

Climate change adaptation and desertification control – two sides of the same coin

Every year 24 billion tonnes of soil worldwide are lost to desertification, the equivalent of twelve million hectares of arable land. In many parts of the world, the consequences of global warming are accelerating this process – by shortening or shifting the timing of rainy seasons, by triggering extreme events that give rise to erosion, and by raising temperatures, which speeds up the evaporation of the water in the soil. This article makes the case that desertification control and climate change adaptation must be interlinked more effectively.

The latest assessment report from the Intergovernmental Panel on Climate Change (IPCC) predicts a global temperature rise of between 1.1 and 6.4°C by 2100 – depending on future trends in global energy consumption and population growth. As a consequence, Africa, Latin America and South-East Asia in particular will be subject to extreme weather events with rising frequency; these take the form of storms, floods and heavy rainfalls – but also droughts.

Arid regions will become even drier and deserts will expand; water – already a scarce resource in many places – will become increasingly scarce. Therefore, climate change is hastening the pace of desertification to a degree never previously imagined. Of course, the converse is also true: desertification hastens the pace

of climate change. Soils are important carbon sinks because they contain the equivalent of more CO₂ than the Earth's vegetation and atmosphere combined. So when desertification causes soil loss, it also means the loss of an important CO₂ sink. Thus, desertification control not only helps to conserve the natural resource base that supports life. It also supports adaptation to climate change, which is of the utmost importance in places where the local population is dependent on natural resources.

■ What is the international community doing?

In 1992, the international community's response to the environmental threats caused by climate change and

desertification took the form of the major United Nations Earth Summit in Rio de Janeiro. Among the outcomes of this summit were the United Nations Convention to Combat Desertification (UNCCD) and the United Nations Framework Convention on Climate Change (UNFCCC), in which environmental protection is complemented with support for economic and social development in developing countries. In this respect, they are environmental and development conventions at once. Back in 2001, the Joint Liaison Group (JLG) was founded within the convention secretariats. Its objective is to promote cooperation and coordination of

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Climate change and desertification are also threatening the Caatinga tropical dry forest in north-east Brazil.



Photo: GOPA-Archiv

all three environmental conventions (CCD, FCCC and CBD, the Convention on Biological Diversity), particularly on matters of climate change adaptation, and to generate synergies in the course of implementation. This work includes the development of a coherent communications policy, for example, and the provision of current information on studies, research programmes, monitoring instruments, teaching materials and web-based knowledge-sharing platforms (see Table).

■ The role of Germany and development cooperation

Germany is not only a signatory to both conventions but also the host country for their secretariats in Bonn. On behalf of the Federal Ministry for Economic Cooperation and Development, Deutsche Gesellschaft für Technische Zusammenarbeit – GTZ – and KfW Entwicklungsbank support its partner countries with the implementation of both conventions by means of projects such as GTZ's Convention Project to Combat Desertification (CCD) or its Climate Protection Programme (CaPP). GTZ and KfW carry out other projects and programmes on adaptation to the consequences of

Examples of synergies between UNCCD and UNFCCC programmes of action

| Action areas | UNCCD | UNFCCC |
|---|--|--|
| Protection of plant cover | Mitigating land degradation and maintaining productivity | Maintaining carbon sinks and productivity |
| Afforestation / reforestation | Protecting against soil erosion | Storing additional CO ₂ in biomass |
| Soil and water conservation | Safeguarding water availability and soil fertility | Conserving organic carbon and reducing soil emissions |
| Promotion of alternative and renewable energy sources | Lowering demand for fuel-wood and mitigating deforestation and degradation | Reducing emissions from household energy use and deforestation |

climate change under the auspices of the International Climate Initiative (ICI) of the Federal Environment Ministry (BMU). This involves developing innovative strategies and know-how, forging partnerships and networks for effective knowledge management, public relations work and providing advisory support to pilot projects. The German government is currently supporting more than 600 projects relevant to combating desertification and promoting sustainable soil management, and more than 300 projects relating to climate change mitigation and adaptation.

GOPA Consultants is working on several bilateral and multilateral development cooperation projects addressing desertification control and adaptation to climate change. Since 2008, for

instance, it has been working under commission from GTZ in Brazil, within the desertification control component of the "Regional Development Programme in North-East Brazil". The focus of this programme component is consultancy to eleven affected federal states on the development of coherent and integrated policy concepts for combating desertification and adapting to climate change. Key action areas are:

- The "mainstreaming" of the theme in the development strategies and policies of Brazil's federal states, which may take the form of advising on the drafting of legislation and on the strengthening of institutional structures.
- The incorporation of climate change adaptation strategies into action programmes to combat desertification and vice versa, the incorporation of desertification control strategies into national climate change programmes.
- Supplying information on climate change and on its interplay with desertification control, and drawing attention to mitigation and adaptation strategies for the population.

Regions in north-east Brazil threatened by desertification.

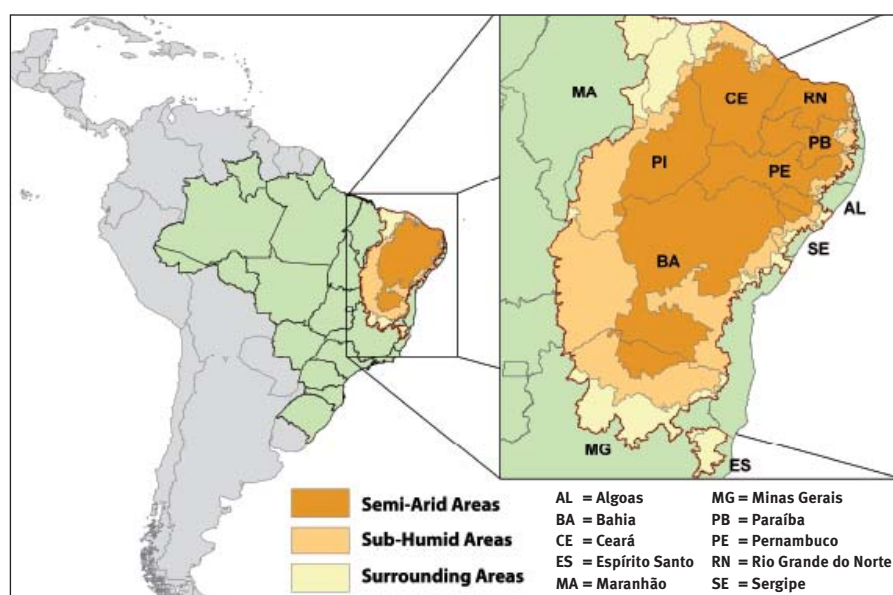


Photo: GOPA-Archiv

■ Brazil: A question of survival

Brazil's greatest claim to fame are the tropical rainforests of the Amazon and the Atlantic coast. The north-east of

Building cisterns for water supply in the world's most densely populated arid region, the north-east of Brazil.



Photo: COPA-Archiv

the country is characterised by a semi-arid climate, however. In this sensitive ecosystem, climate change accelerates both natural and anthropogenic processes of degradation, heightening its vulnerability. This can be observed particularly with regard to the Caatinga, the tropical dry forest in the north-east of Brazil (see Map). The Caatinga has already been decimated to less than half of its original extent in order to create agricultural land and to generate energy in the form of fuelwood, partly for rural households, for small and medium craft businesses and for the ceramics and gypsum industry. Additional problems are overgrazing, the expansion of monocultures – for instance, coffee and cotton – and the use of irrigation systems for fruit production without appropriate drainage. What makes the situation particularly difficult is that the north-east of Brazil, with a population of over 30 million people – almost ten percent of Brazil's total population – is the most densely populated arid region on Earth. So the interlinking of desertification control and climate change adaptation is a strategic matter of life and survival in this region. According to a scenario study by the Brazilian research

institute Embrapa, up to 80 percent of the land suitable for agricultural use in the north-east of Brazil could be lost by 2050. Despite these alarming figures, so far political decision-makers have not become sufficiently alert to the importance of desertification control. Nevertheless, the gathering pace of climate change has significantly raised their sensitivity to this issue.

■ Climate change within the action programme to combat desertification in Ceará

A few of the north-eastern federal states' now fully drafted programmes of action have already integrated climate change adaptation into their strategies for action. One interesting example is a programme area within the action programme of the federal state of Ceará, where the priority activities are as follows:

- Reforestation of the Caatinga with native woodlands (erosion prevention, CO₂ sequestration as a contribution to mitigating climate change).

- Creation of alternative non-agricultural sources of income (as a counterbalance for the expected productivity losses).
- Reorientation of energy generation (particularly in respect of fuelwood production).
- Promotion of alternative agricultural and silvicultural technologies which improve resilience and reduce vulnerability.

■ Integration of strategies on climate change and desertification

Encouraging examples of better integration of the two UN conventions are also found in the other federal states. In Rio Grande do Norte, where desertification and coastal erosion are endangering the population's natural resource base, a comprehensive draft of a climate adaptation strategy has been produced, and appropriate action strategies are being formulated. The framework legislation to combat desertification that is currently pass-

ing through the parliamentary process provides for close cooperation with the authorities responsible for climate policy. In Pernambuco, the Climate Change Forum – a council-like body of the most important decision-makers and experts – will take up desertification control as a strategic priority theme in its Climate Change Plan. Similar processes are under way in other federal states. The Brazilian law already passed on the National Climate Fund will push this integration forward. The environment minister has announced that at least 50 percent of the fund will be invested in the north-eastern federal states. Possible measures range from compensation payments for environmental services, for the purposes of conservation of the Caatinga, to financing climate change adaptation efforts in the form of sustainable agriculture and forestry programmes. Brazil's regional development bank BNB is also in the process of setting up a fund – called the “Bolsa Caatinga” – for the financing of environmental services and other adaptation-oriented projects.

■ Institutional mainstreaming

Just as important as supplying information, bringing together actors and providing finance is the institutional embedding – or mainstreaming – of desertification control and climate change adaptation. Ceará and Rio Grande do Norte have made the greatest advances on this front. Both federal states are planning to create integrated management units to implement climate change adaptation and deserti-



Photo: COPA-Archiv

Honey production is an alternative source of income in Caatinga, Brazil.

fication control strategies within the competent ministries – which will be an absolute first in the region's institutional landscape. In addition to implementing and monitoring the action programmes, the mandate of these units is fully in keeping with the policy of mainstreaming: to support integration and cooperation between the specialist ministries for environmental protection and resource conservation, agriculture, livestock and forestry, environmental education, poverty reduction, food security and employment promotion. But they will also be concerned with achieving better coordination between development policies at local and national levels, and effective involvement of the productive sector and organised civil society, e.g. grassroots groups, non-governmental organisations and their umbrella organisations, which are traditionally well organised with active networks in this region.

In Ceará, the theme has also been taken up by the regional parliament:

on the basis of the already drafted programme of action, a pact will be concluded on the sustainable development of the semi-arid regions of the federal state, involving the municipalities, civil society and the productive sector.

■ Conclusion

Desertification control and climate change adaptation are two sides of the same coin. They give rise to a range of synergies on both the policy level and in implementation, which need to be exploited more resolutely. The Joint Liaison Group of the three Rio conventions, as well as programmes such as GTZ's “Regional Development Programme in North-East Brazil”, are setting an inspiring example by systematically linking both themes. Especially in terms of aid effectiveness, bilateral and multilateral development cooperation should continue to encourage synergies between efforts to combat desertification and adapt to climate change.

Zusammenfassung

Desertifikationsbekämpfung und Klima-Anpassung sind zwei Seiten einer Medaille und bilden auf Politik- und Durchführungsebene eine Reihe von Synergien, die es verstärkt zu nutzen gilt. Die Joint Liaison Group der drei Rio-Konventionen oder Programme wie das GTZ-Vorhaben „Regionale Entwicklung im Nordosten Brasiliens“ gehen hier mit gutem Beispiel voran, indem sie beide Thematiken systematisch miteinander verknüpfen. Insbesondere

unter dem Motto der „Aid Effectiveness“ sollte die bi- und multilaterale Entwicklungszusammenarbeit Synergien zwischen Desertifikationsbekämpfung und Klima-Anpassung weiter fördern.

Resumen

La lucha contra la desertificación y la adaptación al cambio climático representan dos caras de una misma moneda y dan lugar a una serie de sinergias a nivel de las políticas y de la ejecución, que es necesario aprove-

char en mayor medida. El Grupo Conjunto de Enlace de las tres convenciones de Río o programas como el de la GTZ titulado “Desarrollo regional en el noreste brasileño” dan el buen ejemplo en este sentido, pues interconectan sistemáticamente ambas temáticas. El lema de la “eficacia de la ayuda” debería llevar a un mayor fomento de las sinergias en la cooperación para el desarrollo bilateral y multilateral para todo lo concerniente a la lucha contra la desertificación y la adaptación al cambio climático.