Climate and Development: A Double Dividend

Review of initial outcomes from the SDC Global Programme on Climate Change

Schweizerische Eidgenossenschaft
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Swiss Agency for Development and Cooperation SDC

Climate disasters, such as droughts, floods or mud slides are affecting a growing number of people worldwide. Climate disasters hit the poor much harder. During the period from 1970 to 2008, over 95% of deaths from natural disasters occurred in developing countries. Women are often in the frontline. They are facing disproportionately high risks to their livelihoods and health from climate change.

Cover:

High-Income OECD

 Developing countries

People affected by climate disaster per 100,000 (2000–04)

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Foreword

Several years ago the SDC launched four Global Programmes on Climate Change, Food Security, Migration, and Water, respectively. It also plans to launch a fifth Global Programme on Health in 2013. All five seek to address these emerging global challenges, as well as evaluate their attendant risks and opportunities. The Global Programmes devise innovative yet practical solutions, and make an active contribution to political dialogue, both nationally and internationally. They can also rely on an extensive network of contacts, which allows them to share their valuable experiences and specialist knowledge in their given area of expertise. The multifunctional nature of these programmes perfectly complements the SDC's time-honoured bilateral and multilateral cooperation activities. Furthermore, they provide tangible proof that action on the ground yields a double dividend: alleviating poverty on the one hand, and addressing the causes and effects of climate change on the other.

In the interests of maximum impact, the SDC Global Programme on Climate Change focuses its efforts on only four countries: China, India, Peru and South Africa. The latter is omitted from the present review as programme-related activities are still in their infancy there. The structure of the present report follows that of the Global Programme itself, with sections on political dialogue, operational experience and knowledge-sharing. Although the SDC has recently re-classified climate mainstreaming under "knowledge-sharing", the authors have chosen to address the issue in a separate section.

The present review of the Global Programme on Climate Change draws on an internal audit carried out by Gerster Consulting on behalf of the SDC in the latter part of 2011. In order to evaluate the initial outcomes of the programme, the authors analysed documents, and conducted interviews with personnel who were directly involved in the programme either in Switzerland or in one of the three partner countries. The authors concluded that the achievements of the Global Programme on Climate Change have been remarkable, especially given that it was launched only a few years ago. Key information on each topic is presented over two pages, together with an information graphic. This means that the report can be read either consecutively or in any order, either in full or in part. Regardless of how it is read, the present review should offer a broad insight into the work of the SDC to make globalisation more pro-development.

Martin Dahinden
Director of the Swiss Agency for Development and Cooperation (SDC)

Escaping the climate trap

The challenges of climate change

Our everyday lives are increasingly shaped by global developments. Climate change, for example, alters the natural precipitation cycle, which in turn leads to more droughts and flooding. The resulting crop failures and damage to infrastructure hit the poorest hardest and undo the progress that has been made over the last few years. It is estimated that it will take as much as 67 billion US dollars every year to remedy the worst effects of climate change in developing countries. However, populous emerging countries are not merely passive victims. While their per-capita CO_2 emissions are, admittedly, below average, their total emission levels are high and continue to rise exponentially. Together, developing and emerging countries are responsible for half of all global greenhouse gas emissions. The principal cause is economic growth powered by fossil fuels and deforestation. Between 2003 and 2007 coal consumption doubled in China, while widespread deforestation has placed Indonesia and Brazil among the world's leading greenhouse gas emitters.

The climate debate no longer refers to the North-South divide (…). The divide is now cross-cultural: on one side there are the countries that take a longer-term, and more responsible view, while on the other side are those countries which continue to put their short-term national interests first.

Hans Joachim Schellnhuber, climate researcher

Bringing the problem of climate change under control will require greater North-South cooperation. Opinions on the role and responsibilities of industrial, emerging and developing countries differ and sway global policy negotiations. During the annual meetings of the United Nations Framework Convention on Climate Change (UNFCC), State Parties still struggle to reach agreement on solutions to the problem. The last UNFCC meeting held in Durban in December 2011 led to the establishment of a joint platform for a new climate change agreement, which will follow on from the outgoing Kyoto Protocol. However, participants failed to set quantitative targets.

The shortcomings of global climate policy mean that national measures are more important than ever. Switzerland supports specific climate mitigation efforts in various countries, and cooperates with willing and interested partners in those regions. The aim of this approach is to avoid the unmanageable (mitigation – prevent man-made greenhouse gas emissions) and to manage the unavoidable (adaptation – adjusting to inevitable climate change). Other activities can be mutually complementary. For example, sustainably managed forests not only benefit the climate, but also ensure that the local community has forest products at its disposal and thus a livelihood (Figure 1). The Swiss Parliament voted in favour of raising the development cooperation budget to 0.5% of GNI, as well as providing an additional 125 million Swiss francs specifically for climate mitigation/adaptation measures in developing countries. This move is in line with calls from the global community, urging industrialised nations to offer "new and additional" funds to tackle climate change ("fast start financing").

Figure 1:

Forests – a boon for the climate and for development

Deforestation and forest degradation are responsible for around one fifth of global man-made greenhouse gas emissions. In some developing countries, this figure is as much as 80%. The international community has devised a forest-and-climate protection mechanism (REDD+), which provides economic incentives for tropical forest conservation. UN climate talks are the stage for all negotiations on funding-related issues and verification systems. Switzerland adopts a pro-active approach to international forest use and protection efforts. Besides aiding the attainment of CO_2 emission targets and acting as a carbon sink, forests are a source of income for local communities, and help conserve ecosystems and biodiversity. Regulations governing the forest sector generate co-benefits at a variety of levels.

Sources: SDC, Frankfurter Allgemeine Zeitung (FAZ)

The Global Programme on Climate Change is closely related to the SDC's core mandate and to the strategic areas of cooperation – reduction of poverty, human security, and pro-poor globalisation.
SDC Global Programme on Climate Change, p.1

Contribution of the Global Programme on Climate Change

Switzerland wants to make a greater effort to link poverty reduction with global challenges and to promote a form of globalisation that favours development. Recognising that traditional forms of cooperation could not adequately address the issue of Global Public Goods, the SDC set up a series of Global Programmes in 2008. Their primary goals are to develop innovative solutions, disseminate knowledge, and inform multilateral policy dialogue on the global challenges of climate change, food security, migration, and water. Unlike conventional SDC projects, these programmes take greater account of the global policy agenda. They also can rely on a network of scientific and private-sector partners (including non-governmental organisations), enabling them to forge new alliances and get more actors involved. Switzerland brings its own knowledge and expertise to the table, while seeking to cooperate with partners on an equal footing and encouraging mutual learning.

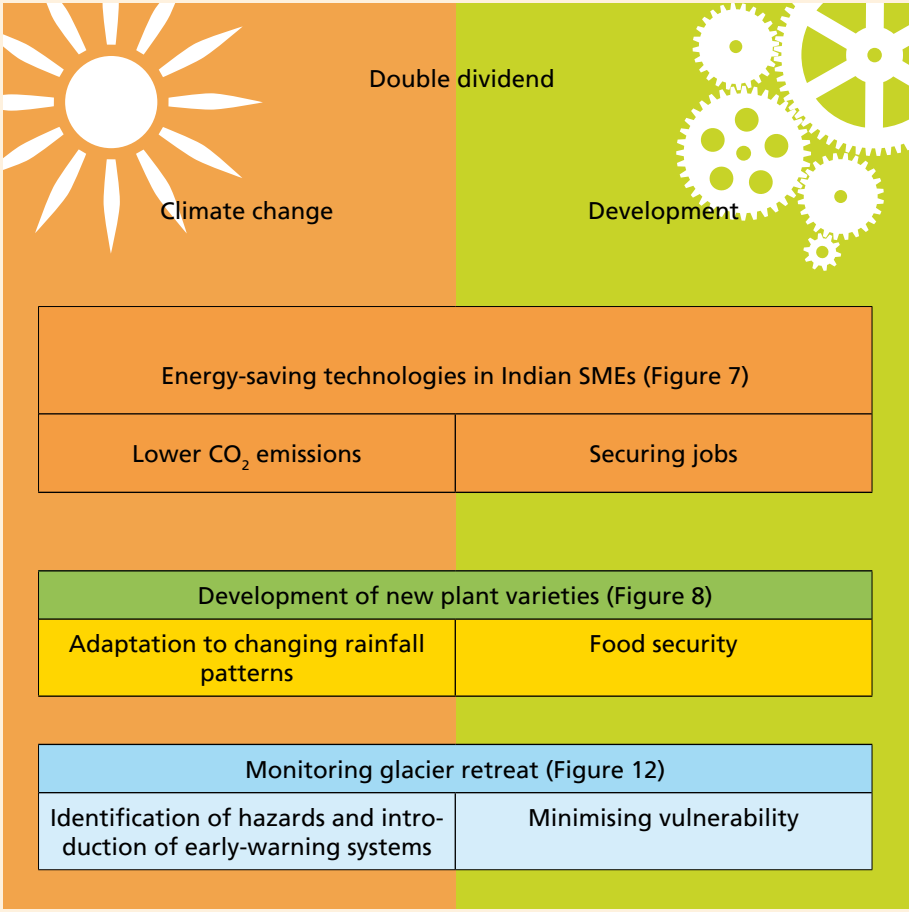
The SDC launched the Global Programme on Climate Change in 2008. However, the Swiss Agency for Cooperation and Development was not breaking entirely new ground as it had been an active participant in global environmental protection efforts since 1991. The early programmes were financed by a one-off framework credit authorised by Parliament to mark the 700th anniversary of the Swiss Confederation. Once the funds were exhausted, Switzerland decided to continue its engagement on climate change. In this way, up until 2010, the Confederation disbursed some CHF 80 million per year for climate-related development cooperation efforts. The experience and contacts accumulated during the initial activities laid part of the groundwork for the current Global Programme, thus making it possible to share past South-South cooperation experiences, consolidate partnerships and develop specific topics, as is the case of India and Peru.

In the interests of maximum impact, the GPCC is limited to a handful of countries and regions. There are two main reasons why emerging countries and advanced developing countries are the focal point of the programme: their rising greenhouse gas emission levels coupled with their key role in the search for global solutions to the climate problem. A set of criteria was used to select the partner countries, such as their strategic importance and their willingness to engage in climate policy. Other criteria included the potential impact of Switzerland and the complementarity to the work of other actors. One of the thematic priorities of the programme are glaciers and their role in climate change, with specific projects launched in China and Peru. Projects in India have so far focused on promoting energy efficiency and the use of renewable energies.

Figure 2:

Climate Change and Development – A Double Dividend

The SDC Global Programmes on Climate Change, Food Security, Water, and Migration receive seven per cent of the SDC's annual development cooperation budget. In 2010, this came to CHF 72 million. The Global Programme on Climate Change invests four out of every five Swiss francs it receives in partner country programmes and projects. Frequently, this investment generates a double dividend. On the one hand, it mitigates the causes and effects of climate change by lowering CO_2 emissions, improving energy efficiency and introducing adaptation measures. On the other hand, this investment helps reduce poverty, guarantees a source of income for the local community, and improves food security.



Source: SDC

Exerting influence at all levels of climate policy

Global cooperation: in everyone's best interests

Climate change is a challenge on a global scale. In the past, the blame for most CO_2 emissions was laid squarely at the door of the United States, Europe and Japan. But the frenetic economic growth of emerging countries has catapulted them to the fore of the global hunt for sustainable solutions. If any deal is to succeed, it must have countries like China and India on board. Climate cooperation between the SDC and emerging countries generates tangible results and facilitates contact with key players. Both outcomes help to further mutual understanding on specific issues as well as to provide greater insight into the context that informs the political standpoints of the other parties. For example, China and India have introduced ambitious CO_2-reduction programmes of their own accord, yet they refuse to accept binding international targets as long as industrial countries have higher per-capita emissions and have not settled their historic CO_2 debts.

The SDC brings practical experience to the table and boosts our international credibility.

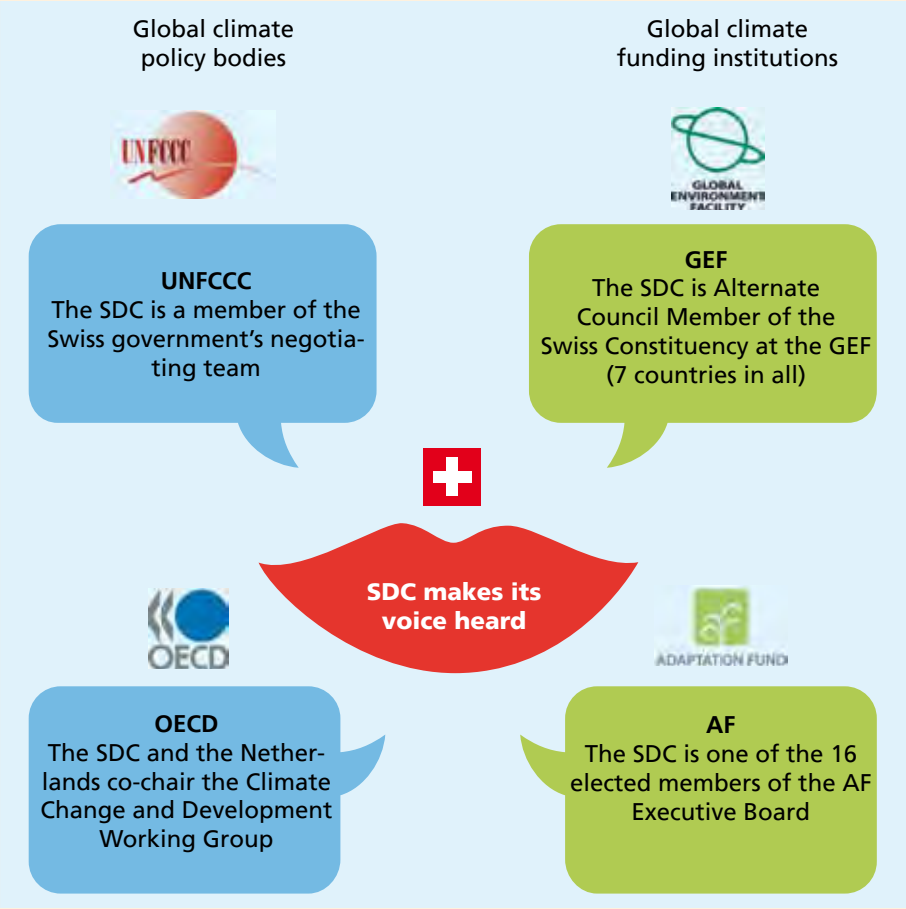
Franz Perrez, Ambassador and Head of the Swiss negotiating delegation at the Climate Change Conference.

The SDC is a permanent member of the official Swiss delegation to the UN climate change negotiations (UNFCCC). In close consultation with the Federal Office for the Environment (FOEN), the lead agency, these negotiations strive to establish fair and solution-driven ground rules. Of particular interest to the SDC is the interaction between climate change and development. No other Swiss agency can draw on the type of experience that the SDC can. Consequently, the delegation welcomes its input and insights. Switzerland's international commitment on climate change has allowed it to acquire practical experience and build working relationships with climate experts in partner countries, which in turn has raised its profile in this field. At an official Swiss event during the climate conference in Cancun (2010), the SDC presented the findings of a study on the costs of adaptation measures in developing countries. Peru and India also invited Switzerland to present the results of their cooperation. At the subsequent conference in Durban (2011), the Global Programme on Climate Change boosted Switzerland's profile further.

The commitment of Swiss development cooperation to the climate problem raises the credibility of the country in the high-stakes global climate poker game. While UN Climate Forum debates tend to have a political dimension, the nature of debates in other bodies, such as the Development Assistance Committee of the OECD, tends to be more technical, but still draws on practical experience. According to Shardul Agrawala, senior economist at the OECD Environment Directorate, where he jointly leads the programme on climate change and development: "Operational issues currently dominate our discussions, so Switzerland's practical experience proves very helpful". Together with the Netherlands, Switzerland, and by extension the SDC, chairs this group. Thanks to these efforts, the OECD has published policy guidelines on the integration of climate change in development cooperation. This guidance has led OECD member countries to devise a range of practical instruments, including the "Climate Change and Disaster Risk Reduction Check" used by the SDC.

Figure 3:
SDC input to global climate policy

Switzerland actively contributes to national and international climate talks and is committed to fair and binding climate policy frameworks for developing countries. As a permanent member of the Swiss delegation since 2005, the SDC helps advance UN climate negotiations. It conveys the concerns and needs of developing countries, and handles specific issues like funding mechanisms. It also co-finances adaptation measures and environmental investments in developing countries by contributing to various multilateral funds (GEF, Adaptation Fund). The presence of the SDC on a number of steering committees ensures that the available budget is spent as efficiently as possible. In addition, the experiences acquired by the SDC have helped shape the new multilateral Green Climate Fund.



Acronyms: UNFCC (United Nations Framework on Climate Change), OECD (Organisation for Economic Cooperation and Development), GEF (Global Environment Facility), AF (Adaptation Fund)
Source: SDC

Switzerland may be a small donor, but it is very flexible, and can readily produce studies and pioneering programmes, thereby paving the way for programmes that have abroad-based impact. This is a quality that is greatly appreciated by the World Bank.
Carter Brandon, Coordinator for China Environment, World Bank

Shaping regional policy processes

Switzerland is a small donor and the reach of its bilateral cooperation activities is limited. Yet, it is also a member of multilateral organisations like the UN and the development banks, and delivers around one third of its development cooperation through multilateral channels. Regional networks, such as the Association of Southeast Asian Nations (Figure 4) and the African Forest Forum (AFF), play an important bridging role between the local and the global. By identifying regional similarities and making use of the resulting synergies, these networks are able to connect global and national negotiations and experiences, thus aligning multilateral treaties like REDD+ to a specific ecological and social context. This potential should be exploited to the full.

Regional efforts within the Global Programme focus on the link between climate change and forests. Besides playing a central role in climate adaptation, forests also help lower emissions. The African Forest Forum is an Africa-led initiative that seeks to integrate African knowledge and research on forest management into the political process. With over 600 individual members, it has enjoyed widespread recognition since it was founded three years, and is considered a scientifically reputable and independent provider of information and advice. The AFF brings together a wide range of stakeholders, for instance during preparatory work in the run-up to the session of the UN Forum on Forests. In doing so, it strengthens the voice and influence of Africa. Swiss support takes the form of capacity-building activities, primarily in the areas of forestry and climate change.

With regional programmes spread over three continents, the SDC fills key political niches and strengthens local-global links. Cooperation with multilateral partners at country level also has a role to play. Bilateral cooperation experiences are the blocks on which well-informed and accomplished multilateral interventions are built. If the SDC is willing to take risks and foster innovative approaches as part of its bilateral climate cooperation efforts, then the scope of the resulting experiences can be widened through multilateral programmes and guidelines. Switzerland heads a World Bank constituency group and is a permanent member of the World Bank executive board. Yet, it is uncertain to what extent the SDC is really able to grasp opportunities to bring its influence to bear in Washington and to incorporate Swiss climate-related experiences into the statements issued by Swiss representatives. In the future, the SDC should endeavour to make systematic use of these institutional connections in its climate work. The general opinion holds that a "business as usual" trajectory cannot lead to climate-combatible development. The same also applies to institutional efforts, since multilateral organisations, especially development banks, are at the vanguard of successful climate mitigation and adaptation activities required to address climate issues effectively.

Figure 4:
ASEAN – a platform for sustainable forest management

Switzerland has had a successful track record on the sustainable use of forests, both at home and abroad. Forests cover more than half of the total territory of the 10 member states of ASEAN (Association of Southeast Asian Nations) and provide, either directly or indirectly, local populations with a source of income. The composition and the use of forests impacts the global climate head-on. In fact, 17% of greenhouse gas emissions are caused by forest degradation and deforestation. As part of multilateral cooperation, Switzerland works with the German Society for International Cooperation (GIZ) to bolster climate-friendly and sustainable forest management in Southeast Asia.

Source: SDC

Reforming climate policy in partner countries

A global agreement on measures to slow down rising temperatures is as necessary as it is difficult to achieve. Added to this is the need for countries to honour their global commitments. Ultimately, the main stumbling block to effective action are the countries themselves. The weak global climate regime can be partially offset by progress at national level on climate change adaptation and the reduction of CO_2 emissions. The SDC therefore must have a good working relationship with its partner countries on climate-related issues. For example, the successes achieved in Peru (Figure 5) could be replicated in other countries thanks to the reputation that the country enjoys in the rest of Latin America.

"Switzerland's commitment to the problem of climate change dovetails with the Indian government's plans, and helps us to reach our voluntary CO_2 reduction targets", declares M.S. Swaminathan, a member of the Indian parliament. "Switzerland insists that the voices of climate change victims are heard, and that recommendations should not be imposed from above, which is all good news for the people". With the idea of transmitting grassroots experience to the highest echelons of politics, multilevel and regional dialogue on climate change and its repercussions has taken place in India, with support from the SDC. As a participant explains: "It is one thing having a meeting in the air-conditioned offices of Delhi. However, your thinking on climate change fundamentally alters when you have to talk to those directly affected while the temperature rises to 42 degrees in the shade". The process culminated in the submission of a National Action Plan to the Indian parliament. Mr. Swaminaathan is also a prominent member of the Parliamentary Group on Climate Change. Consequently, preliminary work on the new five-year plan for the 2012-16 period will take into account some of the jointly elaborated climate proposals.

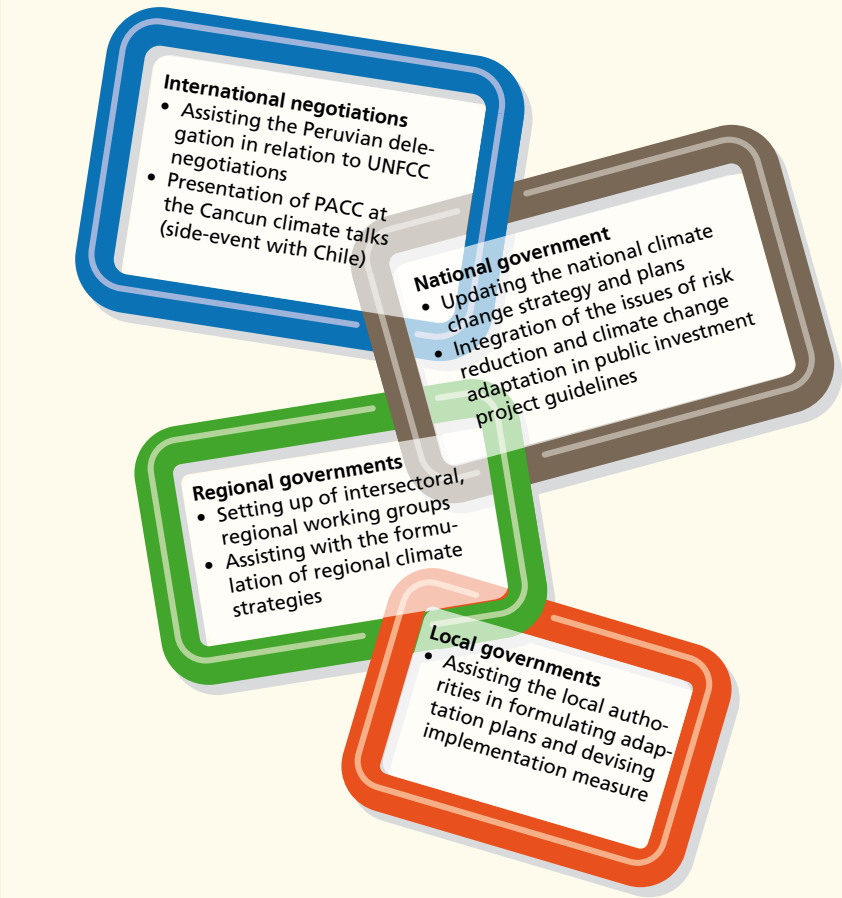
SDC-supported climate programmes have also had an influence in China. During a visit to Switzerland in 2011, a high-ranking delegation of Chinese climate experts learnt how Swiss legislation handles the issues of climate change and the reduction of CO_2 emissions. "Access to Swiss environmental experience means that we can avoid repeating its mistakes. The advantage of lagging behind is that you are able to take shortcuts", declared Pan Jiahua, Professor and member of the Chinese Academy of Social Sciences (CASS). Together with SDC-funded activities in low-carbon cities, the Adapting to Climate Change in China Project (ACCC), which is a collaboration between China, the UK and Switzerland, offers a wellspring of ideas. The 2006-2010 Five-Year Plan did not address the issue of China taking a low-carbon pathway to development. Yet, in the subsequent plan for the 2011-16 period, it takes centre stage. Swiss support has also helped shape the content of the regional plans developed by a number of provinces.

The SDC-supported programme (PACC) has risen to the challenges it faced […], with instruments now in place at local, regional and national levels. This momentum could be sustained by institutionalising climate adaptation measures at all three decision-making and implementing levels.

External Evaluation Phase 1 PACC Peru, p. 40

Figure 5:
Support for Peru's national policy

The SDC-backed "Adaptation to the Impact of Climate Change Programme (PACC)" in Peru seeks to strengthen the authorities' capacities to assess with greater precision the consequences of climate change and to devise corresponding adaptation measures. This implies setting standards and developing directive planning instruments in the interests of sound administration. PACC includes all levels of government and, thanks to its efforts, the climate issue now features on the agenda of public institutions. In addition, all regional and national public investment projects take into account the mitigation of the risks posed by natural hazards as well as climate change adaptation. The programme has greatly helped both the government and the people of Peru:



Sources: Villavicencio Manuel/Steinemann Myriam, Evaluación externa de la fase 1 del PACC Perú, 2011

Air pollution costs society dear. Associated health costs are six to ten 10 times higher than the costs of filtering out diesel particulates. Soot particles contribute to climate change because they absorb sunlight and heat up the soil and air.
Andreas Mayer, Technik Thermische Maschinen (TTM), Niederrohrdorf

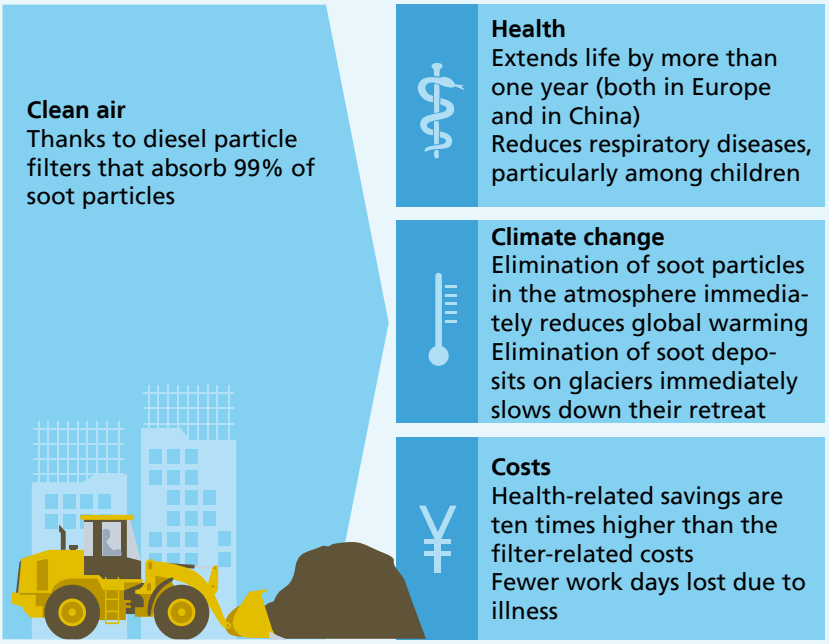
Climate change: a cross-cutting policy issue

Climate-compatible growth and development demand a fundamental realignment of the economy and society. If the world is to limit global warming to two degrees Celsius, greenhouse gas emissions must be halved by 2050, compared to 1990 levels. It is insufficient to simply take a set of radical reforms and consider them as a kit to solve the climate problem. There needs to be a cross-sectoral approach, involving other policy areas that have the potential to make a positive contribution. A root-and-branch reform of agricultural policy, as well as incentives for the adoption of water-saving and organic farming methods could lessen the impact on the environment. Other policy areas, such as education and forestry (Figure 1), as well as health and environmental protection, have the potential to generate co-benefits (Figure 2). China has made the reduction of air pollution a central plank of its environmental policy. Action to curb the spread of soot and diesel particles benefits the climate and public health alike (Figure 6). Sino-Swiss cooperation on climate change legislation and policy (CCLP) builds on these synergies. China is currently revising its Clean Air Act, and is drafting a brand new piece of legislation on climate change. A number of cities, including Lanzhou and Shijia Zhuang, are already in the process of devising action plans, while the World Bank is considering setting up an investment programme as soon as the plans have been completed. These examples provide proof that SDC contributions generate benefits that reach far beyond the original scope of the global programme.

The depletion of the ozone layer, which is found between 15 and 35 kilometres in the stratosphere, affects atmospheric circulation. It is behind the rise in the incidence of skin cancers and crop failures because the compromised ozone layer allows more of the harmful ultraviolet light emitted by the sun to filter through to the earth's surface. The use of aerosols and fridges by industrial nations has led to the thinning of the ozone. This is one area which global environmental policy has tackled successfully. A number of ozone-depleting substances, such as hydrofluorochlorocarbons (HCFCs) have a greenhouse gas effect that is up to 4,800 times greater than CO_2 and pose a major risk to the climate. It is expected that industrial nations will have eliminated HCFCs by 2030, while developing countries should achieve this target by 2040. If so, the ozone layer could completely recover by 2060. Demand for refrigerators in India and China is soaring. Switzerland has responded to the challenge of ensuring the availability of ozone-compatible, low-carbon products on the market by launching bilateral projects aimed at promoting environmentally-friendly alternatives to hydrocarbons. It also contributes to a multilateral ozone fund and actively participates in the relevant global agencies. These effective steps help the ozone layer to recover, while slowing down the pace of climate change by cutting greenhouse gas emissions.

Figure 6:
Cleantech for China

Every year, air pollution claims the lives of around 400,000 people in China. The major cause is diesel soot. In Switzerland the permitted levels of airborne ultrafine particles is 30 ppm. In contrast, these levels are ten times higher in many Chinese cities. Not only is this a public health problem, but it also accelerates the pace of climate change. When it was building the NEAT tunnel, Switzerland developed diesel particle filters that are capable of eliminating over 99% of emissions from heavy plant equipment. As a result, the country now leads the world in this particular field of technology. Following a Sino-Swiss meeting, pilot programmes were launched in two Chinese cities. A programme was also launched in Beijing, involving the use of environmentally-friendly heavy plant equipment. This is good news for construction workers, who are often migrants and have to cope with wretched working conditions. Given its multiple benefits in terms of health, climate change and finances, this clean technology could also prove to be an interesting option in other countries.



Sources: SDC, Technik Thermische Maschinen (TTM)

Partnerships – a source of value-added

Opening up low-carbon paths to development ("avoiding the unmanageable")

Emerging countries like Brazil, South Africa and India find themselves in a fast and furious race of economic catch-up. Far from running blind, China's leaders are well aware that the world will not accept "business as usual" should the country achieve its goal of quadrupling the size of its national economy by 2030. A frantic search is now on for environmentally-friendly forms of growth ("green growth"), while the popularity of low carbon pathways to development is set to rise further. Consequently, partner countries are not only open to international climate cooperation but also extremely interested in innovation and the experiences of highly-developed countries like Switzerland, which are committed to bringing the climate crisis under control. These prevailing conditions will mean that climate cooperation efforts will also offer Switzerland an opportunity to raise its profile and to access new markets.

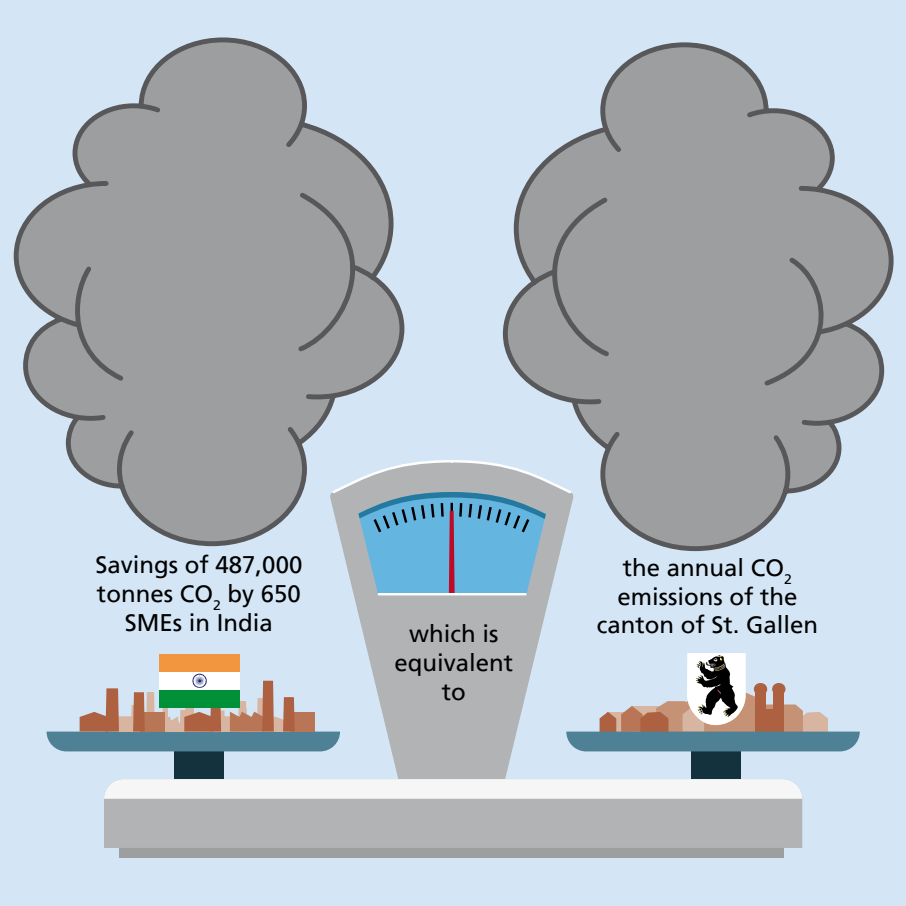
In India, the SDC supports the National Platform for Energy Efficiency, launched by the government-run Bureau of Energy Efficiency (BEE) in a bid to broaden its impact. Population and economic growth mean that India will experience an exponential rise in demand for energy. According to Ajay Mathur, Director-General of BEE, "Two-thirds of India's buildings in 2030 will have been constructed in the coming 20 years." India will also experience a concomitant rise in the number of air-conditioning systems. The use of intelligent construction techniques from the outset can lower demand for energy. With regard to small businesses, Ajay Mathur adds: "Saving energy not only helps protect the planet but it also brings a great many social and economic benefits for SMEs". Through its Low-Carbon Cities China programme, the SDC supports the efforts of ten Chinese cities to pursue a green path to development. Leading the pack is the solar city of Dezhou, where the roofs are fitted with solar panels, electric bikes silently whiz by, and car-free days are held. The city also has made CO_2 reduction an integral part of its new Five-Year Plan. Keen to realise their low-carbon vision, the cities that participate in the programme have introduced an array of measures, including the installation of energy management systems in the administration and in industry, the provision of goal-driven training opportunities, as well as issuing guidelines on the management of office buildings. The city of Kunming, which is twinned with the Swiss city of Zurich, is also involved, as are cities in poor minority regions where local industry is responsible for the high level of greenhouse gas emissions there. The National Development and Reform Commission (NDRC), which is responsible for climate change-related issues, has launched a similar programme in eight other cities, paving the way for a roll-out across China's 600 cities. "China's cities have the money, but not the innovation or the expertise", says Liu Ke, manager of the LCCC programme.

It is imperative that villages have access to green electricity. We're not talking about shopping centres here, but about lighting in schools and homes, driving grain mills, and powering refrigerators to store medication in pharmacies and health centres.

Girish Seti, Director of Energy Efficiency for Industry, TERI, India.

Figure 7:
SMEs – climate champions

In India as in Switzerland, small and medium-sized enterprises are the backbone of the economy, generating nine percent of national income. Indian SMEs also employ some 70 million people, but tend to have low productivity, offer terrible working conditions, and deploy environmentally-harmful production methods. Since 1993 the SDC has worked with a private Indian partner, TERI, to encourage the energy-intensive glass- and brick-making industries, as well as metal foundries to opt for more eco-efficient technologies. These efforts have paid off twofold: poverty has been effectively reduced and the climate is now better protected. Thanks to this successful working relationship, the SDC decided to include TERI as a partner in its Global Programme on Climate Change. By 2010, 650 glass-making SMEs and foundries in India had managed to save 487,000 tonnes of CO_2 and 139,000 tonnes of oil.



Sources: External Review TERI-SDC Partnership, Delhi 2011; Gerster Richard, Swissness made in India, Orell Füssli 2008; SES; BAFU

The entire population of Dezhou reaps the rewards of climate cooperation between Switzerland and our city. This cooperation has helped raise living standards and has improved the state of our environment.

Xuan Zuxiang, Deputy leader of Dezhou city council.

Learning to live with climate change ("managing the unavoidable")

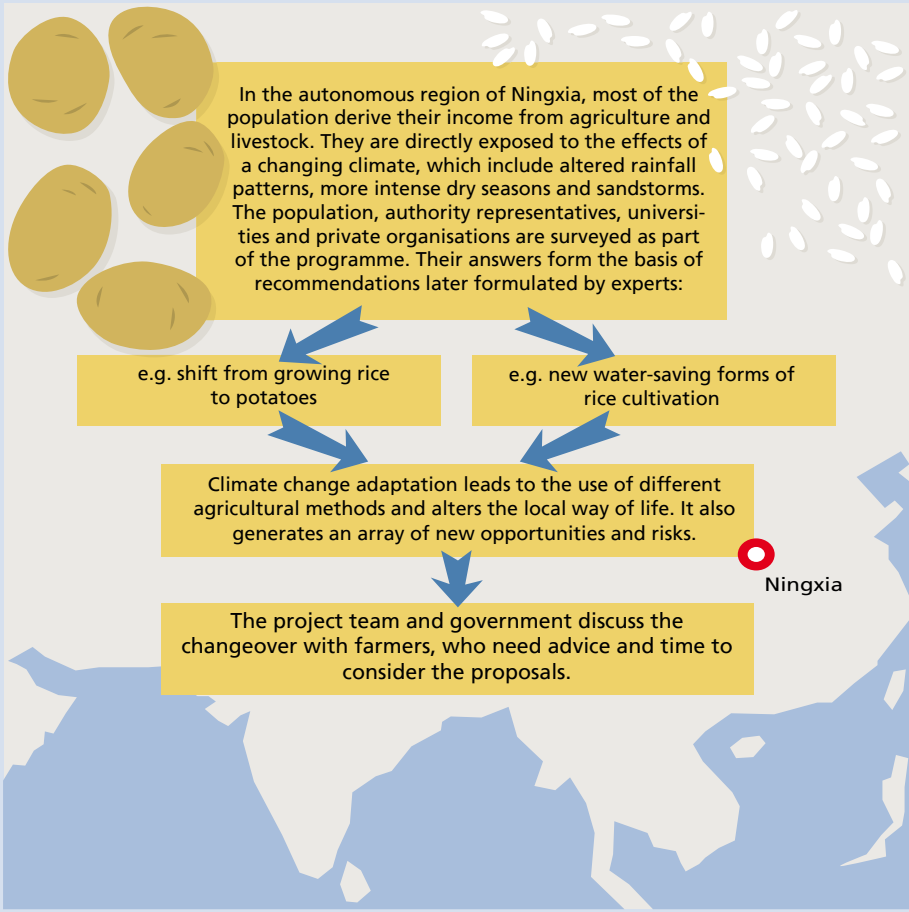
Climate change is an unavoidable fact of life. Development efforts therefore need to focus on finding solutions that mitigate the attendant existential risks, particularly for the poor. The SDC supports the Adaptation to the Impact of Climate Change Programme (PACC) in Peru (Figure 5). The strength of this programme is that it connects various policy levels, from local initiatives right up to global negotiations. Several other cooperation programmes are in the pipeline. The PACC programme builds capacities to carry out more accurate assessments of climate change in the Andes, the need for adaptation measures and potential disaster risks. Glaciers and forests hold the key. Over two thirds of the world's tropical glaciers are found in Peru and have dramatically receded in the last decades. This exacerbates the problem of water shortages and calls for adaptation measures to ensure universal access to water. A request by the Chilean government for forestry cooperation paved the way for South-South transfers, as the entire region reaps the benefits of a better understanding of the important function that forests serve.

South-South transfers also inform the development of national climate adaptation plans. As well as supporting cross-country cooperation, as the Peru-Chile example illustrates, the SDC Global Programme on Climate Change offers valuable experience which major countries have been quick to seize upon. In India, Switzerland was the only donor that was invited to assist with the development of climate adaptation projects in Mahrasthra. In China the ACCC programme has led to the creation of a national adaptation strategy. According to a representative of the British Department for International Development (DFID), "The ACCC partnership has been a steep learning curve for both the Chinese and international climate experts."

The SDC has long provided moral and practical support to help villages in arid regions of India become self-sufficient. Together with one of its private partners – WOTR – the SDC continues its work in the Global Programme on Climate Change on a completely new footing. The rainfall fluctuations caused by climate change can pose a direct and existential threat to the communities which live in these fragile water catchment areas. There are plans to introduce a series of measures to prevent soil erosion, including the building of reservoirs and terraces, as well as the digging of channels. Initially, the SDC directly assisted the project implementation process. Now, its focus is on meteorological research, as well as the evaluation of experiences as regards guidelines and legislation. Its partner, WOTR, has secured funding from the National Bank for Agriculture and Rural Development (NABARD). WOTR is a non-governmental organisation that is deeply rooted in the community, which means that it is an excellent position to convince the local people of the benefits that the project would offer them and thus win their hands-on support.

Figure 8:
Making climate adaptation possible

China, the UK and Switzerland launched a joint initiative - "Adaptation to Climate Change in China" (ACCC) – which aims to study the impact of climate change and to develop measures that equip the country to adapt to this inevitable phenomenon. This pioneering programme focuses on agriculture, water, health and disaster risks. Practical experiences are of interest to South-South cooperation. At the 2011 climate talks in Durban, the ACCC programme was present in cooperation with African states. In addition to national involvement, the programme also targets three selected regions of China, including Ningxia which is poor, Muslim (a minority in China), and has a large number of migrant families. What sets the ACCC programme apart is its participatory approach, to which China consented following recommendations from Switzerland and the UK. A particular focus of the programme is the impact of climate change on women, migrant workers and the poor. The findings are then used to devise adaptation measures.



Source: SDC

Making development cooperation more climate-compatible

Minimizing climate-risks in development cooperation

Climate change mitigation and adaptation projects are commendable but they are not enough. If local communities are to have a guaranteed source of income, the SDC needs to mainstream climate compatibility and risk reduction in all its bilateral activities. Of course, this will take time, commitment and active communication. In the early days, there were concerns that climate change was just another fashionable cause. Global climate change, though, has the potential to wipe out the development achievements of recent years. If interventions are to yield positive outcomes ("co-benefits", Figure 2), climate change must be steered towards a more auspicious course. The engineering of drought-resistant grains will mitigate the climatic risk of failing harvests, which in turn will improve food security.

Development setbacks are the price that will be paid for sidelining climate adaptation and mitigation measures. The Global Programme on Climate Change therefore has developed the "Climate and Disaster Risk Reduction Check", an instrument that puts in place an early problem detection system. This is important because the earlier potential risks can be identified, the easier it is to avoid them. To facilitate the use of this instrument, a manual is available in English, French and Spanish, and is continually updated and improved. There are plans to provide training for the specific purpose of promoting the widespread use of this test beyond the SDC. For example, impressed by the positive results achieved with the instrument at project level (Figure 11), a government ministry in Peru has decided to include it in two national programmes (Figure 11).

By approving additional credit in 2011, the Swiss parliament reaffirmed its commitment to raising the funds earmarked for development cooperation to 0.5% of the country's Gross National Product (GNP). Consequently, the SDC was asked to invest a further CHF 63 million for climate-related activities during the 2011-12 period. Only 20% of these funds are used for the Global Programme on Climate Change, with the lion's share distributed across additional climate programmes in the SDC's priority countries. This move reflects the importance attached to climate change as a development issue and fosters internal cooperation. The joint control over the use of these funds also signals a move in this direction and promotes climate mainstreaming in bilateral efforts.

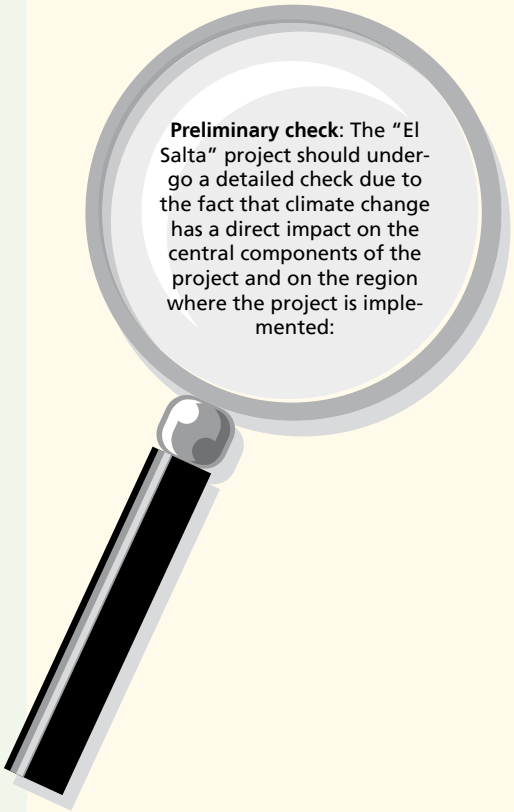
While efforts to integrate climate change adaptation into development will be led by developing country partners, donor agencies have a critical role to play in supporting such efforts as well as in integrating such considerations within their own organisations.

OECD Policy Guidance on Integrating Climate Change Adaptation into Development Co-operation, p. 15

Figure 9:

How climate-compatible is a project?

To ensure that consideration is systematically given to the interaction between climate change and development, the SDC has developed a procedure that identifies the opportunities and risks of bilateral programmes. It draws on OECD policy guidance and is targeted at project partners and SDC personnel. This procedure, which can be incorporated into the Project Cycle Management (PCM), consists of a preliminary check and a detailed check. There is an exhaustive user guide to accompany the instrument. The procedure has long been applied to programmes and projects in a number of countries. For example, it identified the opportunities of the "El Salton" dam project in Bolivia, and made it possible for the project to factor in climate change-related risks:



Source: SDC

Using Swiss know-how ("Swissness")

"Switzerland is where the rich go to invest their money!" is a commonly held view in other countries. However, discussions with development cooperation partners prove that "Swissness" should not be defined so narrowly. Putting the needs of the general public and the disadvantaged first, preferring participatory approaches, looking together for appropriate solutions, as well as placing a high value on quality and precision, are a few of the characteristics that are considered typically Swiss. In the words of an Indian colleague: "Switzerland doesn't act like a donor. Its approach has more in common with that of an enthusiastic partner and leader."

Climate cooperation between Switzerland and China is a win-win situation for both sides.
Andreas Götz, Deputy Director, FOEN

Swissness also refers to the way in which Switzerland matches its priorities to its strengths. This is conditional on partners showing an active interest in such issues, which is certainly the case for climate cooperation:

- environmental policy (Figures 6 and 12): Glaciers, dam safety and natural hazards are an issue in the Himalayas and the Andes; China has identified air pollution (clean air, diesel emissions) and climate (adaptation measures, CO_2 reduction) as areas where it could learn important lessons from Switzerland;
- energy industry (Figure 7): Minergie concept (India, China), the "Energy City" idea (China) and mini-hydroelectric power plants (India and Nicaragua) have an export potential;
- forest management (Figures 1 and 4): Switzerland actively participates in both regional programmes (Africa, Latin America and Asia) and global programmes (REDD+) on the conservation and use of forests.

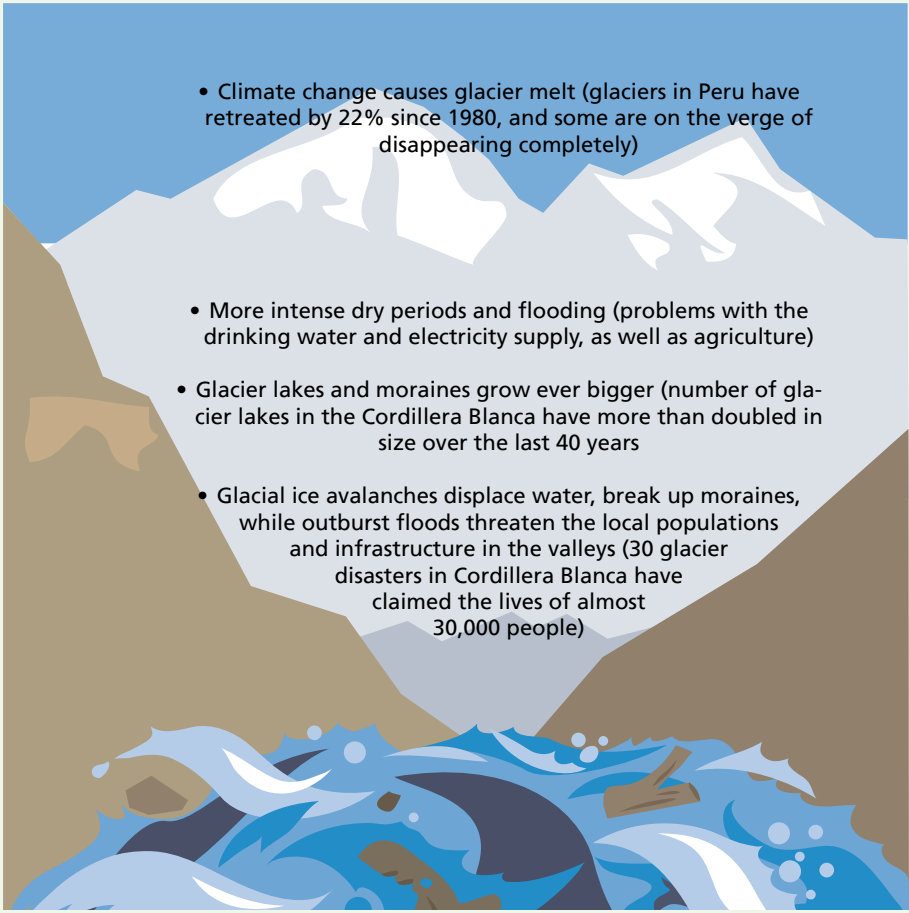
Other Swiss strong points are its financial and insurance industries. Climate change places new burdens and risks on developing countries and their populations. Alongside preventive measures, the introduction of adapted micro-insurance schemes can allow poorer and entire village communities to cover themselves against climate-related risks. Local partners in India are currently working on innovative insurance products with input from Swiss experts.

This is an exchange of experience where Switzerland and professionals from its partner countries are on an equal footing. Increasingly, partners are able to cover their own costs. The SDC therefore will function as an "honest broker", providing the organisational and financial framework for solutions to jointly identified problems. However, this does not mean that they seek Swissness at all costs, but rather want to benefit from the best expert knowledge and skills available, regardless of their country of origin. Local experts have the wherewithal and capabilities to resolve a great many issues on their own. Besides, Switzerland would quickly find itself sidelined if its projects required experts to have a working knowledge of Chinese.

Page 10:

Receding glaciers – Swiss know-how in demand

Glacier retreat is a highly visible consequence of climate change. According to a press report from 4 October 2011, "There is a risk that a huge piece of the glacier tongue on the North Face of the Jungfrau mountain in the Bernese Oberland will break off. In the worst-case scenario, this massive block of ice could begin to thunder downhill, block the Trümmelbach and flood the inhabited valleys. The municipality of Lauterbrunnen, therefore, has set up an emergency task force." Whether in the Alps, the Andes, the Himalayas or the lowlands, all mountain communities face the same risks. China, India and Peru have expressed an interest in working with Switzerland in order to monitor glacier retreat, identify the attendant risks, assess the probability of outburst floods and set up early-warning systems. This type of international collaboration broadens the experience and outlook of Swiss participants. In Peru, home to more than 70% of the world's tropical glaciers:



Sources: FOEN, SDC and Carey Mark, Living and dying with glaciers: people's historical vulnerability to avalanches and outburst floods in Peru, 2005

Building on knowledge and experience

Integrating research findings in development programmes

"We often don't fully understand what is actually happening. Some of the effects of climate change have yet to appear on our radar. Too frequently we try to solve tomorrow's problems with yesterday's solutions."" Given that he was a former member of India's National Disaster Management Agency, Vinod Menon knows of what he speaks. Ensuring a direct link between research, policy and practice is essential in the fight against climate change. The role of the SDC in the Global Programme on Climate Change also differs from the one it normally adopts in its traditional development cooperation activities, in that it focuses more heavily on collaboration and on forging links with the implementing partner organisations, specialist institutes and experts from the fields of science and industry. The more money the countries and international donors invest in measures to mitigate or prevent the attendant risks of climate change, the greater the need for reliable and proven knowledge on what actually works and what does not.

As Co-Chair of the Science Working Group of the Intergovernmental Panel on Climate Change or IPCC, it is my job to present the most pertinent scientific findings of climate research so as to provide decision-makers with robust, intelligible statements on climate change.
Thomas Stocker, Head of the Climate and Environmental Physics Department, University of Bern.

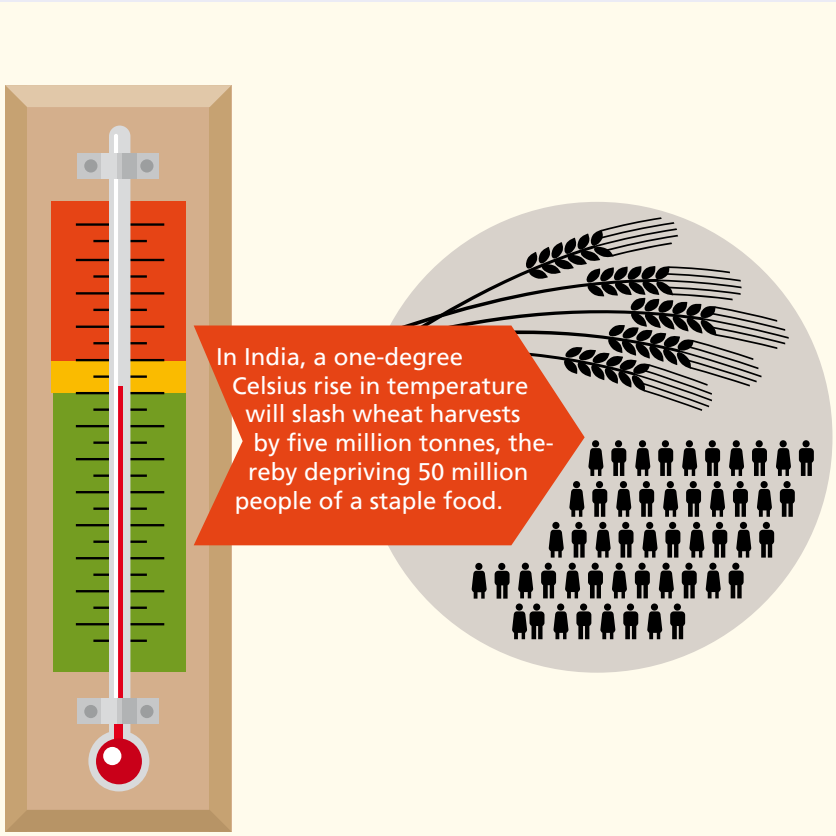
The Sino-British-Swiss programme on Climate Change Adaptation (ACCC) is considered to be the first of its kind to use research findings in practice and policy, and vice versa. A team of Chinese-speaking climate experts from the UK works closely with the Chinese authorities and participating universities. For example, water levels in the Yellow River, a lifeline in the Inner Mongolia region of China, have dwindled to an all-time low. The ACCC assesses the risks that this situation poses to the local communities and regions. Through continual exchanges, researchers and the authorities discuss and decide on adaptation measures, infrastructure plans and training for participants at all levels (Figure 8). The National Development and Reform Commission (NDRC), which is the centre of expertise on climate change, assesses the experiences acquired during the ACCC Programme and disseminates its findings across China.

In an unprecedented effort, over a thousand climate researchers have joined forces to produce a new report on the state of the climate for the Global Climate Council of the IPCC. Four Global Programme partners are involved in this work and will author their own chapters. To ensure a global perspective, the report will draw on a wealth of regional and local data, as well as scientific findings. The authors will also refer to fundamental and applied research with a view to offering implementable policy programmes. Innovative approaches to climate mitigation always take account of a specific context, which varies from one country to another. This implies adapting technical measures, as well as ensuring that the process is participatory by taking on board what the victims consider problem areas and what the future holds (business as usual in India versus complete transformation in China). If climate change interventions are to succeed, they must be tied to social change and rely on a comprehensive understanding of the problem.

Figure 11:

1 degree Celsius increase in temperature = a crop loss of 5 million tonnes

Crop growers in India, where rice and wheat are staple foods, are especially vulnerable to the impact of climate change. Non-irrigated farming practiced by poorer farming families is highly sensitive to temperature changes. Given that wheat is a winter crop, global warming will dramatically reduce harvests. As part of Indo-Swiss cooperation on biotechnology, made possible by the SDC Global Programme on Food Security, researchers in India and at the University of Zurich are using genetic research to develop new types of wheat with varying degrees of heat tolerance. This will allow Indian farmers, and maybe even Swiss farmers, to adapt to climate change without compromising their output.



Sources: Government of India/SDC, A Decade of Experience in R&D and Technology Management: Indo-Swiss Collaboration in Biotechnology (ISCB), Delhi 2011; Aggarwal P.K., Global climate change and Indian agriculture: impacts, adaptation and mitigation, Indian Journal of Agricultural Sciences, 78: 911-919

South-South cooperation yields multiple benefits

An illustration of good triangular cooperation, or South-South cooperation, is the fact that the Swiss know-how used in Nepal to construct mini hydro-electric power stations was passed on to other countries like India. Or, TERI, the SDC's partner in India, which applied the experiences it acquired while working with the SDC on energy efficiency plans for foundries to efforts aimed at regenerating small businesses in Bangladesh. The Global Programme on Climate Change improves the effectiveness of triangular cooperation by fostering direct South-South cooperation and encouraging regional programmes. Emerging countries like India and China have become foreign aid donors and now offer new platforms for triangular cooperation.

Agriculture is one of China's success stories. Smallholders tend to deploy farming methods that are not heavily reliant on fertilisers, and are therefore more environmentally friendly. The SDC assisted the Chinese University of Agriculture with the evaluation, review and publication of its experiences acquired through cooperation with African partners. Given that the director of the university's development institute also chairs the China-Africa group in the OECD, there is a high probability that the innovative approaches to climate change, which were developed as part of Swiss-funded programmes in China, will transfer to other countries. China's White Book on Foreign Aid states that: "China's foreign aid is a form of South-South Cooperation, whereby developing countries seek to provide mutual support."

South-South cooperation topped the agenda at the first "Face to Face Meeting" of the climate network whose members include most of the countries where the SDC is active. Colleagues from different countries discussed their experiences and visited climate projects in Peru. Of particular interest to all were plans for climate change adaptation, energy-efficient brick production, lower soot particle emissions during the combustion process, and forest management (REDD+). These face-to-face meetings facilitate direct learning and lay the foundations for future cooperation. Before the next meeting, exchanges will continue online, e.g. via email, Shareweb, e-newsletters as well as online discussions on selected topics. The network brings together all partner organisations, experts, institutes and private firms with professional and practical knowledge of the climate sector. By helping to fund climate-l.org – a website which has quickly become a high-profile climate policy platform – the SDC supports similar opportunities outside the remit of its own projects. More than 43,000 visitors view the site every month and there are over 21,000 subscribers to its newsletter. Furthermore, the website experiences a huge increase in visitor numbers in the run-up to global climate negotiations.

The Swiss-funded internet platform (www.climate-L.org) and daily newsletter have made it easier for climate professionals to locate fellow professionals. This constitutes a major step towards climate cooperation, including among developing countries.
Langston James "Kimo" Goree VI, Director of the IISD Reporting Services

Figure 12:
More bricks, less CO2

Across the world brick production is a major industry in rural areas. Every year, Asia produces around 1,000 billion bricks, using 110 million tonnes of charcoal in the process. The Chinese Vertical Shaft Brick Kiln (VSBK) makes it possible to cut energy and charcoal consumption dramatically. As well as being eco-friendly, VSBKs improve working conditions and are financially attractive. The CO_2 emissions that have been saved can then be sold on as carbon off-sets. In Vietnam alone, around 150,000 tonnes of CO_2 is saved every year thanks to the use of these kilns (300 are currently in operation there). South-South transfer is not a foregone conclusion; the technology must always be adapted to local conditions. The following countries use these SDC-backed, CO_2-reducing kilns:

Sources: SDC; NZZ 6.12.2010; Heierli Urs/Maithel Sameer, Brick By Brick - The Herculean Task of Transforming a Huge Rural Industry in Asia, DEZA; Gerster Richard, Swissness made in India, Orell Füssli 2008

A step closer to a "centre of excellence on climate change and development"

The SDC plans to establish the Global Programme on Climate Change as a "Centre of Excellence on Climate Change and Development". This will imply (1) evaluating the practical experiences acquired in partner countries; (2) using this experience as a source of inspiration for national policy and practices in the countries concerned; and (3) helping to devise practicable solutions as part of international platforms and negotiations. Seating the centre of excellence within the SDC will make it easier for the centre to play an active role in the national climate network and on the international stage (Figure 3). The centre will also advise the SDC on green strategies, programmes and projects. The increase in the development budget agreed by parliament was a welcome boost to climate-related development efforts in 2011. The expertise of the future centre of excellence will be sought both externally and internally.

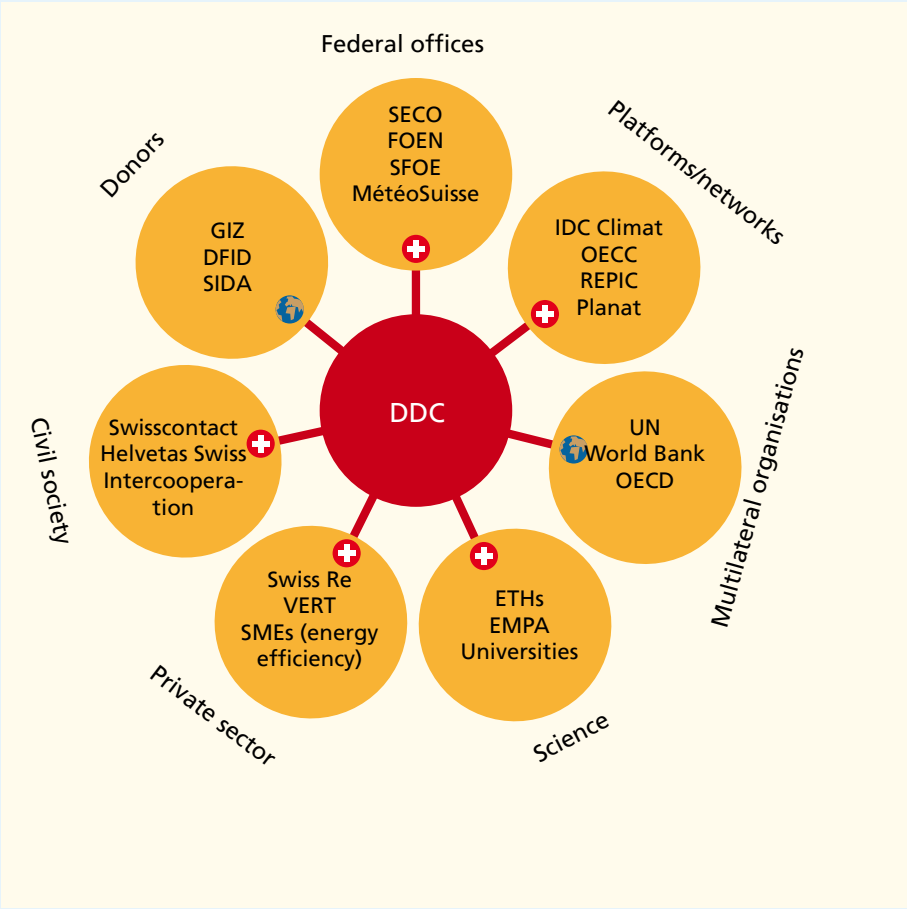
We draw inspiration from Swiss cooperation with Chinese cities because they seek out solutions that yield benefits for the environment too.
Jiang Zhao Li, NDRC, China

Over the last two years, the internal SDC Climate Change and Environment Network ("CCE Network") has concentrated on perfecting its existing knowledge and skills, a process which it has documented throughout. Members keep co-workers, contacts in partner organisations as well as other federal offices up-to-date on the latest climate change and development-related information. The network also runs training courses on development cooperation efforts and climate change in both Switzerland and in developing countries, as well as performing the Climate Check (Figure 11). In addition to delivering these products, the network has had its first face-to-face meeting in Peru. While the overarching theme of its work are climate-related issues, members of the CCE network are involved in improving access to context-specific information through various instruments, including climate country briefs. The network is open to partners and other interested organisations, thus raising its visibility and extending its reach. However, the arrival of new members will bring additional challenges. How can more people be encouraged to share their experiences with the network when time is already in such short supply? How should the extensive pool of knowledge be best managed to ensure that anyone looking for specific information can access it?

An influential centre of excellence requires not only strong institutional roots but also motivated and suitably qualified personnel. The Global Programme on Climate Change would not have achieved its successes to date without the care and dedication of everyone involved. It takes time to acquire climate change and development experience. A broad-based team with wide-ranging opinions is essential. There is no point calling for a centre of excellence if there are no opportunities to pursue a climate career. This will require the SDC to re-think its rotation system. In particular, greater attention must be paid to promoting further training opportunities and fostering exchanges with other federal offices (FOEN, SECO), development and environmental organisations, the scientific community, the private sector and international organisations (OECD, UN, World Bank). Such action will lay the foundations for career trajectories that are built around a single core area like climate and development.

Figure 13:
SDC's climate partners – cooperation at all levels

The causes and consequences of climate change are extremely complex. The SDC's call for a recognised centre of excellence on climate and development will require the presence of an extensive network of partners from diverse backgrounds and with a wide range of opinions. It will entail processing personal experiences, drawing on the scientific expertise of third parties, bringing private-sector players on board, and examining differing viewpoints both in Switzerland and the rest of the world. The Global Programme on Climate Change can rely on a sound network of international and national contacts:



Abkürzungen: BAFU (Bundesamt für Umwelt), BFE (Bundesamt für Energie), DFID (Department for International Development), EMPA (Eidgenössische Materialprüfungs- und Forschungsanstalt), ETHs (Eidgenössische Technische Hochschulen), GIZ (Gesellschaft für Internationale Zusammenarbeit), IDA (Interdepartementaler Ausschuss), OCCC (Organe consultatif sur les changements climatiques), OECD (Organisation for Economic Cooperation and Development), Planat (Plattform Naturgefahren), REPIC (Swiss Interdepartmental Platform for Renewable Energy Promotion), SECO (Staatssekretariat für Wirtschaft), SIDA (Swedish International Development Cooperation Agency), UNO (Vereinte Nationen), VERT (Verification of Emission Reduction Technology)

Source: SDC

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Imprint

Editor: Federal Department of Foreign Affairs FDFA
Swiss Agency for Development and Cooperation SDC
3003 Bern, www.sdc.admin.ch
Authors: Richard Gerster, Sonja Beeli, Konrad Matter
Layout: Visual Communication, FDFA
Illustrations: Grafikatelier Saxer, Bern
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This publication is also available in German and French. It can be downloaded from www.deza.admin.ch/Publikatione
Bern, 2012

With one sixth of the world's population, the richest countries emitted two thirds of the world's CO2 emissions between 1850 and 2005. Meanwhile, low, medium and high HDI countries account for more than three-fourths of the growth in carbon emission since 1970s. (UNDP HDR 2011)