



# Sida and the Climate Convention

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**Sida**

SWEDISH INTERNATIONAL DEVELOPMENT  
COOPERATION AGENCY

Department for Natural Resources and the Environment



## Preface

The burning of fossil fuels and changes in land cover may cause global warming.

The Global Climate Models that are used to evaluate Climate Change are still lacking in accuracy when it comes to making predictions of future climate changes on a regional scale. Results hitherto indicate that climate change may put yet another burden on people living in marginal regions, in dry areas, or in regions that depend on seasonal rains. Vulnerable parts of the world are small island states, countries with low-lying coastal areas, countries with arid and semi-arid areas, forested areas and areas liable to forest decay, countries with areas liable to drought and desertification, and countries with areas with fragile ecosystems, including mountain ecosystems.

According to the United Nations Framework Convention on Climate Change (UNFCCC) it is the responsibility of the developed world to take the lead in mitigating Climate Change and to facilitate adaptation to a changing climate in the developing countries as well as to assist in meeting the costs of adaptation.

This report is a first attempt to summarise the United Nations Framework Convention on Climate Change from a Sida perspective, and to analyse the extent to which Sida's present activities are related to the implementation of the Climate Convention. It can also serve as a basis for further consideration of the Climate Convention in the development of Sida's strategies in different sectors.

The report has been compiled by Lars Westermark at the Swedish Environmental Protection Agency (SEPA) in March 1998.

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# 1 Nature of the issue

Human activities, primarily the burning of fossil fuels and changes in land-use and land-cover are increasing the atmospheric concentration of gases that can alter the radiative balance of the global climate system.

The IPCC (Intergovernmental Panel on Climate Change) is the international scientific body in this field. It is the task of the IPCC to assess available scientific information on Climate Change, assess the environmental and socio-economic impact of Climate Change and formulate response strategies.

The IPCC was jointly established by the World Meteorological Organisation(WMO) and United Nations Environment Program (UNEP) in 1988. Its first assessment report was completed in 1990 and the second assessment was finalised in 1995. The work on the third assessment will start in 1998 and is expected to be reported on towards the end of the year 2000 or at the beginning of 2001. The IPCC assessments form the scientific foundation for the Convention process.

The scientific findings in the second assessment report show that changes in greenhouse gas concentrations are projected to lead to regional and global changes in temperature, precipitation, and other climate variables leading to changes in, among other things, soil moisture, run-off patterns and rises in the sea level.

From observations made, the IPCC has deduced that the global mean temperature has already risen by about 0,3-0,6 degrees C since pre-industrial times. The mean sea level rise during this century has been estimated at 10-25 cm. The carbon dioxide concentration in the atmosphere has increased from 280 ppmv (volume parts per million) to 360 ppmv to the present day. The concentrations of several other greenhouse gases such as methane, nitrous oxide, CFCs have also increased.

In spite of the uncertainties that are inherent in such complex matters as the study of the climate system, the IPCC concluded in its 1995 assessment report that "the balance of evidence suggests a discernible human influence on the global climate".

The results of calculations made with Global Climate Models indicate that the increase in global mean temperatures will be in the range of 2-5 degrees C during the next 100 years under different assumptions of future energy use. The regional differences may be even greater than the global average. At the same time the sea level may rise by 15-95 cm. The average rate of warming would probably be the greatest in the last 10,000 years. The prospects of a growing frequency of severe or extreme weather situations such as high temperature events, floods and droughts, storms, etc could mean further stress in vulnerable regions such as dry areas, low lying coastal regions and small island states.

## 2 The Climate Convention

Growing concern about the scientific evidence of global climate change led the United Nations General Assembly to set up a negotiating committee for a framework Convention on Climate Change at its 1990 session. Negotiations held with over 150 states during 1991 and 1992 resulted in the framework convention that was adopted in May 1992.

Soon after the UN Conference on Environment and Development (UNCED) in Rio de Janeiro in June 1992, the Convention received 155 signatures. A growing number of states, (171 in October 97) have ratified the United Nations Framework Convention on Climate Change.

### 2.1 Objectives and Principles

The objective of the Convention, according to Article 2, is "to achieve, in accordance with the relevant provisions of the Convention, stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner".

The question of "dangerous" interference cannot be addressed scientifically. It is a political issue, which is still open to debate. The EU has based its goals on a stabilisation of greenhouse gas concentrations at 550 ppm, i.e. roughly double the pre-industrial level.

The Article on principles in the Convention is reproduced here in full.

#### **Article 3, Principles**

1....The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities.

Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof.

2....The specific needs and special circumstances of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change, and of those Parties, especially developing country Parties, that would have to bear a disproportionate or abnormal burden under the Convention, should be given full consideration.

3....The Parties should take precautionary measures to anticipate, prevent or minimise the causes of climate change and mitigate its adverse effects. Where there are threats of

serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost. To achieve this, such policies and measures should take into account different socio-economic contexts, be comprehensive, cover all relevant sources, sinks and reservoirs of greenhouse gases and adaptation, and comprise all economic sectors. Efforts to address climate change may be carried out cooperatively by interested Parties.

4....The Parties have a right to, and should, promote sustainable development. Policies and measures to protect the climate system against human-induced change should be appropriate for the specific conditions of each Party and should be integrated with national development programmes, taking into account that economic development is essential for adopting measures to address climate change.

5....The Parties should cooperate to promote a supportive and open international economic system that would lead to sustainable economic growth and development in all Parties, particularly developing country Parties, thus enabling them better to address the problems of climate change. Measures taken to combat climate change, including unilateral ones, should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade.

## 2.2 Commitments

The commitments in the Convention relate to the responsibility of the developed world to take the lead in mitigating Climate Change. Annex 1 to the convention identifies the countries with such commitments (attachment 1). The list contains the OECD countries and also the Central and Eastern European countries with economies in transition (EIT countries). According to article 4 flexibility is to be shown vis à vis the EIT countries. It is pointed out that the commitments include facilitating adaptation to a changing climate in the developing countries as well as assisting in meeting the costs of adaptation. Africa is given priority. A number of means for the fulfilment of the task of the developed world are enumerated in Article 4. Among them education and research cooperation are important.

Joint implementation of measures to mitigate Climate Change is seen as means to lower the overall costs of the Annex 1 Countries. The "Activities Implemented Jointly"(AIJ) is a functional but interim arrangement that originated in the decisions of the first Conference of the Parties (COP1) in Berlin 1995, as it was required in the Convention to take decisions on criteria for joint implementation. A pilot phase(to the year 2000) was established for AIJ among Annex I Parties and, on a voluntary basis, with non-Annex I Parties that so request. The AIJ should be compatible with and supportive of national environment and development priorities and strategies, contribute to cost-

effectiveness in achieving global benefits and able to be conducted in a comprehensive manner covering all relevant sources, sinks and reservoirs of greenhouse gases. Furthermore the AIJ should bring about real, measurable and long-term environmental benefits related to the mitigation of climate change that would not have occurred in the absence of such activities. The financing of activities implemented jointly shall be additional to the financial obligations of Parties included in Annex II to the Convention within the framework of the financial mechanism as well as to current official development assistance (ODA) flows. No credits shall accrue to any Party as a result of greenhouse gas emissions reduced or sequestered during the pilot phase from activities implemented jointly.

The Swedish activities that can be classified as AIJ are the NUTEK-financed projects in the Baltic states.

The convention also contains some general provisions. It is important to promote sustainability, and to take fully into account that economic and social development and poverty eradication are the first and overriding priorities of the developing country Parties. The Parties shall take full account of the specific needs and special situations of the least developed countries in their actions with regard to funding and transfer of technology.

The specific means to achieve the goals of the Convention is better understood by reading the Kyoto Protocol.

### **2.3 The Berlin Mandate and the Kyoto Protocol**

At COP 1 in Berlin it was agreed "to begin a process to enable it to take appropriate action for the period beyond 2000, including the strengthening of the commitments of the Parties included in Annex I to the Convention, through the adoption of a protocol or another legal instrument".

The process aimed at setting "quantified limitation and reduction objectives within specified time-frames, such as 2005, 2010 and 2020, for their anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol".

and

"Not introduce any new commitments for Parties not included in Annex I, but reaffirm existing commitments in Article 4.1 and continue to advance the implementation of these commitments in order to achieve sustainable development".

and taking into account

"The fact that the largest share of historical and current global emissions of greenhouse gases has originated in developed countries, that the per capita emissions in developing

countries are still relatively low and that the share of global emissions originating in developing countries will grow to meet their social and development needs".

The above cited parts from the report from COP1 is called the Berlin Mandate. This mandate formed the base for the negotiations in Kyoto.

The third Conference of the Parties to the Convention (COP3) was held 1-11 December 1997 in Kyoto, Japan. The task was to finalise the negotiations on a protocol with binding emission reduction targets for the developed world, (Annex 1 Countries). The meeting did indeed reach a conclusion in its endeavour to agree on emission reductions but, as we shall see, it had many loopholes.

At the outset of the conference a number of issues that needed to be resolved were identified.

### **Emission reductions**

First the Quantified Emission Limitation and Reduction Objectives (QUELROS) were to be determined. The solution appears in Central Article 3. (See Attachment 1 for figures)

*Excerpt from the Kyoto protocol*

#### **Article 3**

1. The Parties included in Annex I shall, individually or jointly, ensure that their aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their assigned amounts, calculated pursuant to their quantified emission limitation and reduction commitments inscribed in Annex B and in accordance with the provisions of this Article, with a view to reducing their overall emissions of such gases by at least 5 per cent below 1990 levels in the commitment period 2008 to 2012.
2. Each Party included in Annex I shall, by 2005, have made demonstrable progress in achieving its commitments under this Protocol.
3. The net changes in greenhouse gas emissions from sources and removals by sinks resulting from direct human-induced land use change and forestry activities, limited to afforestation, reforestation, and deforestation since 1990, measured as verifiable changes in stocks in each commitment period shall be used to meet the commitments in this Article of each Party included in Annex I.

It should be noted in Article 3 that the commitments include emission reductions and that removal of carbon dioxide from the atmosphere by forestry activities limited to afforestation, reforestation, and deforestation shall be deducted from the emissions. Many details are still to be worked out. How shall "human-induced land use change and forestry activities" be defined? This and other questions are to be discussed this year in order to reach a decision at the next COP in Argentina, in late 1998.

Annex A specifies source/sector categories covered by the protocol (attachment 2). It should be noted from this list that apart from the technical sectors industry, energy and transport, the agricultural and waste management sectors are covered by the Protocol.

Annex A also lists the greenhouse gases covered by the Protocol. Emissions of the gases shall be calculated as equivalent carbon dioxide. This can be accomplished by the use of GWP factors, that is the Global Warming Potential for each of the gases listed in Annex A, compared to the warming potential of carbon dioxide. Other greenhouse gases such as the CFCs are handled by the Montreal Protocol for the protection of the ozone layer.

<p>Carbon dioxide (CO<sub>2</sub>)  Methane (CH<sub>4</sub>)  Nitrous oxide (N<sub>2</sub>O)  Hydrofluorocarbons (HFCs)  Perfluorocarbons (PFCs)  Sulphur hexafluoride (SF<sub>6</sub>)</p>
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*Table 1.* Greenhouse gases covered by the Kyoto protocol

For the EU it was essential to negotiate with one voice and to be able to allocate differentiated emission reductions at a later stage to the member states (the EU "bubble"). The EU position was put under pressure but the solution was finally laid down in Article 4.

#### **Article 4**

1. Any Parties included in Annex I that have agreed to jointly fulfil their commitments under Article 3 shall be deemed to have met those commitments provided that their total combined aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their assigned amounts calculated pursuant to their quantified emission limitation and reduction commitments inscribed in Annex B and in accordance with the provisions of Article 3. The respective emission level allocated to each of the Parties to the agreement shall be set out in that agreement.

#### **Joint Implementation etc**

The second issue of major importance was the question of technology transfer and financial mechanisms. The developing countries (Brazil) argued for a new "green fund". The developed world rejected any new such mechanism. The US in particular wanted instead to open the door for joint implementation activities coupled to emission crediting for the donor country.

In the Protocol text we can find the result of the negotiations in Articles 6 and 12.

### **Article 6**

1. For the purpose of meeting its commitments under Article 3, any Party included in Annex I may transfer to, or acquire from, any other such Party emission reduction units resulting from projects aimed at reducing anthropogenic emissions by sources or enhancing anthropogenic removals by sinks of greenhouse gases in any sector of the economy, provided that:

- (a) Any such project has the approval of the Parties involved;
- (b) Any such project provides a reduction in emissions by sources, or an enhancement of removals by sinks, that is additional to any that would otherwise occur;
- (c) It does not acquire any emission reduction units if it is not in compliance with its obligations under Articles 5 and 7; and
- (d) The acquisition of emission reduction units shall be supplemental to domestic actions for the purposes of meeting commitments under Article 3.

Article 6 deals with activities in the Annex 1 Countries, that is countries that have reduction targets. It should be noted that such activities can be either a reduction in emissions by sources or an enhancement of removals of carbon dioxide and that these activities shall be supplemental to domestic actions.

The provisions of Article 12 open up the possibility for a more extensive mechanism in connection with developing country parties that do not have a target for emission reductions.

### **Article 12**

1. A clean development mechanism is hereby defined.
2. The purpose of the clean development mechanism shall be to assist Parties not included in Annex I in achieving sustainable development and in contributing to the ultimate objective of the Convention, and to assist Parties included in Annex I in achieving compliance with their quantified emission limitation and reduction commitments under Article 3.
3. Under the clean development mechanism:
  - (a) Parties not included in Annex I will benefit from project activities resulting in certified emission reductions; and
  - (b) Parties included in Annex I may use the certified emission reductions accruing from such project activities to contribute to compliance with part of their quantified emission limitation and reduction commitments under Article 3, as determined by the Conference of the Parties serving as the meeting of the Parties to this Protocol.

Under Article 12 the emission reductions resulting from each project activity shall be certified by operational entities to be designated by the Conference of the Parties serving as the meeting of the Parties to the Protocol, on the basis of:

- (a) Voluntary participation approved by each Party involved;
- (b) Real, measurable, and long-term benefits related to the mitigation of climate change; and
- (c) Reductions in emissions that are additional to any that would occur in the absence

of the certified project activity.

It is also the purpose of the provisions in Article 12 that a share of the proceeds from certified project activities is used to cover administrative expenses as well as to assist *developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting the costs of adaptation.*

*Modalities and procedures for this mechanism are to be devised and approved at COP4.*

### **Emissions trading**

The third important issue is the question of emissions trading. Such a mechanism is established by the Kyoto Protocol. Emissions trading is allowed between Annex 1 Countries. Further rules and procedures are to be drawn up before the mechanism becomes functional.

### **Other matters**

Other issues that are relevant to the activities of Sida are the matters that concern the possibility for developing country Parties to participate in the convention process.

Article 10 addresses such matters.

#### **Article 10**

*All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, without introducing any new commitments for Parties not included in Annex I, but reaffirming existing commitments in Article 4, paragraph 1, of the Convention, and continuing to advance the implementation of these commitments in order to achieve sustainable development, taking into account Article 4, paragraphs 3, 5 and 7, of the Convention, shall:*

(a) Formulate, where relevant and to the extent possible, cost-effective national, and where appropriate regional programmes to improve the quality of local emission factors, activity data and/or models which reflect the socio-economic conditions of each Party for the preparation and periodic updating of national inventories of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, using comparable methodologies to be agreed upon by the Conference of the Parties, and consistent with the guidelines for national communications adopted by the Conference of the Parties;

(b) Formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to mitigate climate change and measures to facilitate adequate adaptation to climate change:

(i) Such programmes would, *inter alia*, concern the energy, transport and industry sectors as well as agriculture, forestry and waste management. Furthermore, adaptation technologies and methods for improving spatial planning would improve adaptation to

climate change; and (ii) Parties included in Annex I shall submit information on action under this Protocol, including national programmes, according to the guidelines laid

down in Article 8; and other Parties shall seek to include in their national communications, as appropriate, information on programmes which contain measures that the Party believes contribute to addressing climate change and its adverse impacts, including the abatement of increase in greenhouse gas emissions, and enhancement of and removals by sinks, capacity building and adaptation measures.

(c) Cooperate in the promotion of effective modalities for the development, application and diffusion of, and take all practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies, know-how, practices and processes pertinent to climate change, in particular to developing countries, including the formulation of policies and programmes for the effective transfer of environmentally sound technologies that are publicly owned or in the public domain and the creation of an enabling environment for the private sector, to promote and enhance access to, and transfer of, environmentally sound technologies;

(d) Cooperate in scientific and technical research and promote the maintenance and the development of systematic observation systems and development of data archives to reduce uncertainties related to the climate system, the adverse impacts of climate change and the economic and social consequences of various response strategies, and promote the development and strengthening of endogenous capacities and capabilities to participate in international and intergovernmental efforts, programmes and networks on research and systematic observation, taking into account Article 5 of the Convention;

(e) Cooperate in and promote at the international level, and, where appropriate, using existing bodies, the development and implementation of education and training programmes, including the strengthening of national capacity building, in particular human and institutional capacities and the exchange or secondment of personnel to train experts in this field, in particular for developing countries, and facilitate at the national level public awareness and public access to information on climate change. Suitable modalities should be developed to implement these activities through the relevant bodies of the Convention taking into account Article 6 of the Convention;

(f) Include in their national communications information on programmes and activities undertaken pursuant to this Article in accordance with relevant decisions of the Conference of the Parties; and

(g) Give full consideration, in implementing the commitments in this Article, to Article 4, paragraph 8, of the Convention.

Finally, there are several articles dealing with institutional arrangements and the entering into force of the protocol.

The protocol will be open for signatures from 16 March 1998. After that it will be subject to ratification. The protocol will enter into force on the ninetieth day after the date on which no fewer than 55 Parties to the Convention have ratified it. The signatories among Annex 1 parties must account for at least 55 per cent of the total carbon dioxide emissions for Annex I countries in 1990. This process may take 3-5 years to complete.

### 3. An attempt to structure Climate Change related activities

It is obvious that we cannot return to the pre-industrial situation. Climate change cannot be prevented. The practical option is to stabilise the concentrations of greenhouse gases reasonably rapidly to permit adaptation to a new climate situation.

According to the convention, mitigation of Climate Change and adaptation to its adverse effects are the two sides of the Climate Change issue. Activities that relate to either mitigation or adaptation must be considered as Climate Change related activities.

#### 3.1 Climate Change variables - a sectoral approach

Firstly we must define the variables that can be used as the basis for a classification. It can be useful to analyse superficially the importance of different sectors, either as a source or a sink of some greenhouse gases. The table illustrates the contribution of each sector as an emitter (e) or a sink (s).

Consumers	Transp.	Energy	Ind.	Agric.	Forestry	
CO <sub>2</sub>	eee	eee	ee	e	ee,s	eee
CH <sub>4</sub>	e	ee	ee	eee	e	e
N <sub>2</sub> O	e	e	ee	eee	e	-
CFC, and related	e	e	e	e	e	eee

*Table 2.* The relative contribution from different sectors. (For an explanation of the relative contribution from different greenhouse gases, see the text.)

Carbon dioxide (CO<sub>2</sub>), is by far the most important greenhouse gas. About two thirds of radiative forcing (the change in radiative balance since pre-industrial times) is caused by CO<sub>2</sub>. Methane (CH<sub>4</sub>), contributes 19% and nitrous oxide (N<sub>2</sub>O) 6%. The CFCs, and hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF<sub>6</sub>) that are also covered by the Kyoto Protocol are responsible for the remainder.

It is obvious that energy, transport and industry are key sectors due to the extensive use of fossil fuels. We can also draw the conclusion that agriculture and forestry are important for some of the other gases, and the forests of the world can provide a significant sink for CO<sub>2</sub>. Waste management (not included in the table) can be an important source of methane.

At present deforestation in the tropics constitutes a large source of CO<sub>2</sub> in the atmosphere, which by far outweighs the accumulation of carbon in the northern forests. Rice paddies and enteric fermentation in cattle contribute to a large extent to the emission of methane(CH<sub>4</sub>) and nitrous oxide(N<sub>2</sub>O).

In order to arrange a structure for the classification of Sida's activities in relation to the Climate Convention, the type of action and the sector involved are the key elements.

The first order parameters in such a structure are those activities that comprise the goals of the Climate Convention

### **A. Mitigation of Climate Change**

Firstly, the group contains the actual changes that can take place (Sw. åtgärder) such as involvement by different means in: 1. construction and building 2. replacement of outdated equipment and 3. land use changes. The measures can of course be divided further.

Secondly, there are the policy-oriented activities (Sw. styrmedel). This group contains actions within the areas of: 1. taxation policies, creating of market incentives, 2. regulatory actions, such as law enforcement and institutional changes, and 3. informative actions such as public awareness campaigns, education and capacity building, development of goals and targets, research cooperation, eco-labelling etc.

Key sectors in this group are Energy, Transport and Industry. Measures that reduce energy demand, increase efficiency in the use of energy, or switches to renewable energy sources are potentially important.

The enhancement of carbon dioxide uptake in biomass by measures in land use and forestry is also important.

### **B. Adaptation to the adverse effects Climate Change**

This group contains activities that can ease the burdens of a changing climate. Examples of what can be needed in the near future are potentially very diverse. The construction of walls to protect arable land from rises in sea level and storms can be a reality in low lying, coastal areas. The most important measures are those that will help to sustain food production in a warmer climate.

Agriculture is thus the key sector. Important activities in this sector could be education in cultivation practices, including choice of crops and varieties, water management. Research co-operation in the field of agriculture is another example.

### **C. Activities enabling developing Country participation in the Convention process**

Activities in this area comprise capacity building in several fields. One example is support to improve national energy and environmental statistics.

## 4 Sida activities

The purpose of this section is to illustrate in what way Sida activities are related to the Climate Convention. Sources of information are the semi-annual reports (October/November 1997) from the embassies in the main partner countries (ongoing activities 95/96 and 97). Other sources are information from Sida's Department for Research Cooperation (SAREC) and Sida's special report on activities related to the environment of 1997.

### 4.1 Mitigation of Climate change

#### 4.1 Africa

Sida is supporting a number of activities that are important for the promotion of sustainable development. Climate Change however, does not seem to have been considered as such in the majority of the projects. One exception is research cooperation where Climate Change is mentioned explicitly.

The African Energy Policy Network (AFREPREN), co-financed by Sida, has launched many projects in the fields of energy conservation, renewable energy sources, and on policy implications of the Climate Convention. Examples from Asia are the two research networks coordinated by the Asian Institute of Technology (AIT): the Asian Regional Research Programme in Energy/Environment and Climate (APRPEEC) and Renewable Energy Technologies in Asia (RETsAsia). A third example is the Sida-supported project in the field of Energy-Environment and Climate performed by the Tata Energy Research Institute (TERI) in New Delhi.

There are also examples from the activities in Central and Eastern Europe where many projects are in line with mitigation efforts by improving efficiency, in the energy sector by means of investments, 20% of expenditures, and technical assistance, 80% of expenditures. Among the technical assistance projects there are several activities which relate to renewable energy sources.

Projects within the energy and transport sectors can potentially have both positive and negative impacts on the climate issue. Examples are the construction of a hydroelectric plant at Owen Falls, Uganda, and an electrification programme in Angola. There are a number of projects in the transport sector in Kenya, Namibia, Mozambique, Zimbabwe - all projects concern roads. In Asia road projects are supported in Laos and Cambodia. In these cases it is not possible to draw any conclusions on the issue of impact on the climate.

Telecommunication projects can be strategically important for sustainable communication systems. Such projects are found in Angola, Botswana and Mozambique.

## **4.2 Adaptation to the adverse effects of Climate Change**

There are also several projects that are important for the possibility to cope with a changing climate.

Support to sustainable agriculture, forestry and biodiversity projects related to drylands are also important for adaptation in the sense of the Climate Convention. *Water resource management projects in Kenya are examples of projects that can facilitate adaptation.* The forestry education programme in Ethiopia is another example. *Natural resource management and forestry programmes are also being undertaken in India, Laos, and Vietnam.* Potentially, such projects can be important in an adaptation strategy. In Asia two case studies on the possibilities for adaptation to Climate Change have been performed.

## **4.3 Activities enabling developing country participation in the Convention process**

Regional education programmes in Tanzania, Zimbabwe and Botswana in environmental statistics are examples of capacity building that will improve developing country participation in the Convention process.

Support to local environmental groups is given in several developing countries. Support to the national environmental agency in Vietnam is an example of a capacity building activity.

## 5 Conclusions and recommendations

Activities supported by Sida show only modest links between the projects and the Climate Convention. However many activities are important in the Climate Change context. The most relevant projects are those that are directed towards adaptation to a Changing Climate. In the case of drylands there is an overlap with activities that are equally related to the Convention to Combat Desertification.

Projects directed towards mitigation of Climate Change are mainly found in Central and Eastern Europe.

Sida's research cooperation has a somewhat stronger link to Climate Change and the Convention. The most recent contribution to research cooperation is a Sida-financed El Niño Centre at the University of Concepcion, Chile.

The Climate Convention is still in an early stage and its implementation is awaiting the ratification of the Kyoto Protocol. Functional entities of the Convention are the reporting to the Convention (National Communications) based on IPCC guidelines. A second round of national reports should have been completed in April 1997. Many countries, even Annex 1 Parties, have had difficulties in delivering their reports in time. The Activities Implemented Jointly (AIJ) are being performed in a pilot phase.

Looking into future, if and when the Kyoto Protocol enters into force, the work in the field will be intensified. There will be a world market for carbon dioxide emissions. It has been projected that some Annex 1 Countries such as Russia will not use their permitted emissions under the emission limitation target. Russia will then have at its disposal a large amount of potential emissions to offer the world market.

When evaluating the potential for Joint Implementation among the Annex 1 Countries, we need to take into consideration that Sweden is a member of the European Union. JI can theoretically be a mechanism for sharing burdens within the EU.

The clean development mechanism offers a much wider approach than JI in that it opens up the possibility for activities in cooperation with developing country parties. Depending on the criteria selected for the certification of such projects, it can provide an important means for some parties to meet their commitments. We may even face competition in projects that have a great potential to provide low cost emission reductions for the benefit of the donor country.

A future programme for Sida's activities in relation to the Climate Convention must be based on an evaluation of short term and long term needs.

On a long-term basis (10 years), the need for Sweden to make use of the mechanisms that the Convention offers will be decisive. This will in turn depend on how Sweden's results in the burden sharing negotiations within the EU, and also on our national

energy policy. On an even longer time scale, developing country participation in the mitigation of Climate Change is a prerequisite in order to stabilise the atmospheric content of greenhouse gases at a safe level. Even if we reach a safe level by the turn of the next century it cannot be ruled out that the climate will have changed with, in some cases, a severe impact on human settlements.

In the short term the first priority must be to facilitate adaptation to a changing climate in vulnerable regions and to increase the ability of developing country parties to participate in Convention work. Improved environmental statistics are of importance to enable developing countries to compile their National Communication to the Convention. It is also important to consider the Climate Convention when support to projects in the transport, energy industry sectors are planned in order to promote sustainable development.

At present Climate Change is not considered as such in Sida's activities, with the exception of research cooperation. The first recommendation is thus to consider the significance of Climate Change, its possible adverse effects as well as the potential for measures, and include the issue in the country strategy process. There is a need for Sida to obtain information continuously about the latest scientific findings on possible adverse effects in different parts of the world.

Furthermore Sida can:

- < Continue to stimulate and finance research cooperation directed towards different aspects of Climate Change
- < Support measures that facilitate involvement in the Convention process by developing country parties
- < Continue to support activities that can facilitate adaptation to a changing climate
- < Consider Climate Change when developing sector policies
- < Build up internal expertise on climate change and follow scientific developments as well as the progress of the convention process.

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*Attachment I - Annex I and II to the Climate Convention*

## Annex I

Australia  
Austria  
Belarus a/  
Belgium  
Bulgaria a/  
Canada  
Czechoslovakia a/  
Denmark  
European Economic Community  
Estonia a/  
Finland  
France  
Germany  
Greece  
Hungary a/  
Iceland  
Ireland  
Italy  
Japan  
Latvia a/  
Lithuania a/  
Luxembourg  
Netherlands  
New Zealand  
Norway  
Poland a/  
Portugal  
Romania a/  
Russian Federation a/  
Spain  
Sweden  
Switzerland  
Turkey  
Ukraine a/  
United Kingdom of Great Britain and Northern Ireland  
United States of America

a/ Countries that are undergoing a process of transition to a market economy.

## Annex II

Australia  
Austria  
Belgium  
Canada  
Denmark  
European Economic Community  
Finland  
France  
Germany  
*Greece*  
Iceland  
Ireland  
Italy  
Japan  
*Luxembourg*  
Netherlands  
New Zealand  
Norway  
Portugal  
Spain  
Sweden  
Switzerland  
Turkey  
United Kingdom of Great Britain and Northern Ireland  
United States of America

*Attachment 2 Annex A and B to the Kyoto Protocol*

FCCC/CP/1997/7/Add.1

English

**Annex A**

**Greenhouse gases**

Carbon dioxide (CO<sub>2</sub>) 2

Methane (CH<sub>4</sub>) 4

Nitrous oxide (N<sub>2</sub>O) 2

Hydrofluorocarbons (HFCs)

Perfluorocarbons (PFCs)

Sulphur hexafluoride (SF<sub>6</sub>) 6

**Sectors/source categories**

Energy

Fuel combustion

Energy industries

Manufacturing industries and construction

Transport

Other sectors

Other

Fugitive emissions from fuels

Solid fuels

Oil and natural gas

Other

Industrial processes

Mineral products

Chemical industry

Metal production

Other production

Production of halocarbons and sulphur hexafluoride

Consumption of halocarbons and sulphur hexafluoride

Other

Solvent and other product use

Agriculture

Enteric fermentation

Manure management

Rice cultivation

Agricultural soils

Prescribed burning of savannas

Field burning of agricultural residues

Other

Waste

Solid waste disposal on land

Wastewater handling

Waste incineration

Other

<b>Annex B</b>		
<b>Party Quantified emission limitation or reduction commitment</b>		
<i>(percentage of base year or period)</i>		
Australia		108
Austria	92	
Belgium		92
Bulgaria*		92
Canada	94	
Croatia*		95
Czech Republic*		92
Denmark		92
Estonia*		92
European Community	92	
Finland	92	
France	92	
Germany		92
Greece	92	
Hungary*		94
Iceland	110	
Ireland	92	
Italy		92
Japan		94
Latvia*	92	
Liechtenstein		92
Lithuania*		92
Luxembourg		92
Monaco		92
Netherlands		92
New Zealand		100
Norway	101	
Poland*		94
Portugal		92
Romania*		92
Russian Federation*		100
Slovakia*		92
Slovenia*		92
Spain		92
Sweden	92	
Switzerland		92
Ukraine*		100
United Kingdom of Great Britain and Northern Ireland	92	
United States of America	93	

\* Countries that are undergoing the process of transition to a market economy.





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