

# Policy brief

## Integrated Development and Climate Policies: how to realise benefits at national and international level?

### Integrating development and climate policies: a necessary approach

Development efforts will be seriously hampered by the risks of climate change if these are not tackled. Reduced economic growth due to climate change damages, threatened or under-performing investments, lower food production due to mal-adaptation to climate variability and a changing climate are examples of the influence of climate on development. Unsustainable development will lead to high emissions of greenhouse gases from energy, transport and agriculture and forestry that will exacerbate climate change.

The “development first” approach, which starts from development priorities and is climate inclusive, provides a framework for an integrated approach. Climate-inclusive policies aim at a development leading to low vulnerability to climate change and development with low greenhouse gas emissions. Although elaborated here for developing countries, this approach is just as relevant for industrialized countries.

### Box 1 Workshop background and objectives

From 20 to 22 September 2006, over one hundred policy makers, researchers and representatives of the private sector and NGOs came together in Paris, France to discuss new ways of linking climate change to sustainable development. The integration between development and climate objectives starting from development priorities, has received increasing attention in research and policy making over the last 2-3 years. The challenge is to find a broadly applicable range of effective policies and actions for realizing development objectives and at the same time result in real climate benefits (either reducing vulnerability to climate change impacts or development with lower emissions).

The goal of this workshop was to see what lessons for policy at the national and international level can be drawn from experiences so far. The workshop was successful in bringing together stakeholders working in different areas, ranging from rural development and land use, disaster management, poverty reduction and energy to transportation.

All presentations can be found on [www.developmentfirst.org](http://www.developmentfirst.org)

### Key messages

Four key messages emerge from the presentations and discussions at the workshop:

- I Benefits of integrating development and climate policies have been demonstrated.
- II The national policy level is crucial for implementing integrated development and climate policies. A more structural approach is possible.
- III There is a need to enhance the impact of national experiences by replicating promising approaches in other countries, with assistance from international organisations, and by aiming at development activities that have a large influence on global greenhouse gas emissions.
- IV Mainstreaming climate change in international policy frameworks and agreements is not done widely enough. There are good opportunities to design and better use these international instruments to facilitate national integrated development and climate policies.



### The knowledge base

A number of projects and initiatives have aimed to identify benefits of integrated development and climate policies and actions. In 2002 a number of research institutes from South and North started the “Development and Climate Programme” to explore national development strategies, and policies that meet development priorities and address climate change. This effort helped to identify promising policy options and explored how international policy frameworks can support implementation of integrated development and climate policies. The participating institutes comprised BCAS Bangladesh, CAAS and ERI China, COPPE and Unicamp Brazil, ENDA Senegal, ERC South

Africa, IIED, IIM India, Netherlands Environmental Assessment Agency (MNP), PRI Wageningen University and Research Centre, Stanford University and UNEP-Risø. The core of the programme is formed by country studies (addressing energy and land use) and an international policy dialogue (see Box 1).

The IGES project *Asian Perspectives on Climate Regime Beyond 2012 – concerns, interests and priorities*, the OECD project *Bridge over Troubled Water, Linking Climate Change and Development*, the WRI project *Growing in the Greenhouse, protecting the climate by putting the development first* and several others explored this interaction as well.

## I Demonstrated benefits of integrating development and climate.

Many countries have already experienced the benefits of an integrated development and climate strategy. Benefits of integrated development and climate strategies include reduced poverty, more employment opportunities and improvements in health, energy and food security and infrastructure, as well as climate benefits. In Box 2 country examples are provided.

### Box 2 Examples of demonstrated integrated development and climate strategies

#### Bangladesh

In Bangladesh agricultural policies aim at food-grain self sufficiency. In drought-prone areas promotion of high yielding varieties, and increasing cropping intensity has created a more vulnerable production system. New policies currently implemented are anticipating increased drought frequencies and move towards diversification of agriculture, including promotion of horticulture that will also help poverty alleviation.

#### Brazil

Using ethanol as energy source Brazil has created a cost-effective way to substitute for fossil fuels. Labour-intensive sugar cane and oil crop production systems provide opportunities for income and job generation for hundreds of thousands of poor small holder families in the Brazilian northern and northeastern regions. In doing so, the economy has become less vulnerable to changes in oil prices and it generates income. The Brazilian Alcohol programme has helped to reduce its import dependency from oil, saved about 52 billion US\$ (Jan 2003 US\$) between 1975 and 2002 in foreign exchange due to avoided imports, created 900.000 relatively well paid jobs and considerably reduced local air pollution in the cities as well as greenhouse gas emissions.

#### China

Energy price reform, energy sector restructuring, clean coal promotion, shift to gas and improved energy efficiency

contributed to a 15% decline in CO<sub>2</sub> emissions between 1996-2000, while the economy grew with 35% and urban air quality improved. Rice production systems and livestock husbandry are important sources of methane. Changing cropping system, irrigation regimes, improved techniques and fertilizer-use efficiency are current strategies that will increase production levels and at the same time lower emissions from agricultural systems.

#### India

Meeting energy needs by regional energy collaboration reduces costs for energy and stimulates economic development, reduces air pollution and results in lower CO<sub>2</sub> emissions. In India, the prominent development goals relating to food security and energy security are biomass strategies as a vital instrument for reconciling the competitive needs for land and water. Aside from this, biomass strategies also deliver co-benefits such as land restoration, local employment and income from timber, fruits and fodder as well as enhancing mitigation and adaptation capacity to deal with climate change.

#### Senegal

For the vulnerability of forest and agricultural system in Senegal, climate change poses an additional stress. Adapting to short-term climate variability through early warning systems and agricultural practices has proven to be a learning process for dealing with long-term climate change. Restoring soil fertility is a key factor in increasing and stabilising agricultural production levels and carbon sequestration offers an opportunity to work jointly on the development and climate agenda. Currently biomass accounts for 43 % of total energy consumption; in rural areas this can go up to 80%. Agro-forestry for the local energy supply contributes to the rehabilitation of degraded lands and provides a reliable energy source for the rural poor.

#### South Africa

Analysis shows that enhanced regional hydro-electricity cooperation would bring substantial socio-economic benefits to South Africa and the region as a whole, as well as improved air quality and reduced greenhouse gas emissions. Electricity

costs would be about the same as for coal-based electricity, energy security would however decrease.

The “Working for water programme” aimed to eradicate water guzzling exotic tree species and to create employment, but also reduced the vulnerability to drought. Current water management mechanisms and policies, most of them designed for 20 years, have been developed to ensure that the existing supply of water meets the growing demand without considering climate change. Irrigation, which is widely used, will most

likely become more expensive and may need to be phased out in favor of dry-land farming. Currently, losses through irrigation range from 30% to 40% of the demand, indicative of the potential for water demand management in the agricultural sector. Increasing efficiency by reducing losses will also have immediate benefits. The average water wastage due to plumbing leaks in the household is for example estimated at 20% of the total indoor household water use.

## II The national policy level is crucial for implementing integrated development and climate policies. A more structural approach is possible.

Country experiences show that integrated development and climate policies can be most effectively integrated at the national or sub-national level. However, in practice, there are a number of barriers that make integration of climate change in other policy areas difficult. Lessons have been drawn on how best to overcome such obstacles.

### Key barriers to implementation

Although some national governments and international organizations have begun to practice mainstreaming climate in other policy areas, integrated development and climate strategies are not widely implemented for a variety of reasons:

- Climate change is often not recognized as an important issue for development, despite the fact that climate change is already starting to negatively impact development efforts.
- The benefits of an integrated approach are not always known or directly visible.
- Integration is hindered by the lack of institutional coordination and cooperation. Lack of joint decision making between different national ministries is a major constraint.
- The implementation of mainstreaming is also hampered by the lack of human capabilities at different levels.
- There is a real risk of mainstreaming “fatigue” or “overload”. Developing countries feel the pressure, especially from the international donor community, to mainstream various interrelated aspects into their core development policies; not only climate change, but also gender, HIV, biodiversity and other issues.
- Furthermore, stakeholders at different levels have a poor understanding on how to deal with scientific uncertainties.

### How integrated development and climate strategies can work

#### General directions

Mainstreaming can work when commitment and awareness at all policy levels is secured. Several general directions have emerged for integrating climate change into different policy areas at national level and making implementation happen.

- Start from evolving political and economic conditions in the country, and concentrate on the main policies and programmes in play that form the core of development planning.
- Take the political economy into account. This means starting from the real world and involving all relevant players (business, government, local organisations, etc.).
- Acknowledge the sub-national level as being very important for implementation, especially for adaptation. Local level solutions are key. Without involvement of decentralized institutions, local development planning and use of participatory approaches, policy implementation is not likely to be successful.
- Have all relevant ministries and governmental bodies share strategies and take responsibilities in a coordinated manner. National development strategies, sector and environmental strategies, Poverty Reduction Strategy Plans and the planning and budgeting process offer opportunities to mobilise coordinated efforts (see Box 3 about Tanzania for a positive example).
- It is not primarily a matter for the Ministry of Environment; action has to come from the Ministries of Economic Affairs, Finance, Planning, Agriculture, Energy, where the core decisions on development are taken.
- Stakeholders will have to deal with uncertainties on climate change and its impacts in the decision making process by taking a (long term) risk management perspective. Scientists should make

great efforts to communicate these climate change risks to all stakeholders in the development process in terms that relate to every day practice.

- Finally, show realism in dealing with synergies and trade-offs. Win-win solutions are not always available, especially when markets are imperfect. Low energy prices due to heavy subsidies can, for instance, be a major obstacle to improving energy efficiency.

**Box 3 The example of Tanzania**

“Tanzania’s vulnerability to the impacts of climate change is becoming more and more of a national concern. Extreme weather events impact negatively on agriculture. Infrastructure such as roads, railways and bridges are destroyed by floods and cyclones. The economy, which grew by 6.9% in the year 2005, is expected to grow by only 5.9% in 2006. The decline is mainly the result of – climate related – drought.

The economy and the very survival of the majority of communities, as in many Least Developed Countries (LDCs), depend on such climate-sensitive sectors. Tanzania’s economy can aptly be described as a Climate-Sensitive Economy. It is because of this dependency, and the current and projected impacts of climate change, on such sectors that climate is a national priority and now, a national preoccupation.

Mainstreaming the environment and hence climate in the national development process is a prerequisite, with or without an international treaty. Mainstreaming entails integration of sustainability principles into a development strategy and, for most poor countries, building capacities at national and local levels for better identification of environmental concerns and opportunities.

This implies properly integrating actions into plans and budgets. Factoring environmental actions into the budgets of the key sector of the economy is an essential attribute of environmental mainstreaming. Tanzania’s national budget for the fiscal year 2006/2007 has been dubbed as a “green budget”. Environment now features prominently, with an increasing level of emphasis in the different national and sectoral policies and strategies. A number of initiatives have been undertaken, and policies, strategies, and programmes put in place to achieve environmental concerns. These include the National Environmental Policy; the Environment Management Act, 2004; Rural Development Policy; the Agricultural Sector Development Strategy (ASDS), the Tanzania Assistance Strategy (TAS); the National Strategy for Growth and Reduction of Poverty, and the Tanzania Development Vision 2025.”

From the speech by Professor M. J. Mwandosya (MP), Minister of State (Environment), Vice President’s Office, which he presented at the workshop.

More specifically the question is what can be done differently within key policy areas for development, to capture possible synergies between development and climate

**Poverty reduction**

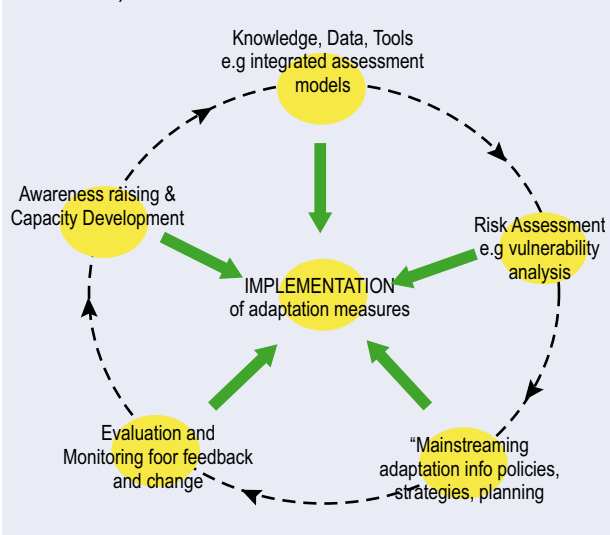
Poverty alleviation is a core objective for most national governments. The realization of the Millennium Development Goals (MDGs) is the most prominent issue on the international agenda at the moment. The poor are amongst the most vulnerable groups to climate change and are likely to benefit most from mainstreaming development and climate policies. Better agricultural policies to deal with drought and erosion will directly influence the food security of the poor. But also improved access to clean energy will help local development and reduce health problems from indoor air pollution caused by traditional fuel use.

However, there are opposing views on how to address climate change in the context of poverty alleviation. Some emphasise that poverty reduction has so far not been a success, so mainstreaming climate change into the poverty eradication agenda might not work. This view leads to recommendations to move to local level climate projects instead of national poverty reduction policies. In such a situation climate risks might be too large to “hide” in another agenda. The other view is that “climate change might be the straw that breaks the camels back” and that integrating climate change in poverty reduction strategies is necessary to be able to reach the poor. It is then seen as an additional stress to be dealt with. Practically, this can be achieved through “climate proofing” poverty reduction policies, as illustrated in Box 3 and 4.

**Rural development and land use**

One opportunity for rural development in looking at integrated development and climate policies comes from the emerging bioenergy market. Bioenergy crops not only generate income for farmers, they can also improve the rural renewable energy supply and national energy security and they have potential

**Box 4 Mainstreaming adaptation in development (from OECD 2005)**



as an export commodity. As market and transport conditions, and inputs for productive and efficient biofuel and food production systems are similar, investments in agricultural production could be mutually reinforcing. On the other hand, competition for land and labour could have a negative effect on local food production and increase dependency on food imports. To move forward, national policies could benefit from more harmonized urban and rural energy policies that define the role of bio-energy in the national energy supply, better regional market integration to allow bio-energy cash crops to reach the relevant markets and improved co-ordination between agricultural and energy policies.

### Disaster reduction

There is a great potential for linking existing disaster reduction and prevention policies, on the one hand, and climate change adaptation, on the other, to reduce vulnerability to possible harm of weather-related disasters. Both approaches reduce risk. Integration requires dialogue and co-operation between the disaster-reduction and climate-change communities within governments, private sector, civil society and science in countries. Box 5 illustrates how this might look in the context of development policies. Involving the people and organisation at the local level is important. Actions can benefit from better information on upcoming extreme weather events, requiring capacity for early warning and weather forecasts. Combined actions should move away from relief and focus on prevention and preparedness through better land use planning, and improved quality of houses and other building structures. A problem with preventive actions is that

they are less visible, and therefore often less attractive to politicians and donors

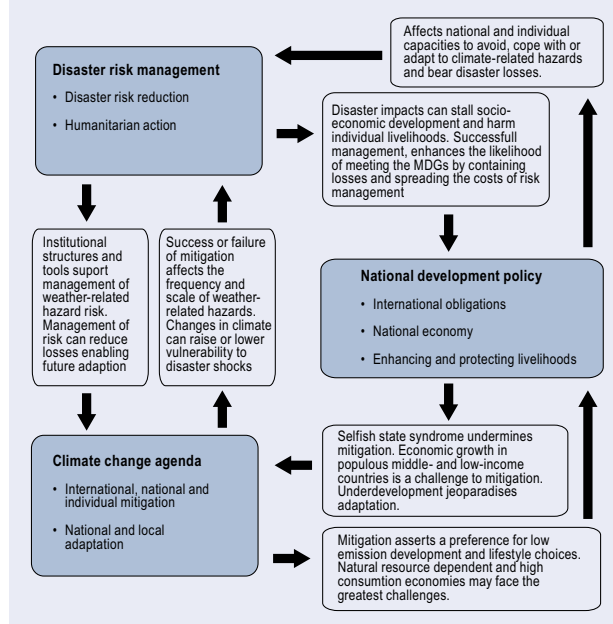
### Energy

Energy security and improving access to energy are very important for local and national economic development. This can be realized in ways that also reduce health risks (through reduction of indoor and outdoor air pollution), and mitigating climate change through lower emissions of CO<sub>2</sub>. Efficiency in energy supply and in the end-use sectors plays a key role in realizing development and climate benefits (including employment), in addition to shifts from coal to natural gas and domestic renewable energy supply (bio-energy, wind power, hydropower). Achieving energy efficiency is faced with many economic, institutional and market imperfection barriers.

Studies in several countries show significant potential for lower future CO<sub>2</sub> emissions if these strategies are followed, while improving energy security and maintaining affordable energy supply. In countries with a large share of renewable electricity, maintaining that share in the future is a challenge (see Box 6 on Brazil). For countries with large coal reserves such as China the future use of coal will be an important issue from an energy security and public health point of view, but additional costs are still a major obstacle for applying clean coal technologies (including CO<sub>2</sub> capture and storage and provisions to limit air pollution).

The private sector plays a key role in energy supply and use in many countries and therefore needs to be closely involved in mainstreaming climate change into energy policy.

#### Box 5 Linking disaster risk management, national development policies and the climate change agenda (Schipper and Pelling, 2006)



#### Box 6 Integrated Development and Climate Energy Policies applied in Brazil

Brazil is concerned with keeping its pattern of energy production sustainable. More than 90% of all electricity generated in the Brazilian energy sector comes from hydropower. However, since the best hydropower options have already been tapped, emissions from the energy sector in Brazil may grow again.

This trend can, however, be modified and even reversed with implementation of integrated development and climate policies that include:

- improvement of energy efficiency in industry and transport
- use of natural gas in industry and residential and commercial sectors
- ethanol to be used for domestic markets and exports
- use of biodiesel in transport sector
- renewable power generation in remote areas (access to electricity for rural population).

### Transport

In the area of transportation, development priorities are focused on increased mobility, creating new infrastructure, and on health, air pollution and security of oil supply. Both development and climate can benefit by changing fuels (biofuel or natural gas), introducing more efficient vehicles, promoting public transportation and bicycles, and adapting city models. All aspects need to be addressed in combination. Well-maintained public transportation systems, such as buses, can make a large contribution to increasing social well-being through improved convenience, less congestion, cleaner air and social contacts (as illustrated in Box 7 with pictures from Bogota). But then a lock-in into a car infrastructure has to be avoided.

The Brazilian bio-ethanol and bio-diesel experience shows the importance of consistent government policies, a sizeable scale of production and the introduction of flexible fuel vehicles by the automobile industry as key success factors for the introduction of biofuels. Major obstacles to moving towards a sustainable transport system are the complexities of securing sustainable bio-fuel production in many countries (i.e. avoiding massive use of subsidies to support unsustainable solutions and realizing a joint agriculture-energy-transport policy), lack of political will to favour the large part of the population without cars and the upfront investments in good public transport systems.

#### Box 7 Examples from Bogota

Public bus systems, cycle paths and pedestrian areas contribute to improving the quality of life in Bogota as is shown in the pictures on the right hand side. Pictures on the left hand side show business-as-usual development (from the speech of mr. Diaz, Colombia).



### III There is a need to enhance the impact of national experiences by replicating promising approaches in other countries, with assistance from international organisations, and by aiming at development activities that have a large influence on global greenhouse gas emissions.

The workshop paid extensive attention to the question on how national integrated development and climate policies could be scaled up through international initiatives to increase their global impact. The answers to this question will determine to a large extent the success of mainstreaming strategies. Scaling-up can be done by either implementing national initiatives on a large scale (for example, large-scale shifts in China's powerplant fuels) or widely replicate local or national approaches in other countries (e.g. bio-ethanol production or integrating climate change adaptation in disaster prevention). However, differences between countries and regions are very important and replication is therefore not the same as copying. Approaches need to be tailored to specific needs and circumstances, along with available resources.

International organisations, such as FAO, UNDP, UNEP, UN Regional Commissions, World Bank, Regional Development Banks, Global Partnerships such as the Global Village Energy Partnership and the Renewable Energy Policy Network 21, and OECD could play a facilitating role in implementing integrated development and climate strategies in many countries. They could, for example, provide a forum for further development of these approaches, share good practices, build adequate human and social capacities, initiate new partnerships and regional collaboration, set standards and guidelines and provide reliable data.

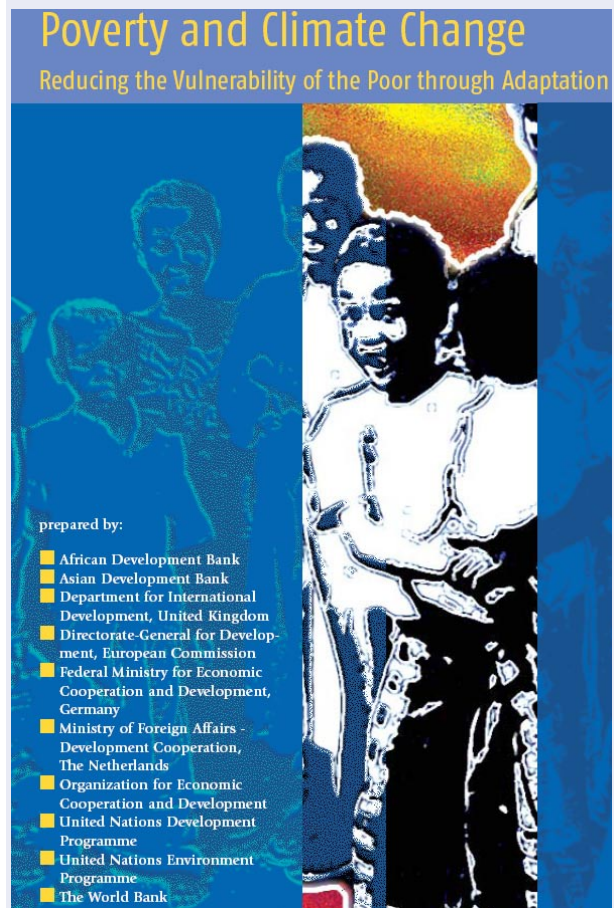
#### *Poverty reduction*

A critical issue is financing the mainstreaming of climate change into poverty reduction strategies. There is a tendency in the development assistance communities to aim for additional climate funding to realise the mainstreaming, while the inherent risks of climate change to poverty eradication strategies provide good arguments to also use core development funding for this purpose. As a significant proportion of development assistance is sensitive to climate change, donors should fully mainstream climate change in their programmes and projects on agriculture, water, infrastructure etc.. Integration of climate change risks in national poverty reduction and development plans is a pre-requisite for access to such funding. Given the magnitude of the climate change risks, increasing overall funding through leveraging non-ODA funding remains critical.

A second important issue for scaling-up is creating the right conditions in developing countries – with assistance from bilateral and multi-lateral organisations – for mainstreaming climate change in poverty reduction policies (see Box 8 for an early initiative on this). Local livelihoods, human capacities and technologies serve as the starting point. Creating access to resources and markets to build coping

#### **Box 8 Poverty and Climate Change - Reducing the vulnerability of the poor through adaptation**

In 2003 a number of bi- and multi-lateral donors published a report with a plea to address climate change to meet poverty reduction targets. The objective of this report was to contribute to a global dialogue on how to mainstream and integrate adaptation to climate change into poverty reduction efforts. The report suggests that the best way to address climate change impacts on the poor is by integrating adaptation responses into development planning. This is fundamental to achieving the MDGs.



capacities is important. Data on vulnerabilities can be provided by international organisations. Partnerships between public and private sector at community, national and international level, such as the Poverty and Environment Partnership from UNDP and UNEP, are effective vehicles for disseminating best practices. Implementation of the MDG agenda will provide a strong incentive for such partnerships.

**Rural development and land use**

For land use systems, where there are large differences in conditions, scaling up integrated development and climate policies has to be adapted to local circumstances. Efforts are needed to provide reliable land use data, practical standards and guidelines to both national policy makers and local communities. This requires a coordinated effort between national governments and international organisations like FAO (see Box 9).

Financial institutions can assist in securing finance for large-scale activities. Biofuel production – one of the prime candidates for scaling up integrated agriculture and climate strategies, for example – can be quite capital intensive. Many countries are not able to generate the necessary investment and the required institutional arrangements. Implications of international trade regimes, as discussed in WTO, can be significant for rural development but are still poorly understood in the context of climate change.

**Box 9 FAO information systems**

The Food and Agriculture Organisation (FAO) was founded to raise levels of nutrition and standards of living, to improve agriculture productivity and to better the condition of rural populations. Rural development policies need reliable data. The FAO is uniquely positioned to collect and distribute data on land use systems needed to formulate and evaluate rural development policies. FAO is involved in formulating and testing indicators to assess and monitor environmental performance of land use systems. Particularly the Food Security and Nutrition and Vulnerability-related Information and Mapping System (FIVIMS) is important for agricultural development.

**Disaster reduction**

Scaling up integrated disaster reduction and climate change adaptation policies seems very promising, especially by making use of the opportunities offered by the UN ISDR Hyogo Framework for Action 2005-2015 (see Box 10). Climate change risks have already been recognised, and integration in disaster preparedness and prevention is being discussed at international and national levels. Implementation of the agreed actions is on a voluntary basis, but is supported by intergovernmental processes to develop guidelines, monitoring tools and data, with

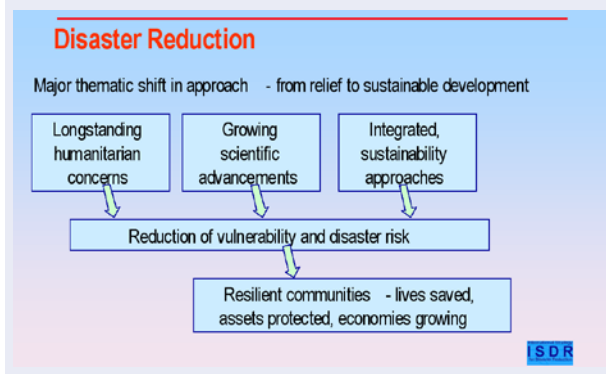
**Box 10 Hyogo Framework for Action 2005-2015 Building the resilience of nations and communities to disasters**

The Hyogo Framework was concluded at the World Conference on Disaster Reduction, Kobe, Hyogo, Japan in 2005. Its strategic goals are:

- reducing disasters as part of sustainable development;
- strengthening institutions (especially in communities) in building resilience and
- building risk reduction into emergency management and recovery.

A trend can be recognized in which disaster reduction aims to move from relief to integrated approaches towards sustainable development. For climate change states agreed (within the Hyogo framework) to reduce the risk of disaster posed by climate change through:

- identification of climate-related risk;
- design of specific risk reduction measures, and improved and routine use of climate risk information by planners, engineers and other decision makers;
- integration of disaster reduction and adaptation to climate change and
- mobilisation of resources through mainstreaming disaster-risk reduction into development and climate adaptation.



encouragement by national platforms. Improvement in mapping vulnerable areas, effective prevention approaches and early warning systems is a key concern. Resources for national implementation have to come from national budgets, which make disaster prevention vulnerable to the setting of priorities.

Operational support from the national and international (UNFCCC) communities would be very helpful in improving cooperation for further identifying synergies and jointly addressing the mainstreaming of climate risks in the development agenda. Climate change may provide a lever to enhance mainstreaming in development planning for disaster reduction policies. It is important to learn from experiences at local level and incorporate this into regional and national planning.



## Energy

Scaling up in the energy sector could follow two different routes. One is the focus on the (future) large-scale energy projects (e.g. use of coal or gas in China and India). The other refers to the many small-scale initiatives that are needed in all countries for improving energy efficiency and implementation of renewable energy.

For large-scale shifts to natural gas in the power sector, options that are realistic for China and India, for instance, interests of provincial and local government, the business sector and the national government need to be aligned. Understanding the power structure and the local conditions is vital in such circumstances. For clean coal technologies (including CO<sub>2</sub> capture and storage) international cooperation is needed to overcome the financial and technical barriers.

Replication of national success stories is effective for energy efficiency and renewable energy (the second category) Partnerships such as the renewable Energy Network 21 (see Box 11) have been shown to be effective in mobilizing national initiatives and sharing experiences. Enhanced energy access, another top development priority, is not in conflict with integrated energy and climate policies, because it will only marginally influence total energy consumption.

International organisations, like the International Energy Agency (IEA) and the World Bank can play a role, especially with respect to technology development, transfer and implementation, as well as ensuring that the financial means become available for sustainable energy investments. The recently published World Bank strategy for clean energy and sustainable development (see Box 13), in response to a G8 initiative, is an example of how international organisations can promote scaling-up of national strategies that realise both development and climate goals. The Kyoto Protocol Clean Development Mechanism may be a supplemental source of financing clean energy, but capital flows are small compared to the need for financing.

### Box 11 REN 21. The Renewable Energy Policy Network for the 21<sup>st</sup> century

*REN 21*, established after the Bonn conference on renewable energy in 2004, is a global policy network in which ideas are shared and action is encouraged to promote renewable energy in developing and industrialised countries. REN 21 includes 197 commitments for developing RE, submitted by governments, IGOs, civil society, private sector after the Bonn conference. One of the issues it addressed is the special role renewable energy can play in realising the MDGs.

## Transport

Since sustainable transportation is highly dependent on local conditions, replication of successful integrated transport and climate policies is difficult. The Brazil successes with bio-fuels and flex vehicles might not be easily replicable elsewhere. The lack of international organisations, partnerships and programmes focussing on sustainable transport make it even more challenging. One of the few examples is the EMBARQ programme, which represents an attempt to draw lessons on sustainable urban transport from different cities around the world (see Box 12). What is needed is a combination of documentation of case studies, development of guidelines for monitoring and measuring the effects of sustainable transport programmes, facilitation of regional cooperation, and, most important, integration of these experiences in infrastructure investment, both nationally and within international development financing.

### Box 12 EMBARQ

EMBARQ, a center in the World Resource Institute, is a hub for a network of centers for sustainable transport in developing countries. In public-private partnerships EMBARQ designs and implements sustainable urban transport models in the developing world, focusing on the needs of cities, their citizens and the environment, which also offer economic opportunities for business. Projects carried out include:

- Mexico City: design and implementation of Bus Rapid Transit (BRT) system and test of best engine/fuel combinations for new high-capacity, low emission transit buses in Mexico City.
- Shanghai: creation of a public-private partnership with city government – Shanghai Sustainable Transport Partnership (SSTP)
- São Paulo: creation of a Partnership with leading Brazilian engineering/consulting firm for the development of BRT on the Celso Garcia Corridor
- Porto Alegre: Extension of partnership to develop pilot study and implementation of BRT
- Istanbul: Early stage development of private-public partnership incorporating the municipal government, business leaders, and the public sector
- Hanoi, Pune, and Xi'an: development of sustainable transport indicators for improved decision making with an emphasis on traffic congestion, mobile source emissions, and transport-related accidents.

## IV Mainstreaming climate change in international frameworks and agreements is not done widely enough. There are good opportunities to design and better use these international instruments to facilitate national integrated development and climate policies.

Realizing climate benefits at the national level can be facilitated or hindered by international policy frameworks and agreements. Existing international frameworks and agreement are usually not designed to promote integration between different policy areas and institutional structures often complicate such integration. The workshop explored opportunities to make better use of existing policy frameworks to realise development and climate benefits, and to design future frameworks and agreements in such a way that it facilitates implementation of integrated development and climate policies at national level. This obviously means there is a need to go beyond the Framework Convention on Climate Change and to broaden the climate agenda.

### Adaptation

There is general consensus that it remains important to strengthen the adaptation component under the UNFCCC when designing post-2012 agreements. When considering how to do this the following opportunities were identified to facilitate integrated development and climate approaches to deal with climate variability and change:

- Create a close link with the ISDR Hyogo Framework for Action 2005-2015 that is already integrating climate change risks into national and local disaster preparedness and risk reduction plans
- Make full use of bi-lateral and multi-lateral development assistance and poverty reduction programmes
- Make use of the Human Rights Convention to deal with possible forced migration as a consequence of climate change impacts.
- Include insurance mechanisms and involve the insurance branch through international platforms such as the UNEP Finance Initiative. Insurance should not lead to locking poor people into unsustainable livelihoods.
- Create close links with the UN Convention on Combating Desertification that deals with adaptation to drought.

Integrating implementation of various international frameworks and agreements can contribute to simplifying the administrative burden in developing countries.

### Technology development and diffusion

Development and deployment of technologies that are climate-friendly calls for a combined technology-push and technology-pull approach. All climate-friendly technologies will be needed. R&D (push), as well as

the development of market-based instruments such as the carbon market (pull) will be needed, although development of technologies for the longer term is not really triggered by short-term cap and trade systems. For the development of technologies, a long-term price signal (beyond 2012) on the market will be important. Keeping the issue within the general area of technological innovation and modernisation is important. Calling it climate technology will make mainstreaming more difficult.

#### Box 13 WB Investment Framework for Clean Energy and Development

This joint effort by the World Bank and other international financial institutions and development banks was prepared as a follow-up to the G-8 Gleneagles Summit Communiqué and Plan of Action for Climate Change.

The *Framework* covers three interdependent issues:

- the investments needed in order to meet modern energy needs of developing countries over the long-term, which, at the same time, pay attention to efficiency and local environmental considerations;
- the additional steps required in energy, transport and industrial sectors to mitigate the effects of climate change by reducing greenhouse gases and
- what developing countries need to do is to adapt to the impacts of climate change and weather variability.

The framework is intended as a vehicle to accelerate investments in these three areas.

In terms of how to create incentives through international frameworks and agreements the following approaches have been identified as promising:

- Strengthening international cooperation in research and development of low carbon technologies. There are existing arrangements within IEA; however, several partnerships on hydrogen, fuel cells and CO<sub>2</sub> capture and storage are in operation too. It is not yet clear how best to reinforce these arrangements
- Changing investment patterns through new financing instruments such as the World Bank's Clean Energy and Sustainable Development framework (see Box 13). Involvement of the real decision makers is essential and the problem of the UNFCCC framework is that these stakeholders are often not represented there.

- Within the UNFCCC one might think of sector agreements that could include technology standards. Longer term emission goals could also create useful incentives.
- In terms of promoting the diffusion of clean technologies, facilitating conditions in recipient countries is essential. The current UNFCCC provisions are inadequate to make sufficient progress. Exchanging best practices, capacity building and public-private partnerships can all contribute.

### Finance

Financing climate-safe and climate-friendly development requires large additional funds, which are not available through the UNFCCC financial mechanisms. Although the Clean Development Mechanism (CDM) is now generating capital flows in the order of US\$10 billion over the coming 10 years or so and the Global Environment Facility (GEF) has spent several billions over the past 10 years, this is still a small amount compared to the additional 80-110 billion US\$ that is estimated to be needed per year to invest in clean energy, improved energy access and making development less vulnerable to climate change. The UNFCCC adaptation fund is not likely to generate capital flows of this magnitude either. The main contribution needs to come from development financing and private investments.

Apart from the problem of additional funding there is also the issue of access to basic investment capital. Not so much for big energy projects, since these are mostly located in countries with good access to investment capital and attractive conditions for foreign direct investment. For energy efficiency, for example, access to financing is more frequently a barrier, although it has excellent economic, social and environmental benefits. Solving this problem requires national solutions that involve the banking system as well as government involvement. Positive experiences in several countries can be replicated, but the lack of international frameworks or partnerships does not make that easy.

### Sustainable development and emission reduction

The question on how international frameworks and agreements could facilitate integrated development and climate policies that would lead to lower GHG emissions was addressed by studying the UNFCCC and, in particular, post-2012 agreements. One of the most promising ideas is to look at local sustainable development policies and measures in developing countries and to build those into a system of voluntary or mandatory obligations. See Box 14 for a voluntary, pledge and review-based, proposal. Discussions centered around a number of questions:

- Can these sustainable development policies and measures be sufficiently quantified?
- Is a strictly voluntary system compatible with the

principle of equity and “common but differentiated responsibilities”, as enshrined in Article 4 of the UNFCCC? Or would it have to be accompanied by a national or sectoral target?

- Can such a system be linked to the carbon market? One possible solution might be the UNDP/MDG carbon fund that is being established. A possible barrier is the baseline issue: the current CDM system only applies to measures that achieve a deviation from the baseline. If sustainable development policies change that baseline, it may interfere with CDM.
- Is a system of sustainable development policies and measures manageable in view of the heavy administrative load?

No conclusions have been drawn and further elaboration of these questions would seem necessary.

#### Box 14 Sustainable Development Policies and Measures (SD-PAMs)

SD-PAMs would represent a commitment to implement sustainable development policies not based on climate target, but on choosing a development path that results in lowered emissions. In the proposal for national implementation, as presented by Harald Winkler (ERC), it would involve the following steps:

- 1) Country outlines on future development objectives
- 2) Identification of PAMs to achieve development objectives more sustainably
  - a. Existing policy not fully implemented; or
  - b. New policies and / or more stringent measures
- 3) Mobilize investment and implement SD-PAMs
  - a. Possible inclusion of mutual pledges to mobilise domestic investment
  - b. Internationally, climate and non-climate funding
- 4) Recording SD-PAMs in a registry (e.g. maintained by the secretariat)
- 5) Setting up a national monitoring system to track implementation of SD-PAMs
- 6) Review of SD-PAMs in SD units, either as part of national communication or a specific review
- 7) Quantifying the changes in GHG emissions from individual PAMs
- 8) Identifying PAMs with synergies or conflicts between SD benefits and greenhouse gas limitations
- 9) Summarising the net impact of a basket of SD-PAMs on development and greenhouse gas emissions.

## Need for further work

Over the last 2-3 years progress towards integrating development and climate policies in many countries has been observed. Mutual understanding is increasing between different actors in this field, but it is also clear that this is just the beginning of a process in which the climate change is becoming truly integrated in developmental policies. Obviously there is a need for further work. The most urgent needs include:

- Truer exchanges between development and climate communities, with involvement of the private sector;
- More in-depth analyses of barriers to integrated development, and climate approaches and possible solutions at both national and international level;
- Further exploring of “large emitter deals” (clean coal, coal to gas) and “replication mechanisms” (adaptation, efficiency) and their relation to international processes and organisations;
- Further exploration on how development and climate approaches fit into new international frameworks and regime architectures;
- Implementation of a series of “action oriented” demonstration projects.

## Colophon

This Policy Brief was written by M.T.J. Kok (MNP), B. Metz (MNP), A. Verhagen (Plant Research International-Wageningen University and Research Centre) and S.N.M. van Rooijen (MNP/CAP-SD).

This policy brief is published by the Netherlands Environmental Assessment Agency (MNP).

All presentations from the workshop and this policy brief can be downloaded from [www.developmentfirst.org](http://www.developmentfirst.org) and the websites of the organising institutes.

For further information please contact:  
[marcel.kok@mnp.nl](mailto:marcel.kok@mnp.nl)

[www.mnp.nl](http://www.mnp.nl)  
November 2006