GLOBAL YET EQUITABLE Combating Climate Change, Enabling Development



A REPORT

Potsdam Institute for Climate Impact Research, Institute for Social and Development Studies, Munich, MISEREOR, and the Munich Re Foundation

SUMMARY

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Combating Climate Change, Enabling Development

Summary of a report by the Potsdam Institute for Climate Impact Research and the Institute for Social and Development Studies, Munich, commissioned by MISEREOR – the German Catholic Bishops' Organisation for Development Cooperation and the Munich Re Foundation

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Climate and development policy at an impasse

Climate and development policy have reached an impasse. At the time of writing, the international community's political efforts are not even close to producing adequate responses to these momentous challenges. The United Nations' Climate Change Conference in Copenhagen in December 2009 failed to deliver the crucial breakthrough. Hopes of finalising a global agreement on the worldwide reduction of greenhouse gas emissions at the summit were dashed. Negotiations on how to support developing countries financially in their adaptation to unavoidable climate change were equally inconclusive. Humankind is further away than ever from a global accord.

Modest progress has been made on poverty reduction. The proportion of the world population living in extreme poverty has fallen worldwide, for which credit is largely due to successful efforts in East Asia. In many developing countries however, especially in sub-Saharan Africa, the number of people in extreme poverty (people who have to live on less than US\$ 1.25 per day) have continued to rise. Even now, therefore, it is foreseeable that in some parts of the world the target proclaimed in the United Nations' Millennium Declaration of halving, by 2015, the global proportion of people forced to live below this threshold will not be achieved.

The crisis in United Nations climate policy was further exacerbated at the beginning of 2010 by the allegation that the Intergovernmental Panel on Climate Change (IPCC) had manipulated some of its results in order to dramatise the impacts of climate change. Even if there is room for improvement in certain of the IPCC's procedures, that is still no cause to doubt these fundamental points of fact: 1) climate change is primarily human-induced, 2) unabated climate change engenders high risks, and 3) dangerous climate change can be avoided.

Climate change mitigation is undoubtedly in the interests of people everywhere. But in order to find real solutions, substantial incentives are necessary for governments, communities, and for each of us as individuals. One particular challenge here is to bring together climate change mitigation and development policy. Developing and newly-industrialised countries are particularly reliant on broad-scale economic growth because it is a necessary – though not a sufficient – condition for overcoming poverty and underdevelopment. At first sight, this presents a dilemma. On the one hand, it is vital to avoid dangerous climate change because of what is at stake: the stability of the life-support base for present and future generations. On the other hand, developing countries will be understandably reluctant to participate in emissions reduction if it places constraints on their options for economic development.

Four dissimilar partners united in a collaborative study

Finding ways out of this apparent dilemma calls for a macro-perspective which systematically maps the broad linkages between the different thematic areas without getting side-tracked by intricate details. For this kind of synergistic macro-perspective, new alliances spanning the scientific and social domains are essential.

This has prompted four ostensibly very dissimilar partners to join forces. From the scientific domain, these include the Potsdam Institute for Climate Impact Research (Potsdam-Institut für Klimafolgenforschung, PIK) and the Institute for Social and Development Studies in Munich (Institut für Gesellschaftspolitik, IGP). Their input combines scientific facts about the causes and consequences of climate change with consideration of the economic, development-policy and ethical implications. The commissioning parties and project partners are MISEREOR – the German Catholic Bishops' Organisation for Development Cooperation, and the Munich Re Foundation. In this project, then, the scientific community, development cooperation practitioners and the insurance industry have worked collaboratively, on the basis of scientific facts, and reached a consensus on common positions and demands.

At the same time, all four partners have embarked on a dialogue with those at the heart of this debate – the people directly affected, often the poor, in the countries of the global south. The multifaceted interaction with partners from developing and newly-industrialised countries in a total of nine dialogue forums around the world has been challenging and enriching for all participants. On many questions they succeeded in arriving at a common understanding of the problems and possible solutions. But not all the solutions to global problems figured out in the rich north gain universal approval from the rest of the world. The divergent viewpoints are reflected in the numerous information boxes throughout the study.

The study homes in on the key elements of an integrated package. Its aim is to open up new ways in which climate change mitigation and poverty reduction can be combined effectively, efficiently and equitably. Cooperation between such different partners is an affirmation of the need for new alliances to make this happen. Without dialogue and partnerships, the challenges will not be met, now or in the future.

The risk of dangerous climate change

Today it is undeniable that climate change is caused, for the most part, by humans and that the first impacts are already tangible. It is to the great merit of the Intergovernmental Panel on Climate Change (IPCC) that this is now crystal clear. Almost two-thirds of global emissions are due to the consumption of fossil fuels by industry, transport or domestic households. A good 30% are generated by agriculture and changes in land use, particularly by large-scale deforestation of tropical rainforests. A further rise in the mean global temperature is already inevitable, because of the lengthy time-lag between the discharge of emissions and the climate system's response.

Climate change will cause shifts in regional climatic conditions and, in their wake, a series of grievous impacts. Emerging trends are already observable. The consequences of a global rise in temperature exceeding 2°C (compared with the pre-industrial level) will in all probability have massive consequences for many people alive today as well as in the future. In poorer regions of the world especially, this could make it impossible to adapt to the changes successfully. Therefore, the target of limiting warming of the climate to no more than 2°C is a persuasive orientation point for future climate policy. Admittedly, a less ambitious temperature target would lower both the pure costs of mitigation and the possible technological risks. However, the costs of unabated climate change up to the end of this century alone would be several times higher than the mitigation costs of keeping within the 2°C temperature target.

From an ethical perspective, it is important to be mindful that the worldwide distribution of harmful climate impacts is inequitable. Even now, and all the more in future, those who are worst equipped to adapt to the impacts will be hardest hit. This is partly because many of the most susceptible regions are increasingly densely populated. All kinds of factors heighten the vulnerability of poor population groups in developing countries:

• They are already at greater risk because their life situations (e.g. nutrition and health status) are so much worse than those of wealthier people.

- They are more likely than average to live in regions where the climate today is already extreme. In many of these regions, the climate is characteristically very hot or very arid, and drastic seasonal variations are not unusual. Moreover, many people in these regions are severely affected by extreme weather events (e.g. cyclones or floods). In future, all these phenomena will only grow in prevalence or intensity.
- Their livelihoods are often based on climate-sensitive natural resources and ecosystem services, particularly agriculture, forestry and fisheries.
- They usually have more trouble accessing information (e.g. severe weather warnings). This puts them in a relatively poor position to make timely preparations for impending hazards.
- They have fewer monetary and material assets and no insurance coverage against the hardships of climate change adaptation and the impacts of extreme weather events.
- They are often insufficiently involved in political processes. This makes it harder for them to access state support before and in the aftermath of natural disasters.

The study seeks to establish where in the world people are most vulnerable to particular perils. Water supply, food security and the threat to coastal regions are three prime areas of peril. Two aspects of the study will be outlined briefly with reference to maps.

Figure 1 shows the expected climate-related percentage change in agricultural production between 1990 and 2050, assuming that no adapta-



Fig. 1: Percentage change in agricultural production due to climate-related changes in yield between 1990 and 2050.

tion measures take place. Declines in yield can be expected throughout Africa and Australia and in parts of Central and South America, the USA and in South Asia. In the other regions, crop plants will respond positively to the projected changes in temperature and precipitation. However, weather extremes and seasonal fluctuations could also make the situation more acute.

Voices from the dialogue forums

Mrs Sanj, smallholder and member of a women's group in Indonesia: "The harvests get lower and lower. Where two rice harvests a year used to be possible, now it's only one harvest because rainfall is very dramatically reduced. The start of the rainy or the dry season is almost impossible to predict nowadays. During the dry season, coconut harvest workers, coffee growers and fruit farmers have no income at all. It has long become impossible to forecast the weather using traditional methods."

Anwara Begum Shelly, Caritas in Bangladesh: "Does anybody care if Bangladesh goes under?"

Katoumi Sifri, member of staff of a non-governmental organisation in Niger: "Many people are poor. Climate change turns this poverty into misery."

Figure 2 shows the risks to people in coastal regions from climate-related sea level rise or more frequent coastal storms and floods. A significant proportion of the human population already lives near to coasts. The world map depicts the percentage growth in the population at risk of an-



Fig. 2: Growth in the proportion of the population in regions at risk of annual flooding due to sea level rise unless coastal protection is upgraded (with reference to the period 2000–2070).

nual floods due to sea level rise unless coastal protection is upgraded. Coastal regions in East Asia. Africa and Latin America are especially at risk.

These two examples alone clearly show that the consequences of climate change are unevenly distributed. Therefore it is essential to tackle them in conjunction with global development problems.

The risk of dangerous emissions reduction/mitigation

Avoiding dangerous climate change by means of effective climate change mitigation is in the interest of all countries. But why is it that so far, both industrialised and newly-industrialised countries have been so unwilling to reduce their emissions or to limit emissions growth? In the case of the newly-industrialised countries, there are understandable reasons for this. The climatic benefits of emissions savings are only felt decades later, whereas the priority for such countries is to drive forward the necessary economic development as quickly as possible. Quite rightly, they fear that a drastic climate policy would constrain their scope for economic growth.

Considered in historical terms, growing affluence has always been very closely linked with high CO₂ emissions. Since the onset of industrialisation, the relationship between prosperity and the burning of fossil fuels has been embedded in our collective historical memory. Without fossil energy sources (and colossal emissions of greenhouse gases), forget prosperity!

This is backed by empirical evidence, as well. All the countries that achieved prosperity in the process of industrialisation and succeeded in overcoming mass poverty made intensive use of coal, oil and gas. For this reason, their CO₂ emissions over the same period have been high. Conversely, the countries with low per-capita emissions have generally accrued less affluence and are therefore disproportionately vulnerable to climate change. This is evidenced by world maps which show the distribution of total emissions from the burning of fossil fuels from 1950 to 2003 and the capital stock for 2000 (Fig. 3). A similarly unequal distribution is found if one uses as an indicator of prosperity the United Nations *Human Development Index*, which measures advances in development from a combination of life expectancy, education and purchasing power.

Looking at these two maps, it is unjustifiable to demand that developing countries lower their CO_2 emissions and forego economic growth, which remains a precondition for the fight against poverty. All the more



Stock of productive capital per person (US\$ in year 2000, as per currency exchange rates)





so since these countries have barely polluted the atmosphere in the past – unlike the industrialised countries – and the per-capita emissions of the industrialised countries are still considerably higher than in all developing and newly-industrialised countries, including China and India.

On the other side, catch-up development, where all the developing and newly-industrialised countries emulate the energy-hungry, emissionsintensive economic model of the global north, is no solution because it would unleash unrestrained climate change with unpredictable consequences for humans and nature. Thus, all countries must step up their energy efficiency and switch to low-carbon energy generation as quickly as possible. The findings of the study can be summarised in ten political messages which show a way out of the dilemma of dangerous climate change and dangerous emissions reduction.

Ten political messages

1) Global cooperation is necessary and possible

In view of the manifold linkages between global poverty and the impacts of climate change, an integrated vision is indispensable. On this basis, a new era of global cooperation needs to begin. This will include binding regulations and fair and transparent processes, in which all stakeholders must be appropriately involved. Countries and their governments are called upon to take a lead here because they bear the political responsibility for such processes. Civil society and the private sector can support these efforts.

Linking climate and development policy raises the chances of global cooperation, because it addresses the newly-industrialising and developing countries' concern about economic development.

2) Reducing the vulnerability of developing countries

The Millennium Development Goals of the United Nations take up the key global challenges like poverty reduction, food security, health and education. But by now, there is a danger that the targeted goals will not be achieved. This heightens the vulnerability of people in developing countries to the impacts of climate change. Only detailed studies give enough of a basis to really understand this vulnerability and reduce it.

A foundation for this is laid by the vulnerability analyses in our study, particularly with regard to water supply, food security and the threat to coastal regions. What clearly emerges is that poor population groups in developing countries are subject to multiple disadvantages. An example: semi-arid and arid regions are threatened with a possible decline as well as greater variability in precipitation. Rainfall is concentrated into a few months, but often there is no adequate water supply infrastructure for dry periods (deep wells, reservoirs). The worst affected regions are northern and south-western Africa, northern Brazil and western China. Water supply problems have massive impacts on agriculture. With strong popu-

lation growth and unmitigated climate change, the number of hungry people in these regions will probably continue to rise, despite all efforts to the contrary.

For a synergistic climate and development policy, such studies are indispensable in order to facilitate the integrated vision that is called for and to carry out targeted adaptation measures. In this context, the issues of water supply, food security and the threat to coastal regions should be a particular focus of attention.

3) Human rights and justice as an ethical orientation

Climate change is not just a technical problem. It can only be dealt with if key aspects of justice are taken into consideration. But it is not enough if action is confined to the distribution of emissions allowances. It is essential to have an equitable policy framework which permits developing and newly-industrialised countries to play an active part in climate change mitigation without relinquishing their rightful entitlements to broadbased development. The industrialised countries have a special responsibility in this regard; not so much because they have caused disproportionately more greenhouse gas emissions in the past, but because they have the financial, economic and technical capacities and the necessary political influence that are so vital in order to solve these problems.

Human rights provide a meaningful starting point for ethical considerations. In global politics, these are already a key ethical yardstick for the resolution of global challenges. Freedom, equality, solidarity and participation are the key demands of human rights, which carry their own validity for any ethical assessment of the impacts of climate change.

Taking human rights as a starting point, three dimensions of justice can be identified: the satisfaction of basic needs and the aspiration towards equal opportunities and fair processes. These three interrelated demands provide orientation points for political action towards the necessary global cooperation and towards the implementation of climate change mitigation and adaptation measures at national level.

4) Climate change mitigation and development are feasible – a Global Deal with five pillars

The financial and technical challenges of climate change mitigation, adaptation and development can be overcome collectively. However, this requires the international community to demonstrate the requisite political will and to coordinate its various measures. Any such Global Deal for climate and development must consist of five pillars:

(I) Capping, allocation and trading of CO₂ emissions allowances

- (II) Sustainable use of forests
- (III) Promotion and transfer of climate-smart technologies
- (IV) International support for adaptation
- (V) Strengthening of development policy

The fundamental prerequisite for these measures is cooperation in a



spirit of partnership between industrialised, newly-industrialising and developing countries. With this in mind, all parties should enter into joint obligations, regarding the recognition of human rights, for example, or the negotiation of and adherence to joint targets.

5) Pillar I: Capping, allocation and trading of CO₂ emissions allowances

The discharge of emissions into the atmosphere must no longer be permitted free of charge, but must be priced on an international basis. First, a limit must be placed on the total volume of greenhouse gases that may still be emitted. Trading in these restricted emissions allowances then provides a possible means of reducing emissions, accurately and efficiently, to the necessary targets. In addition, it opens up the options for a global redistribution of income, which could also have positive effects on the situation of poor sections of the population in developing countries. The allocation scheme should be structured such that, within a relatively short time-frame, it achieves an equitable per-capita distribution of emissions allowances.

For this aspect in particular, there is a need for effectual global institutions with transparent and democratic decision-making structures. Also necessary are appropriate policy frameworks in both the industrialised and the developing countries. To ensure that the additional money can really promote climate-smart and broad-scale development processes, there must be full disclosure of the funding streams both on the income and expenditure side. Civil society involvement and inspection have an important role to play.

6) Pillar II: Sustainable use of forests

The deforestation of tropical forests contributes about a 20% share of total global emissions. Forests have an important climate protection function because they act as CO_2 sinks. At the same time, they are a life-sustaining resource base, not only for people but for a great diversity of different plants and animals. Because forests are important in a number of respects, they must be used sustainably and conserved. The industrialised nations should support newly-industrialising and developing countries in this effort, technically and financially, so that further deforestation and overexploitation of forests can be prevented. Particular attention must be paid to the needs of the local population, especially indigenous groups.

7) Pillar III: Promotion and transfer of climate-smart technologies

The reduction of global emissions calls for new, climate-smart technologies. Only wide-ranging options in this field permit an ambitious level of climate change mitigation. Energy efficiency, renewable energies and the use of biomass have a key role to play. But new technologies such as underground carbon sequestration (carbon capture and storage, CCS) may also make an important contribution. The risks of such new technologies must, however, be evaluated, minimised and weighed up in an open public debate.

The costs of emissions in the scope of the proposed emissions trading will not, by themselves, create sufficient incentives to induce the necessary technological step-change. Rather, it is necessary to promote appropriate technologies directly worldwide and drive forward the international transfer of such technologies. Here the industrialised countries hold a particular position of responsibility because of their greater technological and economic capacity. Important aspects here are the international coordination of research and contractual obligations to increase climate-related research spending. These must be supplemented with initiatives to strengthen research and development activities in developing countries.

8) Pillar IV: International support for adaptation

Even if emissions are reduced immediately, adverse impacts on the climate are no longer avoidable. Poorer people and countries, who are more exposed to the risks, must be supported in adapting to these negative consequences of climate change. To do so, a variety of measures are needed, from information on regional impacts of climate change, to vulnerability analyses and ultimately financial assistance.

An indispensable tool for this purpose is a sufficiently well-endowed, international adaptation fund – in addition to official development assistance. The scale of payments into such a fund should be determined predominantly by each country's economic capacity. Adaptation financing is necessary in areas of particular climate sensitivity or relevance to poverty reduction. Principal among these are water supply, agriculture, coastal protection and disaster mitigation.

9) Pillar V: Strengthening of development policy

Climate change mitigation and adaptation must not lead us to lose sight of the aims of development policy. Its primary aim remains to promote autonomous development and to strengthen capacity for action. This requires far-reaching reforms, both in the developing countries themselves and in international structures, which cannot be achieved without global cooperation. The prerequisite for this is a globally binding regulatory framework which promotes and supports the economic, political and social processes in the countries concerned. Furthermore, the international community is under an obligation to honour its financial commitments.

10) Broad mobilisation and networking of actors for transformation

The realisation of the Global Deal is reliant on political leadership. Only then can a new era of international cooperation be heralded. The Global Deal can serve as a road map for creating the necessary institutional preconditions and for sharing out the unavoidable burdens as fairly and equitably as possible. To ensure that this happens, a broad alliance of forces in society will be called upon to drive forward the necessary transformation, from churches and non-governmental organisations to the scientific community and innovative businesses. At local, national and global levels, alliances should be forged which question habitual attitudes and which, through their personal behaviour and civil society engagement, signal a willingness to support the necessary reforms.

This integrated vision of a Global Deal may well be characterised as utopian, but at least it is a concrete utopia. Unlike an abstract utopia, this vision emphasises that such a utopia is literally within our reach, and hence realistic. Even though it cannot be realised overnight or down to the very last detail, given the monumental challenges ahead it is the only viable option. If every opportunity were taken to plot a consistent course in the right direction, that in itself would be an impressive start. Nothing less is called for than "slow, strong drilling through hard boards, with a combination of passion and a sense of judgment" as Max Weber put it, some 90 years ago. Reneging on this task would be tantamount to conceding defeat.



15 years after "Sustainable Germany", MISEREOR teams up with the Munich Re Foundation to present an arresting new study, which marries the ethical commitment to a more equitable world with the vital necessity of combating climate change.

The book analyses the reciprocal linkages between climate change and poverty and puts forward a macro-strategy whereby climate change mitigation and poverty reduction can be coupled together effectively, efficiently and equitably.

> Verlag C.H.Beck 240 pages with 23 colour figures and 6 charts Paperback, approx. EUR 19.95 ISBN 9783406606564 Only available in German

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The impacts of climate change will be immense, particularly for poor people in developing countries. Climate policy and development policy must therefore be more closely interlinked than ever before. It is time for a Global Deal, an integrated macro-strategy with the prime objective of a life of human dignity for all. This summary, which is also available in French, German and Spanish, sets out the key findings and policy messages of the full-length study, Global, aber gerecht. Klimawandel bekämpfen, Entwicklung ermöglichen, published in German only.

Under the direction of Ottmar Edenhofer, Johannes Wallacher, Michael Reder and Hermann Lotze-Campen