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Dear readers,

The terrorist attacks of the 11th September 2001 mark a crucial point in world politics. Now, the world is at a crossroads between a new world order and a new world disorder. Today, it is more obvious than ever before that we have to combat poverty world-wide, for the hopelessness and lack of prospects for young people is enabling fanatics to mobilise the masses for their criminal goals. So it is all-important that the industrialised and the developing countries get together and enter a new partnership, a Global Deal. The months in the run-up to the World Summit on Sustainable Development in Johannesburg in 2002 give us the opportunity to make progress in this respect.

A lot has happened since the Earth Summit in Rio in 1992. This special edition of Akzente looks at developments and gives examples of projects to demonstrate what German Development Co-operation has accomplished in terms of implementing the Rio resolutions. The projects encompass a wide range of objectives. They act as a bridge between German Development Co-operation and the UN Secretariats. They develop concepts and projects aimed at implementing international agreements in a pilot context, evaluate experience gathered so far and co-ordinate the dissemination of expertise and specialist advice.

But there is still a lot to do before Johannesburg. The 0.7-percent target had been set as early as 1970. And yet we are further away from it today than we were in 1992. Nevertheless, political determination is stronger than it was previously. At the EU Summit in Gothenburg in the summer of 2001, the heads of state agreed on providing 0.7 percent of their countries’ gross national income to development co-operation as early as possible. Concrete progress ought to be made in this direction ahead of the World Summit on Sustainable Development in Johannesburg in 2002.

However, the industrialised nations still have to do their homework in trade, economic and agricultural policy as well. Opening up our markets to the developing countries, and indeed, making this opening up sustainable, would significantly boost development. We have already scored some success with the “Everything but arms” initiative in the European Union, but more needs to be done. The results of the World Trade Organization conference in Doha point in the right direction. The new set of trade negotiations is also considering the interests of the developing countries. A process is now setting in at the end of which export and products subsidies will be phased out.

Since Rio, we have come to regard the principle of sustainability as a commonplace. We cannot live at the expense of our children and grandchildren. In this respect, we have achieved a lot. But there is still much more to do. In this sense, we ought to work towards agreeing on a concrete action plan at the follow-up conference to Rio in September 2002. This plan has to contain clear schedules for all those involved regarding the achievement of the 0.7-percent target as well as a number of further agreements: increased debt relief for the developing countries, proposals on financing global goods and on the commercialisation of renewable energy sources, measures to combat Aids and to address the Digital Gap, increased opening up of markets for products from developing countries and settling the conflicts between the WTO regulations and environmental guidelines. Thus Rio+10 can give a strong impetus to the New Deal, which is what the world now needs.

Yours,

[Signature]
The Conventions of the Rio Earth Summit have made history. A new chapter is to follow in Johannesburg in 2002. At the Conference, the impact of globalisation and the political changes in the nineties is to be harmonised with the concept of sustainable development. The new economic world order has to be socially balanced and ecologically stable. GTZ’s convention projects are providing an input in this respect as well.
The economic integration of the world has also globalised its environmental problems. Environmental sins are having an impact beyond national frontiers. Solving them is up to the international community as a whole. The 1992 UN Conference on Environment and Development in Rio de Janeiro was a milestone on this course. Since then, sustainable development has been on everyone’s lips. The Brundtland Commission Report titled “Our Common Future” had already introduced the term in public debate five years ahead of the Earth Summit. And despite considerable discrepancies in what sustainable development is held to be about, this did result in a common political paradigm for development.

Rio was a historic event, and in fact even a turning point. Following the ending of the Cold War, hopes had risen of finding common solutions to global problems. This applied in particular to the environmental problems. Never before had so many heads of state and government gathered at a conference. And for the first time, with the Global Forum of the Non-Governmental Organisations, international civil society presented itself as a colourful, competent and increasingly influential factor that was clearly stating its demands. The results of the UN Conference on the Environment and Development made history. The Summit resolved the Rio principles, the Agenda 21 action programme and a declaration on forests. Furthermore, the states involved passed several multilateral agreements, so-called Conventions, each of which was closely related to the chapters of Agenda 21.

A series of conventions

Agreements that are binding with regard to international law do not represent a novelty. A total of 480 multilateral environmental treaties have been signed alone since World War Two. The most important and most successful precursor of the Rio Conventions is the Montreal Protocol on the Agreement to Protect the Ozone Layer of 1987, in which the international community of nations agreed on a swift, effective phase-out of the production and use of substances that are harmful to the ozone layer.

In Rio itself, the Framework Convention on Climate (UNFCC) and the Convention on Biodiversity (CBD) were signed by the representatives of states and governments. In 1994, they were joined by the Convention to Combat Desertification (CCD), which for the first time recognised desertification as a problem of global magnitude. Two further conventions were signed in 1998 and 2001: the Rotterdam Convention on the obligation to provide information when trading certain toxic substances, the Prior Informed Consent (PIC), and the Stockholm Convention on Banning Persistent Organic Pollutants (POPs).

The Rio Conventions reflect the conviction that the global environment can only be protected if the economic and social situation of the people in the developing countries is substantially improved. This was the compromise on which the governments of industrialised and developing countries were able to agree in Rio. For in spite of differing interests, the community of nations was united in the opinion that environmental protection and development were simply two sides of the same coin, and that different responsibilities could be deduced from this. That is why the governments associated different expectations with the agreements entered in Rio. Whereas environmental protection world-wide was at the forefront of considerations among the industrialised countries, the governments of the South above all reckoned with benefiting from the international agreements in terms of new partnerships, improved technology transfer and the provision of additional finance.

The Rio compromise has turned out to be a success, although it does have its weaknesses. The consensus principle of the United Nations frequently only allows for agreeing on the smallest common denominator or for bartering.
Differences in interests and opinions are circumvented by vague formulations and definitions, while irreconcilable disagreements are left aside. In general, this also applies to the Rio agreement. For example, the Framework Convention on the Environment initially only defined a non-committal obligation to stabilise greenhouse gas emissions. Following long, tough negotiations, the Kyoto Protocol is now ready for ratification. Industrialised countries have to lower their emissions, but they can make use of many a loophole in doing so. The protocol on biological safety, which was passed in 2000, governs cross-frontier trafficking of genetically modified organisms, putting an important aspect of the Convention on Biodiversity into concrete terms. Also, negotiations on guidelines for access to genetic resources and balanced offsetting of losses by advantages due to damaging events were started in October 2001. One important issue in this context is that indigenous peoples and local communities are entitled to their fair share of research and industrial products based partly or wholly on traditional knowledge.

The Earth Summit introduced a new dimension and level of commitment to international environmental politics. The Rio Conventions and the protocols based on them are binding in accordance with international law, and they oblige the governments of the signatory states to implement them at national level and in a common effort. In most of the Conventions, the industrialised nations pledged their support for the developing countries in implementing the agreements, for example by providing additional finance, giving advice or by technology transfer. Thus the Conventions form a new legal frame of reference for development co-operation. A further novelty is that, for the first time, non-governmental players, local communities, private industry and, in particular, women are mentioned as important players in implementation and environmental management. This above all applies to the Convention to Combat Desertification and the Convention on Biodiversity. The governments are called upon to involve those affected and non-governmental players directly and refer decisions down to local level.

Thus the agreements support the principles of good governance. Moreover, they have become essential pillars of a global environmental policy that has been taking shape since Rio and plays a key role in UNDP and UNEP, the development and environmental programmes of the United Nations. The Conventions set the frame for a socially, ecologically and economically sustainable development, contributing to a global structural policy.

Many countries face difficulties in fulfilling their commitments coherently and as a part of a national overall strategy, and all the more so in achieving the further-reaching objectives and strategies of the various conventions.

Establishing pioneering international conventions and protocols is one major step. What is equally challenging is implementing them. The governments and the non-governmental players have to do their homework. In the Montreal Protocol, the ozone-killers were, to a large degree,
known, there were only a limited number of them, and substitutes facilitated a controlled phase-out. However, the conventions resolved since Rio have been much more complicated, and the causes of the problems appear to be more multi-layered, less transparent and more controversial. This is why implementing them has met with mixed results.

Many countries face difficulties in fulfilling their commitments coherently and as a part of a national overall strategy, and all the more so in achieving the further-reaching objectives and strategies of the various conventions. This applies both to industrialised countries such as Germany and to developing countries. Moreover, translating a convention into national legislation requires a multitude of co-ordinating and participatory processes. And many developing countries are forced to sacrifice long-term projects to the needs of the day. In addition, many governments in the South lack the staff and financial capacities required to implement the agreements. In the opinion of the UN Environment Programme, this is one of the reasons for an insufficient implementation and co-ordination of measures at national level.

The Global Environment Facility (GEF) set up after Rio represents a global financing instrument that has been applied chiefly for the Framework Convention on Climate and the Convention on Biodiversity. By the middle of 2001, the GEF had already provided more than 3.4 billion dollars for projects in more than 120 countries. But this is still far from enough. For example, the countries the Convention to Combat Desertification focuses on have so far mainly relied on bilateral and multilateral financing. This is why making the GEF accessible for further conventions, such as the CCD, but also for POP, is currently being considered.

However, isolated activities are not enough to get the homework done. The Convention on Biodiversity, which places genetic resources under the sovereignty of a respective country of origin, in turn demands of these countries that they draw up access regulations and establish suitable laws and institutions to handle balanced offsetting of losses by advantages due to damaging events. The Convention to Combat Desertification stipulates that national as well as regional action programmes be worked out in which all stakeholders ought to participate. Finally, an appropriate political framework is required in order to create the prerequisites for what are mainly technical measures to provide protection against toxic chemicals.

In spite of the fact that considerable progress towards decentralisation and participation has been made in several Latin American and African countries, many countries are breaking new ground when principles are required such as participation, decentralisation or dialogue with civil society groups. Established economic interest groups that have so far had exclusive access to politics have to change their views, given that there are new instruments such as round tables or demands for social and ecological corporate responsibility. Just how much still has to be done is highlighted by the relentless resistance put up by the pharmaceutical industry against far-reaching exemptions from patent protection. Such exemptions could for example relate to agriculture and health or generous balanced offsetting of losses by advantages due to damaging events for countries of origin and local communities.

In order to speed up the implementation of the Conventions, the UN Development Programme has called for a holistic approach that supports and refers to important aspects such as adequate funding, access to technical expertise and the development of basic capabilities via corresponding legislation and an institutional framework at national level, giving a clear role to non-governmental players. The opportunities that the multilateral agreements offer the developing countries also include new instruments such as emissions bartering or national sover-
the traditional environmental and natural resource protection projects, and political counselling has become a new area of activity.

The GTZ Convention projects

Here, a wide field of activities exists for Technical Co-operation as part of German international co-operation. GTZ faces the task of supporting its partner countries in fulfilling their obligations. Its work is an integral part of a development policy that the German Federal Ministry for Economic Cooperation and Development (BMZ) defines as global structural policy. By order of the Ministry, the implementation of the Conventions is supported by a number of projects working on a world-wide scale. Their chief objective is to create better framework conditions for development, environmental protection and poverty alleviation. Activities range from measures against erosion in Africa through support for environmental authorities to the drawing up of laws and regulations.

The Convention projects have a special characteristic. They act primarily at the strategic policy level, i.e. by providing advice on long-term, complex processes.

The Convention projects have a special characteristic. They act primarily at the strategic policy level, i.e. by providing advice on long-term, complex processes. The staff of the GTZ team and their local partners aim to systematically combine the goals and tasks of the Conventions with concrete project activities and the conceptual and strategic work of GTZ. The Convention projects provide special support for national action programmes, organise the exchange of experience among countries, help the member states to establish staffing capacities, develop legislation at national level and support the contracting states in fulfilling the demands of the Conventions while taking national circumstances into account.

The GTZ Convention projects act as a bridge both in terms of their contents and their organisational role. The teams co-operate with many important players: the bilateral German projects in the partner countries and other bilateral donors, UN institutions, development banks, implementing organisations and industry. At government level, they establish links between various specialist departments such as the ministries of the environment, development and economics, the Convention secretariats and the governments of the developing countries. This really is a novelty in development co-operation. The Convention projects are active at the negotiating level as well. The GTZ specialists belong to the German delegation and take part in deliberations. But they also give advice to delegations from developing countries. For the sheer number of committees, forums and working groups as well as the diversity and complexity of the topics being negotiated pose growing challenges.

The UN Development Programme calls on the bi- and multilateral donors and implementing organisations to look for synergy effects in this maze. It maintains that much can be done to implement the Rio Conventions in co-ordination with other strategies and programmes, such as those focusing on poverty alleviation. For example, combating desertification makes a considerable contribution to implementing the Conventions on Biodiversity or the Climate. And it stresses the need to integrate activities into comprehensive National Strategies for Sustainable Development (NSSD), in the establishment of which GTZ is also supporting selected partner countries. This can prevent doubling of efforts and help take advantage of synergy effects.

Developments are going to be assessed in Johannesburg, South Africa, in 2002. Where are we ten years after Rio, and how will we go about implementing the Conventions in the future? There is reason to hope that by then, further agreements will have come into force, in particular the Kyoto Protocol. The delegates in Johannesburg will be facing a big challenge. Globalisation has gained momentum over the past decade. In Rio, the environment and development needed to be highlighted as problematic issues, and the economy and the ecology had to be harmonised. In Johannesburg, the task will be to find a common denominator for the dynamics of globalisation and sustainable development both in the North and in the South. The new economic world order has to be socially balanced and ecologically stable. ■
What is sustainable development based on?

**Gro Brundtland:** Development rests on an ecological, a social and an economic pillar. For development to be sustainable, these three pillars need to be positioned in a way that will ensure that they relate to, and support, each other. The concept of sustainable development is just as valid as it was in 1987.

Have the expectations you had at that time regarding Agenda 21 and its implementation been fulfilled? Are you satisfied with the results achieved so far?

The Rio Conference in 1992 and Agenda 21, the global programme of action on sustainable development, heralded a new approach to dealing with environment and development issues. Looking back over the past decade, there is evidence of much progress as well as setbacks. One significant achievement is that sustainable development is now on the agenda of governments, the private sector and NGOs. The thousands of Agenda 21 plans of action that have been developed, particularly at the local level and, increasingly, in developing countries is testimony to this ground swell of activity at all levels and in all sectors of society. There has also been an intensified focus on global environmental issues and greater acknowledgement of the implications that global interdependency bears.

What global dependencies do we see more clearly today?

For example, since Rio, knowledge has significantly increased about global climate change and its impact on the ecology and on human health. Since Rio, we have become increasingly aware of the inadequate recognition given to the human/social dimension of development, and to the links between health and sustainable development, including the contribution of health to poverty alleviation.

Why are you putting so much emphasis on the health dimension of sustainable development?

It is now known that ill health has catastrophic consequences. The families affected get trapped in poverty. Treatment of the diseases can break this vicious circle. Good health allows families to have fewer children and invest in their education. It allows individuals to be socially productive. Human capital is a key ingredient to development. However, there has been a rise in the global spread of disease and infection, and in the incidence of food poisoning and food-borne disease outbreaks world-wide. With the globalisation of unhealthy lifestyles we see an increase in alcohol and tobacco and alcohol consumption, in high fat diets and a stark decline in physical activity. Simultaneously, we face age-old public health problems associated with poverty: inadequate access to clean water and sanitation, poor housing, pollution, poor hygiene and malnutrition. We cannot expect sustainable development to be achieved by poor nations facing the massive threat of pervasive diseases such as HIV/AIDS without further significant help. We also see that addressing the inequalities created by poverty and diseases is critical to world security.

How do you assess the importance of the conventions established at the Rio conference and in the wake of it?

Gro Brundtland: They constitute an important step towards the collective assumption of responsibility by countries. We are seeing an intensified focus on global sustainable development issues. One example is concern about the climate. We are becoming more and more aware of how much we depend on each other world-wide. Political decision-makers at national and international level are increasingly recognising and acting on the links between environment, health and economy and acting correspondingly. The conventions should play a leading role in the debate on the reform of international institutions in the environment field. They must become an integral part of the reformed institutions.
Economic efficiency, social equity and the conservation of our natural environment are interdependent and complement each other as equally important and vital interests of society. This is the key insight behind the guiding vision of sustainable development. Only strategic approaches with a long-term perspective can turn this vision into a reality.

Sustainability strategies fulfil this demand. They link disparate sectoral policies and focus them upon priority problem areas of a country. Their common feature is their balanced consideration of economic, social and ecological aspects in the long-term perspective and the quality of the process through which they are developed. A national strategy for development can be understood as a continuous process of political and societal consultation in which individual and societal interests are regularly negotiated and reviewed with a view to the long-term quality of the life of the community. The complexity of the social consensus-building process demands competencies. The political and societal structures must permit responsible, participation-oriented dialogue that may vary from country to country.

Technical co-operation can make a crucial contribution in this context, as is demonstrated by the following examples from Brazil and Tunisia. Its task is not that of developing sustainability strategies on behalf of the developing countries or to define strategies and goals one-sidedly. Rather, development co-operation promotes the required competencies and structures in these countries so as to ensure that its partners can identify and pursue their own paths towards sustainability.
GRASSROOTS FOREST PROTECTION

In 1990, the seven largest industrialised countries brought the Pilot Programme for the Protection of the Brazilian Tropical Forests into being, thanks to which environmental policy in Brazil has gradually gained more significance. Farmers at grassroots level and mandate holders are changing their views. The smoke from the slash and burn clearing operations is still lingering in the air. But more and more communities along the Amazon are refusing to go along with setting the world’s climate alight.

Gerhard Dilger, text  |  Uwe Rau, photos
“It is not easy to get the farmers to change their way of life, for no provisions were made for trees in their traditional concept of farming,” says Jefferson Ferreira, the advisor from the Institute for Ecological Research, who has been supporting the project for over three years. What makes the case for the environmentalists particularly strong is that switching to cultivating methods that are kind to the environment is a question of survival because the land of the smallholders is exhausted.

In addition to products such as maize, beans, cotton and manioc, the 200 families of the project also grow medicinal herbs, fruit and vegetables per 15 hectares of land, and they make honey. Also, they keep cattle and small animals. In a new experiment, bio-coffee is being planted between trees offering shade. Integrating local tree species and fast-growing eucalyptus trees into the fields stops soil erosion while preserving biodiversity. The more diversified agricultural production is, the longer the soil will remain fertile. Now, up to 150,000 seedlings a year can thrive in the greenhouse of the Devil’s Mountain. They are the nucleus of an extensive afforestation campaign.

“For the first time, these projects are offering smallholders in rainforest areas sustainable livelihoods,” says GTZ expert Thomas Fatheuer. In addition to environmental experts and former people without land, several authorities of the Federal State of São Paulo are involved in the scheme. Jefferson Ferreira calls this approach eco-negotiating: “The smallholders feel responsible for maintaining the ecosystem and appreciate that their economic and social needs are being taken seriously.”

Success through participation

In other places, eco-activists and the population of the areas that are supposed to be protected are still wary of one another, complains Artur Mendes, a dedicated chief of department of the Authority for American Indians, Funai. Within PP G-7, there are also reservations as regards accepting the “natural vocation of the American Indians to protect the environment”, Mendes maintains. He recalls an interesting episode. Just a few years ago, it was seriously discussed whether the Brazilian government should set ten percent of the overall area as the upper limit for the preservation of the Amazon region. “I was surprised about how timid this proposal was,” Mendes says, and adds: “Ten percent? Alone the indigenous territories account for 24 percent of Amazonia!” However, just like the reserves for the indiarubber gatherers, this land had not been considered in the calculations, demonstrating the then prevalent attitude of leaving people out in nature conservation schemes. Now the insight has generally become accepted that supporting the indigenous peoples and other forest inhabitants simultaneously provides the best guarantee for forest protections. Since 1995, Indian territories with a total area of 400,000 square kilometres have been designated, just under three quarters of which are included in the Pilot Programme for the Protection of the Brazilian Tropical Forests. The first indigenous demonstration projects are to be launched in 2002.

Today, around 20 million people live in the Brazilian Amazon Region. Many of them already settled down there 30 years ago. An ill-conceived land reform of the government in Brasilia promoted the settling of millions of impoverished smallholders from other regions of the country. The establishment of large cattle farms and the settling of smallholders were the main reasons for deforestation in the seventies and eighties, which cost more than 20,000 km² a year. Throughout the nineties, an annual 16,000 km² of rainforest was cut down.
was lost. Thousands of fires are eating their way into the Amazon Basin from the east and the south. With its 1.7 million square kilometres, this so-called arc of destruction is almost five times as large as the area of Germany. Most of the fires are caused by slash and burn clearing during the dry season. As part of the PP G-7 fire protection programme, citizens, grassroots organisations and authorities are joining forces in selected communities to tackle forest fires. For example, this is the case in Alta Floresta, in the north of Mato Grosso. In August 1999, the local airfield remained closed for days because visibility had been reduced to nil by a thick blanket of smoke. Villagers crowded into the health centre complaining of respiratory problems. Dead fish floated down the river. All this prompted the inhabitants to voluntarily sign a community protocol against fire, an initiative of the NGO Friends of the Earth in the areas of the Amazon Basin affected most badly by forest fires. Farmers are introduced to environmentally friendly cultivation methods. Teachers, entrepreneurs and church people organise information campaigns. Timber processing companies recycle their waste. The local fire brigade is supporting monitoring by the environmental authorities. The government authorities use satellites to identify the sources of fires, and police are now taking action against the culprits more frequently. However, the environmental authorities are far from sufficiently equipped to maintain effective control.

A powerful overexploitation lobby

“We are being overrun by the forces advocating the old concept of overexploitation,” Environment Minister José Sarney Filho concedes. The timber industry and agriculture oriented on exporting have shaped tropical boomtowns like Brasnorte. This place, which is situated 500 kilometres north of Cuiabá, in the so-called arc of destruction, was founded just twelve years ago. Four of the nine city councillors are timber entrepreneurs. Motor saws are the articles highest in demand in the specialist stores. However, the local politicians say that in ten years at the latest, there will be no more timber. Brasnorte’s future lies with agriculture. Today, cattle are grazing in the extensive areas cleared south of the town centre. Soon, soy is to be planted there that will be exported to Europe.

Dante Oliveira, the Governor of Mato Grosso, is one of the most outspoken growth apostles. This fellow party member of Brazil’s President Fernando Henrique Cardoso is campaigning for the planned construction of waterways and roads, dams, overhead power lines, railways and port facilities. All this is part of the government’s ambitious Avança Brasil (“Onward Brazil”) plan. By 2007, more than 20 billion dollars alone in government money is to be spent on an infrastructure for the Amazon Region so that Brazil can become more competitive on the world market. But at the same time, Mato Grosso has made considerable progress in controlling deforestation and forest fires. A model developed in the framework of the pilot programme for environmental licensing of agricultural and forestry plants is about to be applied throughout Amazonia, starting with those communities affected most severely by deforestation. Nevertheless, extending the North-South axis between Cuiabá and the Amazon port of Santarém would amount to a “strategic integration of Amazonia into the globalisation process”, according to Daniel Nepstad of the Amazonas Environmental Research Institute in Belém. Detours still have to be made to transport three- and-a-half million tons of soy from the north of Mato Grosso. Exporting via Santarém would save 60 million dollars a year, branch specialists estimate. The government expects soy-growing in the region to treble within five years after the opening of the new export corridor. Timber entrepreneurs also have something to look forward to. Nepstad predicts that transport costs for tropical timber during the rainy season will drop by 80 percent.

Planned tarmacing of 6,200 kilometres of roads in Amazonia would trigger several “vicious circles of destruction” simultaneously. As soon as a jungle road has been asphalted, deforesting in fifty-kilometre strips on both sides of the road rises rapidly, according to Nepstad. He calls this the fishbone effect. Researchers at the National Amazonas Research Institute in Manaus fear that if Avança Brasil is stuck to in its present shape, up to 42 percent of the remaining Amazon rainforest could vanish in the next 20 years. However, these estimates are based on an unchecked continuation of the dynamics of destruction in the past – without taking important changes in Brazilian environmental policy over the last few years into account.

The government is backing gradual institutional reforms. The Natural Resources Policy sub-programme is meant to co-ordinate steps at central, federal state and community level. Just like with the demonstration projects, civil society is attributed an important role. The more directly the people affected are involved, for example in environmental planning, the better the prospects will be for a successful implementation. In the relatively small, progressively governed Amazon states of Acre and Amapá, the players have already scored particular success in this respect. Elsewhere, regional elites are still calling the tune, although the front is crumbling.

Given these inconsistencies in reality, how can the success of PP G-7 be assessed? “We can boast a lot of concrete results, but of course we are still a long way from determining the overall government approach,” says an Environment Ministry official. Harald Lossack, who heads GTZ’s PP G-7 team from Brasília, holds a different opinion. “A lot depends on how much of our experience is actually transferred to politics outside the Ministry of Environment,” he maintains, and points to the Ministry of Agricultural Development’s increasing involvement in ongoing activities. Moreover, the Ministry of the Environment as well as organised civil society have put pressure on the Ministry of Planning, which is responsible for infrastructure planning, to conduct a new, indepth environmental impact assessment of the Avança Brasil programme. Lossack is confident that “what the grim destruction scenarios predict is not inevitable.”

The author is a taz correspondent who lives in Brazil.
A sustainability manager in the Medjerda Valley

The amusement park in Mejez-el-bab is a large-scale project of the Tunisian community’s 20-Year Plan. An illegal dump site is disappearing, a cultural heritage monument is re-appearing, and the town is getting greener. All along the Medjerda River, people are experiencing that there is a link between environmental protection and personal wellbeing. Nowadays, Tunisia sets example for many an EU country.

Klaus Sieg, text  |  Jörg Böthling/agenda, photos
STRATEGIES FOR SUSTAINABLE DEVELOPMENT

public. A committee of mandarins and private persons had worked out the agenda. The 50 members include Mayor Jalel Grira and his representative Raja Fazâa, freelance architect Gatt Imen and Adel Milhoub, a Tunisian Telecom employee. For over two years, they analysed the problems of the town and compiled a catalogue of activities for the next 20 years. The costs are considered in the current budget.

“The neighbouring district, with its narrow alleys and small houses, is above all inhabited by poorer families with several children,” says Raja Fazâa. This is why it is especially important to have an amusement park here, she explains. The 20-Year Plan centring on the amusement park touches on all facets of sustainable development, including social aspects. Young people are being offered training as gardeners and builders or can later on get jobs in the waste management sector. Cleaning up the riverbanks of the Medjerda is creating employment, and so is extending the “Agenda 21” House in the town centre. This building, which dates back to the French colonial era, is a place of communication concerning environmental topics – a unique institution in North Africa.

“Now it is important to get the people more involved in the project,” says Mayor Jalel Grira. This is the only way to ensure that development is sustainable. It is a difficult process, although the problems are obvious: high unemployment levels, especially among young people, an insufficient infrastructure, too much waste and not enough green areas. There is no tradition of getting citizens involved in decision-making. This is where the local agenda could help establish a new culture of participation at the local level. The “Amusement Park Project” suggests itself in this context since it shows how the pressing social, economic and ecological problems of the town are inter-related and how they can be solved – for example by following what the schoolchildren have painted in pictures on the wall of the conference room in the town hall. The motifs are parks, people doing gardening, a waste tip that has been cleared up with a bulldozer shoving waste to-and-fro and a tanker cleaning the sewers. “We have placed our hopes in the children. They are the ones who will be designing the future,” says Raja Fazâa.

Pioneers in local government politics

Mejez-el-bab is one of five pilot communities in the North West of Tunisia that have worked out a programme promoting sustainable development. The Tunisian Environmental Agency (MEAT) and a GTZ staff member of the Tunisian-German Project on Environmental Management are supporting the communities in their attempts to improve identifying and solving their problems. Technical Co-operation aimed at better environmental management started nine years ago and has made a significant contribution to Tunisia’s developing into a model country for environmental policy. German policy advisors have provided their expertise and supported their Tunisian partners in promoting institutions.

The sophisticated activities of the Tunisian-German joint project set out from the willingness of the Government in Tunis to assign environmental protection an appropriate political status. Environmental management started with the foundation of a national wastewater authority, ONAS, in the seventies. This authority set itself the target of restricted untreated inflow of wastewater. One of the aims in this context was to keep tourism going by seeing to it that seawater remained clean. In 1991, Tunisia set up a Ministry for the Environment, the first Arab country to take such a step. The recommendations of the World Summit for Environment and Development in Rio de Janeiro in 1992 stimulated the environmental discussion and strategy. Just one year later, the government initiated a National Commission for sustainable development. One of the signals President Zine El Abidine Ben Ali gave to the population that was aimed at having a media impact was the closure of an illegal dump site on the outskirts of Tunis. Today, Tunisia spends six percent of its gross domestic product on environmental protection.

One of the areas the Tunisian-German Project for better Environmental Management is supporting the country’s government in is training and upgrading of specialist and executive staff at the Ministry for the Environment. A set of rules is being worked out in...
collaboration with the Tunisian environmental agency (ANPE) that is to assess the environmental impact of future decisions. In Tunisia, just like in the European Union, investors have to submit a survey covering the environmental impact of their plans which is crucial to their venture being authorised.

Sharing the Medjerda River

The geographical focus of Technical and Financial Cooperation commissioned by the German Ministry for Economic Cooperation and Development is the Medjerda Valley. The Medjerda is Tunisia’s only river that has water all the year round. It feeds more than half of the country’s water supplies. The Qued Zarga reservoir is the largest one in Tunisia. Supported by GTZ and the Kreditanstalt für Wiederaufbau (KfW), wastewater collecting systems and sewage treatment plants have been erected along the Medjerda. In Beja, a city of 65,000 inhabitants, nearly all households are now linked up with the sewage system. And at national level, every second household is connected to the network. Thus the rate of being linked up with a sewage system is higher than it is in Portugal, Spain, Greece or Turkey.

Four communities in the Medjerda Valley have also introduced regulated waste management. “Rubbish used to be dumped onto the riverbanks or thrown straight into the river,” says Ridha Abbès, the co-ordinator for waste management of GTZ. The valley looked like it still is in many parts of the country, where multitudes of illegal dump sites are belching smoke, fields and squares are littered with empty plastic water bottles and bags and car wrecks and refrigerators are rotting away by the roadside.

It is comparatively clean in the streets of the four communities. Little orange waste containers displaying the GTZ logo are hanging everywhere. The households have dustbins, and in some districts, special bins are even provided for organic waste. Modern dustbin lorries collect the rubbish and bring it to four secured tips with litter bins systems and geo-membranes to protect the groundwater. And in Beja, there is a composting plant that is soon going to supply 3,000 tons of compost a year. Private Tunisian operators are already interested in the plant. Privatisation, which is scheduled for the medium term, plays an important role in establishing a lasting stable infrastructure.

The staff of the Project for better Environmental Management have trained and upgraded the local organisers of waste management. The local specialists are to continue to control rubbish collection once the development experts withdraw. For example, Ridha Abbès has trained his successor on the job for one year. “Not this way. Take the load up to the composting plant,” he calls to the men driving the tractor, making wild gestures. The workers are driving a trailer full of rubbish from the market in Beja. Instead of taking what is mostly organic substances to the composting plant, they wanted to dump the waste together with the residual waste.

People like Ridha Abbès embody a crucial aspect of sustainable development: the active participation of a broad, informed stratum of the society in the development processes. Leila Brari, until recently head of the GTZ team for the environmental management project in the Medjerda Valley, discussed many issues related to this aspect with the multipliers in the various districts. Again and again, they explained the new system to the rubbish collection workers, handed out brochures and painted a wall painting. “You can’t simply knock at people’s doors and say: please stop chucking the rubbish into the river!” Leila Brari maintains. People have to get the feeling that German development co-operation intends to contribute to overcoming rivalry between the three North African countries. This would open the way to an intensified exchange of know-how and technology.
the plan also comes from them. “Then they will join in the effort,” Brari says. Now it is up to the regional and local institutions of the Tunisian Ministry of the Interior to see to public relations activities and training. The long-term success of regulated waste management in the Medjerd valley crucially depends on this.

Synergy for other countries

In spite of the comparatively important role that environmental protection plays in the country, Tunisia still has considerable ecological problems. Water is becoming scarcer, and its quality is deteriorating, while desertification is on the increase. The forests are retreating, and biodiversity is declining, while the air in the major cities is getting dirtier and dirtier. These are problems that Tunisia shares with Algeria and Morocco. German Technical Co-operation can make use of experience from Tunisia in its activities in the other two Maghreb states, for example in introducing an environmental impact assessment for investors in Morocco as well. An association of experts for the exchange of know-how and collaboration among all the projects in the Maghreb region has been promoting these synergy effects for the last three years. German development co-operation also intends to contribute to overcoming rivalry between the three North African countries. This would open the way to an intensified exchange of know-how and technology. The International Centre for Environmental Technology (CITET), which was set up by Tunisia in 1996 and has received crucial support from Germany, plays an important role in transferring, also beyond the Maghreb countries. Palestinian environmental technicians are being trained in its modern laboratories. Representatives of Senegal’s Wastewater Authority can inform themselves about sewage treatment technology. “The experts here have been trained in Germany or France and can impart their know-how according to the requirements of the African and Arab states,” says GTZ advisor Klaus Wenzel.

CITET is performing important activities in environment co-operation with the private sector. The experts are supporting companies on the way to having themselves certified in accordance with the ISO 14001 environmental standard. They check the respective company with regard to possible weaknesses and help in upgrading production processes with in-company environmental management so that they no longer harm the environment. The Free Trade Agreement with the European Union that is scheduled for 2006 is going to increase pressure on the Tunisian economy to adapt its production and products to European environmental standards. Better in-company environmental management has the great advantage that it helps companies to lower their costs. This is also a particularly favourable prerequisite for sustainable development. ■

The author is a journalist who lives in Hamburg

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**RioPlus:**

The GTZ Project for sustainable strategies

The UN Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992 resulted in the course being set for crucial aspects of environmental and development policy. With Agenda 21 and the Rio Conventions, it established the guiding vision of sustainable development internationally. In Agenda 21, the signatory states agreed to work out and implement national strategies of sustainable development. The industrialised countries agreed to support the developing countries with their measures.

2002 will see the tenth anniversary of the Rio Conference, on the occasion of which the UN World Summit for Sustainable Development is to be held in Johannesburg. In this context, the RioPlus project is concentrating on the following fields of activity:

- supporting the German Federal Ministry for Economic Cooperation and Development in the preparatory process for the 2002 World Summit in Johannesburg,
- advising partners in selected developing countries with working out and implementing national strategies for sustainable development,
- a conceptual processing of content and process-related aspects of promoting strategies for sustainable development; the results are to be taken up in the discussions on national planning processes via national and international forums.


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Gardens in the sand

The desert has stiff punishments for environmental sins. Where the flora loses its roots, there is nothing left to secure the soil. The sand wanders. In order to preserve their habitat, more and more families in Turkmenistan are working on a green mosaic. In three regions, they are wresting a meagre yield from the barren soil and stemming erosion.

Marcus Bensmann, text   |   Helga Winckler, photos
Slowly but surely, a sand dune is moving closer to Urasberdej’s clay-walled house, and the first sand-drifts have already reached the building’s frontage. Soon, the sand will engulf the house this 35-year-old Turkmen lives in together with his wife and three children. When Urasberdej, a water-pump attendant, first noticed the disaster approaching four years ago, he hastily prepared new foundations 200 metres further on. But the desert sand was quicker. Many ruins in the Kara-Kum Desert bear testimony to a race against the sand that has already been lost.

The Kara-Kum Desert covers 80 percent of Turkmenistan’s territory. This Central Asian country stretches from the eastern shores of the Caspian Sea to the Afghan border. Unlike in the deserts in Africa and the Middle East, rich vegetation thrives in the Kara-Kum Desert. In the areas faraway from human settlements, plants and shrubs remain undisturbed, and their root system has prevented the formation of drifting sand dunes. But the more nomads settled down here and introduced cattle farming, the more difficult it was for the desert plants to regenerate. Unlike camels, the cattle only look for food in the immediate vicinity of the villages, and stubbornly remain in one place. Once the surface has been grazed, the roots lose their grip and are exposed to the wind without any protection. As a result, the ground starts to move. A four-year drought that led to precipitation dropping to a minimum exacerbated the desolation.

The sand-drifts in the Kara-Kum Desert are a visible sign that desertification is progressing. The United Nations wants to check destruction with the aid of the CCD Convention, with the people who are actually affected playing the central role. The CCD Project on Combating Desertification (CCD) also places them at the forefront of its activities. Commissioned by the Federal Ministry for Economic Cooperation and Development (BMZ), the convention project is supporting a pilot project on participatory resource management in Turkmenistan in close collaboration with the National Institute of Deserts, Flora and Fauna in Ashkhabad.

GTZ commissioned Ernst Klimm to head the project. First of all, he and his team established what national know-how there was. One important insight that they gained was that while the specialists of the Turkmen institute turned out excellent scientific results, these were hardly ever systematically processed. “To us, using our results in practice was breaking new ground,” says Muhamet Durikov. This local scientist is head of the Turkmen CCD Commission and advises the pilot project on specialist issues. In the desert administrative district of Yerbent, the team staff started to combine theory and practice of combating desertification together with their Turkmen partners.

Worries in the villages

“At the community gatherings, we found out about what the concerns of the province are,” says Tazegul Gaipova, who co-ordinates the project in Ashkhabad. She adds that the inhabitants were surprised that anyone had bothered to ask them. During the Soviet era, they had been used to all decisions being made without their being consulted and then simply having to obey. They quickly summed up the shortcomings. In one village of the region, there was not enough water. It had to be delivered from Ashkhabad at a high price. Tractors were getting rid of the sand in front of the hospital in the 3,000-inhabitant village of Bahardok. The sand was destroying their houses, and they had hardly any fruit or fresh vegetables.

But why give up building a house if growing plants on the dunes will stop them advancing? “We noticed that hardly any of the inhabitants of Bahardok had kitchen gardens of their own even though there would have been enough room,” says Gaipova. Moreover, this desert village has the advantage that a water pipeline leads to it straight from the Turkmen capital. With this proposal, the specialists of the pilot project scored a bull’s-eye. It was soon joined by the suggestions of the villagers. A mullah remarked that there was an ancient water collection point not far from the settlement, which was suffering from a shortage of water. It had fallen into oblivion and got covered up by sand drifts. The villagers would have to clean out the canal, which catches the water when it rains, and dig a depression. The village would have a water reservoir.
The suggestions of the mullah were accepted, and the project paid for a tractor with its own funds. The villagers dug the depression. A result, the water collection point has been working again for a year. The local scientists explained how the collection point had to be enclosed and planted with saksaul trees to stop the drifting sand dunes.

The experts also showed the inhabitants how to plant gardens. Now, there are rows and rows of saksaul trees in front of some of the houses. Reeds protect the seedlings from being covered up by the sand. A fence prevents animals from pulling out the plants. The hospital was once and for all saved from the sand dunes using the same method.

Urasberdej is helping with planting saksaul. He can no longer save his old house, but he is determined that his new home will never again be threatened by the dunes. After a hesitant start, more than 50 families from the region decided to plant gardens. Their success prompted others to copy them. In addition to know-how, the project provides seed, seedlings and building material. At the local school, the schoolchildren planted an educational garden, enabling them to learn how to handle vegetation at an early stage. Together with painting competitions, the school lessons rouse the boys' and girls' interest in nature.

The mosaic is getting bigger

After this successful start, the project to combat desertification spread its activities to two further regions in which drifting sand is also threatening the livelihoods of people: the Kopet-Dagh highlands and the Oasis of Mary.

The Kopet-Dagh highlands along the Turkmen-Iranian border, which are famous for their tasty potatoes, used to be among the regions of Turkmenistan with the greatest abundance of water. Their slopes were covered with dense woods. The mountain inhabitants cleared them of brush forests and used the wood for building or heating. It was not before 1999 that a gas pipeline was laid in the region. But nobody replaced the trees that had been felled. Now completely bare, the slopes were no longer able to store the rainwater. Soil erosion carved deep scars into the surface. The highland pastures turned barren. Rainfalls turned little mountain creeks into raging torrents or triggered avalanches of mud that destroyed pastures and plantations. This is one of the biggest problems for the people in the village of Garavul.

After intensive talks, the experts managed to persuade the people to build terraces, plant trees and cultivate pastures. The inhabitants select the species of tree and carry out the individual phases of the process themselves. However, it takes time to rectify the aftermath of years of clear-cutting in the mountains. The Arwas River normally trickles through the village as a rivulet. But after a long period without rain, a cloudburst in the spring of 2001 caused it to suddenly swell. The mud and water masses destroyed a tree nursery that had just been started. However, this mishap prompted the people to carry on. Here too, the local school is seeing to it that parents and children alike take an interest in environmental issues.

It is at the Oasis of Mary that the Murgab River flows into the Kara-Kum Canal. The area around the oasis is rich with fertile soil. Intensive cotton-growing and leaks in the canal caused the groundwater table to rise. The surface has been salinifying. Precious arable land is lying fallow, exposed to erosion by the wind. A retired teacher in the village of Sakarchaga had his own way of coping with the situation. In self-initiative, he cleaned arable land that had been turned into a rubbish dump and put in no end of hard work to plant it with grapevines. The teacher's demonstrable success encouraged ten families to cultivate fallow land as well. The pilot project assisted in renting the land and advised the new farmers on how to cultivate the soil best with useful plants that were resistant to salt.

Now the people in the region want to learn from each other. Each of the three regions has an elected intermediary who maintains contact with the three local scientists looking after the project activities in Ashkhabad, the Kopet-Dagh Highlands and Sakarchaga, where the Oasis of Mary is. The villagers from the three areas visit each other, gaining insights into the problems and lifestyles of the others. This networking is a further small step towards successfully combating desertification in the long run.

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The nomads are regarded as the undesirable citizens of Mauritania. In spite of having been urged to lead a sedentary life with gentle force, they remain an eyesore to the peasants. However, the image of these wandering herdsmen is changing. The more frequently farming fails in the Sahel Zone, the more the advantages of mobile animal husbandry are realised. The life of the nomad is experiencing a renaissance with the Code Pastoral.

Friedhelm Mensing, text | Clive Shirley, photos

O
nce again, following the droughts of the seventies and the eighties in Mauritania, the nomads were the whipping boys. The authorities accused them of letting their herds strip the Sahel bare. This, it was said, would add considerably to desertification. The herdsmen are used to being the wrongdoers. Since the beginning of the colonial era, public perception of the nomads has been filled with suspicion and even contempt in the African Sahel. Western researchers imputed the herdsmen with a livestock complex and claimed that for them, animal husbandry had a lot to do with prestige, power, status and honour, but nothing with subsistence. After independence, the nomad peoples once again failed to attract any favours for having wrested a modest livelihood from the hostile environment of the fringes of the desert for hundreds of years. Their lifestyle was still being referred to as irrational. Both the new governments and national and international aid organisations demanded that the nomads settle down, just like in the days of the colonial masters. They were usually only granted financial support in acute crisis situations. In the rural regions, politics almost exclusively opted for agriculture, irrigation dams and large, irrigated areas. The droughts of the seventies and the eighties saw pastoral nomadism ultimately enter decline. More and more family communities gave up their wandering lifestyle, settling down in the capital Nouakchott, where educational and health institutions have contributed to promising a life with less hardship. Within a few decades, Mauritania experienced a rapid process of urbanisation. Nouakchott, which used to be a small administrative centre with 5,000 inhabitants, turned into a large city with a population of more than 750,000 living in sprawling slums. In 1965, the nomads still accounted for three quarters of the country’s roughly one million inhabitants at the time. Today, just over five percent of a population that
has grown to more than 2.5 million are still wandering from one pasture to the next with their herds.

Overcoming compartmentalisation

However, the exodus to the urban centres is not changing the fact that animal husbandry continues to remain an economic pillar for people and contributes a fifth of the gross national product. And in the south-east of the country, people earn up to four fifths of their income with animals.

Just like almost everywhere else in the Sahel, survival is tough for the nomads in this part of the country. Since the sedentary farmers are making more and more use of thoroughly 120 permanent or seasonal marshlands, the so-called Tamourts, the herdsmen lose out when it comes to access to pastures or drinking troughs. But they cannot reach their scattered pastures without them. During the dry period from November to May, the marshlands also offer the herdsmen the reserves they have to resort to if they cannot find feed anywhere else. But the sedentary farmers are fencing in ever larger areas and them up. Access to the drinking troughs is often cut off for the nomads. This sometimes results in bloody strife. The only reason this conflict has not escalated is because there has been sufficient rainfall over the last five years.

The conflict potential is high, even though many nomads are already living in cities. There too, they continue to see themselves as nomads, and not only because of sentimental memories of their own tradition. Scientists have established that classifying the Sahel inhabitants according to nomads and sedentary people is compartmentalisation. Rather, they refer to a “wide range of combined spatial-mobile and stationary use strategies and phases” aimed at securing survival. For example, the herds of a clan are frequently looked after by one member of the family and several hired herdsmen in Mauritania, while a relative contributes to the income of the extended family by working as a merchant. Keeping risks at a minimum has always been one of the maxims of life this region.

The nomads living according to this maxim are now earning more respect. The insight has gained ground that nomadic life and work styles are the best solution for many areas with low rainfall both in economic and ecological terms. In the south-east of Mauritania, where annual precipitation is less than 400 mm, mobile animal husbandry is far more lucrative and, above all, much more secure than farming. The herdsmen can let their cattle graze in the Tamourts within a radius of up to 40 kilometres. By contrast, the sedentary peasants farm just a few hectares on the edges of the marshlands that have to be cleared and cultivated to this end. Even if it does rain in time and there is enough rainfall, the thin layer of topsoil in the region will only yield meagre harvests. After a few years, farming has to be given up. Rain and wind carry away the topsoil, which lies bare in the dry season. What is left behind is eroded, infertile land. By contrast, the nomadic lifestyle is in harmony with the rhythm of nature.

From mid-June on, the sky opens its sluices, and the rainy season starts in the thornbush savannah in the south of Mauritania. Just like every year, green islands are once again scattered about in the barren landscape along the asphalt road from Kiffa to Aioun el Atrouss. But a heavy shower is far from enough to make the savannah thrive. Only when the earth has been properly saturated will the seeds germinate. Certain substances in the husks of the seeds inhibit germination and prevent an early start that could terminate the growth cycle of the plants.

The grasses, shrubs and trees in the thornbush savannah have a number of biochemical tricks in store to adapt to the arid climate of southern Mauritania. Tiny leaves keep water evaporation at a minimum. The drin grass rolls up sideways to reduce its surface. Pale, silvery spots reflect the light. Herbs grow roots that fan out just under the surface to gain access to as much moisture as possible. The acacia can sink its roots to a depth of up to 35 metres to get to the ground-water. Vegetation will thrive especially well where the water accumulates in the rainy season: in dune valleys and sinks.

Just like the vegetation, nomadic animal husbandry was adapted to the climatic conditions of the region for ages. A clever survival strategy featuring mobility and flexibility enabled the herdsmen to wrest a modest livelihood from their hostile environment for hundreds of years. The livestock of the nomads can hardly do any damage to the natural vegetation in the dry savannah. The leaves of trees and shrubs and the grasses that the cattle eat are just a small part of overall vegetation. Unlike in the wet savannah, where most of the biomass grows above the
ground, nearly all the vegetation is in the ground in the dry savannah. The scarcity of feed ensures that livestock numbers are kept in balance with nature. The flora even benefits from nomadic animal husbandry. The animals contribute to the seeds of the plants being spread over wider areas, either by carrying them in their fur or through their metabolism.

The Code Pastoral

The advantages of nomadic animal husbandry were rediscovered towards the end of the nineties. A new law, the so-called Code Pastoral, is to secure the mobility of the herdsmen and their herds. Supported by GTZ, Mauritanian sociologists, jurists, representatives of the cattle-breeding association and Islamic religious leaders have worked out a draft code.

“We have combined three aspects: the nomadic traditions of the country, the Islamic Sharia and Mauritanian law,” explains Islamic legal scholar Cheik Hamden Uld Etag. The Malachite interpretation of the Sharia, which is the Islamic administration of justice that is practised in Mauritania, contains clear provisions on the relations between peasants and herdsmen. It stipulates general and free access to water, pastures and other natural resources. Traditional law demands that certain areas be reserved as pastureland and ensures a three-day right of abode for nomads in villages and settlements. On the other hand, the Sharia assigns certain duties to the herdsmen. The nomads have to see to it that their animals do not damage the places they stay at and do not invade the fields.

The cattle-breeding association Groupement National Agro-Pasteur, the representative body of the country’s largely marginalised nomads, has proven to be the motor of the legislation process. After lengthy debates, Parliament and the government of Mauritania passed the Code Pastoral in the spring of 2000. Not only does the new law provide new regulations on access to resources, but it also transfers important decision-making processes to lower levels. Today, the local communities and the cattle-breeding and farmers’ associations take joint decisions on how the marshlands are to be used. In future, conflicts will be settled locally. GTZ is training the local Islamic legal scholars, the kadis, and familiarising them with the new law.

“It has been fortunate that, in parallel to our project, there is a GTZ advisor who is working at the Ministry of Agriculture and has made a substantial contribution to the establishment of the Code Pastoral,” says Dirk Thies. This GTZ staff member gave advice to the Project for Integrated Resource Management in eastern Mauritania up to the end of 2000.

A project for two conventions

The country’s government had previously signed the UN Conventions to Combat Desertification and on Biological diversity, both of which are binding in accordance with international law. In Mauritania, these two agreements overlap, which is partly due to the fact that the wetlands in the Southeast of the country are markedly multifunctional. They provide for the physical and economic livelihood of both mobile and sedentary sections of the population. But the wetlands are also irreplaceable resorts for migrating birds, and they offer retreats for rare indigenous animal and plant species.

However, the forests of the river valleys are being massively overexploited to obtain charcoal. As a result, soil, fertility and biodiversity are lost. Interference with the fauna and flora of the Mauritanian wetlands has a direct impact on biodiversity in the coastal regions and the sea. This is an aspect that has so far been underrated in the context of Mauritania. Therefore, every ecological change has far-reaching consequences. In order to preserve the livelihoods of the population, the natural resources have to be managed ecologically and economically in a sensible way, and the two aspects need to be harmonised.

This is why the project supported by the Federal Ministry for Economic Cooperation and Development promotes the joint implementation of both Conventions in Mauritania and advises government and civil society organisations on implementing. Both Conventions are aimed at reducing conservation and utilisation aspects to a common denominator and linking up the various institutions dealing with these aspects. “This hardly lessens the problems in day-to-day project activities, but the Conventions make it easier for us to present our case and urge that demands be fulfilled such as the sustainable use of natural resources and the involvement of the population,” says Dirk Thies.

Back to the nomads. Today, the marshlands in the project regions of Assaba, Hodh el Gharbi and Hodh el Chargui are once again important pasture areas for the nomads. Moreover, migrant birds such as storks and cranes use the Tamourts as stopovers and places to spend the winter. The marshlands are a welcome retreat for indigenous species. Only a few years ago, a species of crocodile was rediscovered that grows to a length of just over two metres. The negative impacts of increasing agricultural use on this unique ecosystem have not been fully established yet. But one thing is already certain. The Code Pastoral benefits nomadic animal husbandry just as much as it does the flora and fauna. The herdsmen and their cattle have been living in harmony with nature in the Tamourts since primeval times.

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Convention to Combat Desertification
An instrument for regional co-operation

Early in November 2001, a workshop was run in Namibia that set the framework for an unusual project in which the inter-state Southern African Development Community (SADC) and the non-governmental Desert Research Foundation of Namibia (DRFN) are jointly implementing the Convention to Combat Desertification in Southern Africa. The project has simultaneously been conceived as a new element of the Multi Donor Hub set up at SADC, integrating it into a more extensive partnership structure. Akzente talked to DFRN head Mary Seely and Paul Maro of SADC about this co-operation scheme, which is to become part of a more extensive partnership structure.

Akzente: Dr Seely, as an NGO, you are involved in working with the government. What is your view of this interaction in Namibia, and could it be transferred to other SADC countries?

Mary Seely: We work very closely with government. This was a conscious decision at independence because we felt that as an NGO in opposition to government, we would not have had a very strong voice. We work at all levels, from the formal policy level within our Steering Committee to ad hoc personal contact, and have found that there are important inputs and that each level has its own strength. This may require a change of mindset within both government and NGOs in the region. As an NGO, we have not been concerned about losing our identity but have been able to work closely and in an integrated way with government. This may not be so easy to attain elsewhere, given different histories in the different SADC states. We have a history of working closely with government on natural resources issues, which makes things easier for us. It is important that NGOs demonstrate that they want to see things changed for the better from the inside.

Akzente: Professor Maro, what can SADC do to facilitate interaction between Non-Governmental Organisations (NGOs) and Government action?

Paul Maro: It is a general SADC policy that all development programmes must involve NGOs and Community Based Organisations. During the past eleven years member states have been invited to send NGO representatives to all meetings held at government level. There is an NGO desk at SADC headquarters. We encourage governments to use NGOs to implement their National Action Plans because they have better access to the grassroots level. In this regard, the SADC Council of Ministers approved the Desert Research Foundation of Namibia, an NGO, to be the lead SADC institution for training and research in desertification, and we are working very closely with them.

Akzente: Dr Seely, do you think the Convention to Combat Desertification (CCD) is a useful instrument from the point of view of an NGO?

Mary Seely: Yes, although it depends on how it is interpreted. Namibia’s interpretation is not to say that it tells us what to do but that it provides a framework to share experiences and allows us to communicate with other countries and programmes. We should be selective in what we can achieve and how we go about achieving it. We feel a National Action Programme should be a rolling plan which is flexible. That would be more useful to achieve the objectives of the CCD. The Namibian government has ratified the CCD, and this circumstance helps us to explain to decision-makers how important the problem of desertification is. In fact, the CCD can be used as an instrument in the SADC region to convince decision-makers of the importance of the programmes we are engaged in. Whatever one calls it, CCD, poverty alleviation, sustainable development, these issues are absolutely essential to the development of the region but it is important how the programmes and the countries use the CCD as an instrument.

Akzente: Professor Maro, is the CCD instrumental in promoting regional co-operation?

Paul Maro: The objective of SADC as an organisation is regional economic integration (Treaty of 1992). All regional institutions, organisations and activities reflect this objective. The CCD is considered very important, and all SADC states ratified the Convention within two years and have established individual National Action Plans (NAPs). SADC states consider the Convention one of Sustainable Development, addressing issues of survival, which are tied directly to combating poverty in the region. Additionally, at the regular Conference of Parties, SADC states make a
GTZ is supporting developing countries and countries in transition in implementing the Convention to Combat Desertification (CCD) as quickly as possible. Commissioned by the Federal Ministry for Economic Cooperation and Development, the development organisation launched the Convention Project to Combat Desertification in 1999 to this end. It is seated in Bonn. In a number of countries in Africa, Asia and Latin America, its staff are contributing to establishing the principles of the UN Convention by

- developing the concept of combating desertification
- integrating German scientists and NGOs in the CCD process
- drawing attention to the topic among German development co-operation institutions and the German public
- giving advice to political decision-makers at international level and
- co-operating with multilateral institutions.

The CCD Project co-operates closely with the UNCCD Secretariat, which is also seated in Bonn. Via a network, the team is linked with other important players in combating desertification, such as the Observatoire du Sahara et du Sahel in Tunis, with international NGOs and with the German research network DesertNet. The Convention Project to Combat Desertification is advising the Central Asian countries as well as the SADC member countries on working out a Sub-regional Action Programme to Implement the CCD Convention and has initiated pilot projects on resource management at community level in Central Asian countries and in China.

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The Rio Earth Summit Conventions are binding in accordance with international law. GTZ regards supporting the developing countries in implementing the Conventions as one of its tasks, to which Convention projects are contributing. One of them is the Convention Project to Combat Desertification, or CCD Project for short.

**Akzente: Dr Seely, you are involved with Namibia's Programme to Combat Desertification, the so-called Napcod. Could this be an example of a new form of partnership in the context of combating desertification?**

Mary Seely: Napcod has employed an innovative approach through trying to involve a number of different partners, from Farmers' Unions, Community Based Organisations to government and other NGOs. We have attempted to provide policy-makers with information to allow for more informed decisions and at the same time have worked with grassroots communities to enhance their organisational capacity to enable them to work with Service Organisations and to provide a flow of information upwards to the decision-making level. We feel this up and down information flow may be missing in many countries in the region. Namibia has had quite a bit of experience by now which we can share and a number of ideas that others may be interested in.

**Akzente: Professor Maro, how can SADC help foster new partnerships around the implementation of the CCD?**

Paul Maro: The sub-region takes the CCD very seriously as a sustainable development convention, but resource mobilisation is still a big problem. Before the third Conference of Parties in Recife in 1999, only one of seven identified initiatives could be put into action. However, at the conference the innovative partnership ideas were formulated and things started moving. The HUB partnership was formed, which consists of donor and SADC experts to help build capacity in the Food, Agriculture and Natural Resources Sector to respond to specific development needs of the member states. Global Mechanism acts as a brokering body, which through the sub-regional body can help organise member states and mobilise resources. It knows the interests of the donors and can match them with the sub-regional developmental needs. We value these new innovative partnerships, which are beginning to bring hope that we will enter into solid partnerships to implement the CCD. However, the partnerships should take care not to reinvent the wheel but should create a synergy between the HUB and what we in the CCD are already implementing perhaps through establishing a central fund. Global Mechanism and the HUB link has opened new doors for resource mobilisation in the member states. It has allowed a greater clarity on programmes in their own countries and on a sub-regional level – we can start at home and see what is really happening.

*Paul Maro was interviewed by Günter Winckler, who heads the GTZ Project to Support the Convention to Combat Desertification (CCD).*
Flora and fauna: a gender perspective

What does She and what does He know about how the indigenous flora or fauna can be used as food or to treat diseases? Patient interviewers are travelling around the Northeast of Peru with this question as part of their luggage. The teams intend to gain an insight into the gender-specific local knowledge about the significance of biodiversity.

Ulrich Goedeking, text | Tanja Nuñez Espinoza, photos

Right behind the kitchen, the garden starts with its carefully grown vines that creep horizontally along frames at eye level. Dark, juicy grapes that are ripe hang from the deep green roof made of leaves. The gift for the guests from the town has quickly been harvested. But stop! The grapes might not be the right refreshment for this hot day. Here in San Roque, pesticidies are readily used in abundance.

The village of San Roque, with its roughly 150 families, is tucked in between thickly wooded mountain slopes, just under an hour away from Tarampota, the largest and most important town of the Departamento San Martin in the Northeast of Peru. The rivers are narrow and fast-flowing in the Selva Alta, the high-altitude forest in the foothills of the Andes. Further to the east, its water flows in the endless rainforest plain towards the Amazon. For several months, staff of the Centre for Development and Research in the Selva Alta have been travelling around San Roque and the nearby comunidad Aviacón with questionnaires and recorders.

The NGO with the abbreviation CEDISA is above all interested in what the peasants know about the flora and fauna and how they can be used as food or in treating diseases. Special emphasis is put on whether and to what degree such knowledge is gender-specific. Where are women particularly versed in this subject, and what areas of knowledge are male domains? Although the results have not been evaluated yet, the differences in knowledge are obvious.

GTZ has been commissioned by the Federal Ministry for Economic Cooperation and Development (BMZ) to finance the work of the NGO via the Peruvian-German Project to Promote Local Knowledge on the Preservation of Biodiversity and Food Security from a Gender Perspective. This project is among 20 schemes worldwide run in the framework of the Project on the Implementation of the Convention on Biodiversity.

It is no coincidence that the title of the project appears to be a little clumsy. Interdisciplinarity, which many have called for, is to be put into concrete terms. Blanca Fernández and Maria Amelia Trigoso of the Centro de la Mujer Peruana Flora Tristán explain that this is the first time the topic of biodiversity is being approached from a gender perspective. The centre, one of the largest women’s organisations in Peru, and based in the capital, Lima, is another partner of the Peruvian-German development project. Scientist Eloisa Trellez is supporting the scheme as an external advisor. Local NGOs are in charge of activities in two regions of the country: in Ayacucho in the Central Andes region and in San Martin, where CEDISA is operating. For the project, which is to run for a total of two years, is intended to become integrated into local networks of existing organisations.

CEDISAs more than 30 staff cover a wide area of activities ranging from integrated rural development to the promotion of democracy.”The political participation of women is another of our focal areas,” says Martha del Castillo, who co-ordinates the programme Género y Ciudadania, or gender and citizens’ rights. She is also responsible for the biodiversity project, which works out background information and argumentative foundations for the political activities of the NGOs, documents local knowledge and is aimed at creating new markets centring on local knowledge.

The old folk recall

Early in the morning, 20 peasants come to San Roque’s assembly room. Just a few catchwords are enough to start a lively conversation. It is above all the older people who explain how diseases can be treated without modern medicine. Onions are good against snakebites, and a therapy using one’s own urine can work wonders with a wide range of ailments, they claim. And they demonstrate a considerable knowledge of medicinal herbs. Nevertheless, in everyday life, people still tend to resort to medicine, because it simply works more quickly. People with an infection are fit for work again in three days’ time if they take penicillin. The old folk know that the natural medicaments are more sensitive.

It is not only the men who do the talking. The older women also eagerly take part in the debate. The distribution of competence is obvious. While the women know more about plants and animals in the household environment, the men are particularly well-versed when it comes to the forest flora and fauna. The youth remain silent.

“Nowadays, the young people do not know so much about plants and animals, and they only show very little interest in the subject,” a woman peasant says.

Anyone reckoning with a cliché idyll of traditional lifestyles in harmony with nature is on the wrong track in San Roque. And this applies to farming as well. “There are nowhere near the number of animals there used to be,” one
of the peasants complains, and all the older people nod in agreement. So much has already been cleared in the surrounding forest that animals living in the wild that once could be hunted near the village have long retreated. And then there are the perceptible changes in Peru’s climate. The rhythm of dry and rainy seasons has lost its balance. Sometimes it rains for too long, and sometimes there is no rain at all. Coffee, beans, peanuts, yucca and fruit are grown in San Roque. The only option the peasants have is to grow products for their own needs and the market in close- by Tarapoto. It is still difficult to reach the Departement by land.

The days of violence

“Sometimes, you would find an unknown corpse by the roadside on the way to work,” Martha del Castillo recalls from the days of violence, omnipresent violence, which were not that long ago. During the eighties, and up to the mid-nineties, San Martin had been a stronghold of the MRTA guerrilla movement, which is in the tradition of the Cuban and Central American movements. And in the south of the Departement, the ultra-Maoist Shining Path movement was active. The forces were not soft with the rebels in choosing their methods. Human rights did not figure among their priorities.

This was the period that also saw a boom in coca-growing. The green leaf out of which the tradition of the Cuban and guerrilla movement, which is in the nineties, San Martin had been comparatively favourable. Politics in Peru are influenced by politics in other regions. Nevertheless, it is impossible to visit the comunidad. For just two days ago, the tropical rain returned. This year, there have already been unusually large amounts of rainfall in San Martin, with cascades bubbling forth everywhere. So there is no chance of asking for permission to visit Aviación in time. And nothing goes without a permit.

“Ther is a considerable mistrust of strangers,” says Rocio Chú, who has also conducted interviews in Aviación. The village people always suspected that the nosy town-dwellers would earn lots of money with the knowledge they acquired without the comunidad ever benefiting from this. Trust has to be gained slowly, in small steps, Martha del Castillo, who is responsible for the project, maintains, and adds that the chief problem of this sort of survey is whether the interviewees are willing to divulge their knowledge in the first place. The peasants have already experienced many people who were eager to get things from them. Some of these strangers have left traces, as is the case with the missionaries of evangelical churches from the USA. There is a strong tendency in Aviación to belong to the Church, says Doménika Berrú. As a consequence, traditions are being pushed aside under the pressure of church influence.

While Spanish-speaking Mestizos live in San Roque, Aviación is a comunidad of Lamistas, an indigenous ethnic group that has been present in San Martin for centuries. Their language is Quechua. Up to this day, it has not been explained how an ethnic group with cultural characteristics that obviously belong to the Andes could have established itself here. At any rate, the Lamistas differ culturally from the other indigenous peoples of the Amazon lowlands, and they keep largely to themselves.

For the project, ethnic diversity in San Martin is a further dimension that constantly has to be taken into account. The project members would have liked to conduct their survey in an Aguaruna comunidad, says Martha del Castillo. These lowland people live to the north of San Martin. But ultimately, the Aguaruna refused to take part in the project. Whatever reasons may have been crucial to them, this decision had to be accepted. The interviews presented other practical problems. Doménika Berrú, Rocio Chú and Alexander Briones, who were active in Aviación and San Roque, report that the questionnaires compiled in Lima were partly too abstract. The questions had to be rephrased. Another problem was that the answers needed to be systematised. But to what extent may the interviewees interpret statements? This was not an easy task for the young university graduates.

No tunnel vision

The results of the surveys in Ayacucho and San Martin are to be incorporated in political decision-making processes at national and local level. The CEDISA team and the women of Flora Tristán are facing tedious intensive political lobbying that is going to demand a considerable amount of patience. So they are only reckoning with results in the medium or long term. GTZ provides its partners the opportunity to present the experience they have gathered in the project at international forums. Insights flow into GTZ’s consulting activities to implement the Convention on Biodiversity. A publication on the issue of “Gender and Biodiversity” is to draw on the example of Peru. The members of the project want to see the Convention on Biodiversity put into practice in Peru. They have no intention of resorting to the tunnel vision of pure nature conservation. One approach in this context is that of not merely talking about plants and animals but also looking at biodiversity, gender aspects and food security.

Today, the conditions for influencing politics in Peru are comparatively favourable. Politically motivated violence has lessened, and on the 28th July 2001, a new, democratically elected government took office. Meanwhile, the peasants in San Roque and Aviación are expecting the large number of interviews to bear results for them, so that something will be given back by those who brought the questionnaires. ■

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Palawan, in the Southwest of the Philippines, is a veritable treasure island with its breathtaking vegetation, pirates and gold. Green gold. Biological precious material that is useful for medicine and to make profits. But it is not so good for the local population. To ensure that the indigenous people do not get the worst of the pharmaceutical corporations’ activities, a biodiversity project is informing them about their rights.

Claudia Ruby, text | Manfred Scholaen and Andreas W. Koenig, photos
The modern pirates come equipped with nets, magnifying glasses and pincers. They are bio-pirates searching for new active agents in animals and plants. Throughout the tropics, scientists are looking for this so-called green gold. Their raw material is the huge diversity of species that the countries of the South offer. Tropical forests and coral reefs offer a wealth of previously unknown substances. If new types of medicine can be made out of these substances, profits worth billions will be in the offing.

However, the countries of Asia, Africa and Latin America have so far failed to benefit from their natural wealth. On the contrary, American and European pharmaceutical companies own more than 80 percent of the patents in force worldwide. “Even if the source materials come from the South, the local population remain empty-handed,” says Elenita Daño, Director of the South East Asia Regional Institute for Community Education (SEARICE). She has been campaigning against this sort of biopiracy in Southeast Asia since 1995.

For two years, SEARICE has been running a project in the Philippines that is aimed at informing the population about its rights and what its genetic resources are worth. GTZ has been commissioned by the Federal Ministry for Economic Cooperation and Development (GTZ) to support the project, another aim of which is to establish the extent of bio-prospecting. “We have documented some cases in which foreign researchers have massively violated Philippine laws,” says Elenita Daño.

Focus on Palawan

The island of Palawan, in the Southwest of the Philippines, is a favourite goal for scientists from all over the world. It is also one of the three locations the project is operating at. This 400-kilometre-long island is like a bar separating the South China Sea from the Sulu Sea. Palawan is believed to be the last natural paradise of the Philippines. Biodiversity is above all immense in the largely untouched North of the island. There are several plant and animal species that only occur in Palawan, such as the pangolin armadillo, the pilandok dwarf stag and the Palawan bearcat, a type of martin. A multitude of as yet unexplored organisms live in the region’s forests and the coastal waters.

But new things can already be discovered in the vicinity of the capital, Puerto Princesa. “Last year, villagers reported to us that foreign scientists were looking for insects in the forest,” says Tina Barraquias of the Palawan NGO Network PNNI, a local project partner of SEARICE. The men had been carrying nets, and during the night, they had set up strong floodlights to attract moths and other insects.

Although PNNI informs the police and the local nature conservation authority, nobody knows anything about the activities of the foreigners. When the four men attempt to leave Palawan a couple of days on, they are arrested at the airport of Puerto Princesa. They are four Slovak researchers. In their luggage, the police find butterflies, beetles, cicadas, moths and other insects – in all more than 2,000 carefully prepared and packed animals. “We asked the Slovaks for the necessary papers and authorisations, but they could produce nothing,” says an official.

The four scientists are brought to Puerto Princesa prison, for the Philippines are among the few countries that have already introduced legislation to check bio-piracy. Presidential Decree EO 247 prescribes an elaborate authorisation procedure for any type of bioprospecting. The unique nature of Palawan is protected especially strictly. Thus the Slovaks have simultaneously violated several laws and regulations. Their arrest is a great success for PNNI. “The bio-pirates had to spend ten days in prison,” says Tina Barraquias. Nevertheless, she is not happy with the outcome of the proceedings. The Slovak government intervened, and on paying a fine of 150,000 pesos, which is the equivalent of around 3,000 euros, the scientists were finally released. There is no orderly trial. “This is truly frustrating,” says Cleofe Bernardino, head of PNNI, and adds: “Although we do have strict laws, they are not applied when it really counts.”
In rural areas in particular, many representatives of authorities are not at all familiar with the regulations. This is why information and public relations activities are an important part of the project. PNNI informs people about biodiversity, planned research activities and bio-piracy in a regular newsletter. Comics and a video film are used to illustrate this complicated issue, both for the villagers and official bodies. “We have trained the police, the coastguard and the airport staff at Puerto Princesa,” says Cleofe Bernadino. “These people really ought to know the laws better than we do,” she adds, but comments that this is not always the case. “Many officials have only learnt what bio-piracy is through us.”

Taking stock of two years of work, Bernadino points to a positive result: “Now people are paying more attention to what is happening in their forests.” And this is why the Slovaks are not the only bio-pirates that have been caught with the aid of PNNI. The organisation gives detailed accounts of five such examples in its final report.

One of the first cases occurs in the north of Palawan, on the small island of Coron. Scientists of the French and the Philippine National Museums have travelled to the region on a research ship. And there they have collected insects, plants and various marine organisms. “All without a permit,” says Elenita Daño of SEARICE. In this case too, the authorities in Palawan became active and confiscated the material collected. But again, no legal action is taken. The French Embassy sees to the affairs of its nationals, while the Philippine government allows the issue to die down. It wants to avoid any conflicts with France. It is said that a Ministry of Environment report on the case has vanished.

Nevertheless, Elenita Daño hopes that such incidents will not remain without effect. “It gets about that the genetic resources in the Philippines are more strongly protected than elsewhere.” Conditions are especially strict when commercial research is involved. So far, only one research team has burdened itself with the tedious task of applying for a permit for bioprospecting. Together with their Filipino colleagues, scientists of the American University of Utah are now looking for an agent against high blood pressure.

Before they started with their work, the project partners had to give the people detailed information on what they were about to do. “The researchers organised meetings with the village community and discussed the project with them,” says Elenita Daño. Both sides had to make concessions, but in the end they reached an agreement. The village community approves the scheme, and the responsible national committee also gives the go-ahead. The Americans can start with their work. They have had to promise to train Filipino students as well. The agreement makes provisions for several grants. If research proves successful and a new medicament really is developed, the local community will be entitled to part of the proceeds.

The principle of benefit sharing

An agreement on mutual benefits is also precisely what the basic idea of the Convention on the Protection of Biodiversity is about. The agreement, which was introduced at the Earth Summit in Rio in 1992, has since been signed by 182 countries. However, its concrete implementation is still a matter of controversy. Many questions remain. How are advantages balanced fairly, what should comprehensive information for the population comprise, who are the proper contacts and how can the rights of the indigenous population be appropriately considered? It is above all the latter aspect that the Conference of the Parties will once again be addressing when it meets in Den Haag in April.

In Palawan, Edilberto Yambao is spokesman for an ethnic minority. Yambao belongs to the Tagbanua tribe. The tribespeople grow some crops themselves. But they above all live on what the forest offers them. Yambao has never heard of any international negotiations. However, he sees strangers gathering animals and plants in his tribal area again and again. “Once a man approached us and wanted to know which medicinal herbs we use,” says
GTZ assists developing countries in implementing the Convention on Biological Diversity (CBD) as swiftly as possible. To this end, commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ), it launched the Sector Project for the Convention on Biological Diversity, or BIODIV Project for short, in 1994. In Mauritania, Peru, the Philippines and other countries as well, GTZ staff are supporting government and non-governmental organisations in developing the Convention and its instruments and organs. The BIODIV Project focuses its activities on:

- preserving traditional knowledge,
- access to genetic resources and, especially with a view to the local population, a fair benefit sharing arising from their commercial use,
- the implementation of the Cartagena Protocol on Biosafety in handling genetically modified organisms,
- the sustainable use of genetic resources and promoting the exchange of information and technology transfer, for instance via the Clearing House Mechanism.

In addition, the BIODIV Project supports the BMZ with regard to the structural policy debate at international workshops and at the Conferences of the Parties to the CBD. The activities are closely co-ordinated with the other Convention Projects of the GTZ.

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The traditional knowledge of indigenous peoples is a valuable asset for pharmaceutical corporations. It makes the search for new active agents more effective, and hence more profitable. “We do not object to our knowledge being made use of to develop new drugs that will help everyone,” says Edilberto Yambao, and adds: “However, we will not accept firms benefiting from this while we go empty-handed.”

The representatives of traditional rights did at least score a partial success some time ago. After several years of legal dispute, the European Patent Office (EPA) in Munich withdrew the patent for an active agent of the neem tree from the American pharmaceutical corporation Grace. In India, neem has been in use for a long time to treat a large number of ailments, such as toothache and stomach pains, and as a contraceptive. Thus the EPA was unable to find any substantial innovation in what Grace had “invented.” Rather, this pharmaceutical corporation had simply ignored knowledge already existent in India.

In order to avoid things like this in the future, the Convention on Biodiversity calls for benefit sharing, which would ensure balanced advantages for those concerned. “But what sounds so good in theory is difficult to implement in real life,” says Elenita Daño of SEARICE. Many companies will not accept indigenous peoples as negotiating partners with equal rights. Also, the political provisions are often lacking. Only a few countries have already translated the Convention on Biodiversity into national legislation. One of them is the Philippines. Daño appreciates this, “in spite of its concrete implementation still leaving much to be desired.”

What counts now is that other countries join in and that there is a binding international framework. Elenita Daño stresses. Otherwise the biopirates will simply take their nets to the primordial forests of Malaysia, Indonesia, Ecuador or Brazil to catch insects.

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Yambao. He shows the stranger the palos tree. Its resin works like a highly effective ointment for sores, and its fruit is edible. At the time, Yambao was surprised that the stranger showed so much interest. It is only through PNNI that he learns how precious his knowledge is.
The waste scenario is being cleared up in Thailand. The authorities are developing an awareness of the hazards that highly toxic substances present. Citizens’ action groups have discovered waste as a source of valuable materials. Technical Co-operation is supporting the country on its way to a modern waste and industrial policy.

Ralf Ahrens, text  |  Matthias Kern, photos

For the last two years, things have been busy at Chawwarat Khaisorn’s garage on Sundays – ever since the reusable waste bank of the urban district community of Baromotrailokanat opened up in the ancient royal city of Phitsanulok. “Children in particular bring rubbish from at home by the kilogram,” says Chawwarat, who is a teacher and is honorary head of the community. Organic waste such as leftovers from meals go into the compost bin, while paper, glass, and various types of plastic and metal are sorted, weighed and priced according to their current price. In the afternoon, a local reusable waste merchant comes to buy up the sorted waste.

Collecting, sorting and selling could become a popular sport in Phitsanoluk. The reusable waste bank in the urban district of Baromotrailokanat has already earned prizes and awards. More than 200 visitor groups from Thailand as well as some from Laos and Bangladesh have been here to have a look at trading in waste that schoolchildren and students of the local community are running under the supervision of teacher Chawwarat. Three urban district communities already have a reusable waste bank, and in 32 further communities, reusable waste markets are held on a regular basis. More are to come. In five years’ time, there will be institutions of this kind in nearly all of the 100 urban district communities of Phitsanoluk, deputy mayor Suthi Hantrakul believes.

Reusable waste is also being collected in two temples, three barracks and schools such as St. Nicholas School. “We gather wastepaper, and with the proceeds, we get ourselves paper, cardboard or crayons,” says 14-year-old Shehara Juyasekara of the schoolchildren’s union.
GTZ staff member Walter Schöll, who has been advising the City of Phitsanoluk on waste issue since 1999, is impressed by the activities of the citizens. “They separate the waste together, join forces in composting the organic waste, have a good time doing the work and even earn a little small change into the bargain.” However, deputy mayor Suthi says that this has only been the case since 1999. At the time, the project team succeeded in convincing people that glass, paper and metal were ‘kong kai dai’; saleable items.

The environmental management of the citizens also pays its way for the reusable waste merchants. “If people bring their ‘kong kai dai’ to a collection point, this saves us a lot of time going round collecting,” says Somthai Wongcharoen, who is director of the Wongpanit company. In the grounds of his firm, the reusable waste is once again sorted, partly shredded and then sold to companies in the Bangkok urban district. The companies melt down the metals and make use of them again. The enthusiasm of the citizens is an asset for the city as well. Its refuse collection department only has to visit the three communities with reusable waste banks and self-composting once a week instead of every day. The three pilot communities have succeeded in reducing their waste by up to 80 percent.

A first step in waste policy

Reusable waste banks and composting plants mark the beginning of waste policy in Thailand. The country is in the stages at which open rubbish tips were systematically closed in Germany. “Here in Thailand, we are now beginning to set up the first sanitary landfills.” This is a big problem. According to official estimates, around 37,000 tons of domestic waste accumulates throughout Thailand every day. Alone the metropolis of Bangkok produces 9,000 tons every day.

“Around 15 percent of this material is recycled nationwide,” says Nisakorn Kositratna, deputy director of the Environmental Section’s Pollution Control Department (PCD) at the Ministry of Science, Technology and the Environment. Everything else is dumped onto rubbish tips or landfills or strewn about in the countryside. The only two domestic waste incinerating plants are in the tourist island of Phuket in the Andamanian Sea and in Samui in the Gulf of Siam. Waste incinerating plants are planned.

The environmental protection organisation Greenpeace, which has been running its own agency in Bangkok since March 2000, has general reservations about such plants in developing and take-off countries. “For example, countries such as Thailand lack the money to buy modern filtering equipment,” says Tara Buakamsri. For this Greenpeace chemicals expert, Thailand is at a crossroads. In his opinion, the government now ought to set the course for the country to develop into a recycling society. In Bangkok alone, up to 60 percent of all waste could be composted or reused. And then there would be no need to build waste incinerating plants. The landfills would be sufficient.

Nisakorn Kositratna of the Pollution Control Department does not agree. There is much space for depositories in Thailand. And there is enough cheap labour around to sort out reusable waste. But building waste incinerators is an alternative for the Bangkok urban district in particular “provided that we get air pollution under control, especially through dioxins and furanes.”
These substances, which usually develop in combustion, caused cancer in animal experiments. However, the discussion on the hazards of dioxins and furanes is something entirely new for Thailand, says dioxin expert Jarupong Boon-Long, who was deputy director of the PCD until September 2001. This is going to change.

Active role

Thailand assumed an active role in the negotiations on the international Stockholm agreement on persistent organic pollutants (POPs). The agreement, which was signed in May 2001, provides for a reduction in the emission of dioxins and furanes. But how and when should Thailand start reducing the emission of these poisons? So far, neither measuring apparatus nor laboratories have been in place to examine samples of these substances. The Pollution Control Department contacted GTZ’s Pilot Project for Chemical Safety in Bonn requesting it to support Thailand in solving this problem. With the aid of the project, experts from the Münster-based Society for Workplace and Environmental Analysis (GfA) have been recruited. They have been assisting the country with its entry into the new waste age since the autumn of 2000. This is one of Thailand’s first contributions to the implementation of the POPs Convention at national level.

The GfA staff took samples some of which came from a cement works, a lead smelting plant and one waste incinerator each for domestic and medical waste. The samples were sent to Münster for an analysis. GTZ funded the project together with the European Chlorine Chemistry Association, Euro-Chlor, and the United Nations Environmental Programme (UNEP). “This is an exemplary project for other developing countries,” says UNEP director Klaus Töpfer. It is the first step to establish the location of the problem. Only then can considerations be made as to where emissions could be reduced locally. “This is a difficult discussion, especially in the case of waste incinerators,” Töpfer remarks, referring to his period in office as German Federal Minister for the Environment.

When the results of measurements were submitted in Bangkok in June 2001, the Thai authorities were surprised. “They had been reckoning with higher values,” Magnus Staudte recalls. However, this GTZ expert, who is advising the Thai Ministry of the Interior, adds: “The measurements were carried out in plants that participated in the project on a voluntary basis.” He thinks that real dioxin pollution is probably higher.

Too little transparency

As yet, people in Thailand know hardly anything about possible dangers through dioxins. The discussion was held behind closed doors. “We only want to inform our citizens when we are in a position to offer solutions,” says dioxin expert Jarupong. However, GTZ staff member Staudte regards a policy of this kind as a tightrope walk. He maintains that as long as the citizens are not aware of the significance of dioxin contamination, there can be no public pressure. “And without public pressure, people like to postpone such issues,” he adds.

Wasant Techanwongtham, an environmental affairs journalist with the daily Bangkok Post, hopes that citizens’ action groups will become involved. “So far, environmental policy has not played a significant role...”
under any of our governments,” he says. What has always been important is economic growth. This has applied in particular to the new Thaksin administration, which is bent on stimulating the economy at all costs in the aftermath of the Asian crisis.

Often, it takes public scandals to trigger environmental protection. This was the case in Chiang Mai in the north in 1997. “There, the municipal landfill polluted the groundwater so strongly that the citizens complained,” says Walter Schöll. The provincial government subsequently closed down the refuse tip. The city had to dump waste in cemeteries, parks and by the roadside. Finally, the governor dismissed the mayor. Domestic waste is now brought to a repository around 100 kilometres north of Chiang Mai.

To prevent this sort of thing from happening in Phitsanoluk, the city took its own steps in 1999. The municipal dump was tested and improved. “In the city centre, civil servants as well as the mayor knocked at doors to talk to people about their general worries and, of course, about waste and waste prevention.” Deputy mayor Suthi recalls. And what public authorities say has considerable influence in Thailand.

Jobs for rag-and-bone men

But there are losers as well on the way to modern waste management: Thailand’s rag-and-bone men. They cycle from house to house on their tricycles or gather reusable items from rubbish tips or depositories. Now they can find less and less ‘kong kai dai’. Tawat Pra Arne, who works at the Phitsanulok depository every day, already has much less money in his pockets. “I used to earn up to 20,000 baht a month together with my wife, which is about 500 euros. I could afford a motorbike. But that’s all over now. There aren’t fewer refuse lorries around, but they tip less and less useful things.”

There could be a solution to this problem. In January 2002, the City of Phitsanulok started constructing a mechanical-biological plant which is going to correspond to state-of-the-art technology in Germany. However, large pieces of waste such as palm fronds or tyres have to be separated, as do aerosol cans and bits of metal. This is something that the rag-and-bone men could see to.

“The plants are ideal for the developing countries,” says Walter Schöll. The method is simple from a technical angle and does not cause high costs. After sorting, everything else is mechanically broken up, homogenised and composted at a temperature of 60 to 70 degrees Celsius. What then comes out of the plant feels like dry compost earth mixed with the most minute plastic particles. “The drastically reduced waste volume triples the running period of the depository,” Schöll explains. Currently, a ton of waste requires two cubic metres, while mechanically and biologically pre-treated waste only needs 0.7 cubic metres. “The danger of leachate polluting the groundwater is reduced to virtually nil. And since organic waste is turned into a sort of compost, there is no landfill gas development. More communal rights

There are good prospects for a step-by-step introduction of modern waste management in Thailand. The example of the City of Phitsanulok shows that it is worth sorting the reusable waste out of domestic waste and to sell it and store everything else in a clean way. “This is going to catch on,” Nisakorn Kositratna of the Pollution Control Department maintains. She hopes that a third of the country’s domestic waste will be recycled or composted in five years’ time. One precondition for this to happen is that Thailand has to give the municipalities and local communities more rights and financial sovereignty over their own affairs in accordance with the new 1997 constitution. This would promote local self-initiative. Civil servants used to be appointed directly by the Ministry of the Interior and sometimes re-deployed every six months. “Municipal civil servants have only recently been made directly accountable to a respective city very recently,” Walter Schöll explains.

The author is a freelance journalist in Cologne.
A tough struggle with asbestos

José Jesus Pessoa worked for the fibre cement factory of Osasco near Sao Paulo nearly all his life, until the plant was closed in the mid-nineties. “Once a year we were examined by the factory doctor,” says the Brazilian. Dr. Wagner Meirelles always gave him the same notification. It was the same short formula that all the other members of the workforce also received every twelve months: “Tudo bem. Otimo!” Everything okay.

Now that he is about to become an old-age pensioner, the man is struggling for breath, has a chronic cough and suffers from persistent fatigue. Asbestosis has been diagnosed by the state-run Fundacentro Clinic in Pessoa’s case – less than three weeks after the last check was performed by the company doctor. He only worked as a mechanic in production for a couple of years and was always with administration later on, Pessoa stresses. Out of the 960 employees who went on working at the factory until its closure, every second one suffers from these symptoms.

The microscopically small asbestos fibres that cover factories, workshops and building sites like dust can penetrate the lungs without any difficulty – unless workers protect themselves with masks. But this tends to happen rather rarely in Latin America. “In principle, just one fibre is enough,” lung specialist Antonio Labbate of the University of Buenos Aires warns, and he adds: “The more fibres, the greater the threat to the organism. That goes without saying.” The foreign bodies trigger an infection and destroy more and more cells. Labbate says that countless scientific examinations have always yielded the same result: “Asbestos is carcinogenic. This is an indisputable fact.”

Asbestos has been contained in numerous products for decades. Insulating material, certain types of paper and cardboard, brake linings, microwave ovens and stoves, hairdryers, irons, toasters and many other domestic appliances may contain this poison. Users are usually completely unaware of it. In the construction industry, material containing asbestos was used in huge quantities: in water tanks, roofs, pipes and insulation. Now people can continue to rack their brains as to how they are going to get rid of the stuff.

This is also the case in Latin America. From Bogota to Buenos Aires, from Mexico City to Santiago de Chile, and in Brazil’s metropolises as well as in the slums of Lima, millions of Latinos are living in horror cubes with uniform fibre-cement roofs and can hardly imagine that the substance does not last forever. Everywhere in the developing countries, poor people usually live where the environment is no longer intact, where there are particularly high levels of exhaust fumes, and where the water is polluted and hygiene is in a precarious state. With deadly certainty, the odds of contracting a serious disease here are much greater than elsewhere, and the prospect of ever living with a minimum of rights and dignity is nil.

Carlos Rivero, a small-scale businessman from Garin, a suburb of the Argentine capital, is well aware of this dilemma. For several years, the German company of Rich Klinger manufactured asbestos items in Garin. Many inhabitants of the suburb are now suffering from the consequences of the deadly dust from this factory. They took legal action against the company, which is based in Idstein near Frankfurt, because of environmental pollution and damage to health. A Federal judge issued warrants of arrest for the company executives and imposed painful bail sums. Four years later, a court of appeal declared the defendants innocent and considered “Case 13 333" closed.

A far-reaching resolution

Even so, there is still hope on the La Plata. For several years, the Health Ministry has
been dealing intensively with the asbestos problem. In the context of Technical Co-operation, this authority approached the guidelines more and more that were set out for environmentally compatible handling of poisonous substances in Agenda 21 of the Rio Environment Conference in Rio in 1992. Particular attention has been given to Chapter 19. Ana Digón, head of the national chemical safety programme, sums up activities so far: “We have diagnosed the weak points and shortcomings of our health policy in this area, established data among the population at risk and defined norms, including those referring to the demolition of buildings with installations containing asbestos.” Resolution 823/01 of the Health Ministry is of particular importance. It bans the manufacture, import, trading in and use of asbestos in all forms as from 2003.

“The precondition for the programme is the people’s right to information,” says Digón and explains: “Many people are suffering from asbestosis and believe that they merely have bronchitis.” Commissioned by the German Ministry for Development, GTZ’s Pilot Project Chemical Safety is therefore supporting specialised activities of Argentina’s national chemical safety programme. This includes establishing and linking up 19 centres for information on poisons and 16 laboratories. These institutions are not only dealing with asbestos but with all kinds of toxic substances, and in Argentina, particularly with agro-chemicals. That means that this country on the shores of the Rio de la Plata with its 37 million inhabitants has made much more progress than most of the other Latin American states. Although some of the countries in the subcontinent do have institutions that are responsible for hazards arising from chemi-
cals, they frequently do not work efficiently enough. There is a lack of scientific and technical facilities to judge the dangers of toxic chemicals and check the abuse of poisonous substances.

Dogged resistance

Brazil is only making slow progress and is facing considerable resistance in its campaign to get rid of asbestos. Even so, Rio de Janeiro was the first administrative zone south of the Rio Grande to declare a war on this health hazard in its own country shortly after the Environment Conference in 1992. It started a legal initiative – on paper. Somewhat later, a group of citizens joined the Ban Asbestos Network (BAN) founded in the United Kingdom. Shortly afterwards, people who had suffered harm from asbestos in different parts of the country got organised in the ABREA campaign. Former fibre cement worker Pessoa from Osasco is among them.

“The struggle against asbestos is even more difficult in Brazil than elsewhere. Not only does our country use this poisonous substance in huge amounts, but it is also one of its biggest manufacturers worldwide,” says Eduardo Algranti of the Fundacentro Institute in Sao Paulo. No less than 27 factories in ten Federal states manufacture building components out of the notorious fibre cement. There, tens of thousands of workers are exposed to the murderous dust, and so are many more on the building sites. The lobby of this branch of industry headed by the French St Gobain concern has been putting up dogged resistance to any restrictions. Nevertheless, the asbestos opponents have succeeded in getting legal steps taken as well as having protection firmly established in their interest in the sub-state of Mato Grosso do Sul and then in Sao Paulo, Rio de Janeiro and Rio Grande del Sul.

“Even so, what has been achieved so far is really only piecemeal,” complains Fernanda Giannasi, the driving force behind the BAN network in Brazil. “Our government and most of the governors reject anything that goes beyond Law No. 9055/95, which is currently in force,” the engineer says. Resistance is strongest in the state of Goiás, the tax revenue of which comes largely from asbestos mining in the MinaVu pit. The law provides for the “controlled use” of products containing asbestos. In practice, this is pure theory. That is why the Brazilian anti-asbestos movement has attempted to organise grassroots resistance against the combined forces of industry and officialdom over the last few years. It has thus succeeded in convincing local authorities of the need for rigorous measures to be taken – first of all in various cities and communities of the Federal state of Sao Paulo and later on in other parts of the country.

A ban with gaps

For a long time, Chile was among the most eager consumers of asbestos world-wide. And this Andean country was also one of the first countries to have asbestos casualties and recognise these cases officially. In 1992, 43 percent of all homes still had components containing asbestos, in spite of the fact that its harmful effect had already been referred to in an industrial law that had come into force 25 years earlier. Recently, the co-ordination of several ministries, an energetic public information campaign and the reasonable attitude of the local market leader, the Pizarreno company, resulted in a certain amount of progress. According to Elsia León, who is responsible for this issue at the Health Ministry, Chile was the first Latin American country to “ban asbestos”. What she is worried about is that the legal regulations still provide “too much scope for exemptions”.

With the exception of El Salvador, opposition to asbestos is still in its infancy in the other countries of the subcontinent. People there are hardly aware of the health risks it poses. Laws that may be in place referring to poisonous substances or safe handling of chemicals usually remain ineffective for technical, bureaucratic, financial or political reasons. At a conference in Buenos Aires, the official delegate from Cuba naively declared: “I have come here to inform myself. In our country, we are not biased towards or against asbestos in any way.” She confidently confronted the roughly 3,000 workers of the three fibre cement factories in Cuba with the commitment of 1,700 doctors who were re-
sponsible for what is, admittedly, an unusually high level of health care at the workplace.

Meanwhile, the asbestos managers in Santiago de Chile, Buenos Aires and Brasilia are operating in close concert. The Canadian asbestos producers are the world market leaders and export almost their entire output to the developing countries. Company representatives are not afraid of top-level visits to demonstrate their influence. The marketing slogans they try to silence their opponents with are always the same: Working conditions in their plants and subsidiaries throughout the world are being improved successively, reducing health hazards to an acceptable level. Besides, they say, there is no alternative to asbestos, and the demands of their opponents are only causing even more unemployment. What the asbestos lobby does not mention in this context is that it is not only the workers who are directly involved who are exposed to the dangers of asbestos dust, but people in the neighbourhood of factories, workshops and building sites and inhabitants of buildings containing asbestos as well. What is also ignored is that, unlike the alternative substance, glass fibre, asbestos decomposes after just a few years, releasing more and more fibres.

Slowly, people in South America are becoming aware that the developing and take-off countries must no longer serve as rubbish tips. Latin Americans have the same right to ban harmful substances such as asbestos from their environment as the inhabitants of the northern hemisphere. The scientists, technicians and governments of the developing and take-off countries want a future with fewer poisonous substances. Reaching this goal is probably going to be more difficult than it has been in the EU, which is completely banning asbestos as from 2005. If hundreds of thousands of asbestos casualties can be reckoned with in the Old World, as Senator Bob Ruers from the Netherlands has predicted, what will the disaster be like that the financially and socially fragile countries of the southern hemisphere are going to face?

The author is a correspondent for the Frankfurter Rundschau and lives in Buenos Aires.

The GTZ Pilot Project Chemical Safety

The Rio Earth Summit Conventions are binding in accordance with international law. GTZ regards supporting the developing countries in implementing the Conventions as one of its tasks, to which six Convention projects are contributing. One of them is the Pilot Project Chemical Safety.

Safe handling of chemicals means preventive health and environmental protection on a global scale. Together with their local partners, the staff of the Pilot Project Chemical Safety are therefore concentrating on

- integrating chemical safety into development co-operation,
- implementing the Rotterdam and Stockholm Conventions,
- establishing strong institutions in the partner countries to this end,
- testing specialised instruments for sustainable chemical safety in the developing countries and
- promoting co-ordination among government and non-governmental players in chemical safety.

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Windhoek is the headquarters of Proklima. From the Namibian capital, this ozone protection programme supports 36 developing countries in their struggle against the ozone hole. Just under a third of the countries are in the African continent. For the sun over Africa is burning more and more mercilessly on people’s skin from Ethiopia right down to South Africa.

Frank Räther, text | Gerhard Botha, photos
This year, Peter Stoermer ends each of his letters with the same sentence: “We all live under the same sky that we are destroying together.” Resplendent in a brilliant postcard blue, the sky the head of the Proklima Programme is looking at from his office in Windhoek doesn’t seem to fit in with this. But Stoermer adds up the facts: “In the last decade, we caused 20 million tons of CFC to be released into the atmosphere world-wide.” Of course this does not remain without impact. The ozone hole is growing.

In the meantime, the programme’s staff member Lydia von Krosigk has put a video into the video recorder with a recording of a lecture by a well-known dermatologist. The figures the expert cites and the pictures accompanying them are frightening. Whereas only one person out of 1,000 developed skin cancer in the Southern Hemisphere in 1950s, every seventy-fifth person now suffers from the disease. While white people used to be mainly affected, the ultra-violet rays are now also causing cancer on the skin of the black people, whose darker skin colour offers them better protection by nature. “The threat is greatest to people here in Namibia, South Africa and Botswana,” says Peter Stoermer. “The reason is that the sun’s rays beat down onto the people almost vertically; we are at an altitude of 1,600 metres, and the air is clean. If there is no protecting ozone layer, then the sun works like a magnifying glass.” Eye diseases are on the increase, too, which is why Proklima enjoys the full support of the Namibian authorities.

The Montreal Protocol of 1987 stipulated that chlorofluorocarbons (CFC), used primarily as refrigerants and foaming agents, have to be phased out world-wide by 2010, as they are the biggest killers of the ozone layer. Later on, experts established that the pesticide methyl bromide and the fire-extinguishing agent halon also deplete the ozone layer. They too should therefore no longer be used. But first CFCs need replacing. In order to achieve this, each of the polluting countries, first and foremost the industrialised countries, have to pay a certain sum into an ozone fund. The developing countries, which as yet hardly suffer from the disease, can flow into programmes and projects for which individual countries assume responsibility. Proklima is one of these programmes. Within the framework of this programme, GTZ has been commissioned by the Federal Ministry for Economic Cooperation and Development to assist partner countries in their efforts to replace the ozone killers with environmentally friendly substances.

International network

“However, we have to be competitive,” says Stoermer. The Namibian government has provided the building and is not demanding any rent, electricity or water rates. “I have no problems here whatsoever,” Stoermer exclaims. Moreover, Namibia is the only country that has adopted environmental protection in its constitution. With the well over seven million euros allocated to the programme, activities in 36 states are coordinated from Namibia, ranging from Brazil through Jordan and China to the Philippines. Proklima is now operating in 64 projects and has spent just under 18 million euros. In addition, GTZ has the advantage of operating world-wide and thus having local staff everywhere who assist the implementation of Proklima projects. Not only does this save costs, but it also strengthens competent local networks.

Thus Proklima in Windhoek is the heart of the Programme. The team is international. A French expert is working in Namibia, a Namibian in Nairobi and an Australian in Brussels. Well over a third of Peter Stoermer’s 19 staff members are based in Windhoek and are in touch with the others via video conference and email. “This is a great way to co-operate internationally,” says Béatrice Vincent. This French woman, who operates from Windhoek, is responsible for projects in the 14 Southern and Eastern African countries ranging from Ethiopia through Malawi to Botswana.

Here, people can hardly afford new, CFC-free refrigerators. This is why old refrigerators that have been imported from overseas are used much longer than the usual ten years. “The second-
hand market is important for us,” says Béatrice Vincent. The project team attaches particular significance to raising awareness amongst the population and training technicians in replacing CFCs with hydrocarbons. Several technicians from each of the 14 countries have already qualified as trainers. Before the 51 prospective trainers started their training course at the Maintal Training College in Germany, they had committed themselves by contract to imparting their knowledge in their home country. “This is an effective snowball system,” says Vincent. Béatrice Vincent is very pleased with the attention Proklima has experienced in Lesotho, Mauritius and the Seychelles. “These are tourist countries that are very environmentally conscious. For if word were to spread of environmental hazards among the paying customers, the entire economy dependent on tourism could collapse very quickly. So these countries act quickly and their efforts are well focused.”

Among the measures Proklima is currently implementing are the financing of local experts and training of customs officials. They have to know which imported articles may contain harmful substances, such as foam mattresses. The government officials who are responsible for the implementation of the Montreal Protocol need the appropriate know-how as well. So-called ozone officers, for whom workshops are run, are operating in each African government. The mutual exchange of experience plays an important role in this context. It enables everyone to see how far one’s own country has got and what remains to be done. Proklima is also supporting countries in reforming their environmental legislation.

Heat instead of methyl bromide

Two thirds of the funds from the coffers of the German development ministry is spent by GTZ to have CFCs replaced, and one third to get rid of the gas methyl bromide. This pesticide is widely used in the agricultural sector, from which products are also exported to Europe. Methyl bromide sterilises the soil and keeps vermin from apples, dates and flowers. The grain in the silos, the seedlings for the grapevines and fishmeal are also treated with it. “By and by, we are getting to know in which other areas the stuff is being used,” says von Krosigk. This gas, which is highly toxic for humans, is sold in handy tins on the market. A total of 1,000 tons of the pesticide is used in South Africa each year. So far, Namibia has stated that it does not use the substance at all. However, investigations have revealed that up to four tons a year is in fact being consumed. “Namibia first has to sign the respective amendment of the Montreal Protocol before we can provide money,” Peter Stoermer explains. For example, it is not at all expensive to replace the pesticide with a heat treatment also known as solarisation. Here, the farmers cover the soil with black plastic foil. In the sun, the earth heats up so strongly that it kills any harmful pests. This method is also affordable for poor smallholders, who can achieve higher yields as well. A further advantage is that money for the methyl bromide remains in the country.

Information at all levels

Lydia von Krosigk is satisfied with what Proklima has achieved against these ozone killers in Namibia so far. “At first, many ministers and other members of the government did not know what to think of the ozone hole issue. Moreover, they were not aware that their own population is directly affected by it.” Workshops and information material have created further attention. The increasing rate of skin cancer is what initially alarmed politicians and made the urgency of combating the ozone hole in Africa plain to all the farmers as well. Now, general information for the public is important. “We are going to step up our visits to schools and rural areas and talk about the ozone killers there,” says Lydia von Krosigk. A greater understanding is to be reached among the population of the need for people to protect themselves, and hereby enhance the pressure on governments to act.

Béatrice Vincent has observed the same development in the other African countries as well. “Our information campaign has resulted in more and more people understanding that they are affected, have to do something and really can do something.” Programme head Peter Stoermer is optimistic. The African states and the other developing countries can meet the phase out deadlines stipulated by the Montreal Protocol, he maintains. For CFCs, this would be the case by 2010, and for methyl bromide 2015.

Doing away with methyl bromide altogether seems all the more comprehensible since there are only two chief producers worldwide: Great Lakes in the USA and Canada and Israel’s Dead Sea Bromine. However, two years ago, when the ban on methyl bromide had long been decided on, the Israeli enterprise established a branch in China. This was a clear setback
that had possibly been carefully planned in advance. For the developing countries only have to achieve their phase-out ten years after the industrialised countries, for whom the deadline is already in 2005. With its subsidiary in China, the Israeli company is reckoning with a further ten years of profits.

The strategy of American companies is also causing concern among the ozone protectors. As a replacement for CFCs, the Americans have developed the artificial gas HCFC, and they have been marketing it successfully. This replacement gas is harmless for the ozone layer but it has a greater greenhouse effect. HCFC is only made in the USA, so other countries have to import it. In contrast, the Germans have opted for hydrocarbons, which can be produced cheaply everywhere and does not rob the developing countries of their foreign exchange.

So the slogan above the big map of the world in Peter Störmer’s office in Mugabe Avenue No. 54 remains highly topical. No half of the world can survive without the other, it says. “But now we can see that the course for more environmental protection has been set,” the Proklima head sums up.

The author is a correspondent for the news magazine Focus who is based in Johannesburg.
Jordan is making haste. By as early as 2005, the country wants to ban the biocide methyl bromide in farming. One environmentally friendly alternative in the struggle against pests is called soil solarisation. A strawberry farmer “discovered” this natural pest control method in the eighties. With GTZ support, it has now found widespread use as a commercial technology.

Solar power to oust a chemical menace in agriculture

Khalil Abu Ghannam is Jordan’s strawberry king. He was the first to discover that this fruit thrives in Jordan and can make good money. He has set up 280 greenhouses full of the sweet fruit since 1982. “Everyone else grows tomatoes and cucumber,” Khalil says.

The pretty little plants are particularly vulnerable to pests in the soil. Khalil used to believe that using methyl bromide was the only useful remedy. This biocide destroys fungus, insects and pests in the earth that attack plants. Farmers treat the soil in the greenhouses with this poisonous gas before planting cucumbers, tomatoes, aubergines, beans or strawberries. “Not only was I the first grower of strawberries, but I was the first to use methyl bromide as well,” says Khalil. He used to work for the pesticide corporation that introduced methyl bromide in Jordan, but he resigned in order to become a farmer.

Khalil knew from studies at the University of Amman that, under certain conditions, soil solarisation could control soil pests just as well as methyl bromide. However, this technology had never been applied commercially in Jordan. In 1987, Khalil tried it out, at first in two greenhouses. He covered the earth with a transparent plastic sheet spread over his drip irrigation lines, through which he kept the soil damp. The intensive solar radiation in the Jordan Valley then heated the earth under the sheets up to 60 degrees Celsius. “This killed anything that could attack the roots of my plants,” says Khalil. Slowly, he started to apply this technology in more greenhouses. And four years later, methyl bromide had vanished from his farm. Now, even without the preventive use of this biocide, the strawberries are thriving. “I just wanted to save money and protect the health of my workers,” says Khalil. Methyl bromide is extremely poisonous, attacking the lungs as well as the nervous system. What he did not know then was that methyl bromide would be recognised...
as a substance that strongly depletes the ozone layer. So he was way ahead of his time.

**A big change for farmers**

Methyl bromide is a chemical controlled by the Montreal Protocol. This international treaty regulates the phase-out of substances depleting the protective ozone layer of the earth. The use of methyl bromide, one of the substances on the protocol’s list, will have to stop worldwide by 2015 at the latest. “We are looking for sustainable solutions. We want to avoid replacing this ozone depleting pesticide with other toxic chemicals wherever possible,” says Dr. Volkmar Hasse, the GTZ project manager in Amman. Commissioned by the Jordanian General Cooperation for Environmental Protection, he and his Jordanian partners are preparing the country’s farmers for the total phase-out of methyl bromide use.

Up to 6,000 fruit and vegetable farmers, large and small, rich and poor, will have to accommodate themselves with the new situation. Especially for the smallholders, any failure involving a new technology can spell financial disaster. “If we were to ask the farmers to give up methyl bromide to protect the ozone layer, we could just as well pack up and leave,” says Hasse, and adds: “What counts is economic arguments. We tell them that in a few years methyl bromide will definitely no longer be available. It will be better to start looking for alternatives. We can help, and the new technologies can even save the farmers’ money.” Acceptable alternatives must be more economical than methyl bromide but just as reliable.

“Of course I felt uneasy at first. Until recently, every farmer in the Jordan Valley was using methyl bromide. It was the normal thing to do,” Khalil admits. But when GTZ’s technicians visited him and asked how soil solarisation was working out, the pioneer farmer had already saved lots of money. Agricultural engineer Sameer Abdel Jabbar explains how the project became aware of Khalil. “We were looking for farmers who already used alternatives,” he says. “We wanted to benefit from their experience and ask them to teach other farmers.” It is easier to spread existing technologies than to introduce completely new ones. The Jordan Valley, where Khalil’s greenhouses stand, is the most intensive agricultural region in Jordan. Here, the desert makes way for a fertile valley spreading 300 metres below sea level between yellow mountains. This is where most of Jordan’s vegetables and fruits grow. Up to 90 percent of methyl bromide used to be applied in this region. Luckily, the conditions for soil solarisation are ideal. Between June and September, when it is too hot for cultivation, the sun’s heat is perfect to prepare the soil for the next season.

Farmers were invited to attend field demonstration days of “expert farmers.” They were eager to come to listen to those famous and successful farmers, who in the shade of a tent, explained and discussed new technologies with them. No academicians from universities or from abroad, not even office people from the ministry would speak to them but experienced farmers such as Khalil. “Successful farmers are the best teachers,” explains Volkmar Hasse. “This is the secret of the project’s success.” The lecturers are people who have the same everyday problems as their audience. When they explain things or crack jokes, they speak the same language. After the lecture, all go out into the heat and are shown exactly how the greenhouse is prepared and the plastic sheet is rolled out and fastened tightly so that no heat can escape. Finally, each of the participants gets one sheet as training material to practise the method with his own hands. Surprisingly, many farmers were quick to buy more sheets because they were confident that the method would work. Once the farmers started to use the new technology, they were not simply left alone but visited and assisted by the project staff.

The “farmer-to-farmer” concept proved a big success. Expert farmers taught so-called trainee farmers, with some of those later passing their knowledge on to more farmers. Nowadays in the summer, the Jordan Valley turns into a huge glittering expanse. The land is covered with plastic sheets. Fortunately, nearly all
PROTECTING THE OZONE LAYER

of the plastic is recycled after it has fulfilled its purpose. Today, around 80 percent of the farmers are applying the soil solarisation method. As a result, only 174 tons of methyl bromide was imported in 2001. Before the project activities commenced in 1998, farmers used 325 tons of the poisonous gas. There is a history to this success. Since 1995, the National Center for Agricultural Research and Technology Transfer, the Ministry of Agriculture, the GTZ and other partners have been co-operating to introduce sustainable, environmentally friendly plant protection methods. Farmers learnt to manage their crops without frequent pesticide sprays. Vegetables grown in this way contain none or very low levels of harmful pesticide residues. These products are marketed with a quality label.

“My biggest problem was waiting for weeks until I could be sure that my plants were healthy,” admits Mazen Odeh. “If you use chemical pesticides, you can see the effect straightway. With non-chemical methods, you have to be patient and trust the new technology.”

Mazen Odeh’s determination not to use pesticides like methyl bromide is based on personal experience. His father developed cancer, and he says there is at least one case of cancer in every Jordanian family. Many people here think that one of the reasons for this high rate may be the high pesticide use in agriculture. And he is aware that, as a farmer, he shares the responsibility for this state of affairs. But there is really nothing to worry about with the vegetables he has grown. After all, what grows in his greenhouse is also in his refrigerator.

Convincing multipliers

One of the most amazing converts in the Jordan Valley is Um Abdallah. When project member Ruby Assad visited her for the first time, this woman farmer simply gave her an incomprehending glance. “What on earth are you talking about? I’m supposed to stop using pesticides? Finish your coffee and leave! If your son gets ill, you give him medicine, and you do everything to protect him. It is the same with my plants and using pesticides,” said this widow and mother of eleven children. Her deceased husband had left a legacy of debts but also five greenhouses. Until his death, she didn’t have to look after farming. Um Abdallah can neither read nor write. In spite of this, she managed to grow enough vegetables to raise her children. “I prayed and worked day and night,” she says. But taking the risk of not using pesticides and jeopardise her harvest? There was no time for such preposterous proposals.

“If I can persuade this woman, I can persuade anyone,” Ruby Assad realised. This agricultural engineer looked for a way to address the women in the Jordan Valley. In traditional Muslim society, they would never attend a field demonstration day together with male farmers. After many more visits, Um Abdallah was persuaded to try out Ruby’s idea in one greenhouse, and gradually plucked up courage. Even in the first season, she managed to save “500 Dinars”, really a lot of money. Her farm has grown to 13 greenhouses, and she manages largely without pesticides, including methyl bromide. Um Abdallah has won prizes, she has been on television and is an actress in a video about her own experience. She has become an expert farmer herself and is teaching other women farmers – all that without being able to read or write. “But I have brains and can tell people about my own experience.” She sits there just like a queen in her long, black glittering dress in front of her two-storey house, looking across to the greenhouses, and laughing heartily about her first meeting with Ruby. “We first try out new things on small plots, learn from our mistakes and improve things ourselves.” If there is a good harvest this year, one of her sons will at last be able to marry next year.

Soil solarisation has now become widespread as an alternative to methyl bromide in the Jordan Valley. But other methods are needed for the cooler highlands. Jordan’s second most important agricultural region. Here, most of the farmers simply move their greenhouses to other areas at regular intervals to avoid problems from soil pests. But as land becomes scarce many start to use methyl bromide to be able to continue farming on the same land. One possible alternative is grafting. Here, a variety with a strong root is joined with the shoot of a high-yield variety. The combined plant is naturally resistant to soil diseases but still has a high and good quality yield. Other expert farmers are developing “soil-less” cultivation, where plants are grown in sterile porous material, like volcanic tuff, instead of soil and fertilised with the irrigation water. Because of higher initial costs, farmers are still hesitant about these methods. The expert farmers must show clearly that more money can be made with these techniques than with moving the greenhouses or with methyl bromide.

The past and the future. Empty methyl bromide tins in the ditch and farmers with a bio-certificate.
Ziad Tomalieh has his own successful method to avoid soil pests: He seeds directly into a very finely prepared soil, instead of buying seedlings from the plant nursery. “The plant gets a stronger, larger root which makes it more resistant to pests and with which it can take up more nutrients. This enables us to use much less pesticides,” he says. The secret is preparing the soil properly. This requires some extra water, which is expensive, several ploughings and all in all, more time - a whole month, in fact. “But I can recover all the initial costs by using less pesticides and achieving significantly higher production levels,” explains Ziad, a cheerful guy with a mind of his own. With his method, he only has to shift to a new plot every six or seven years. “Other farmers must move every two to three years because the soil diseases increase and reduce fertility.” Most highland farmers plant and harvest three times a year, but Ziad limits himself to two cycles. This helps keep his soil healthy and, most importantly, allows him to schedule his cucumber harvest in August. At that time nobody else has cucumber, which earns him peak prices in Jordan and even in the Gulf States. Ziad Tomalieh has always been doing things differently and is willing to look far beyond his own farm. “Methyl bromide is poisonous for the environment, the workers and the consumers,” he argues. “Besides, methyl bromide will soon be forbidden. And then everyone will have to convert.” Ziad Tomalieh also holds field demonstration days on his farm to pass on his experience to other farmers. Why does he share his knowledge? A good cook would never give away his recipe. “We like each other here. And I also share my knowledge for moral reasons,” Ziad Tomalieh explains. “Of course I might be creating a rival. But no, what I really want is that the others can produce the same way I do.” And he is serious about this. Ziad Tomalieh, an agricultural engineer by profession, has been a farmer for 20 years. And he loves his job which to him means achieving a high quality harvest. Currently he exports 70 percent of his produce, mainly to the Gulf States. “We have to look around for new markets and Europe is one of them,” he says, and adds: “To gain access there we must fulfil European quality standards, which prescribe especially low pesticide residue levels.”

“Of course I might be creating a rival. But no, what I really want is that the others can produce the same way I do.” And he is serious about this.

The soil solarisation method is spreading in Jordan.

From farmer to farmer.

Proklima:
The GTZ Programme on Protecting the Ozone Layer

The Rio Earth Summit Conventions are binding in accordance with international law. GTZ regards supporting the developing countries in implementing the Conventions as one of its tasks, to which six Convention projects are contributing. One of them is Proklima, the Programme working for the Protection of the Ozone Layer.

The deploration of the ozone layer in the stratosphere, which protects people from the sun’s harmful ultra-violet rays, has reached an alarming extent over the last few decades. The ozone hole was first discovered above the Antarctic in 1985. In the meantime, the ozone layer has also decomposed above densely populated areas. The main substances responsible for ozone depletion are chlorofluorocarbons (CFC) used as propellants, refrigerants and foaming agents, halons used as fire extinguishing substances, and methyl bromide, a pesticides used in agriculture. When these substances escape into the atmosphere, a chain chemical reaction is set off which ultimately leads to the depletion of the ozone layer.

The GTZ Proklima Programme assists developing countries in their efforts to phase out the production and use of ozone depleting substances in line with their Montreal Protocol obligations. By means of an integrated approach of advice and implementation, experts offer technical support in the form of training, expert conferences and trade fairs, facilitate the transfer of environmentally friendly technologies as well as providing advice to institutions in the developing countries on how to incorporate the Montreal Protocol stipulations into national framework conditions. Together with partners from more than 30 developing countries and countries in transition, the GTZ Proklima Programme is currently implementing around 80 individual projects, with a financial volume of roughly 14 million euros.

The Protocol is showing positive effects: the consumption of ozone depleting substances in 1997 was lower than in 1990 by about 84%, and declining continuously. However, due to the longevity of these substances a reduction of ozone in the stratosphere is not yet inevitable.

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Indonesia has embarked on its long route to reliable environmental protection. Four single projects merged into a programme for the environment are supporting the country in establishing the necessary foundations. A set of environmental data, laws and training standards have to be created to ensure that the mechanism for environmentally compatible development can have an impact.
When Helmut Krist looks out of his office window he can clearly see what his work is about. The brown, dirty sewer flowing sluggishly past the Ministry of the Environment in Jakarta once used to be the River Cipinang. Today, this rivulet transports refuse that people throw or pour into it. “The water crisis is one of Indonesia’s worst problems,” says GTZ staff member Krist, and adds: “In Indonesia, a river still has two clear purposes. It brings water and takes dirt away.”

For 20 months, Helmut Krist has been heading the GTZ team of the Indonesian-German Environmental Programme in Jakarta, the capital of the world’s largest island state. This environment expert and his team are in the eye of the hurricane. The staff of the environmental programme are the only members of international organisations with offices in the Minister of the Environment’s building. With the Cipinang in front of the window and the congested urban highway to the rear, they are in close contact with the country’s problems every day, hour and minute.

The Asian metropolis is a Moloch with congested streets, filthy rivers and polluted air. Civil servants at all levels thrive on corruption. And then there is the political and economic chaos. All this is accompanying what is the world’s fourth largest country, with its 228 million inhabitants, on its way to democracy. Over the last four years, three presidents had to give up. How should and can an environmental policy be implemented in such circumstances? Krist, a chemical engineer, maintains that the crisis the country has been struggling with for years does have its advantages, as cynical as this may sound. “Resistance to advice is weakening, and economic restrictions have become so harsh that everyone here notices that there can be no progress without change.”

Three big environmental ailments

In Indonesia, it is two minutes to twelve as far as the environmental issue is concerned. This is something that Agus Pratama Sari, who heads the NGO Pelangi, is also aware of. This environmental campaigner who is in high demand counsels ministries, compiles surveys and draws up action plans. From Agus’ point of view, the archipelago has three major environmental problems: the destruction of resources, either by slash and burn or clear-cutting of forests or by extracting minerals and air and water pollution.

Take water, for example. While a cubic metre of undrinkable tap-water costs the equivalent of about five euros, the end-user pays up to 50 euros for the same volume of drinking water that he has to buy from a vendor. “If we merely wanted to raise waste and wastewater management in Jakarta to an acceptable standard, this would eat up an estimated 40 billion dollars,” Krist reckons up. This is an immense sum, given the billions the country owes in debts, widespread poverty and shrinking levels of investment.

Thus improving the water situation in Jakarta remains at best a vision and cannot even be a goal. “Those who can afford it have a well drilled in the garden of their villa and get their water without paying any levies,” Agus explains. “Everyone else has to fork out twice as much for a litre of drinking water as for a litre of petrol.” Poor people can hardly afford water. At least a tenth of Jakarta’s estimated twelve to 15 million inhabitants live in slums.

Indonesia’s ecological situation is serious. There is every reason to make haste. Nevertheless, environmental activity is not dominated by a hectic atmosphere but by relaxed, steady work. “We have opted for various different levels simultaneously,” Krist explains. “We are working together with the government, supporting concrete projects in different provinces of the country and are striving for long-term, fundamental changes.” Three pre-conditions have to be fulfilled: “We require reliable data acquisition, have to obtain an overview of the legal situation and need to start with training and education right at the bottom level.”

Urgent stock-taking

The most immediate requirement was to minimise information deficits. “In Europe, environmental data have become a public good, but here, at urban level, for example, we have to first of all establish the data, and that is a lot of hard work,” the GTZ staff member says. Regarding the environment, the level of information is 90 percent of all relevant data, while it is ten percent at best in this Southeast Asian island state.

However, it is not only environmental data that have to be gathered. An overview of the laws, rules and regulations was also necessary. The Australian environmental law specialist who spent five months assessing the legal situation got 15 ministries involved in the process and even encountered remnants of Dutch colonial legacy such as the Hindrance Ordinance of 1926 on the Prevention of Nuisance to the Public through Waste, Wastewater and Smells. The compendium of Indonesian laws, which has now been printed on a CD, confronts the authorities with the prospects for organised environmental policy. The economy is a third fundamental area. The economy has always attracted the country’s elite. To benefit the environment, it is therefore necessary to make career structures more attractive and to influence study courses and school education.

These are the foundations for the four individual projects that have been incorporated in the
Lingkungan Hidup Programme, the programme for the environment: giving advice to the textile and leather industry in particular, sustainable management of selected rivers, establishing participatory environmental management in areas of Kalimantan in the island of Borneo as well as the main island of Java and, finally, advising politicians on environmental issues.

Counselling politicians also includes a project that has been given special attention by the public and politics over the last few months: preparing the implementation of the Kyoto Protocol. In December 1997, the countries party to the protocol decided in Japan to reduce the global emission of six greenhouse gases by an average of 5.2 percent to the level of 1990 between 2008 and 2012. In the Framework Convention on Climate, the developing countries pledged their commitment to report on their share of greenhouse gas emission. Here, commissioned by the Federal Ministry for Economic Co-operation and Development, GTZ is providing bilateral support. GTZ specialists are promoting institutions in selected developing countries so that the latter can develop strategies and concepts for national action programmes and projects that can reduce the level of greenhouse gas discharged.

Global warming owing to greenhouse gases is a particular hazard to the island state. Natural phenomena such as El Niño threaten the harvests of the largely peasant population. If the polar caps melt, the coastal strips could become submerged in the medium term. The threat the country faces is obvious. Adding up the circumference of the 14,000 Indonesian islands, Indonesia has more than 55,000 kilometres of coastline, one of the longest in the world.

The CDM philosophy

The Clean Development Mechanism (CDM) agreed on in the Kyoto Protocol is a tool to reduce the discharge of greenhouse gases in the long run. The details were fixed at the 7th Conference of the Parties in Marrakesh. But before this it was already clear that the CDM could yield a twofold benefit. For example, if a wind turbine generator replaces electricity from a coal-fired power station, the emissions avoided will be credited to whoever has erected it.

For instance, the German energy corporation RWE would be awarded a credit if it were to additionally build an environmentally friendly energy generating plant in Indonesia, a country the emission status of which it is currently examining. Later on, companies and countries could barter their contingents, even via stock exchanges.

An additional benefit from the CDM would be that developing countries would receive modern technical plant for the construction of which there is normally only little incentive. This could be another opportunity for German industry. The German-Indonesian Chamber of Industry and Commerce has already pointed out to German enterprises what options involvement in environmental protection in Indonesia offers them. Ekonid summarised the projects at an initial information event staged by TÜV Süd-Westdeutschland in Munich towards the end of 2001. “To me, CDM is an example of how an international convention can be broken down to industry,” says Krist. But again, good solutions don’t just grow on trees. “As is always the case in Indonesia, aspirations are way ahead of reality,” Jan Rönnfeld, who is in charge of Ekonid’s Environmental Department, says, and warns not to be too optimistic. After all, Indonesia is not the only country in the world that wants to benefit from CDM. In this competitive area, the country has to become more active.

The CDM process is still in its infancy. However, the GTZ staff in Jakarta are already making preparations for its application later on. This once again requires getting the basics in place. “First of all, we had to conduct a survey in order to gain an impression of the status quo and prospects for the future,” says Krist. A 180-page documentation on the present state of affairs has been prepared in close collaboration between the World Bank, the Indonesian Ministry of the Environment, GTZ, the Hamburg Institute of International Economics and the NGO Pelangi Indonesia. The National
Strategy Study met with considerable interest at the 7th Conference of the Parties to the Kyoto Protocol in Marrakesh.

“Indonesia could really earn money with CDM,” says Pelangi head Agus Pratama Sari. According to his calculations, annual income thanks to the CDM projects would be at 25 to 50 million dollars. The survey refers to a surplus of 94 million dollars when all deductions have been made following the introduction of the new instrument in 2008. These are still estimates, though, for as yet there are many unknowns. For example, a price of 16 dollars per ton of CO2 was initially set for Certified Emission Reduction. Today, it is at merely three to five dollars. This is a bitter decline in income for countries like Indonesia.

Moreover, nobody knows how quickly the necessary steps can be implemented in South East Asia. There is scepticism across the board. “The new administration under President Megawati Sukarnoputri has integrated environmental protection into the Ministry of Welfare as a co-ordinating instance. Previously, it was assigned to the economic sector,” Agus complains. But the Environment Ministry is uncertain about its mission as well. Deputy Minister of the Environment Daniel Murdiyarso says: “We might need more time for implementation. Perhaps we will be forced to hand on the most lucrative areas to others.” It is possible that Indonesia will not have got its act together by 2008 but only in the second phase, by 2012, he comments. “A large number of the factories we will be having in the country by 2020 haven’t even been built yet,” says Agus. “So today, we can exert a considerable influence on pollution in the next decades.” This would indicate that action really is going to be taken.

Options for counteraction

The options for counteraction appear to be unlimited. A total of 26 projects for generating energy with less emissions are currently either in the planning, testing or construction phase, such as a steam generator in West Java that is fuelled with waste. The schemes range from miniature hydropower plants through plants to dry coal with to the combustion of waste such as that originating from palm oil plantations. Krist merely sees all this as a beginning. “Much of Indonesia features volcanic landscapes. We have to consider geothermics in our plans,” says the chemical engineer. This source could yield around 18 gigawatts. Krist also envisages petrochemical industry, where gas is simply burnt off: “This is an area where interesting quantities of energy have so far been left untapped.” After all, as an oil and gas exporting country, Indonesia is Asia’s only OPEC member outside the Middle East.

Anyone taking a look at the calculations of the National Strategy Study will get an inkling of how urgently the opportunities have to be made use of that the CDM process opens up. In spite of the continuing economic crisis, the level of industrialisation will be sufficient to result in enormous environmental hazards. Present estimates indicate that the share of coal in the country’s energy generation is going to be ten times higher by 2020 than it is today. And the share of oil could double. The bottom line is that industry’s emission of CO2 will set to increase twofold, emissions in the transport sector will treble and those in the energy sector will rise fourfold – all in all a horror scenario.

The ecologists are aware that with such data they are merely tilting at windmills. This is David battling Goliath. But didn’t David win in the end? It is the small steps that motivate people. And they don’t want to lose their sense of humour, either. “We will have reached our goal when the Indonesian Minister of the Environment and I can do the crawl across the Cipinang, just like Mr. Töpfer did across the Rhine once,” Krist chuckles. The GTZ staff member knows that he, his team and his Indonesian partners will probably never reach this goal. Perhaps he simply ought to make do with being able to breathe in Jakarta without having to cough.

The author reports on developments in China, South East Asia and the Pacific Region as an economics correspondent for the Frankfurter Allgemeine Zeitung in Singapore.
The mantra of energy saving

More than two thirds of India’s electricity comes from technologically obsolescent coal-fired power stations. The environmental hazards pollute the air, and there is no telling when this will stop. On the contrary, industrialisation is eating up more and more energy. Saving energy and environmental protection are an indivisible issue.

Rainer Hörig, Text | Oliver Soulas, photos
Each winter, a ten-million-square-kilometre bubble of dust, soot and poisonous gases develops above the North of the Indian Ocean. In the spring of 2001, an international team of scientists came to the conclusion that, “given the size of the population, the situation in Asia is becoming more and more threatening.” Is there still time to stop the collapse of the world’s climate?

The World Health Organisation (WHO) claims that India’s largest metropolises, Mumbai, New Delhi and Calcutta, with more than ten million inhabitants each, already rank among the cities with the highest levels of air pollution worldwide. The biggest environmental hazards are car traffic and the energy industry. Almost two thirds of India’s power supply is provided with technologically obsolescent coal-fired power stations. Millions of cars, lorries and scooters billowing forth fumes and several thousands of factories craving for energy are polluting the air. Even the villages suffer from smog in an inversion climate during the winter. The rural households cook their meals on countless open fires that are fuelled with wood, dried cow-dung or harvest waste.

Singrauli is India’s energy capital. Rows and rows of chimney-stacks reach into the sky on the edge of the Ganges Plain, south of the city of Varanasi. Huge black pits have been eaten into the ground, and dust and soot darken the tropical sun. Most of the inhabitants are crowded into shabby colonies around vast mountain ranges of detritus. Just two generations ago, smallholder were tending their parcels of land here, and the original inhabitants were gathering honey and herbs in the forest. In the late fifties, a large-scale dam banked up the water of the River Rihand. Later, rich coal deposits were discovered close to the artificial lake that could be used to generate electricity.

Today, five large-scale power stations, an aluminium smelting plant, two cement factories and a chemical factory stand on the shores of the lake. The power stations, which have a total output of 7,000 megawatts, are supplied with fuel from nine coal-mines via conveyor belts, and they are cooled with water out of the lake. They burn 27 million tons of hard coal a year, and more than 20,000 tons of ash containing heavy metals accumulates every day. It is mixed with water and then pumped into giant sedimentation basins on the shores of the artificial Rihand Lake. Since the pipes sometimes leak and bursting dams or flooding occasionally wash away large quantities of the poisonous sludge, the groundwater in Singrauli is now contaminated over...
wide areas. In the artificial lake, a drinking-water reservoir for a million people, experts have detected traces of poisonous substances including cadmium, arsenic and nickel.

Germany is involved in developing the Indian energy sector, a task that figures high in bilateral development co-operation. In 1961, the German Development Ministry started to support Indian manufacturers of turbines, coal-mines and the construction of power stations, spending more than a billion euros in all. Well over 87 million euros in German taxpayers’ money flowed into the Singrauli project. This policy secured many a contract for German plant and equipment makers. “Half of the output currently installed in Indian fuelled power stations is based on Siemens technology,” says Harminder Singh, who is responsible for the power station sector at Siemens India.

Unlike in most industrialised countries, India’s economic growth of five to seven percent a year is still closely linked to an increase in energy consumption. And because the population is still growing rapidly at around two percent a year and the country’s industry wants to catch up with the lead the industrialised nations enjoy and hold its own in international competition, the government has planned a massive expansion of energy capacities. “We intend to increase the generating capacity of our power stations from a current 100,000 MW to double that amount over the next ten years,” India’s Energy Minister Suresh Prabhu announced, and on the occasion of Federal Chancellor Gerhard Schröder’s visit in October 2001, he invited German industry to participate in the mammoth programme. This was a tempting offer, although it did have its pitfalls. Again and again, German energy corporations have been the target of criticism from environmentalists and human rights campaigners for getting involved in controversial power station schemes in India, such as the dams on the Narmada River and in Tehri.

Forced expulsion because of large-scale projects, mismanagement in inflated administrative bodies, brazen theft of electricity by slum inhabitants and industrial corporations or everyday power cuts suffice to demonstrate that India’s energy sector is in a severe crisis. The country urgently requires better power supply. For years, experts have demanded that the public electricity industry be privatised, but following the energy crisis California experienced early in 2001 and the first and largest private power station project, in Dhabol/Maharashtra, going bankrupt, this mantra has lost its appeal. Although it seems certain that India will be building several more coal-fired power stations over the next few years, a new idea is gaining more and more ground that could render some of the environmentally harmful large-scale projects superfluous: saving energy.
“Energy is used very inefficiently in India,” says Girish Sant, a young engineer who deals with the energy industry from the consumer perspective in the citizen’s action group Prayas-Pune. “Industry is working with obsolescent machinery, pumps and motors. The irrigation pumps used in agriculture have a ridiculously low level of efficiency,” he maintains. “Private households are wasting electricity with conventional light-bulbs and technically obsolescent household appliances.”

With his colleagues from Prayas-Pune, Girish Sant initiated a survey of the energy sector in the Federal State of Maharashtra, and he worked out the costs of expanding and improving power supply using 16 different scenarios. He concludes: “The cheapest way is to save energy, and it is also the most environmentally friendly way. Determined saving could reduce additional energy demand by 30 to 40 percent.”

During the nineties, the World Bank established a potential of just under a third for India’s industry to save energy. The Energy Ministry in New Delhi set up a new department, the Energy Conservation Cell. “It is much cheaper to save a megawatt of electricity than to produce it,” says its Director, Shashi Shekhar, and adds: “We have launched a programme to modernise existing power stations and grids. The recently approved Law on Energy Saving obliges certain corporations to conduct an energy audit and defines standards for the energy consumption of mass consumer goods that will later on be reflected in labels for the consumer. The newly established Office for Energy Efficiency is responsible for developing these standards.”

It is two hours by car to the small town of Hapur, east of New Delhi. Century Laminates Limited are the largest local employers, with a staff of 800 workers and employees. “We manufacture laminates for the furniture industry,” says plant superintendent Nagendra Singh, and adds that the factory is the largest of its kind in India. Century Laminates are the market leaders in India, and run a modern plant. The factory yard is spick-and-span, while the workplaces with the gluing and hot-pressing machines are well illuminated and ventilated. Daily power consumption is at 10,000 kilowatt hours. In order to become independent of the irregular and strongly fluctuating public power supply, the company oper-
The company spends an annual 25 million rupies on energy,” states Rajesh Jain. This is the equivalent of well over half a million euros. This young energy consultant, who has been examining the laminate factory for three months, comes up with a huge potential to save energy. “Our analysis shows that in the longer term, the company could save six million rupies a year, mainly in heat consumption, but also in electricity consumption. We recommend that the machines be modernised so that they work more efficiently. Organisational processes could be streamlined in order to minimise energy wasting.” Much of this could be achieved without costly investments, the expert says. What would be ideal is a plant for the co-production of electricity and process steam. But this would be up to management to decide. Plant superintendent Singh welcomes the proposals: “If they pay their way, we will of course introduce these improvements. That goes without saying.”

A project with a saving philosophy

GTZ in New Delhi is supporting the efforts the laminate factory at Hapur is making. For six years, Technical Co-operation has been commissioned by the German Federal Ministry for Economic Cooperation and Development to support the Indian Energy Ministry’s measures to save energy. “In the first project phase, which covered four-and-a-half years, we worked together with the Tata Energy Research Institute in Bangalore,” says Albrecht Kaupp, the GTZ project co-ordinator. The project supports 30 to 50 large companies a year. “We examined their energy effort and worked out proposals to economise,” Kaupp explains. “An efficiency audit revealed that the respective plants implemented an average 70 percent of our proposals, although this did take several years in some cases.”

Albrecht Kaupp usually advises large-scale enterprises on how to save energy, where he can normally reckon with appropriate technical expertise as well as the adequate financial scope for implementation. “Experience has shown that half of the saving effect can be achieved merely with improved housekeeping and management, so that larger investments are not required,” the GTZ expert says. But it is precisely this aspect that is often more difficult than the procurement of new machinery. Restructuring work routines often meets with resistance among the workforce. The prime incentive for an efficient use of energy is the financial savings it entails. Albrecht Kaupp and his team are co-operating with small consulting agencies and are establishing a qualified staff of energy consultants.

S. Ramaswamy, Kaupp’s colleague at the Energy Ministry, has been working for the newly established Bureau for Energy Efficiency, an expert group of the Energy Ministry, since December 2001. The Bureau is supposed to work out implementing regulations for the new Law on Energy Saving. Here, the emphasis is mainly on standards and norms for energy consumption in certain branches of industry. “We intend to achieve this in close co-ordination with the companies concerned. And we want to develop a sort of eco-label that would inform the consumer about the energy consumption of mass consumer products such as televisions and refrigerators,” says Ramaswamy.

Energy consulting as a business sector

Is efficiency now going to become the new mantra of Indian energy policy? Support cannot be reckoned with from all sides, for saving can hardly yield sinecure. Insiders put the illegal earnings of large-scale power stations and similar
projects at around 20 percent of the investment costs. These are millions that fill the pockets of corrupt politicians and bureaucrats without any tax being paid. Industrialists have raised objections to a further system of controls that could impede their business. But there is another trend as well. India’s largest industrial federation, CII, organised a seminar on energy saving in the Southern Indian city of Puna in December 2001. Local firms such as Cummins India and Marshall Forbes, who are among the country’s leading mechanical engineering companies, presented technical innovations for saving energy costs. So a new industrial branch is emerging: energy consulting.

The international debate on the protection of the climate is certainly going to boost this kind of business. In the Kyoto Protocol, the parties agreed on what is known as the Clean Development Mechanism (CDM). This mechanism provides for industrialised countries to credit reductions in levels of pollution they have achieved to their own account. Albrecht Kaupp hopes that Technical Co-operation will succeed in qualifying for this in terms of energy efficiency and environmental protection in the near future and win points for Germany. For greater energy efficiency means less emission of harmful substances. “So we are contributing to climate protection here. I am sure that CDM is going to encourage further efforts and will make India more competitive,” says Kaupp.

The author is a freelance journalist who is based in New Delhi.
## CONVENTIONS AT A GLANCE

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### The Vienna Convention for the Protection of the Ozone Layer

In this international agreement, the signatory states commit themselves to countering the depletion of the ozone layer with research, exchange of information and international co-operation.

The aim of the Montreal Protocol is to reduce and eventually eliminate emissions of man-made ozone depleting substances (ODS). Five subsequent amendments determined further substances and more stringent stipulations concerning the phaseout of ODS.

The Multilateral Fund for the Implementation of the Montreal Protocol was introduced in 1990, backed financially by the industrialised nations. The aim of the fund is to assist developing countries in complying with their obligations under the Montreal Protocol.

### Framework Convention on Climate Change (UNFCCC)

The aim of the Convention is to stabilise greenhouse gas concentrations in the atmosphere at a level preventing a dangerous anthropogenic interference with the climate system.

Industrialised countries are to assist developing countries with implementing the Convention. Adaptation to climate change is above all turning into an increasing challenge for the developing countries.

The Kyoto Protocol, which was negotiated in 1997, defines binding levels for the reduction of greenhouse gas emissions from the industrialised countries of up to 5%. The Kyoto Protocol can come into force once it has been ratified by at least 55 countries that are responsible for at least 55 percent of the greenhouse gases emitted world-wide. It is expected that the agreements and regulations on particulars negotiated in Bonn and Marrakesh (July and November 2001) will provide for a sufficient ratification of the Protocol, and hence for its entry into force.
**The Convention on Biological Diversity (CBD)**

Signed: 1992  
Entry into force: 1993  
Parties: 182

Since the UN Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992, biodiversity has become the object of an agreement with an international law status, the Convention on Biological Diversity, which pursues three main objectives:

- Conservation of biodiversity
- Sustainable use of genetic resources
- Fair and equitable sharing of the benefits arising out of the utilisation of genetic resources.

By ratifying this Convention, the developed nations have committed themselves to preserving biodiversity in their own countries as well as to assisting the developing countries in implementing the necessary steps.

The Convention on Biological Diversity, which pursues three main objectives, the aim of an agreement with an international law status, the Convention to Combat Desertification (UNCCD) in the arid regions of the Earth and achieve a better management of these resources.

With the aid of national and regional action programmes, the countries affected by desertification identify the causes of degradation phenomena and work out measures to overcome or diminish them and to prevent drought disasters. What is particularly important in implementing the UNCCD is that the users of resources are involved. Combating desertification makes a considerable contribution to reducing poverty in rural areas. The UNCCD aims to achieve coherence with other national and regional development programmes. In this sense it is understood as an Environment and Development Convention.

**Convention to Combat Desertification (UNCCD)**

Signed: 1994  
Entry into force: 1996  
Parties: 176

The aim of the Convention is to counter the degradation of natural resources – soils, water, and vegetation – in the arid regions of the Earth and achieve a better management of these resources.

With the aid of national and regional action programmes, the countries affected by desertification identify the causes of degradation phenomena and work out measures to overcome or diminish them and to prevent drought disasters. What is particularly important in implementing the UNCCD is that the users of resources are involved. Combating desertification makes a considerable contribution to reducing poverty in rural areas. The UNCCD aims to achieve coherence with other national and regional development programmes. In this sense it is understood as an Environment and Development Convention.

**Rotterdam Convention (PIC)**

Signed: 1998  
Entry into force: Not yet in force  
Parties: In process of ratification

The Convention regulates the exchange of information and the observance of import decisions in international trade with certain hazardous chemicals. Exporting countries may only permit the export of these substances if the importing country has explicitly approved of this. Such a regulation is internationally known as Prior Informed Consent (PIC). Once 50 countries have ratified this convention it will come into force.

The Convention bans the production and use of certain harmful organic substances, the Persistent Organic Pollutants (POPs), or strongly restricts their release. This applies to pesticides, industrial chemicals and highly toxic by-products of manufacturing and combustion processes, such as dioxins and furanes. Once 50 countries have ratified this convention it will come into force.

The Cartagena Protocol, which was adopted in 2000, makes provisions for the safe transport and correct handling of living genetically modified organisms with the aim of ensuring protection of biodiversity against possible risks.

**Stockholm Convention (POPs)**

Signed: 2001  
Entry into force: Not yet in force  
Parties: In process of ratification

The Convention bans the production and use of certain harmful organic substances, the Persistent Organic Pollutants (POPs), or strongly restricts their release. This applies to pesticides, industrial chemicals and highly toxic by-products of manufacturing and combustion processes, such as dioxins and furanes. Once 50 countries have ratified this convention it will come into force.

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**GTZ IN PROFILE**

The Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH is a government-owned corporation for international co-operation with worldwide operations. GTZ's aim is to positively shape the political, economic, ecological and social development in our partner countries, thereby improving people's living conditions and prospects. Through the services it provides, GTZ supports complex development and reform processes and contributes to global sustainable development.

GTZ was founded in 1975 as a corporation under private law. The German Federal Ministry for Economic Cooperation and Development (BMZ) is its main financing organisation. GTZ also undertakes commissions for other government departments, for governments of other countries, for international clients such as the European Commission, the United Nations or the World Bank, as well as for private-sector corporations.

GTZ operates on a public-benefit basis. Any surpluses are exclusively rechannelled into its own development co-operation projects.

International and local experts and managerial personnel form the mainstay of GTZ's presence in its partner countries. With many years of experience, GTZ is skilled in tailoring solutions to specific problem situations in partner countries, and in developing project strategies and measures jointly with its partners. Emphasis is on interlocking regional, sectoral, commercial and logistic capabilities and on integrating management know-how and intercultural expertise.

However, international co-operation also calls for new alliances. GTZ aims to establish new partnerships in the social, economic and cultural sphere. It has always cooperated closely with other national and international development cooperation organisations, availing itself – wherever technically and financially expedient – of the knowledge available in the private consulting sector, from independent experts and specialist public institutions both in Germany and abroad. GTZ dovetails inputs delivered by various project actors, so as to achieve the best possible results. The organisation has more than 11,000 employees in around 120 countries of Africa, Asia, Latin America, in the Eastern European countries in transition and the CIS. Around 8,700 are locally-contracted nationals. The GTZ maintains its own field offices in 67 countries.

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from the 18th - 19th June, focusing on the topic of “shaping the future with international co-operation: securing peace – reducing poverty – protecting the environment”

Representatives of industry, politics, science, culture and society will be discussing the following issues with GTZ specialists:

- How can we orientate international co-operation towards the Agenda 21 demands?
- How can the issue of globalisation be influenced to the benefit of sustainable development?
- How can intercultural processes develop free of conflict in complex structures?

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