)</li> </ul>
<b>II. Funds established under the regime of the Kyoto Protocol (article 4.10)</b>				
(a) Adaptation funds	2 % of the product of the Clean Development Mechanism (CDM)	Not yet operational – planned contributions between USD 160 M and 950 M until 2012 (Müller, 2007)	<ul style="list-style-type: none"> <li>• Main principles: approach per country and learning through practice, healthy financial management, transparency, separation of other financing sources</li> </ul>	<ul style="list-style-type: none"> <li>• Concrete adaptation projects and programmes planned in decision 5/CP7</li> </ul>
<b>III. Global Environment Facility (GEF) – Managed funds, established in reaction to the Conference of the Parties' (CoP) guidelines</b>				
(a) Global Environment Facility - Trust fund	GEF	USD 930 M	<ul style="list-style-type: none"> <li>• Additional cost of activities to obtain environmental impacts on a global level, total cost of enabling activities</li> </ul>	<ul style="list-style-type: none"> <li>• Mitigation projects and programmes</li> <li>• Assessments of vulnerability and adaptation within the framework of national communications and other enabling activities</li> </ul>
(b) Strategic priority fund for adaptation	GEF	USD 50 M of which USD 25 M have been allocated	<ul style="list-style-type: none"> <li>• Guidelines concerning the establishment of additional costs leaving some room for manoeuvre, in particular for the Small Grants Programme</li> </ul>	<ul style="list-style-type: none"> <li>• Pilot and demonstration projects on adaptation</li> <li>• Small Grants Programme (USD 5 M) to support adaptation on a community level</li> </ul>

\* USD 2.0 M from the GEF have been used for projects and administrative support

\*\* USD 11.8 M from the GEF allocated to the Adaptation Fund for the Least Developed Countries used for projects, administrative posts and special initiatives

\*\*\* NAPA – National Action Programmes for Adaptation

**Table 1: Adaptation funds.** Updated table, based on a table from *Ressources Naturelles Canada (RESSOURCES NATURELLES CANADA 2007, [www.adaptation.nrcan.gc.ca/assess/2007/ch9/5\\_f.php](http://www.adaptation.nrcan.gc.ca/assess/2007/ch9/5_f.php))*

It should also be noted that the GEF finances the *Assessments of Impacts and Adaptations to Climate Change – AIACC*, an initiative implemented by the United Nations Programme for the Environment and by the IPCC, executed by START (Global Change System for Analysis, Research and Training). The purpose of the AIACC is to help advance scientific understanding of vulnerability to climate change and the possibilities for adaptation in developing countries. Collateral financing is provided by certain national cooperation agencies, especially the World Bank.

We should also mention the *Adaptation Policy Framework (APF)*. Set up the United Nations Development Programme, the APF's main aim is to help policy deciders in developing countries to integrate adaptation into their country's development strategy (drafting of the Strategic Frameworks to Reduce Poverty, etc.).

Besides these funds and instruments, we should also take into account the initiatives of the OECD, the World Bank, UNEP, UNPD, and the European Commission. The OCDE has set up a Development and Climate Change Project which offers

guidance on the means to integrate the responses to climate change in planning and assistance policies. As for the World Bank, it has developed the Community Development Carbon Fund (CDCF), the Biocarbon Fund (BCF), Climate Investment Funds (which include the Clean Technology Fund (CTF) and the Strategic Climate Fund (SCF), the Pilot Programme for Climate Resilience, the Forestry Investment Fund and the Forest Carbon Partnership Facility. It also proposes ADAPT, an assessment tool for climatic risks (GIGLI & AGRAWALA, 2008). The European Commission has recently set up instruments such as the Global Energy Efficiency and Renewable Energy Fund (GEEREF)<sup>10</sup>. Another European Union initiative is the Global Climate Change Alliance (GCCA), dedicated to the following five domains: concrete adaptation measures, reduction in emissions due to deforestation, aid for developing countries to participate in the world carbon market, aid to reduce vulnerability to natural catastrophes and the integration of climate change in development cooperation policies and strategies to fight poverty.

Furthermore, developed countries contribute through their cooperation agencies, some of which have produced reports over the past few years focusing on the interactions between climate change and development, even developing specific tools (CRISTAL, ORCHID, etc.) (GIGLI & AGRAWALA 2008).

## 2.6. Intermediary assessment

Drawing up a detailed assessment of the activity of these various bodies, programmes and funds clearly exceeds the framework of this report. We shall limit ourselves to four general observations concerning (i) CDM, (ii) multilateral funds, (iii) the actions of the World Bank, (iv) bilateral aid and the balance between mitigation and adaptation.

Although it has aroused a high level of enthusiasm among developed countries and developing countries, the CDM is the subject of a series of questions and criticisms mainly relating to the

additional nature of the projects (windfall effect), their almost exclusive concentration in emerging countries and the sometimes highly questionable nature of their contribution to sustainable development in host countries (ERIKSEN & NAESS 2003, REDMAN & SEEN 2008, STERK 2008). For some, the CDM essentially allows developing countries to reduce or delocalise their efforts to reduce emissions (LOHMAN 2006).

Multilateral funds have had little effect and UNDP severely criticises them: "If we reduce a complex situation to a simple assessment, the results are as follows: in mid-2007, the multilateral financing received within the general framework of initiatives established in accordance with the UNFCCC reached a total of USD 26 million. This equals the sums spent during a week within the framework of protection against flooding in the United Kingdom. Total financing committed to adaptation through specific multilateral funds equals a total of USD 279 million. (...) There is a striking contrast with the adaptation efforts made in rich countries. The German state of Bade Wurtemberg plans to devote more than twice the entire multilateral adaptation effort to reinforcing flood barriers". The UNDP also evokes the chronic under-financing, weak coordination and inability to reach beyond specific projects. For (REF 26), there is a risk that the NAPAs will favour large infrastructure projects rather than the more modest ones involving communities. As for the UNDP, it fears that the focus of the NAPAs on immediate measures will be to the detriment of a global view (UNDP 2008).

Between 2005 and 2007, the activities of the World Bank in the sole domain of adaptation to climate change increased from about 10 to 40 projects. Moreover, the Bank is very active in the domain of mitigation. But its actions are also the subject of a series of criticisms. Some authors refer to considerable shortcomings in the procedures relating to the conception, realisation and evaluation of projects (REF BURTON & VAN AALST in ERIKSEN & NAESS 2003). A close criticism of the Bank's climatic activity is put

<sup>10</sup> "an innovative global risk capital fund that will use limited public money to mobilise private investment in small-scale energy efficiency and renewable energy projects in developing countries and economies in transition."

forward by REDMAN (op. cit.) who particularly questions the benefits for the poorest countries and refers to a conflict of interest, with the WB having lent more than USD 1.5 billion between 2005 and 2007 for development projects emitting high levels of greenhouse gases, while at the same time, deducting 13 % for overheads on its emission reduction and absorption projects (REDMAN & SEEN 2008).

In general, the opinion prevails that adaptation to the effects of climate change is greatly underestimated, to the benefit of mitigation through the reduction of emissions and an increase in absorption. This observation has been made at all levels, especially at the level of bilateral cooperation agencies (UNPD 2008, among others).



## III. DEVELOPMENT COOPERATION: HOW TO TAKE CLIMATE CHANGE INTO ACCOUNT

### 3.1. Interactions between climate change and development

#### 3.1.1. Three types of interactions

We can distinguish three types of interactions between development and climate change: (i) the impact of climate change on development projects, plans and programmes; (ii) the impact of projects, plans and programmes on climate change; (iii) the impact of projects, plans and programmes on the vulnerability of populations and/or ecosystems to climate change (AGRAWALA & VAN AALST 2008a, ERIKSEN & NAESS 2003) :

- we speak of the impact of climate change on development projects, plans and programmes when an anticipated alteration in the climate is likely to have an effect on development objectives. It is essential to distinguish here between the natural climatic variability of climate changes. Climate change may involve a high level of variability, but it is characterised above all by a change in regime, and this change is not necessarily an extension of the evolutions observed. The impact of climate change on development can be positive or negative. It goes without saying that negative impacts in particular must draw our attention, given their consequences on human development and reducing poverty. Besides direct impacts (for instance, the impact of more frequent periods of drought on farming), we should take into account the indirect impacts (for instance, the fall in school attendance numbers owing to the fact that children are mobilised to compensate for the fall in agricultural productivity due to drought by having to work) (ERIKSEN & NAESS, op. cit.);
- on the other hand, development projects, plans and programmes can have an impact on climate change. Thus, a development project based on the non-sustainable exploitation of

forest resources (deforestation) will contribute to climate change, not only on global level (through the declining capacity of carbon sinks) but also on a regional or local level (role of the forest cover in buffering temperatures and regulating the water regime). In this case too, the impact can be positive or negative, direct or indirect: a development project based on the exploitation of an oilfield for export only has a limited direct impact on the climate, but clearly contributes to perpetuating the use of fossil fuels, which are mainly responsible for climate change;

- finally, we should take into account the possible impact of development projects on the vulnerability of populations and/or ecosystems to climate change. For instance, a project to develop coastal areas in regions with mangroves or coral reefs, although climatically neutral, must take into account the fact that the destruction of these natural environments, as well as the negative effects on biodiversity, will expose the populations living in the area to an increased risk in case of extreme weather conditions (cyclones, storms, etc.) or other natural accidents (tsunamis) (AGRAWALA & VAN AALST 2008a). ERIKSEN & NAESS propose a typology of impacts that particularly increase the vulnerability of poor populations to climate change: reduction in the access for populations to available natural resources, fall in the basis of available natural resources, growing differences in wealth between social groups, alteration of local traditions, disturbance to structural processes leading to increased marginalisation.

#### 3.1.2. Effectiveness of aid under threat

The three impacts combined are likely to considerably reduce, and even undermine the effectiveness of development aid. The World Bank therefore carried out a study which reveals that 55 % of its development projects are climatically sensi-

tive and that global warming presents substantial risks in 25 % of cases (REF). Twenty-four documents from the World Bank relating to development projects or programmes in Africa were reviewed by researchers, who came to the conclusion that the Bank pays almost no attention to the possible adverse effects of climate change (RINGIUS et al. 1996). When it examined the development projects financed by international aid in six countries (Egypt, Fiji, Bangladesh, Nepal, Tanzania, Uruguay), the OECD concluded that the proportion of “climate sensitive” projects went from 12-26 % in Tanzania to 50-65 % in Nepal (OECD 2005). The method of investigation used in this study was reused by the UNDP, who applied it on a broader basis. For the period between 2001 and 2004, the authors concluded that 17 % of international aid is exposed to an extreme climate risk and that 33 % is more widely exposed to a climatic impact. In the domain of existing protection infrastructures alone, the amount of investments at threat could oscillate between USD 16 and 32 billion (UNDP 2007).

### **3.1.2. Avoiding the adverse effects of certain forms of mitigation in the North**

To these three types of interaction we should add the fact that certain elements of the strategy implemented by developed countries to fight against climate change may increase the vulnerability of populations in developing countries. In this respect, we should particularly draw attention to the possible adverse effects of a massive importation of “bio” fuel or other biomass products by developed countries. When the production of these products in developing countries involves replacing forests with energy crops, or food-producing crops which have themselves been displaced by energy crops, the food supply security of populations may be jeopardised and the impact of climate change may reach perilous heights, owing to price rises which particularly affect the poor. Of course, this raises the issue, already mentioned above (cf. I.3), of limiting certain types of development. As WIGGINS notes, “although the majority of goals (in terms of bio fuels) do not aim to cover more than 15 % of needs in fuel for transport in 2020, significant quantities of bio fuels are

required and involve significant quantities of land to be used to produce the raw materials. For instance, if the entire production of seven of the world’s main food crops – wheat, rice, corn, sorghum, sugarcane, manioc and beet – which cover 500 Mha, i.e. 42 % of arable land, were used to produce ethanol, this would only cover 57 % of the petrol used on a global level” (WIGGINS 2008).

More generally, it is indeed a problem of equity with regard to access to resources and the possibilities for developing countries to influence the rules defined for international trade. The form of development of industrialised countries is based on a systematic exploitation of natural resources (often situated in developing countries) at a non-sustainable level. (on this subject see §§ 34 to 38 of the CFDD notice on the European Union’s “natural resources” thematic strategy, 2006a01, 1 February 2006) (CFDD, 2006).

In an effort to endeavour to face these criticisms, the European Council has submitted its objective to have 10 % bio fuels on the market in 2020 providing that they satisfy sustainability criteria and that second generation bio fuels will be available commercially by this date. Without knowing exactly what these sustainability criteria will cover, we should remain cautious and not consider that the potential disadvantages of the massive importation of bio fuels or biomass from developing countries will be entirely eliminated by these European criteria. For this to be the case, the sustainability criteria will have to include the indirect effects (land-use change and emissions from the farming sector), the social and food supply safety criteria (in the North and in the South) as well as the effects of substitution by extending crops in terms of greenhouse gases and biodiversity. We must be able to assess these criteria on a suitable scale (global, European, national and at industry level) in order to avoid a clash of interests (food and energy versus sustainable energy) as well as adverse effects on an environmental or social level. Opinions were greatly divided on these is-



sues during the “Spring of the Environment” debates.<sup>11</sup>

The Asian Development Bank perfectly sums up a widely shared opinion: “Adaptation to climate change and variability is ultimately an issue of sustainable development”. This means reducing vulnerability and increasing human and institutional capacities, which of course has an influence on a financial level, as we shall see further (cf. III.5) (ASIAN DEVELOPMENT BANK 2005). Two categories of answers to the question “how can we make cooperation development climate-proof?” emerge: (i) integrating adaptation to existing development strategies, (ii) introducing new types of aid and new types of development funds (ASIAN DEVELOPMENT BANK 2005).

### 3.2. Integration: necessity, principles, scope and specificities

Since adaptation to climate change is fundamentally a question of economic and social development, it is logical that reactions to climate change will gain from being developed within the framework of development activities rather than outside them. This integration is particularly vital if adaptation is to comply with human development objectives, with the reduction in poverty being one of the primary goals (COMMISSION OF THE EUROPEAN COMMUNITIES 2003).

The European Commission has defined the general adaptation objectives as follows: (i) increase the robustness of the infrastructures requiring long-term investments, (ii) increase the flexibility of vulnerable activities, (iii) increase the adaptability of vulnerable natural systems, (iv) reverse the trends that exacerbate vulnerability, (v) improve preparation and awareness in relation to climate change (ibid.).

In the same document, the Commission sets out a certain number of guidelines which should preside over the integration of adaptation within development aid: (i) contribute to reducing poverty, (ii) contribute to the Millennium Development Goals adopted in Johannesburg, (iii) be coherent

with the other policies of the Union and the Member States, (iv) be coherent with the other development policies and strategies, (v) be coherent with the other multilateral agreements concluded in the domain of the environment, (vi) coordination and complementarity with the actions of other sponsors, (vii) the appropriation of adaptation strategies and processes by partner countries, (viii) the participation of local players.

Adaptation is integrated within the general framework of the sustainable human development agenda. It goes without saying that adaptation to climatic risks by the existing infrastructures and projects in terms of infrastructure has a definite place in this agenda (ASIAN DEVELOPMENT BANK 2005). However, adaptation cannot in any way reduce cooperation within this specific domain alone (UNDP 2007). For instance, the UNDP notes that access to water resources is not only a question of physical infrastructures but also social structures and practices (UNDP 2007). Other authors point out that it is not enough to construct flood barriers; we have to begin by building the institutional and social capacities necessary for their maintenance. Famine does not necessarily, or only result from drought, but also from ownership structures, mainly land. In short, we should question the multiple interactions between immediate causes and underlying social causes, because this interaction shapes vulnerability to climate change, especially that of the underprivileged (ERIKSEN & NAESS 2003).

Insofar as it is determined by a whole range of objective and subjective, structural and economic factors, vulnerability must be seen as a dynamic process, strongly determined by the specific context. Subsequently, there is no “infallible recipe” in terms of adaptation (UNDP 2007), or a unified catalogue of measures to be taken to contribute to human development. In each aid sector, development cooperation may allow an adaptation strategy to take shape by implementing measures at different levels, according to the risks, the levels of development, and the financial and technological means defining vulnerability on a local level (ERIKSEN & NAESS 2003, UNDP 2007). In

<sup>11</sup> See [www.printempsdelenvironnement.be](http://www.printempsdelenvironnement.be)

general, the systematic promotion (and application) of good environmental practices in terms of managing natural resources, energy choices, waste management, etc., constitutes a known but concrete approach in terms of adaptation.

For instance, the authors of a study aiming to outline a framework for adaptation in Africa, suggest two general strategies: (i) improvement of current resource management, (ii) reduction in vulnerability to climatic dangers. Furthermore, they distinguish four generic types of answers depending on an adaptation strategy integrated into development (RINGIUS et al. 1996):

- anticipatory adaptation includes modifications to be made to long-term projects, projects to protect against extreme events, the prevention of irreversible impacts, projects indifferent to climate change ("no regret") as well as cases where adaptation can be achieved at a small cost;
- institutional / regulatory adaptation targeting statutory modifications to be made to developments which, if they were to remain unchanged, would increase vulnerability in the future (e.g. infrastructures, development of coastal regions, land-use), on the one hand, as well as modifications to be made to institutions where "adverse effects" prevent a reduction in vulnerability (e.g. economic stimulants which hinder the transition to drought-resistant crops), on the other hand;
- adaptation through research and education includes projects aimed at finding new adaptation possibilities for challenges that currently have no solution, on the one hand, as well as projects with goals aimed at modifying inadequate behaviour within the framework of climate change, on the other hand;
- aid for the development of capacities embraces different types of projects in the following domains: (a) increasing sector productivity, especially in terms of natural resources, (b) reinforcing institutional capacity in general; (c) reducing pollution levels and improving environmental quality.

### 3.3. Delays and obstacles to integration

There are delays at all levels in integrating adaptation to climate change into development cooperation. S. AGRAWALA and VAN AALST also note that donors' strategies pay little or no attention to climate change in the heart of their development activities, and that even considerations relating to meteorological variability are not routinely taken into account (AGRAWALA and VAN AALST 2008a). While 25 % of the World Bank's projects are exposed to serious climatic risks, the climate factor has only been envisaged in 2 % of cases. According to a survey carried out in six countries, the OECD (2005) maintains that global warming could adversely affect on 12 (in Tanzania) to 65 % (in Nepal) of its development aid<sup>12</sup>. The study of 24 World Bank development projects in Africa published in 1996 led the authors to consider that "the Bank pays almost no attention to the possible adverse effects of climate change" (RINGIUS et al. 1996)..

Numerous contributions allow us to draw up a list of the obstacles to the integration of adaptation to climate change in development cooperation (REF 5, 26, 27):

- lack of links between climate and development problems within governments and public services in donor countries. The fight against climate change fundamentally depends on top-down mechanisms – international negotiations within the framework of the UNFCCC – which descend to national governments via departments in charge of environmental policy. They have few structural links with the departments in charge of development cooperation;
- lack of awareness concerning interactions between development and climate change. Development practitioners – insufficiently – integrate climatic variability, the fruit of past meteorological observations, but not the climate change projections and their impacts. At best, they tend to think that climate change is simply an intensification of current trends and do not accept the possibility of qualitative leaps;

<sup>12</sup> <http://www.inwent.org/ez/articles/061215/index.en.shtml>

- insufficient, and even a lack of relevant climatic information adapted to development projects. There are a variety of problems here: teaching and scientific popularisation of climate change, level of resolution of the climatic models, difficulty of integrating projections with a variable level of probability (extreme temperatures, precipitation volume and frequency, rising sea levels, etc.);

- different spatial and temporal scales. Development practitioners work on local projects in the short and mid term, climatologists analyse mid and long and very long term phenomena, on a global or continental/regional level. The fact that local projects risk having long-term consequences is more often than not ignored;

- fear of trade-offs between the development objectives and those concerned with the fight against climate change. For development cooperation practitioners, it may seem that taking into account climate constraints will thwart the creation of economic wealth and a reduction in poverty which is supposed to be the result. This fear is often illusory, but it can also be founded with regard to development projects which lack sustainability and insufficiently integrate the other environmental objectives (protection of biodiversity, fight against desertification and soil erosion): in the case of shrimp farming established to the detriment of mangroves, for instance, the prospect of benefits in the short term, which are often claimed by a minority at community level, can cause longer term considerations to be ignored such as the increase in vulnerability to climate change impacts (OECD 2005;

- the lack of staff in cooperation agencies, and the fear that the integration of adaptation could complicate and burden the procedures as regards selection and the examination of projects, and even increase the costs, to the detriment of local communities that benefit from the aid;

- a certain overload in terms of objectives and problems to be integrated into the finalising of development projects. Development cooperation has integrated these types of problems, i.e. biodiversity and the fight against desertification and soil degradation, into its effort to achieve the Mil-

lennium Development Goals. The integration of adaptation to climate change may appear as “too much integration”.

- Another obstacle is perhaps the abstract side that possible actions in terms of adaptation still have for the players in development – in the literature and documentation of development agencies, we find a lot of theoretical generalities on climate change, but as soon as we look into how this has been translated in concrete terms, we find very few things other than old recipes – climate changes are presented as a “new problem” or a problem that we are only just beginning to be really aware of, but at the same, there are no proposals for a wide range of actions to be taken.

It should be noted that the above-mentioned concerning obstacles to the integration of adaptation also applies to mitigation, *mutatis mutandis*.

### 3.4. General conditions for integration

A successful integration of adaptation within development cooperation firstly requires a strong strategic belief at the highest level. As K. PANNEELS notes, «het belang is enorm. Meer nog dans de AIDS-problematiek dat 2 decennia geleden heef gedaan, dreigt de kwetsbaarheid die voortvloeit uit de klimaatverandering de moeizame vooruitgang inzake ontwikkeling in de armere landen teniet te doen” (PANNEELS 2008). Increasing the political importance of taking into account the interrelations between climate change and development cooperation thus figures at the top of the four priority strategies defined by the European Union (COMMISSION OF THE EUROPEAN COMMUNITIES 2003).

This political awareness at the highest level must be translated within the framework of the consensus on cooperation policy, as formalised in the Paris Declaration (2005) with its basic principles of harmonisation, alignment, appropriation and management focused on results and mutual responsibility. Furthermore, decision-makers must develop a clear point of view on three key questions that will condition a coherent implementation: (i) a link between the mitigation of climate change and adaptation to its effects within the

framework of human development cooperation; (ii) the link between adaptation and the fight against poverty, between infrastructure works and the building of capacities; (iii) the place of the fight against climate change within the whole of environmental policy, especially in terms of biodiversity and the fight against desertification/soil degradation.

It is no coincidence that adaptation follows straight on from the increased political awareness of the stakes in the strategic priorities of the European Union (COMMISSION OF THE EUROPEAN COMMUNITIES 2003): as the authors of a study on the integration of adaptation into the Danish cooperation policy write, although adaptation is not a “remedy” to alleviate the adverse effects of climate change, it is adaptation that is the most closely associated with reducing poverty and the development agenda. For developed countries, it is therefore a question of “steering mitigation” and “paying for adaptation” (DANIDA 2005) in accordance with the polluter pays principle. In the case of the EU, adaptation concerns all the partner countries (except Bosnia and Macedonia), while mitigation should especially concern the major emitters, the major emitters per inhabitant, candidate countries in Appendix 1 and countries with vast forests (CEC, op.cit).

An accurate link between adaptation and the fight against poverty constitutes the second key point of political awareness at the highest level. It would be a mistake to simply put poverty and vulnerability on an equal footing (or poverty and conflicts). This approach leads to the notion of aid while the real challenge of adaptation consists of supporting the communities in their own strategies. Rather than equating poverty with vulnerability, it would seem more appropriate to consider that these two issues have a range of common determining factors, in such a way that numerous measures aimed at adaptation will probably have the effect of also reducing poverty by attacking the underlying causes of poverty (for instance, the political, economic and social structures conditioning accessibility to resources) (ERIKSEN & NAESS 2003).

Considering poverty and vulnerability as two issues resulting from mainly common causes reinforces the above concerning the need to banish all ideas of adaptation simply being a vehicle for carrying out infrastructure works to protect populations against climatic risks (UNDP 2007, BROOKS & GIST 2008 among others). Infrastructure works are undoubtedly essential, but this issue cannot be solved simply within the current strategic cooperation framework and according to the allocated budgets. Such a narrow technological idea would threaten the budgets awarded to cooperation projects, first and foremost bilateral cooperation, and would involve calling into question the strategy oriented in particular towards local communities and the fight against poverty. Hence, not only will this inevitably end up in compromises but also in confrontations between adaptation to climate change and human development (we shall return to the issue of financing further on: cf. 3.6). On the contrary, it is a question of correctly situating the integration of adaptation in the existing policy and existing procedures (GIGLI & AGRAWALA 2007), as established within the framework of the realisation of MDG, by guaranteeing appropriation by the partner country and by carefully associating all the protagonists with regard to the partner country (private sector, NGO, communities concerned, research sector, etc.) (DANIDA 2005). This means that aid for capacity building is a determining factor in the integration of adaptation, both on an institutional and general social level. This aid will be all the more effective if it duly takes into account the strategies elaborated by the communities themselves (ibid).

A third key question for decision-makers consists of apprehending the synergies between the fight against climate change and the other priority environmental domains: defending biodiversity and taking action against desertification and soil degradation. There are many of these synergies, and this is not the place to draw up an exhaustive list. It goes without saying that biodiversity goes hand in hand with defending ecosystems, such as mangroves, coral reefs and forests, which play a major role in adaptation, and even in the mitigation of climate change. Furthermore, these three areas of

environmental action are closely linked to the fight against poverty, insofar as the most underprivileged populations depend more than others on the resources provided by natural ecosystems. Finally, the social implications of defending biodiversity and the fight against desertification/soil degradation have been the subject of numerous studies and works, which may inspire the elaboration of similar strategies in the domain of the fight against climate change (ERIKSEN & NAESS 2003).

On the basis of this political awareness and the apprehension of the three key questions described above, political decision-makers can determine “windows of opportunity” (DANIDA 2005) to integrate the issue of adaptation into the dialogue with partners at all levels. Among these “windows of opportunity”, let us cite in particular: high-level political dialogue, the elaboration of Framework Strategies to Reduce Poverty (CSRP) and NAPA (National Adaptation Programmes of Action). Some specifically European windows can also be mentioned: contacts with the ACP countries within the framework of the Cotonou agreements, contacts with the New Independent States, the Barcelona Process with ten Southern, Eastern and Mediterranean States, etc. Finally, we should also note that decision-makers have the special means to encourage the regional coordination of adaptation policies between countries in the same geographic areas.

### 3.5. Ten pathways to integration

We shall focus exclusively on the integration of adaptation to climate change in terms of the activity of the Belgian government agencies responsible for direct bilateral cooperation. Multilateral cooperation will be tackled in the next point (3.6).

The starting point for reflection on this issue: the obstacles to integration are not confined to a lack of dialogue between climate change specialists and development specialists. Lack of communication plays a certain role, but more substantial factors also come into play (REF 27.2). Specific procedures and instruments are therefore necessary. The various authors consulted generally

concur in highlighting the following factors (OECD 2006, AGRAWALA & VAN AALST 2008a, AGRAWALA 2008b, DANIDA 2005, KLEIN et al. 2007, ERIKSEN & NAESS 2003, etc.):

- training. Development practitioners would benefit from receiving training on the mechanisms and specificities of climate change and their impact on development. It would be appropriate for this training to be specifically adapted to the context of human development aid through the fight against poverty and regularly updated according to advances in climate science, models, evaluation of practices applied, etc. This training should also cover the greenhouse gas emissions inventory methods that should be used for the development of National Communications within the context of the Framework Convention, and the mitigation policies and measures. Managers, agencies, politicians and technical experts from partner countries should also benefit from solid training on environmental issues, which would include the element of climate change. It is absolutely essential to have local networks if we want to establish policies: the lack of trained environmentalists in the countries of the South is one of the major difficulties in setting up projects and programmes. The experience gained by UNITAR ([www.unitar.org](http://www.unitar.org)) in this regard, particularly in its project “Climate Change Capacity Development – C3D” (<http://cern.ch/c3d>), could usefully be drawn upon by the Belgian Cooperation. A collaboration with UNITAR may well be fruitful.
- information. This means supplying the trained teams with climate information that is easily accessible, immediately usable and regularly updated, concerning the regions covered by the cooperation (OECD 2006). This information should include projections concerning the principal parameters of climate change (temperature, precipitation) and the impacts (extreme weather events, rises in sea levels, melting of glaciers, water regimes, ecosystems, etc.) (cf. 1.2), together with the corresponding level of reliability. While the margin of scientific uncertainty is far from insignificant, pro-

gress appears to be possible. The information should also contain elements concerning possibilities and experiences with regard to adaptation, as well as the cost of their implementation and any knock-on effects (OECD 2005);

- identification of risks and vulnerability factors (screening). For each aid sector, the teams responsible for cooperation should have the necessary instruments (toolkit) to (i) quickly identify the risk factors, (ii) evaluate the possible impacts (impacts of climate change on projects, of projects on climate change, and of projects on the vulnerability of populations and/or ecosystems) and (iii) prioritise responses according to risks, vulnerability, costs and the type of project;
- determination of entry points for integration. In order to facilitate and harmonise the use of the “toolbox”, entry points must be determined. In general, ERIKSEN & NAESS consider that the entry points are to be found at the interfaces between three pillars of activity: management of natural resources, reduction of poverty, and humanitarian aid. Each of these interfaces contains a series of specific entry points, grouped into three “families”: (i) resources (accessibility of natural resources, economic opportunities for the most underprivileged, biodiversity, processing and marketing of local products, informal mechanisms, etc.), (ii) local capacity and awareness (integration between traditional and modern agriculture, agrobiodiversity, change in land-use, links between informal local institutions and authorities, etc.), (iii) management and anticipation (early warning) of risk (local strategies for coping with disasters, warning systems, protection based on the management of natural resources, local climatic and meteorological capacities, public amenities, coastal defences, etc.);
- merging of climate evaluation with other environmental evaluations. In order to avoid adding any unnecessary burden or complication to the work of aid workers, climate evaluation should be merged with the other environmental evaluations to form a single procedure. The procedure for evaluating environmental

impact can be used as the basis for this unification, provided it is widened to include not only the impacts of the projects on the environment, but also the impacts of the environment on the projects and the impacts of the projects on the vulnerability of the populations and/or ecosystems (DANIDA 2005 HENS & HUGE 2008b, ERIKSEN & NAESS 2003). It is in this spirit that HENS & HUGE propose the design of a complete “toolbox” for the simultaneous integration of the three dimensions of climate change, protection of biodiversity and protection against land desertification/degradation. This toolbox might also usefully include a positioning on certain controversial topics: biofuels, GMOs, etc., and/or propose alternative avenues: eco-tourism, 2<sup>nd</sup> generation biofuels, “organic” crops, etc. Often, the players involved in Belgian cooperation lack frames of reference on these sensitive aspects, and a clearer strategic line should be established, instead of the case-by-case policy.

- intervention at the project design and examination stage. Generally speaking, the difficulty and costs are considerably greater when projects have to be retroactively corrected in order to adapt to climate changes (ASIAN DEVELOPMENT BANK 2005);
- priority for implementation. The OECD recommends giving priority to the implementation of measures that are already, or are likely to be, environmental priorities, and whose implementation is all the more justified within the context of an adaptation strategy: protection of mangroves and forests, water management, sea walls, etc. Rather than launching new plans, it would be a matter of eliminating the factors that prevented the practical implementation of these measures (OECD 2005);
- coordination with humanitarian aid. This coordination is essential, since climate risks translate into human catastrophes. But the aid itself must be reviewed in the light of adaptation to climate change. Not only the quantity, but also the speed of the aid are crucial factors. Moreover, some authors stress that external aid, despite its immediate positive effects, can also

undermine the capacity of communities and structures to meet the challenge of catastrophes (ERIKSEN & NAESS 2003). The strengthening of local capacities in this regard consequently forms an integral part of the integration of adaptation into cooperation;

- exchange of good practices (between departments within a country, between cooperation agencies of different countries) (HENS & HUGE 2008a);
- monitoring and periodic assessments (OECD 2008). Adaptation is dynamic. Its management must evolve according to experience in the field and the evolution of climate change itself.

### 3.6. Limits to integration

The available budgets considerably limit the possibilities of integrating adaptation in order to combat the threats posed by climate change to the development objectives, particularly the reduction of poverty. According to the UNFCCC, the sums that need to be mobilised for the adaptation strand of the fight against climate change probably amount to between 28 and 67 billion by 2030 (UNFCCC 2007a). The World Bank's estimate falls in the lower part of this range: 30 billion (update on 2005). But the Bank only takes account of the infrastructure needs (protection of existing infrastructures and construction of protection infrastructures). In its 2007 report on human development, the UNDP is critical of this process: "One of the biggest problems of the current approach to adaptation lies in the overwhelming focus on protecting infrastructures against the elements, to the exclusion of strategies aimed at fostering increased autonomy and thus the protection of populations". Its estimate of the needs is considerably higher: by 2015, the UNDP believes that adaptation will require funds of around 86 billion dollars a year, broken down as follows: 44 billion for infrastructures, 40 billion for adapting poverty reduction programmes, and 2 billion for strengthening disaster management systems (UNDP 2007).

The picture becomes more complicated if we take account not only of adaptation but also of mitiga-

tion of climate change. According to the UNFCCC study cited earlier, the necessary investments probably amount to between 92 and 97 billion dollars. In this regard, the larger part of the sums involved (86% on a global scale) is certainly mobilised by the private operators. And we still have to take account of the fact that while public development aid is less than 1 % on average for the world as a whole, it is 2% in Africa and as high as 6% in the Least Developed Countries.

For adaptation and mitigation alike, the sums given by the literature supply only orders of magnitude. But these are very probably underestimated. The UNFCCC emphasises that its analysis provides only an estimate of the total costs of adaptation to the impacts of climate change: the methodology used does not allow any more precise quantification. Thus, for the necessary investments in the energy sector (mitigation), the estimates of the UNFCCC are based on the difference between the reference scenario and the alternative scenario of the International Energy Agency. Yet, this alternative scenario would translate into a mere 10% reduction in CO<sub>2</sub> emissions by 2030 compared with the reference scenario. Such a reduction is extremely inadequate in view of the recommendations of the IPCC if we want to limit global warming to no more than 2°C above the pre-industrial temperature, as recommended by the European Union since 1996.

With regard to adaptation which, as we have seen, must be regarded as a short- and medium-term priority in the context of human development objectives, the above estimates lead many of the actors concerned to argue in favour of new sources of aid financing that would allow concrete application of the polluter pays principle (AGRAWALA & VAN AALST 2008, UNFCCC 2007, UNDP 2007, et. al.). There are several proposals: (i) financing of adaptation by the carbon market (this route has been inaugurated with the financing of the adaptation fund by a 2% levy on the revenues of the CDM), (ii) tax systems (higher taxation of air travel, or even a general CO<sub>2</sub> tax as proposed by the Swiss government) (UVEK 2008), (iii) financing by the countries cited in Appendix 1, according to revenues and capacities. In this regard, it is quite interesting to also recall

other proposals, such as the “Tobin Tax” or the idea of an extraordinary global tax on assets as advanced by UNCTAD in its 1995 report (UNCTAD, 1995).

Whatever the precise mechanisms, a redistribution of wealth seems vital at global level. As important as it is, the promise made by the developed countries to raise development aid to 0.7% of GDP – a promise that is not always honoured – would not be sufficient to confront the challenges of climate change, particularly in terms of adaptation. A new international cooperation structure is essential. The concentration of resources that should arise from such a structure leads one to wonder about the structuring of multilateral aid, as well as the relative importance of this type of aid and bilateral aid. On both these issues, the points of view defended by the UNDP have the virtue of presenting the debate with great clarity:

- with regard to the structuring of multilateral aid, the UNDP considers that the multiplication of multilateral initiatives, each with its own reporting system, increases the costs of operations. It argues (i) for the widening of adaptation planning to begin with the transition to a framework based on the programmes and integrated into broader national planning exercises, and (ii) for the consolidation of multilateral funds into a single fund with simplified procedures and an orientation modified towards adaptation based on the programmes;
- with regard to the relative importance of multilateral aid and bilateral aid, the 2007 report on human development considers that projects will continue to play a role, but that “project-specific aid cannot, however, serve as a foundation for a broadening of partnerships for adaptation on the scale required”, particularly since “project-specific aid tends to increase the cost of operations, owing to the preference of donors for their own system”.



## IV. BELGIAN COOPERATION AND CLIMATE CHANGE

### 4.1. The state of play

Examined from the point of view of the fight against climate change, we will see below that Belgian development cooperation has tendencies similar to those observed at an international level: underestimation of the challenge, distortion in favour of mitigation and at the expense of adaptation, and methodological difficulty in conceiving integration within existing policies and procedures.

The 2006-2007 report of the DGDC (DGDC 2007) tackles the question of climate change through the protection of the tropical rainforest in DR Congo, noting that this is “essential because of its climate regulation effect”, in particular. Discussing the importance of the concept of the non-destructive use of the forest (REDD), which was at the heart of the Brussels Conference on the sustainable management of the Congo basin (26-27/2/2007), the report states as follows: “While it is natural for the forests to be exploited, it is no longer acceptable for them to be reduced purely and simply to the financial value of the wood. The forests make essential contributions to the environment which should be taken equally into consideration, such as reducing the effects of climate change”. We find here a certain confusion between adaptation and mitigation of the effects of climate change, since the text continues by stating, more correctly, that “At the international climate summit in Bali, it was decided that the concept of ‘prevention of deforestation’ would form part of the Kyoto II Agreement as of 2012, and that this would give the protection of the forests its proper place in the global fight against CO<sub>2</sub> emissions” (p. 32).

Climate change is brought up again, more briefly and in a general manner, elsewhere in the report. With reference to the global partnership for development, and more precisely the EU report on the coherence of European development policies and their interaction with other domains of political action, we read that twelve of these domains have been identified, namely “trade, environment,

climate change, security, agriculture, fishing, etc.” (p. 34). However, the report itself does not give any concrete form to this desire for complementarity. Thus, the direct or indirect significant interactions between climate change and the campaign against extreme poverty and hunger, primary education for all, equal opportunities for women, structural support for public health (e.g. in the fight against malaria) and the sustainable management of water resources are not mentioned. In fact, in focusing on the carbon sinks of the Congo forest, the report seems to express a preponderant interest in mitigation. Adaptation is not taken into account.

The same distortion is found, albeit in a less pronounced manner, in the first report of the DGDC on the Millennium Development Goals (DGDC 2005). On page 23 of this document, we read that “The challenge of climate change, for example, must be taken up not only by Belgium or Europe, but also through partnerships with the developing countries, aimed at creating a favourable environment for measures to mitigate climate change (e.g. the promotion of renewable energies) and adapt to its effects (for example by rethinking the planning of land-use).” The statement seems to express a priority preoccupation with mitigating climate change through the exporting of low-carbon technologies. The concept of adaptation is certainly mentioned, but it is illustrated by the question of land-use, which relates partly to adaptation and partly to mitigation (carbon sinks). This interpretation is reinforced by an inset on the Kyoto Protocol, in which we read that “within the framework of the Kyoto Protocol, Belgium enters into partnerships with developing countries with a view to making a contribution to targets for the reduction or absorption of CO<sub>2</sub>, through the Clean Development Mechanism, while ensuring the transfer of ecological technologies”. In the context of a DGDC report on the achievement of the MDG, we may deplore the absence of any reference to the Marrakech Agreements which, except for the Least Developed Countries, strictly limit the involvement of development cooperation to

the reinforcement of capacities in the implementation of flexible mechanisms. In general, this report on the achievement of the MDG does not testify to any significant recognition of the interactions between climate change, its effects and the development agenda, particularly the fight against poverty and hunger.

The documents of the Belgian Technical Cooperation (BTC) give the same impression. The document presenting the Cooperation's activities in DR Congo devotes significant space to the protection of the Congo forest, its sustainable management, the Brussels Conference and the creation of the Joint Multi-Donor Forestry Governance Fund, but without explaining the important link between this policy and the fight against climate change (BTC 2007a). It emerges from the text that the recently-adopted Indicative Cooperation Programme (ICP), which concerns the period 2008-2010, does not cover the question of climate change. Adaptation is nevertheless a significant aspect of the Belgian aid sectors in this country: basic healthcare, education and training, agriculture and food supply safety, basic infrastructures (water and drainage, energy, road and rail systems).

Similarly, the document presenting the achievements of the Belgian Cooperation in Ecuador does not reveal any great consideration of climate change (BTC 2007b). The activities of the Cooperation are, however, concentrated in climatically sensitive domains such as basic healthcare and rural development in underprivileged regions. Here, the Belgian Cooperation offers its assistance to small producers of dairy, meat and coffee products, and finances projects concerned with the supply of drinking water, in particular. Climate change plays a clear role in all these areas of development, particularly with regard to water, which is of particular concern in the Andean countries (notably in Peru) owing to the meltback of the glaciers. Between 1994 and 1999, the proportion of World Bank projects vulnerable to climate change rose from 20% to 30% in Ecuador, while the proportion of projects requiring adaptation to the effects of climate change rose from 23% to 42%, according to GIGLI & AGRAWALA (GIGLI & AGRAWALA 2007). In March

2008, the Ecuadorian Environment Ministry and the National Council for Water Resources of Ecuador also devoted a forum to the question of "cambio climatico y agua" (climate change and water). The apparent absence of any reference to these issues in the ICP for the period 2007-2010 only serves to highlight them all the more clearly.

According to the Belgian Technical Cooperation, 50% of Belgian public development aid connected with the climate ("*klimaatgerelateerde uitgaven*") is directed at the mitigation of climate change, and 50% at adaptation to its effects. The sums associated with adaptation appear to be distributed mainly via multilateral cooperation. With regard to direct bilateral cooperation, it would be useful to have reliable figures to show how the budget breaks down by projects. (DGDC & BTC 2008).

In terms of multilateral cooperation, Belgium works with various partners at four levels: (i) European (European Development Fund and European Investment Bank, not forgetting the Belgian contribution to the budget of the European Commission, part of which may be accounted for as development aid); (ii) international financial institutions (World Bank/IDA, African Development Bank, plus voluntary contributions to the World Bank), (iii) United Nations institutions' (UNDP, UNEP, FAO); (iv) miscellaneous institutions (Consultative Group on International Agricultural Research - GCIAR, Global Environment Facility, Montreal Protocol Fund, secretariats of the UNFCCC and of the United Nations conventions on biodiversity and desertification). The greater part of the sums paid by Belgium falls under the "core resources" of these institutions, the appropriation of which is decided collectively and consequently escapes any specific Belgian management. Belgian multilateral cooperation therefore indirectly finances climate-related action to the extent that the "core resources" are devoted to mitigation or adaptation. The Global Environment Facility, for example, dedicates one-third of its budgets to climate-related action, so that out of the Belgian contribution of EUR 11.5 million, 3.8 million go to the fight against global warming (DGDC & BTC 2008).

Some 85 % of the Belgian contribution to the UNDP is “core”. During the course of the annual discussions between the DGDC and the UNDP, which took place at the beginning of 2008, the following choices were agreed for collaboration during the period 2008-2011: (i) contribution to the Environment Facility (core resources): EUR 670,000; (ii) ‘climate change’ theme (scientific base and environmental evaluations at sub-regional and national levels); (iii) ‘ecosystems’ theme (support for the Global Plan of Action – Coastal & Marine Environment); (iv) Poverty & Environment Initiative (integration of the environment in development). The total annual budget for items (ii) to (iv) stands at EUR 1.8 million (PANNEELS 2008).

In very recent times, a degree of recognition has emerged with regard to the importance of climate change for Belgian cooperation policy. In this regard, five initiatives in particular should be picked out:

- the Brussels conference on the sustainable management and protection of the forests of DR Congo (2627/2/2007). Financed by the DGDC, organised by the BTC and supported by the European Commission, the World Bank, and the British and French Cooperations, this brought together all the players involved and resulted in an important declaration, as well as the publication of a scientific review entitled ‘What future for the forests of DR Congo?’ (BTC, 2007c);
- in the extension of this activity, the Belgian Cooperation sparked interest by organising a debate on the forests of DR Congo during the European Development Days in Lisbon (8/11/2007);
- taking part in the Conference of the Parties in Bali in December 2007, the Belgian Cooperation played a significant role in negotiations on the adaptation fund, transfers of technologies and deforestation (FREMOUT 2008);
- publication of a special edition of “Dimension 3” entirely devoted to the interaction between climate change and development cooperation (REF);

the international conference of 7 March 2008 on the topic “Climate change: a new challenge for development cooperation?” follows in the slipstream of the first three initiatives, and represents the concrete manifestation of a desire to move towards a policy proposal that will make it possible to rise to the new challenges.

#### 4.2. The specific sensitivity of Belgian cooperation: A first approach

Since the Law on Belgian International Cooperation (25/5/1999) opted for a geographical, sectoral and thematic concentration of aid, Belgian assistance is based around eighteen partner countries, five sectors and four transverse themes.

The eighteen partner countries are as follows: South Africa, Algeria, Benin, Bolivia, Burundi, Ecuador, Mali, Morocco, Mozambique, Niger, Uganda, the Palestinian Territories, Peru, DR Congo, Rwanda, Senegal, Tanzania, Vietnam. Ten of these eighteen countries belong to the group of Least Developed Countries (LDC), and these countries receive more than 50 % of the aid (DGDC 2005). Forty percent of the BTC’s projects are located in central, eastern and southern Africa, 29 % in northern and western Africa and in Palestine, 11 % in Latin America, and 10 % in Asia. For 2006, out of a total of EUR 146.5 million, the disbursements in favour of DR Congo amounted to 30.74 million and those in favour of Rwanda to EUR 16.47 million (information gathered from the site [www.btctb.org](http://www.btctb.org)).

The five priority sectors for governmental cooperation are: basic healthcare (31 % of projects), training and education (10 %), agriculture and food supply safety (20 %), basic infrastructures (20 %) and social consolidation (10 %), with multi-sector projects accounting for 9 %. As for trans-sectoral issues, there are five of these: equal opportunities, the environment, social economy, children’s rights and AIDS.

At first sight, this data appears to point towards a serious degree of exposure to climate risks. The LDC are particularly vulnerable owing to their lower capacities and the importance of natural

ecosystems as providers of resources, among other things (BLISS-GUEST 2008). Of Belgium's 18 partners, 12 are situated in Africa – including 10 in sub-Saharan Africa – three in the Andes and one in Southeast Asia. These regions are among the most exposed to the adverse effects of climate change (IPCC AR4 GT2, 2007). Moreover, climate change has a direct influence on agricultural productivity – and therefore on food supply safety, water resources (particularly drinking water) – and on the impacts of certain diseases such as malaria and dengue fever, while there is cause to fear indirect impacts in the sectors of education and social consolidation. Subject to a thorough inventory, 71 % of Belgian cooperation projects fall under sectors where there is the possibility of a direct impact as a result of climate change.

Within the scope of the “Proposal for response strategies for the partner countries of the EU”, annexed to its Communication on “Climate change in the context of development cooperation” (COMMISSION OF THE EUROPEAN COMMUNITIES 2003), the European Commission draws up a table giving the following information for each country: GDP per capita (PPA USD 1999), total CO<sub>2</sub> emissions (millions of metric tons), the level of CO<sub>2</sub> emissions per capita (metric tons), surface area of forest zones (km<sup>2</sup>) and adaptation, mitigation and conservation needs. These needs are ranked according to the following code:

- A: Low physical capacity for adaptation (LDC)
- B: Low physical capacity for adaptation. Member of the Alliance of SIDS (Small Island Develop-

ping States)

- C: Major negative impacts of rising sea levels in countries other than SIDS (C\* extremely negative)
- D: Major negative impacts on crop yields that are attributable to climate change
- E: The 15 cooperation countries most affected by natural disasters since 1990. These 15 countries are those with the highest ratio between the aggregate population affected by natural disasters between 1990 and 2001 and the total population
- F: Affected countries that have submitted reports to the Committee for the Review of the Implementation of the Convention (CRIC) to combat desertification
- G: The 15 cooperation countries with the highest CO<sub>2</sub> emissions
- H: The 15 cooperation countries with the highest CO<sub>2</sub> emissions per capita
- I: Countries with more than 200,000 km<sup>2</sup> of forest areas
- J: Countries interested in being included in Appendix 1 or other obligation.

The last three columns of the table indicate the response strategies: adaptation (AD), mitigation (MI) and conservation (C) (= mitigation by absorption into sinks).

If we extract from this table the data relating to the 18 partner countries of Belgium (except for the Palestinian Territories, which are not cited in the Commission document), we obtain the results shown in Table 2.

COUNTRY	GDP/capita PPA USD 1999	EMISSIONS millions of met- ric tonnes	EMISSIONS /capita metric tonnes	FORESTS km <sup>2</sup>	NEEDS	AD	AT	C
South Africa	8908	34631	81	89170	CFGH	x	x	
Algeria	5063	6819	23	21450	CDF	x		
Benin	933	118	2	26500	ACDF	x		
Bolivia	2355	984	12	530680	FI	x		x
Burundi	578	NG	NG	940	ADF	x		
Ecuador	2994	1933	16	105570	F	x		
Mali	753	NG	NG	131860	ADF	x		
Morocco	3419	2802	10	30250	CDF	x		
Mozambi- que	861	107	1	306010	ACDFI	x		x
Niger	753	NG	NG	130280	ADF	x		
Uganda	1167	NG	NG	41900	ADF	x		
Peru	4622	2115	8	652150	FI	x		x
DR Congo	801	245	0	1352070	ACFI	x		x
Rwanda	885	NG	NG	3070	AD	x		
Senegal	1419	328	4	62050	ACF	x		
Tanzania	501	220	1	388110	ACDFI	x		x
Vietnam	1860	3656	5	98190	C*F	x		

**Table 2:** GDP/capita, total emissions, emissions/capita, forest areas, needs (produced by the impacts of climate change) and possibilities for adaptation (AD), mitigation (AT) and conservation (C) for the partner countries of the Belgian Cooperation (source of data: European Commission).

Although very general, this approach points towards four important conclusions: (i) aid for adaptation should represent the main dimension for the integration of climate-related issues into Belgian cooperation policy; (ii) the needs are considerable in most of the countries, and are very closely bound up with the human development agenda; (iii) for more than half of the 18 partner countries, climate change threatens to have serious negative effects on crop yields and therefore on food safety; (iv) only one country (South Africa) lends itself to climatically-significant mitigation strategies (reduction of emissions); (v) five countries have large areas of forest. The conservation of these might help to mitigate climate change, within the limits mentioned elsewhere, both in physical terms (cf. 1.3) and in terms of human development (cf. 2.3).

A more detailed analysis, by country and by project, appears to be indispensable to determine the impacts of climate change on the projects, of the projects on climate change, and of the projects on the vulnerability of the populations and ecosystems. Such an analysis is beyond the scope of this report. With the aid of the World Bank data, we can nevertheless give a few additional qualitative indications for certain countries:

- the countries of northern and western Africa (Senegal, Niger, Mali, Morocco) are exposed to extreme droughts that entail water shortages and a fall in agricultural production of up to 25%;

- Mozambique suffers both droughts and floods as a result of extreme weather events;
- more frequent flooding also strikes Benin and Rwanda;
- Vietnam is particularly exposed to storms and floods, particularly in coastal areas threatened by rising sea levels.

The type of projects makes it possible to put the above warning into perspective a little. CROIZER observes that the Belgian Cooperation is chiefly active in the area of strengthening capacities and institutional supports. There are few infrastructure projects or major programmes (CROIZER 2008). However, there is ample literature showing that climate change may represent a serious threat not only to infrastructures, particularly large-scale infrastructures, but also and above all for the most deprived communities. The projects aimed at providing assistance to these communities must therefore be rendered “climate proof”.

In general, it seems prudent to work on the assumption that the Belgian direct bilateral cooperation projects, for a series of specific reasons, are exposed to climate risks at least as serious as those that have been seen in other cooperation agencies. A specific analysis of these risks for each sector and project should be carried out as a matter of urgency, but this obviously falls outside the scope of this report.

### 4.3. Specific difficulties, obstacles and strengths with regard to integration

In addition to the obstacles described elsewhere (cf. 3.3.), the integration of climate policy, particularly with regard to integration, might run into two types of difficulties relating to the partner countries and the donor country respectively.

The difficulties with regard to the partner countries appear to be mainly to do with capacities. Thus, for example, the meteorological data is extremely patchy for most of the African countries, for the simple reason that there is a dire shortage of basic infrastructures and skilled personnel. The Gleneagles G8 summit adopted a plan to tackle

this issue, and decided to devote a budget of 200 million dollars to it, but the financing is not yet secure (PNUD 2007). Action on the part of the public authorities is all the more important given that the net effects, according to the IPCC, are expected to be negative for the commercial sector in most of the developing countries (IPCC 2001). Institutional reinforcement therefore appears to be a decisive factor, particularly in the African countries, where the share of public budgets involved in investment and in capital flows is as high as 25% (14% at global level) (UNFCCC 2007a).

These considerations bring us back to the question of improving not only the quality but also the quantity of aid, and thus to the question of the donor country. Formally promised by the developed countries at the Monterey Conference (2002), the progressive increase of Belgian development to 0.7% of GDP was enshrined in the Budget Law of 24 December 2002 and reaffirmed in the federal government’s foreign policy declaration in July 2003, but it has not yet been translated into fact. Independently of the identification, at international level, of additional financial resources in order to confront the challenge of adaptation in the developing countries, it would be appropriate for Belgium to honour its commitments as quickly as possible so as to be able to fulfil its immediate responsibilities towards its partner countries that are already suffering the impacts of climate change.

Most Belgian funds in the environmental domain are currently routed through multilateral aid. In the area of direct bilateral cooperation, only 5% of projects directly concern the protection of the environment. On the basis of these facts, some have expressed doubts about the experience of the Belgian Cooperation on environmental matters, and consequently its ability to integrate the climate question into its actions. But the figure of 5% does not truly reflect the reality, since the environment is a transverse issue. Because of this, all projects in all sectors are subject to an environmental ‘mainstreaming’ at all stages, and environmental markers are used (for risk and for integration) that could serve as points of support for the establishment of climatic markers. There is no reason to think that the Belgian Cooperation

would not be capable of quickly and correctly assimilating the challenge of integration, provided the general conditions for integration are satisfied (cf. 3.4), the paths of integration are well marked out (cf. 3.5.), and the necessary human resources are available.

This last aspect, however, represents a significant obstacle. It has been some years since there was an environmental expert at central strategic support level (*beleidsondersteuning*), and just two people are in charge of environmental affairs in the Department of Multilateral Cooperation. As well as climate change, they have to handle complex affairs concerning biodiversity, desertification, the ozone layer, monitoring of the Global Environmental Fund, etc. (PANNEELS 2008). Without a significant improvement in these conditions, it seems impossible to get the Belgian Cooperation to turn itself to integration of the climate question. Similarly, the BTC has only one adviser for all environmental issues. By way of comparison, ten people work exclusively on climate change within the Dutch Cooperation (DGDC 2008b).

Finally, the status of climate change in the DGDC strategy note on transverse environmental matters might also constitute a specific obstacle. Drawn up in 2002, this strategy note compiles a list of six environmental priorities, including climate change. Now, this “categorisation” poses a problem because, as pointed out by J. BUYS, the other five environmental priorities are all sensitive to climate change (BUYS 2008). Furthermore, all the sectors in which aid is concentrated are directly or indirectly under threat from the negative effects of climate change. It would therefore be appropriate to review the 2002 environmental strategy note from a perspective that is more in keeping with the real links between climate change and the other environmental priorities on the one hand, and with the links between environmental questions, the other issues and the sectors of concentration of the aid on the other.

However, the Belgian Cooperation does have a number of strengths. In particular, we would mention the following aspects:

- project types: the experience of the Belgian Cooperation in the implementation of projects largely concerned with the strengthening of capacities (and very little concerned with major infrastructure works) in the BTC’s portfolio of activities represents a factor of flexibility that could facilitate the transition to “climate-proof” cooperation;
- concentration in geographical zones: a substantial proportion of the Belgian Cooperation is concentrated in three regions (northern and western Africa, the Great Lakes region and the Andean countries), and this favours pertinent transfrontier approaches in terms of adaptation to the effects of climate change;
- possible points of support in the scientific community: the universities and research institutions of our country represent a precious reservoir of knowledge and skills that can be optimally exploited by cooperation, through the organic links between themselves on the one hand, and between them and the CIUF and the VLIR on the other;
- experience accumulated by other cooperation agencies: not only have numerous studies been devoted to the question of integration, but also a whole series of questions relating to tools, indicators, financial instruments, procedures, etc. have been discussed in detail and, in some cases, tested. Summaries of these experiences are available (LEARY 2008, GIGLI & AGRAWALA 2007, LEARY et al. 2008b, e.a.).

On this basis, provided the conditions are satisfied, the paths marked out and the obstacles removed, the Belgian Cooperation – given that it is currently showing a political awareness at the highest level – should be able to make a number of choices without delay and adopt an overall plan for the integration of adaptation to the effects of climate change, and also, where relevant, of mitigation (reduction of emissions).





## V. RECOMMENDATIONS FOR INTEGRATING THE CLIMATE ISSUE INTO BELGIAN DEVELOPMENT COOPERATION POLICY

### 1. Base recommendations on a precise diagnosis.

The DGDC's (Directorate-General for Development Cooperation) strategy document (2002) defines the battle against climate change as one of six priorities in the environment domain. The environment itself is defined as one of four transverse themes in Belgium's Cooperation policy. This approach does not take account of the fact that climate change largely determines the 5 other environmental priorities. Above all, it does not bring out the specific aspect of climate change as a "global environmental problem" which interferes with Northern-Southern hemisphere relations. The climate changes which threaten to hit development in the Southern hemisphere especially hard result principally from 200 years of development in the Northern hemisphere. Therefore, in the debate on development, the climate issue occupies an objectively different position from that occupied by other environmental priorities. In fact the fight against climate change and its effects is fundamentally a question of development. It is part of the general context of the unequal relations between North and South and an historic "ecological debt" owed by the North to the South. This statement is both the condition and the starting point for integration into Cooperation policy. The making of this statement is a strong political signal opening the way to a combative strategy designed in the context of development and from the viewpoint of development. The DCGD strategy document should be reformulated in this direction, by defining the "climate" priority as a transverse priority within the transverse theme of the environment, while ensuring that other problems are taken into account (food safety, biodiversity, desertification, etc.).

### 2. Outline a clear strategic framework for integration.

We have to conceive of integration of the climate problem into development cooperation policy within the broad outlines of the concepts of

both "common but differentiated responsibility" (UNFCCC) and "development as a human right", especially through the fight against poverty (Millennium Goals). This dual context means that developed countries, including Belgium, must first and foremost radically reduce their own emissions (by 80 to 95% in 2050 compared with 1990) according to the IPCC (Intergovernmental Panel on Climate Change), if we want to achieve the European goal of limiting the temperature rise to two degrees), by implementing domestic measures. In parallel, it is a matter of acting on three axes which have implication for cooperation policy:

- help developing countries to adapt to the henceforth inevitable issue of the effects of climate change (adaptation);
- transfer clean technologies enabling these countries to develop without further destabilising the climate (mitigation);
- help strengthen the capacities of developing countries in the specific area of the fight against climate change (capacity building).

In the context of the ecological debt, the links between these three axes can be summarised as follows: maximum mitigation by developed countries, maximum involvement of developed countries in adaptation of developing countries, and help with building the capacities to be able to adapt and for "clean" development in these countries which is part of worldwide mitigation efforts.

Moreover, integration of the climate issue into other policies linked to developing countries, including external trade and the Ducroire/Delcredere<sup>13</sup> management, also remains to be done.

<sup>13</sup> The Ducroire/Delcredere mission is to protect its clients against the risks associated with domestic and international commercial transactions and to facilitate the financing thereof (see [www.ducroire.be](http://www.ducroire.be)).

**3. Prioritise the integration axes.** The 1999 law sets Belgian Cooperation the objective of contributing to sustainable human development via the fight against poverty and strengthening of the "societal" base of partner countries, in particular. The sectoral and geographic divisions of direct bilateral Belgian Cooperation projects raise the fear of a heightened vulnerability to climate change, and therefore a threat to the development agenda and to reduced poverty, with a negative impact on local communities. In this context, the fundamental goals of cooperation dictate that we work to reduce the vulnerability of populations, their productive activities and the natural systems that serve them and shelter them. In the specific Belgian case this reinforces the need to consider **adaptation** as the priority integration axis in the "climate" issue in the short and long term. The main field of operation for this integration is to quickly improve existing cooperation, in the framework of existing projects and existing structures. In most of the countries who are partners of Belgian Cooperation, **mitigation** projects through reduced emissions take place based on another timescale: they are part of medium and long term clean development planning and the ultimate involvement of all countries in climate protection efforts, in compliance with the principle of common but differentiated responsibilities. In this context, cooperation policy should promote the development and transfer of clean technologies, including through public-private partnerships<sup>14</sup> and support with identification and development of genuinely sustainable CDM (clean development mechanism) projects, especially in Belgium's partner African countries.

**Mitigation projects based on carbon sinks** (preservation of existing forests, replanting or restoring forests) **and through energy crops must be the subject of specific handling.** Because, on the one hand they have high short term potential for climate change mitigation but, on the other hand, many mediation procedures are needed and specific conditions have to be created so that they contribute to sustainable human de-

velopment, poverty reduction, the rights of local communities, and biodiversity protection. It can therefore be argued that we need to prioritise the integration axes in accordance with these considerations and also so that this prioritisation helps determine priorities in terms of capacity building in partner countries.

**4. Make it a priority to give more importance to adaptation in bilateral projects.** International experience not only shows that the climate problem is not very often integrated into cooperation, but also that adaptation is neglected in favour of mitigation, which risks damaging aid quality. In the case of Belgium, this matter can be qualified by noting that bilateral cooperation is not often involved in large investments in long term infrastructures, which relativises the risk of harmful interaction with climate change. But a negative interaction of climate change with smaller projects can have quite significant repercussions in terms of combating poverty and the development of local communities. Subject to an in-depth analysis of individual project-specific interrelations between the social, ecological and economic impacts of climate change, it can be noted that cooperation concentrates over two thirds of its projects in sectors where climate change is likely to have significant negative impacts in the medium term: basic health care, basic infrastructure, agriculture and food safety, social development. Conversely, 40% of projects relate to sectors (agriculture and basic infrastructures) where the type of project can affect vulnerability to climate change. Globally, Belgian Cooperation investments to which a link with the climate problem can be attributed *ex post* can be divided equally between adaptation and mitigation. But the vast majority of funds devoted to adaptation are through multilateral aid. Moreover, an examination of documents presenting the achievements of Belgian Cooperation indicates that our country, as

<sup>14</sup> See presentation by Bernard Mazijn at the conference of 7 March 2008: "The role of mitigation technology", and its proposal to develop concrete plans in the framework of private-public partnerships, in particular in the area of sun drying of coffee.

do other countries, underestimates particularly the importance of adaptation (climate proofing) at the various stages of development in its bilateral projects.

**5. Consider forest protection as an intervention axis.** Belgium has played a driving role in international recognition of the potential of climate change mitigation through combating deforestation and forest degradation (REDD<sup>15</sup>). Five of Belgian Cooperation's partner countries have sizeable forested areas, in particular the DR of Congo with whom our country has special historic links. These countries could therefore gain financial benefits in the context of current international negotiations in return for protection of their forests, and Belgian aid could help them with this by helping develop the necessary capacities. However, as well as technical difficulties (measurement of flows of carbon), forest protection involves a series of delicate mediation procedures between on the one hand forest conservation and on the other soil uses, other environmental services or other social uses of forest resources. Issues of ownership also arise. It is therefore necessary to regulate the system by ensuring consensus seeking with the partner countries, the involvement of all local stakeholders, compliance with the rights of indigenous and traditional communities and, in general terms, cohesion with the objectives for sustainable human development. Significant financial interests are at stake, and large property owners, forestry companies and local dignitaries obviously wish to gain maximum benefit from new opportunities for forest recovery, and so there is a risk of seriously disturbing the subtle balances needed between the various abovementioned concerns. It is vital that we find mechanisms to ensure that any financial handout made in return for keeping forests in good health would truly benefit the local populations who look after them. A financial compensation formula for environmental services seems in this respect and under certain conditions to be clearly preferable to a simple exchange of carbon credits.

**6. Manage energy crop projects.** Apart from a few minor variations, the same type of concerns applies to energy crop projects (biofuels, wood pellet, wood-charcoal for industry). On the one side, energy crops can open up new sustainable development opportunities for developing countries, reduce poverty, reduce the energy bill and dependency on fossil fuels, and promote community empowerment; on the other hand, there is a risk - already apparent - of pernicious effects such as worsened living conditions for the very poorest, food shortages, fewer water resources and biodiversity loss, due to the growth of single-crop farming and mass use of chemicals. From the viewpoint of cooperation for sustainable human development, energy crop projects must be strictly subject to a food safety and sovereignty guarantee, and be governed by precise criteria such as reduced poverty, soil protection and biodiversity protection.

**7. Keep the original CDM spirit.** As its name indicates, the Clean Development Mechanism was designed to enable Southern hemisphere countries to develop without exacerbating climate disequilibrium, while giving Northern hemisphere countries certain flexibility as regards their commitments. An additionality clause has been introduced to counter any harmful "handout" effect. The view was that developed countries could have recourse to carbon credits only for the purpose of "adding to" their own reduction measures. Finally, the Marrakesh COP (Conference of the Parties) laid down markers to avoid state development aid being diverted towards CDM project research: except in LDCs (Least Developed Countries), where it can intervene as regards costs of compiling dossiers, cooperation can only contribute to CDM indirectly, by means of capacity development in the host countries. Certain countries, including Belgium at federal level when it launched a call for tender in this respect, have made these conditions even tougher, by deciding not to use credits generated by (re)planting projects, or by large hydraulic projects for example. This relatively stringent view of the CDM is to-

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<sup>15</sup> REDD: Reducing Emissions from Deforestation in Developing Countries. This is one of the challenges for current negotiations relating to post-2012.

day being questioned by certain parties. In international negotiations and at European level, it is in my view very important that Belgium keeps the original CDM spirit faced with a development that threatens to relocate the burden to Southern countries, and so reduce the effectiveness of the system both from the development viewpoint and as regards combating climate change. The denaturation of the CDM is also likely to further undermine the trust of developing countries in developed countries, and make international climate negotiations even more difficult. Use by developed countries of carbon credits should remain additional to domestic measures and the additional nature must be guaranteed, as should the contribution of CDM projects to the sustainable development of host countries through poverty reduction<sup>16</sup>. In order for the Belgian federal vision of the CDM as a tool for sustainable development to be implemented, it is important that development cooperation has a policy of support, looks for synergies between development projects and the CDM, and develops a targeted strategy for strengthening capacities (institutional, but also financial by providing pre-financing or joint financing of CDM projects). However in order that these efforts do not contribute to denaturation of the CDM as described above, budgets allocated to these efforts should be genuinely *additional*.

**8. In a second phase, launch a number of mitigation pilot projects in the energy sector.** Climate change mitigation in a development context entails transfers of technologies (in the widest sense of the term, defined<sup>17</sup> by the IPCC). Although South-South transfers are no longer to be neglected, N-S transfers are a concrete expression of the concept of “common but differentiated responsibility” and in this respect constitute a key element for reconciling the right to development with climate protection. For developing countries, profitable investments in renewable energy forms, decentralised energy systems and better energy efficiency enable us not only to reduce emissions

but also to reduce dependency on imported fossil fuels, reduce infrastructure costs (networks) and improve the quality of the environment (air pollution, waste management, etc.). In this second integration phase, Belgian Cooperation will be able to contribute to this by means of a number of pilot projects or case studies. It would be necessary to concentrate resources in one or two domains selected depending on partner characteristics, aid sectors and environmental priorities in particular (example: sustainable urban development), ensuring in particular that these projects are within the remit of the Millennium Development Goals. This could begin with a specific study on the energy issue in bilateral projects producing concrete recommendations on promoting renewable energies in the projects. For example at the present time it is very difficult to find useful technical information (types, suppliers, prices, etc.) on solar generators for West Africa, etc. In the end, each project could have to justify its choice in this area, and this action should be coordinated with other European development agencies in order to generate economies of scale and share skills. A concrete project example (solar drying of coffee) has been proposed by MAZIJN (2008).

**9. Create an "environment-climate" cell within the DGDC.** As stated above, it is proposed to integrate the "climate" problem into Cooperation policy using existing structures and procedures, without creating any extra body or fund. However successful integration will need a driving force and continuance having available the necessary skills and resources, both in human and financial terms. Given the transverse character of the climate issue within the environment priority and the transverse nature of this priority, and in order not to needlessly multiply approaches and devices, we propose the creation of an "environment-climate" cell (at the General Directorate?) responsible for the following missions:

<sup>16</sup> See on this subject the 1999 CFDD (Belgian Federal Council for Sustainable Development) notification on the flexibility mechanisms of the Kyoto Protocol (1999a10, 19 October 1999) reproduced in the Appendices.

<sup>17</sup> The exchange of knowledge, hardware and associated software, money and goods among stakeholders, which leads to the spreading of technology for adaptation or mitigation. The term encompasses both diffusion of technologies and technological cooperation across and within countries. " (IPCC AR4 WG3, 2007).

- to develop a strategic vision on integration of climate change into development Cooperation policy;
- to provide specific training, initial and ongoing, for project and programme managers in the climate and environment field (including aspects relating to raising public awareness of development);
- through CIUF (inter-university council of the French community) and VLIR (Vlaamse Interuniversitaire Raad), to improve collaboration between development Cooperation and the scientific community in areas such as climate projections at regional level, impact studies, evaluation of needs and possibilities in terms of adaptation and mitigation;
- to provide easily useable high quality climate information in order to be able to estimate vulnerability of projects to climate change, the impact of projects on climate change and the knock-on effect of projects on vulnerability of communities to climate change.
- to create a "tool box" enabling a unified environmental and climate screening procedure of existing and new projects. This "tool box" should include specific climate change entry points to all levels of project development, a check list, and point up climate/biodiversity/desertification-soil degradation synergies. It should also enable identification, by aid sector and by country, of risks and future needs, in terms of adaptation and mitigation;
- to promote dissemination of information and exchange of good practices on a national scale and on a European and international scale.
- to look for possible complementary aspects and synergies in this area within the European Union with other cooperation agencies, in order to maximise efficient allocation of resources.
- to ensure cohesion with policies held at other levels of authority and by other departments.
- to draw up recommendations aimed at making all the activities of DGDC, BTC (Belgian Technical Cooperation) and the Cooperation ministerial cabinet "greener", especially in terms of greenhouse gas emissions. The issue of any possible compensation for emissions due to Belgian Cooperation missions abroad should also form part of this thought process.

**10. Introduce the issue of climate change into contacts with partners at all levels.** Seen as a development issue, and not simply as an "environment issue", the problem of combating climate change and its effects must immediately be an important part of contacts with partner countries, at all levels: political dialogue, NAPAs (National Action Programmes for Adaptation), "greening » of PRSPs (Poverty Reduction Strategy Papers which should be re-evaluated especially as regards their impact on the exploitation of natural resources).

In this respect, in our view it would be useful for more Development Cooperation representatives to take part in negotiations in the framework of the Convention on climate change. The next meeting will take place in Poznan (Poland) from 1st to 12 December 2008. This meeting, which will be the Conference of the Parties to the Convention will include a ministerial segment which it would be useful for the Minister to attend.

**11. Increase and re-focus the development aid budget.** Globally, the share of public budgets in investment and flows of money is 14%, but it rises to 25% in Africa (UNFCCC 2007a). As regards the cooperation budget share, it is less than the percentage level worldwide, but rises to 2% in Africa, and 6% in Least Developed Countries. In the climate change arena, according to IPCC (2001), «net market sector effects are expected to be negative in most developing countries ». Action by public authorities and inter-governmental aid are therefore of crucial importance for most Belgian Cooperation partner countries faced with the effects of climate change. Moreover, in sectors such as water supply, basic health care, basic infrastructures, coast protection and dam construction, public expenditure is indispensable for adaptation. In all these cases, the UNFCCC estimates that external public financing will probably be necessary. These considerations strengthen the importance for developed countries, including Belgium, to honour their promise and give development aid at 0.7% of the GNP. Also in this context it would be useful to consider an increased Belgian contribution to UNEP (United Nations Environment Programme).

**12. Move towards better legibility and more simplicity and cohesion in terms of multilateral financing instruments for the fight against climate change.** In recent years, in particular in the area of combating climate change, we have witnessed a proliferation of funds of all kinds with similar or even identical objectives. As UNFCCC Executive Secretary Yvo de Boer said recently in Bonn, “what is needed is more funding, not more funds.” This proliferation carves up development aid, undermines appropriation by partner countries of their development strategies and impairs transparency. Significant resources are of course necessary, but it is important to implement them in compliance with the Paris Declaration on Cooperation (2005), in other words respecting the principles of alignment, appropriation, harmonisation, common responsibility and result based management. Belgium should position itself as an instigator of this debate while retaining a pragmatic approach. It should review its participation in existing funds and other multilateral and European instruments and ensure that it is in line with the principles to which it adheres in compliance with stringent and cohesive criteria. This also concerns the World Bank, from which Belgium should demand more coherence between its financing and climate protection and adaptation aid objectives.

**13. Prepare an in-depth review of development cooperation.** Developed countries are largely responsible for climate change and the polluter-pays principle should apply here as elsewhere. The additional sums to be mobilised for developing countries are considerable: according to an UNFCCC (2007a) estimate for around 2030, 28 to 67 billion dollars a year for the adaptation aspect, and 92 to 97 billion dollars a year for mitigation<sup>18</sup>. Assuming a total intermediary amount of 145 billion dollars, of which 14% mobilised by the public sector, a figure of 20 billion US dollars can be taken to cover State development aid. In the case of Belgium, by applying the Bonn Declaration cost allocation basis (0.8% for

Belgium), it can be concluded that our country should commit an additional 160 million dollars annually (100 million Euros) to benefit developing countries. These are just estimates, but the amounts are probably underestimated and, even so, the existing budget allowances in developed countries are not enough to deal with the problem. The agenda imposed by the climate crisis is therefore an in-depth review of international cooperation, its architecture and its financing, including outside the sphere of development cooperation. Belgium must be actively involved in this future approach and help create conditions so that developed countries assume their obligations by progressively committing new sources of financing that correspond to needs. In this respect, the ETS system of auction of emission quotas will soon provide Belgium with significant revenue, of which it would be very opportune to allocate at least a part to financing the "polluter-pays" bill to benefit truly sustainable development in countries who are the main victims of climate change. The DGCD could also usefully play a more active role in calling on departments who are directly or indirectly responsible for policies likely to affect developing countries, in particular as regards their vulnerability to climate change (e.g.: Importing of products bred or cultivated after deforestation, guarantee for investments harmful to food security, etc.).

Implementing these recommendations calls for political will and budget priorities. I hope that this report has demonstrated their necessity and urgency, for « Our Common Future »<sup>19</sup>

<sup>18</sup> The calculation assumptions do not enable account to be taken of the total costs, see section 3.6 (page 39).

<sup>19</sup> Title of the Brundtland Report (« Our Common Future », 1987), which put sustainable development on the international political agenda.

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## APPENDIX 1: Opinion of the CFDD on the flexibility mechanisms of the Kyoto protocol

(Opinion 1999a10, 19 October 1999, extract; full text available on [www.cfdd.be](http://www.cfdd.be))

“The Council is of the opinion that the projects must comply in all respects with the following basic requirements:

- If the projects are financed by the government, they may not be regarded as substitutes for development aid (financial aid and technological transfer to developing countries). They must be financed separately, on top of existing development aid. The aim is to make an additional transfer of financing and technology.
- The projects must be drawn up on the basis of the national priorities of the host country with regard to sustainable development, and not the economic interests of industrial countries. This also means that the development of the project and the technological transfer must be made-to-measure.
- The projects must result in long-term social benefits that would not have occurred without the project. This means, for example, that the transfer of technology must also be linked to an investment in human resources and be supported by projects that help to develop institutional capacities in the host countries (e.g. by means of official development aid).
- The effect of the projects on the risk of relocation of activities should be taken into account.
- The projects must be subject to an obligation of detailed reporting.
- The host country must have at least a basic environmental legislation, and the projects must not be incompatible with any other conventions or treaties adopted within the United Nations, particularly with regard to the environment, employment and human rights.
- In particular, the host country must, as a minimum, comply on the site of the project with the fundamental rules of the International Labour Organisation (ILO): freedom of association, the right of collective bargaining, elimination of forced labour, effective abolition of child labour, and the prevention of any discrimination in employment matters.

Independently of these criteria, the Council is also of the opinion that it is necessary to analyse all foreign investment projects in terms of their environmental and social effects. It does not, for example, make a great deal of sense for a country to support reforestation projects in developing countries via the “Clean Development Mechanism” while simultaneously, through the manner in which it carries out its trading activities and implements its investment projects outside the “Clean Development Mechanism”, it contributes to the problem of deforestation in those countries.”

## **APPENDIX 2: Programme of the 7 March 2008 conference**



### **CLIMATE CHANGE, A NEW CHALLENGE FOR DEVELOPMENT COOPERATION?**

Egmont Palace, 7 March 2008

### **LE CHANGEMENT CLIMATIQUE, UN NOUVEAU DÉFI POUR LA COOPÉRATION AU DÉVELOPPEMENT?**

Palais d'Egmont, 7 mars 2008

### **DE KLIMAATSVÉRANDERING, EEN NIEUWE UITDAGING VOOR ONTWIKKELINGS-SAMENWERKING?**

Egmontpaleis, 7 maart 2008

## **CONFERENCE**

### **CLIMATE CHANGE, A NEW CHALLENGE FOR DEVELOPMENT COOPERATION?**

Climate change demands urgent action. We need to fight against the dangers of climate change by controlling the amounts of greenhouse gas emitted into the atmosphere ("mitigation"). We also need to adapt to the negative effects of current and future climate change ("adaptation"). Even though the poorest and most vulnerable countries are least at fault, they are in fact the first and hardest hit by direct climate change (increase in average temperatures, rising sea levels, extreme atmospheric conditions) and its effect on biodiversity, soil damage, food safety, public health and poverty.

Climate change also has a direct effect on the sustainability of development actions. According to a study by the World Bank, 55% of their projects are climate-sensitive, of which 25% are at substantial risk of being affected by the negative consequences of climate change. However, only 2% of their projects are currently tested in terms of their climate-sensitivity.

As a result, development cooperation has several challenges to face. Recipient countries should be helped in their efforts in the areas of mitigation and adaptation. A development policy that takes the climate into account should also be a goal, in order to protect future investments from the damage caused by current and future climate change.

The aim of the conference is to allow a wide exchange of ideas on this topic and to put forward specific proposals. Professor J.-P. van Ypersele (UCL), vice-chairman of IPCC (Intergovernmental Panel on Climate Change) Working Group II, will chair the conference and convert information received into a policy proposal for the attention of the Ministry for Development Cooperation.

## **CLIMATE CHANGE, A NEW CHALLENGE FOR DEVELOPMENT COOPERATION?**

**8.15-9.00: Welcome and coffee**

**9.00-9.30: Opening session** In presence of H.R.H. Princess Astrid of Belgium

Speakers:

- Charles Michel, Minister for Development Cooperation
- Prof. J.-P. van Ypersele, Vice-chairman of the IPCC WG II, UCL

**9.30-10.30: Session I: Introducing the problem: Challenges for a more climate sensitive development cooperation**

In presence of H.R.H. Princess Astrid of Belgium

Development cooperation faces important challenges. Partner countries should be assisted in their efforts with respect to mitigation and adaptation. A climate sensitive development cooperation should also protect its investments against current and future climate change.

Moderator: Jan Grauls, President of the Federal Public Service Foreign Affairs, Foreign Trade and Development Cooperation

Speakers:

- Cecilia Ugaz, Deputy Director, Human Development Report Office, UNDP
- Shardul Agrawala, Principal Economist, Environment Directorate, OECD
- Patricia Bliss-Guest, Lead Partnership Specialist, Sustainable Development Network, World Bank

**10.30-10.45 Coffee**

**10.45-13.00 Session II: Adaptation: Improved planning for climate change by "greening" the PRSP?**

The negative effects of climate change are starting to be felt in our partner countries, and there is no doubt they will get worse in the future. It is essential to adapt to these negative developments in order to ensure the sustainable development of these countries. A wide range of sectors is involved: infrastructure, agriculture, public health etc. Donor countries have a responsibility to support their partners in terms of planning for the impact of climate change, and of moving towards more sustainable development models. This will require significant efforts in terms of capacity building, technical assistance and transfer of know-how. Equally important is the concept of "greening" development frameworks such as the PRSP.

Moderator: Prof. J.-P. van Ypersele, Vice-chairman of the IPCC WG II, UCL

Speakers:

- Bernard Petit, Deputy Director General, DG Development, European Commission
- Veerle Vandeweerd, Director, Environment & Energy Group, UNDP
- Neil Leary, Deputy Director (acting), START
- Madeleen Helmer, Head, Red Cross/Red Crescent Climate Centre

**13.00-14.30: lunch**

**14.30- 15.45 Session III: Mitigation: Increasing greenhouse gas absorption capacities in developing countries. A new challenge for development cooperation?**



The partner countries of the Belgian Development Cooperation have until now had low greenhouse gas emission levels. Hence their interest to develop, secure and increase biomass. A sustainable forestry policy and sustainable agriculture will play a crucial role in securing the food chain and fighting poverty. At the same time it will make a significant contribution towards improving greenhouse gas absorption potential by combating deforestation and soil damage and encouraging reforestation. In addition to biomass, achieving sustainable development in these countries is essential if we are to globally manage these emissions.

**Moderator:** Prof. J.-P. van Ypersele, Vice-chairman of the IPCC WG II, UCL

**Speakers:**

- Geoffroy de Schutter, Program Director, WWF
- Prof. Bernard Mazijn, President of the Center for Sustainable Development, University of Gent
- Pépin Tchouate, Researcher, UCL

#### **15.45-16.00: Coffee**

#### **16.00-17.30: Session IV: Towards a climate-sensitive Belgian Development Cooperation**

Policies in different sectors should take into account the impact of climate change. Future initiatives should anticipate possible negative effects. In this context the concept of "climate proofing" is particularly relevant. Various options could be explored in the context of the Belgian Law on International Cooperation of 25 May 1999 such as the mainstreaming of climate change within the DGCD and "climate-proofing" the indicative cooperation program (DGCD/BTC)

**Moderator:** Jan De Smedt, Secretary, Federal Council for Sustainable Development

**Speakers:**

- Paul Hassing, Co-chair OECD DAC-ENVIRONET, Ministry of Foreign Affairs, Netherlands
- Prof. Luc Hens, ordinary professor, Human Ecology Department, VUB
- Claude Croizer, Belgian Technical Cooperation

#### **17.30-18.00: Closing session: Recap and conclusions**

In presence of H.R.H. Princess Astrid of Belgium

**Speakers:**

- Charles Michel, Minister for Development Cooperation
- Prof. J.-P. van Ypersele, Vice-chairman of the IPCC WGII, UCL



In collaboration with the Federal Council for Sustainable Development

Avec le concours du Conseil Fédéral pour le Développement Durable

Met de medewerking van de Federale Raad voor Duurzame Ontwikkeling

22 September 2008.