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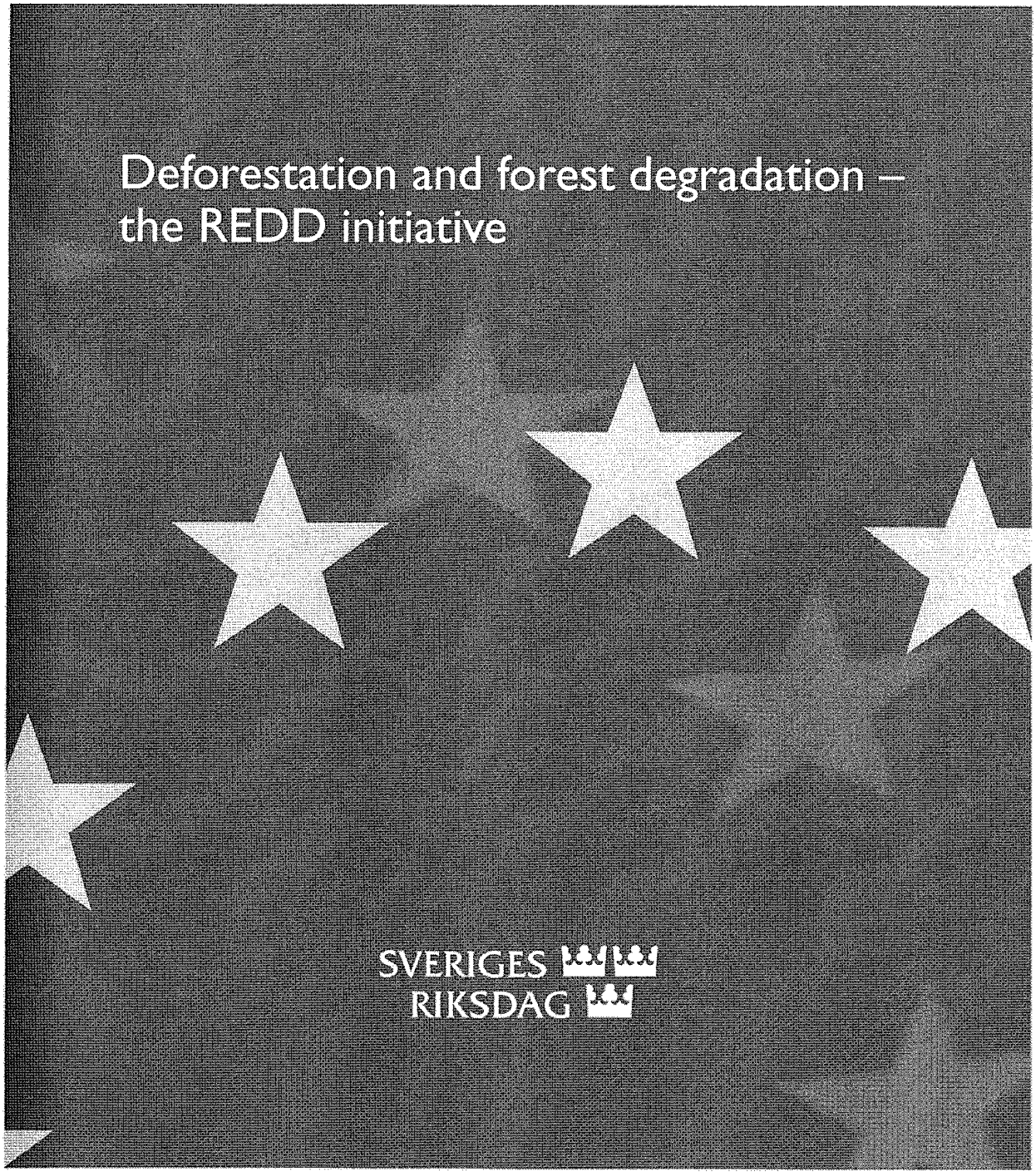

Deforestation and forest degradation – the REDD initiative

Background

The earth's forests fill an important function from an ecological, financial and social perspective. They contribute a number of important ecosystem services and fill an important function in relation to biodiversity, especially in the case of tropical forests. The world's forests influence the climate, by means of complex physical, chemical and biological processes, which can both reinforce or counteract global warming.

A forest can serve as an important carbon sink i.e. contribute to the reduction of carbon dioxide in the atmosphere. But nowadays the world's tropical forests contribute to a net release of greenhouse gases due to deforestation and forest degradation, and thus become a carbon source rather than a carbon sink.

During the 2008 climate conference in Bali it was agreed that greenhouse gas emissions arising from the deforestation of tropical forests should be included in the next period of an international climate agreement commencing in 2013. The question of how to bring deforestation into the climate agreement will be an important point at COP15 in Copenhagen. UNFCCC work on this issue has become known as REDD – *Reducing Emissions from Deforestation and Forest Degradation in Developing Countries*. After COP 13 in Bali an additional element has become known as REDD+, primarily to take into consideration the interest displayed by India and China in forest carbon storage.

Deforestation – rate and cause

Forests cover almost 30% of the earth's land area, but in recent years deforestation has taken place at an alarmingly rapid rate, mainly due to changes in land use such as the transformation of forest areas to agricultural land. It has been estimated that each year between 1990 and 2005, 13 million hectares have been deforested (FAO, 2005). The bulk of deforestation has occurred in tropical areas. The Intergovernmental Panel on Climate Change (IPCC, 2007) calculated that, in the 1990s, deforestation was responsible for about 20% of carbon dioxide emissions into the atmosphere. This means that solutions to prevent deforestation and forest degradation are crucial to achieving the ambitious targets that have been set for the reduction of greenhouse gas emissions into the atmosphere.

Degradation does not mean that a forest is cut down in its entirety, but rather that a forest's condition is negatively affected by actions impacting the soil, fauna and vegetation. Harvesting some of the trees may still lead to forest degradation. This is often caused by what is known as selective felling, when only the most valuable timber trees are harvested.

Need for an action plan

Reduced deforestation is considered to be a cost effective way of lowering carbon dioxide emissions. Another major argument for protecting forests is the conservation of biological

diversity. Forests also have great significance for local and indigenous populations and contribute to a number of other ecosystem services such as an increase in the supply of fresh water.

Methodological difficulties

There are a number of issues and methodological difficulties in relation to deforestation which will be discussed in connection to the coming climate agreement in Copenhagen. Examples of some of the major issues are:

- *Reference level (Baseline).* A baseline is needed to estimate future compensation for reduced deforestation. The baseline is the level at which deforestation would remain if the logging would continue as usual "business as usual scenario". One way of doing this is to estimate the level on the basis of historical deforestation. This method requires available and reliable data about former deforestation, something that not all countries have. Another problem with a baseline based on historical data is not knowing the scale of past changes in deforestation. To take this into account, a method has been suggested which is known as adjusted historical deforestation. This method includes an estimate of changes over time. Projected felling is yet another way calculating a baseline that is based on an estimate of the future rate of deforestation (Parker *et al.*, 2009). Establishing the appropriate baseline is a complicated matter and will be a key issue in coming discussions about deforestation (Humphreys 2008).
- *Leakage.* Means that a measure leading to reduced deforestation in one area is displaced to deforestation in another area, a process known as spatial leakage. Temporal leakage can also occur if for instance deforestation is postponed due to a policy currently being pursued (Humphreys 2008). Leakage can occur not only within a nation's borders, but also between countries, which means that international strategies are required to tackle this set of problems.
- *Control of deforestation and forest degradation.* Monitoring the scale of reduced deforestation may be needed to enable the payment of compensation. Currently, meteorological satellites are used to monitor deforestation, along with specially adapted land-use satellites. Whichever system is used, it is still very difficult to discover forest degradation, which in certain cases can give rise to large-scale greenhouse gas emissions.
- *Forest degradation.* Selective felling in an area leads to forest degradation which can result in very large emissions of carbon into the atmosphere. With the monitoring systems currently available it is difficult to record forest degradation why it is seldom found in statistics. Neither are current satellite systems able to determine the tree species in an area, which makes it difficult to estimate carbon content and its changes. Replanting a different type of forest from the original may have a negative impact on both biodiversity and carbon dioxide emissions.
- *Different types of forest.* There is also an ongoing debate about whether it is better from a climate perspective to preserve old-growth forests or replace them with young fast-growing forests. If all types of forest are regarded as equal from a carbon storage perspective, it is possible to calculate the net deforestation in a country. The effect of such a definition will be that old-growth forest which is valuable for other reasons, such as a high biodiversity or high social value, may be replaced by new forest as long as the forest area remains the same. However, such an argument appears to be too one-sided, since measures which benefit the climate, should not simultaneously

have a detrimental effect on other environmental goals, such as the conservation objectives defined within the CBD (the UN Convention for the Preservation of Biological Diversity). Forests with fast-growing tree species such as rapid-growth pine and eucalyptus, can also give rise to other problems since they consume large quantities of water and compete with farming activities in their vicinity. After such cultivation, the characteristics of the soil may change as nutrients can leach out and the soil may also become acidic (Bernstrand & Swiergiel, 2009).

REDD funding

Evaluating forests

A system, where the value of a forest increases, can create problems for indigenous populations since in many places the issue of ownership is unclear. When states and companies see growing opportunities of making money from standing forests it can lead to increased pressure on the traditional living spaces of indigenous populations. A problem with the recently acquired economic value of forests is that social and ecological values are lost sight of in discussions (Bernstrand & Swiergiel, 2009).

Compensation – unclear what it should be based on

Regardless of how funding is provided, it is also necessary to decide what countries are to be compensated for. Various proposals regarding different grounds for compensation include calculating value on the basis of:

- the value of the quantity of carbon a forest absorbs based on a globally agreed price for carbon dioxide emissions;
- the value of the revenues which might be generated by deforestation such as lost employment opportunities, export revenues etc. (Bernstrand & Swiergiel, 2009).

Financing REDD

REDD funding can be divided into three main categories; market-based, market-linked mechanisms, and development assistance and funds.

- *Market-based solutions - emissions trading*: entails including the conservation of forests in global emissions trading. Forest credits could be traded between countries in the same way as emission allowances. This is based on the fact that it is cheaper to implement emission reductions in developing countries compared to developed countries. Trading could take place within the framework of a system resembling the CDM (*Clean Development Mechanism*) but at national level or by means of setting up a new system exclusively for forest credits. The advantage of the system is that it should be able to generate large economic resources relatively rapidly and be a cost-effective system for reducing climate impact. The system would also mean that those who pollute most pay the most. Examples of criticism of the use of market mechanisms are:
    - o It could become a cheap alternative to reducing domestic emissions caused by for example burning fossil fuels.
    - o There is concern in developing countries that they could lose their sovereignty when other parties have strong views as to how to minimise deforestation.
    - o A costly administrative machine will be needed to ensure that money invested is actually used to reduce climate impact.

o As a market-based solution is based on lower carbon dioxide emissions linked to deforestation and not to other values such as biodiversity, REDD's potential synergy effects may not be realised.
o Market-based REDD initiatives are difficult to forecast in the longer term, and this can reduce the chances of long-term planning in the countries concerned. Price fluctuations occurring in an open market may also influence the willingness of countries to abstain from deforestation depending on prevailing prices of commodities such as soya.

- *Market-linked mechanisms*. Examples of these are auctions of emission rights.
  o The European Commission has proposed that a global forest carbon mechansim (GFCM) be set up, funded by auctioning emission allowances (EU ETS). (See the chapter on the Commission's Communication below)

- *Development assistance*. Many argue that increased development assistance in the introductory phases of REDD is the best way to encourage initiatives such as pilot projects. Before everything needed for the large-scale implementation of REDD is in place (such as forest monitoring, etc.) there will not be any REDD credits to trade and this will make it difficult to interest investors. At the same time, developing countries in particular argue that increased development assistance to REDD must be fresh money and not a redistribution of funds previously set aside.

- *Funds*. Different types of funds can contribute to the funding of REDD projects. Examples of criticism raised in relation to some funds is that insufficient consideration has been taken to all actors involved such as indigenous populations and that criticism from expert panels are not taken into account. Some examples of funds are:
  o *Financing on a voluntary basis*. Norway has allocated 3 billion NOK per year for five years to REDD projects.
  o *FCPF* (Forest Carbon Partnership Facility), the World Bank fund to support national pilot projects with the aim of reducing deforestation.
  o *The UN-REDD Programme fund*, which is a cooperative effort involving the FAO, the UNDP and the UNEP.

There are advantages and disadvantages with the various financing instruments employed to reduce emissions from deforestation and forest degradation (REDD). A growing consensus is emerging that a combination of funding mechanisms will be needed to match the needs and development of dissimilar nations. A better understanding of the forces driving deforestation and forest degradation is also needed if developments are to be reversed (Bernstrand & Swiergiel, 2009).

The REDD mechanism in three phases

To implement REDD, the European Council is now discussing a mechanism comprising a blend of market-based and fund-based funding in three phases (12729/09).

- *Phase 1*. A planning phase in which countries carry out forest monitoring to determine baselines and initiate pilot projects.

- *Phase 2.* This phase include land owner reforms and the strengthening of forestry legislation.

- *Phase 3.* The full-scale implementation of REDD, which means that REDD credits can be issued and exchanged for means of payment on condition that all verification criteria are met ("*performance based crediting*").

Addressing the challenges of deforestation and forest degradation

The Commission's Communication

The principal objective in the framework of the EU's proposed measures is to halt global forest cover loss by 2030, and to reduce gross tropical deforestation in relation to current levels by at least 50% not later than 2020. In relation to current climate negotiations two concrete measures are proposed by the Commission:

- establishing an instrument to generate significant funding to tackle deforestation and forest degradation: the "*Global Forest Carbon Mechanism*";
- including deforestation in carbon markets.

The Commission considers that the most appropriate strategy up to 2020 is a combination of strengthening existing policies/instruments and creating the *Global Forest Carbon Mechanism* raising new funds through auctioning revenues. Recognition of forestry credits in the EU emissions trading system would not be realistic at the present time but will be more realistic to introduce such a system on a more long-term basis after 2020. A major portion of EU funding could, on the other hand, come from proceeds from the auctioning of allowances within the EU ETS (COM (2008) 645).

The Council's Conclusions

The Council supports the objective of developing financing mechanisms, taking into account existing arrangements, within the post-2012 climate agreement and notes the Commission's proposal to set up the Global Forest Carbon Mechanism. At the same time the Council advocates any financial mechanism should be performance-based and provided on the basis of verified results in terms of avoided emissions from gross deforestation and forest degradation and that favourable conditions have at the same time been created for other positive effects such as protecting biodiversity and poverty alleviation. The Council invites the Commission to assess the implications of credits generated in the context of a financial mechanism addressing deforestation and forest degradation. It is open to a complementary tool such as including deforestation in EU ETS after a thorough review and in the light of experience gained (16852/08).

A comprehensive climate change agreement

The Commission's Communication

In the run-up to the coming climate negotiations in Copenhagen, the EU is intensifying its contacts with third countries to reach a successful agreement. Concrete targets and proposals for measures are presented. Guidelines for financing of emission reductions will be presented, along with ways of building an effective global carbon market. Within the framework of measures to prevent increased emissions, it is proposed that measures should comprise a rapid reduction of emissions from tropical deforestation (COM(2009) 39).

The Council's Conclusions

Since deforestation is responsible for some 20% of global carbon dioxide emissions, the Council considers that the reduction of emissions from deforestation and forest degradation will be essential to achieve the objective of limiting global warming to 2°C above pre-industrial levels. In accordance with what was established in the Council's earlier conclusions of 5 December 2008, it is reaffirmed that the goal of the UNFCCC should be to develop financial mechanisms to support developing countries in reducing emissions from deforestation and forest degradation with a view to reducing gross tropical deforestation by at least 50% by 2020 compared to current levels and to halt the global forest cover loss by 2030 at the latest. The Council advocates that the support to the forest sector should be performance-based and provided on the basis of verified results in terms of avoided emissions from gross deforestation and forest degradation. The Council also highlights the importance of promoting biodiversity and that the measures taken improve livelihoods in forest regions. When measures to reduce emissions from forest degradation and deforestation are planned and implemented, transparent and fair consultations must be held with stakeholders involved (6301/09).

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Glossary

CDM	Clean Development Mechanism, industrial countries' investments in projects leading to reduced carbon dioxide emissions in developing countries.
COP	Conference of the Parties. Abbreviation for the UN annual conferences in the framework of the Climate Convention.
EU ETS	European Union Greenhouse Gas Emission Trading System, the EU trading of emission allowances.
FCPF	(Forest Carbon Partnership Facility), the World Bank fund to support national pilot projects with the aim of reducing deforestation.
GFCM	Global Forest Carbon Mechanism, the European Commission's proposal for an international funding mechanism to compensate developing countries for lower carbon dioxide emissions in the framework of REDD. It is proposed that most funding for the GFCM will come from the auction of emission allowances (EU-ETS)
REDD	Reducing Emissions from Deforestation and Forest Degradation in Developing Countries.
REDD+	An upgraded version of REDD including the ability of forests to store carbon.
UNFCCC	United Nations Framework Convention on Climate Change, also known as the Climate Convention, is an international environmental treaty adopted at the Rio Conference in Brazil in 1992.

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