

Munich Re Foundation From Knowledge to Action

2008 report



January/February

16–17 January
Microinsurance workshop
of the China Insurance and
Regulatory Commission

March/April

March 2008
Beginning of “Stifterland
Bayern”, the itinerant
exhibition of the
Association of German
Foundations

15 April
Last of the 2007/2008
dialogue forums
on Munich 2030
[Page 24](#)

17–18 April
Expert workshop:
“Migration and
the environment”
[Page 2](#)

May/June

6–7 June
Rottendorf Symposium
“Climate change and global
poverty” in Munich



May 2008
Relief aid in Myanmar after
landfall of Cyclone Nargis
[Page 37](#)

July



1–10 January
Flood warning and
evacuation on the Save,
in Mozambique
[Page 34](#)



27 July–3 August
Summer Academy on
environmental migration
[Page 6](#)



23–25 May
Climate change and justice
conference, Evangelische
Akademie Tutzing
[Page 18](#)

August

20–21 August
Climate and water
activities as part of
World Water Week 2008
Page 29

September

5 September
Fog nets project
in Eritrea put on hold
Page 38



1 September
Completion of the
“Mapping Vulnerability”
project

October

11 October
CEMA presentation
at the International
Conference on
Migration in Bonn
Page 17

November/December

1 December
Appointment of three
chair-holders to
the UNU Chair in Social
Vulnerability



5–7 November
Fourth International
Microinsurance Conference,
Cartagena, Colombia
Page 14



31 August
Conclusion of the
RANET warning-system
project for Tonga
Page 39



21 October
First of the 2008/2009
dialogue forums on
resources



20–24 October
Energy School Upper
Bavaria/Munich,
end of project weeks
Page 29

Review of 2008

Cover

Perilous boat trip: Climate change will result in severe environmental changes and increased weather extremes. This photo shows flooding in Bangladesh following torrential rainfall.

Contents	Review of 2008
	1 Editorial
Research	2 Frank Laczko Migration and the environment — We need policy-oriented research
	6 2008 Summer Academy Environmental migration: A moving issue
	8 Interview Human rights submerged by the rising seas
Networking	10 Prof. Hartmut Grassl Climate change and justice — Change divides and unites
	14 Fourth International Microinsurance Conference Growing demand
	16 Spotlight Insurance — Learning by playing
	17 Climate Change, Environment and Migration Alliance established From Knowledge to Action
	18 Climate change and justice Appeal for a global deal
Sensitisation	20 Dr. Werner Zittel and Dr. Daniele Ganser Peak oil — Why the time has come for a re-think
	24 Munich 2030 dialogue forums Looking ahead
	28 Interview Pressure mounts up under the lid
	29 Other projects Green City, Climate expedition, World Water Week
Action	30 Thomas Loster Ownership for a better place
	34 Mozambique flood-warning system In action on the River Save
	36 Interview Maintaining vigilance
	37 Cyclone Nargis Emergency relief for Myanmar
	38 Fog nets in Eritrea Shadow cast on success
	39 Tonga early-warning system Emergency radio network
	40 Board of Trustees and team Publications Preview of 2009 2008 environmental performance Imprint Picture credits and sources

Success and failure went hand in hand last year. On the plus side, the River Save early-warning system in Mozambique is now operational. Progress was more rapid than expected, the system passing the first test with flying colours when Mozambique suffered heavy flooding in early 2008. However, our fog nets project in Eritrea came to a disappointingly premature end. We were forced to abandon plans to extend the system when the political situation went into rapid decline. This is all the more regrettable because the technology, which involves harvesting drinking water from fog nets, worked perfectly. These two examples show that whether or not people accept a project determines its success or failure. The greater the support on the part of the stakeholders, the better the prospects of a positive outcome. A clear lesson is to be drawn here for our work: we must redouble our vigilance if that support is in any way in doubt.

We have had no support difficulties whatsoever with regard to one key aspect of the foundation's work, namely our efforts to achieve a breakthrough in micro-insurance. The Microinsurance Conference at Cartagena, Colombia, was attended by a record 450 delegates. Two-thirds came from the private sector, proof of fast-growing interest in microinsurance. Álvaro Uribe, the President of Colombia, summed up the current situation: "Microinsurance is a major risk-management tool for millions of poor people."

Weather-induced catastrophes like Cyclone Nargis in Myanmar and the floods in India forced countless thousands to flee their homes. With environmental migration very much on the increase, this was chosen to be the main topic of discussion at our 2008 Summer Academy, an annual event attended by young academics from around the world. The year also saw the launch of the Alliance on Migration, of which we are co-founders. The Alliance brings together key actors in this field, marking a major step forward in the more effective pooling of research.

The project "Climate change and justice", now well and truly under way, is closely linked with the issue of environmental migration. It needs to achieve swift, solid results to ensure that international climate negotiations move forward. It is now the turn of the UN Climate Conference in Copenhagen in 2009 to "step up to the plate". Meanwhile, we will continue our efforts to ensure that the maxim of equitable and sustainable climate protection is universally accepted.



Thomas Loster
Chairman

Fleeing from civil war:
The conflict in Darfur,
Sudan, has led to mass
migration. The IOM has
been involved in large-
scale resettlement
projects.



Migration and the environment — We need policy-oriented research

Frank Laczko

Environmentally forced migration can be seen as a failure of adaptation as well as a successful survival strategy for those who move. The lack of data and definitions makes it difficult for policy-makers to develop appropriate solutions. They need the support of sound research.

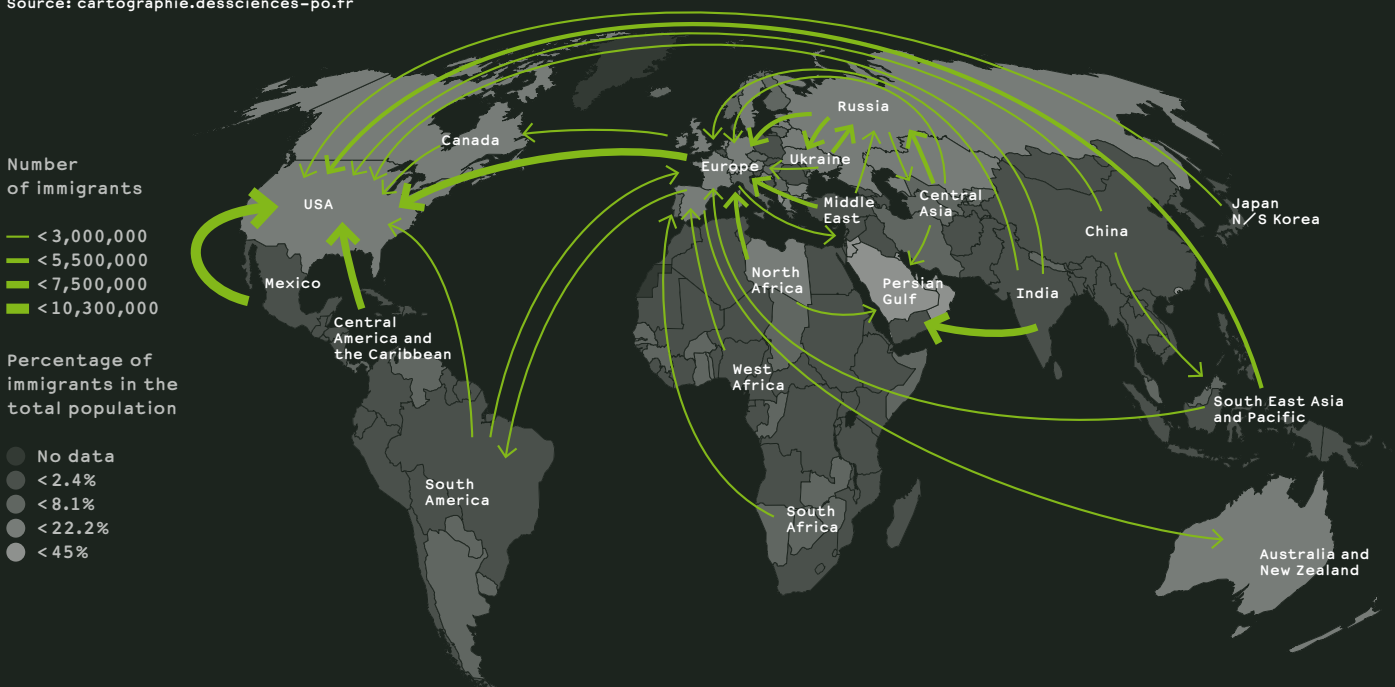
Gradual and sudden environmental changes can result in substantial human movement and displacement. The scale of such flows, both internal and cross-border, is expected to rise, with unprecedented impacts on lives and livelihoods. It has positive and negative effects on both the local coping capacity and the environment in areas from which these migrants originate, as well as in their temporary or permanent destinations. Adequate planning and management of their movements will be critical for human security. But still the major issues migration, climate change and environmental degradation are often discussed separately. Even if International Organization for Migration (IOM) research and policy activities on the topic date back to 1992, with its first publication on the subject, "Migration and the Environment", the knowledge base on the relationship between the two remains limited.

This is reflected by the lack of consensus on a definition of environmental migration that makes it difficult for policy-makers to develop appropriate policy interventions. Researchers arrive at widely differing estimates depending on the definition of those to count. Estimates ranging from 25 million to 700 million persons per year in the not-too-distant future underline the fact that there is relatively little agreement. Therefore, the quality of existing data sources needs to be improved and attempts made to correlate such data across time and geographical areas. Integrating related questions in censuses and household surveys should also be considered to understand, who moves and why, as well as, who stays and why. Models should take into

People on the move

Migration will assume even greater significance in the coming decades than today. Source and target regions are generally clear, but the experts differ widely on the numbers involved.

Source: cartographie.dessciences-po.fr



account a variety of factors such as the local context, the social networks, the destination and length of stay or individual perception and historical analogues. Environmental hotspots and tipping points are also important to analyse.

Whereas migration is often considered to be a negative consequence of environmental change, it can in some areas contribute to further degradation. And though it is often characterised as a failure of adaptation, migration can also be a form of adjustment and a survival strategy for those who move. It is a key to integrate the issue into adaptation strategies and to link it to the development agenda. More research is required on how remittances, important money for the recipients, can contribute to the reduction of environmental migration from degraded areas. The migrants' "know-how" also can help to increase the resilience of local populations. It is important to involve all relevant stakeholders and consider a range of policies from mitigation and adaptation to return and reintegration from both an internal and an international perspective.

The way forward should include elements as outlined at the Research Workshop on Migration and the Environment in Munich in April 2008 co-organised by the IOM and the United Nations University (UNU) in collaboration with the United Nations Environment Programme (UNEP) and the Munich Re Foundation and co-sponsored by the Rockefeller Foundation: systematic stock-taking of existing research evidence in order to highlight the implications for policy, and to develop new methods and approaches which the IOM is now currently undertaking; a global research programme based on new in-depth studies focusing on those parts of the world expected to be worst affected by environmental degradation and extreme environmental events.

The founding of the Climate Change, Environment, and Migration Alliance (CEEMA) initiated at the Munich meeting mentioned above, was one of the promising steps in 2008. The CEEMA is a new multi-stakeholder global partnership of concerned actors such as international organizations, interested groups of states and representatives of the private sector, the scientific and professional community and civil society. These actors represent a range of perspectives including environment, migration development, and humanitarian assistance. The CEEMA also provides a neutral and open forum for policy dialogue.

The Alliance aims to bring migration considerations to the environment, development, and climate change agendas and vice versa. The work programme includes awareness-raising, better information and knowledge management through networks, new databases and websites to enhance information sharing; and capacity-building projects to ensure that countries likely to be most affected by environmental migration will be better prepared. Policy-makers need to learn from best practices based on policy-oriented research. And we need to support them.



Frank Laczko, Head of Research at the IOM in Geneva, is currently involved primarily in migration and development in Africa and migration out of China. He explained the causes and effects of migration at the 2008 Summer Academy.

Waiting for help:
Victims of the Myanmar
catastrophe cut off
from the outside world
following Cyclone Nargis
in May 2008. Stronger,
more frequent cyclones
caused by global warming
will force the inhabitants
of the Irrawaddy Delta
to leave their ancestral
homeland.



2008 Summer Academy Environmental migration: A moving issue

Hohenkammer near Munich was the venue for the third Summer Academy, held in late July 2008. Young scientists from 16 nations analysed the extent to which climate and environmental change are depriving people of their livelihoods. Examples from Alaska and the small island states of the Pacific show just how pressing this problem has become.

Professor Anthony Oliver-Smith, chairing the Academy: "Climate change is forcing us to look for solutions to the problem of environment-related migration sooner than expected." In all, 25 young scientists from 16 countries had gathered at Hohenkammer to examine the complex processes involved. Their objective was to identify the main areas of migration research and draw up a corresponding work plan for scientists.

Robin Bronen, a participant from Alaska and an expert on social vulnerability, explained the issues: "Numerous communities in my country are already having to migrate as the permafrost thaws and widespread erosion destroys coastal areas and other natural habitats. The government is not adequately prepared to deal with this problem." Other examples from Asia and the small island states of the Pacific clearly show that environment-related migration is not just a topic for the future; it is already with us.

The media and specialist literature have come up with widely differing opinions and figures on the extent of forced migration. Experts estimate that, by the middle of this century, some 200 million people will have been forced to migrate for environmental reasons. Experts from the International Organisation for Migration (IOM) in Geneva and the United Nations Environment Programme (UNEP) debated the push and pull factors involved with Summer Academy participants.

These discussions highlighted the fact that, although environmental and climate changes are increasing, they are by no means responsible for all migration. "There are countless aspects which determine the vulnerability and resilience of emigrants and immigrants", explained Frank Laczko, Head of Research at the IOM. He also stressed how difficult it was to identify a single clear motive for migration. "In global terms, economic and political motives are obviously the main factors, but people also have to move when heatwaves and droughts destroy crops, depriving them of their livelihoods."

The results of these discussions formed the basis of the "Hohenkammer Challenge", a research agenda which Academy participants will apply to their future scientific and political work. Thomas Loster, Chairman of the Munich Re Foundation, which was hosting the conference: "It is important that the Summer Academy develop the young scientists' potential, but ultimately we also need tangible results."



Frank Laczko, Head of Research (left), and Philippe Boncour, Head of the International Dialogue on Migration Division of the IOM in Geneva, answer questions from the floor.



Professor Anthony Oliver-Smith from Florida, holder of the Chair in Social Vulnerability, 2008, was the Dean of the Summer Academy.



The Summer Academy sparked lively exchanges on theories advanced by 25 young researchers from 16 countries. Here we see (from top left) Aurélie Sgro (France), Rebecca Witter (USA), Xiaomeng Shen of the UNU (China), Divya Chandrasekhar (India), Donald Makoka (Malawi) and Henry Bang (Cameroon).

The core statements of the work agenda for researchers are:

- Scientists and politicians must strive for greater cooperation.
- Research has to be more systematic and involve a consortium of institutions because the complex interplay between politics, the environment, food supplies, poverty, culture and the quality of life is by no means fully understood.
- The use of a standard technique for recording migration parameters and more sophisticated interview techniques are every bit as important as the careful consideration of social vulnerability in different cultures.

Professor Oliver-Smith underlined the role of research in proactive planning and added: "Ultimately, we will also learn a lot from experience on the ground. Successful resettlements will be the best teachers." However, we still have a long way to go, as the example of the small Pacific islands shows: in Tuvalu and Kiribati, rising sea levels are already forcing islanders to emigrate to Australia and New Zealand. In addition to the political challenges this poses, resettlement also shows just how difficult it is for people who have been uprooted to integrate into a new environment.

At the end of the week, Professor Janos Bogardi, Vice Rector of the United Nations University (UNU) in Europe, summed up as follows: "Thus far, research into migration has taken place principally in a philosophical context, encompassing a combination of assumptions, estimates, apprehensions and hypotheses. We now need to switch to rigorous empirical research that reaches the media, society and policy-makers. Only in this way will it be possible to find solutions for people already threatened by environment-related migration."

For further information on this issue:

Conference on Environment, Forced Migration and Social Vulnerability in October 2008
www.efmsv2008.org

The foundation's Chair in Social Vulnerability at the Institute for Environment and Human Security, United Nations University (UNU-EHS).
www.ehs.unu.edu

Interview

Human rights submerged by the rising seas



Koko Warner interviews (from left to right) Robin Bronen, Cosmin Coredea and Elizabeth Marino about the impact of climate change on environmental migration.

Experts fear that up to 200 million people will be forced to migrate in the coming decades. A number of communities in Alaska and small island states in the Pacific Ocean are already facing a severe threat of global warming.

Dr. Koko Warner of the UN University interviewed anthropologist Elizabeth Marino, lawyer Robin Bronen, both from Fairbanks, Alaska, and Cosmin Coredea, a lawyer from San Francisco, about their work. All three were taking part in the Summer Academy.

Koko Warner: The effects of climate change are already very evident in Alaska. The polar ice is melting, the permafrost is thawing, and sea levels are rising, forcing people to migrate. Elizabeth, you work in the regions affected. What is the situation like at the moment?

Elizabeth Marino: In Alaska the consequences of global warming are now so dramatic that some communities are facing imminent resettlement. For instance, on the small barrier island of Shishmaref, off the coast of Alaska, the ice and permafrost are gradually melting, and the land is being eroded by the sea. Relocation plans have been on the table for at least 30 years, and the situation is clearly very complex, but I am still amazed by the fact that moving a mere 608 villagers to a place less than ten kilometres away seems to be causing the government such problems. If that's a sign of things to come, it bodes ill in the face of rising sea levels.

Robin Bronen: Climate change is happening a lot more quickly than we thought. The government is caught in a dilemma. The Alaskan communities are ready to move, but the relevant institutions have no mandate and lack experience in dealing with this kind of situation. So far, the government has invested money primarily in technical solutions, millions having been spent over the years on defences against erosion and flooding. Now it suddenly finds that measures of this kind will not suffice to avert disaster. Technology alone won't help these communities.

Warner: What can the government do to ensure resettlement is successful and that people adapt well to their new environment?

Marino: These people have a unique cultural heritage, which is not to be underestimated. It is something that needs to be protected and cherished. Resettlement is not just about infrastructure, money, and relocation. It includes issues such as homeland, traditions, health, and personal lifestyle. Success can't be guaranteed unless the cultural assets are preserved, and the people directly concerned have a say in the process.

Bronen: Resettlement of the Alaskan communities involves many issues, social and human rights being among the most important.

Warner: I understand that Canadian and American Inuits are suing the US government for causing global warming. Cosmin, do you think this is justified, and what chance of success does a suit of this kind have?

Cosmin Corendea: Interestingly, the Inter-American Commission on Human Rights (IACHR) has already approved the petition. The mere fact that the case has been accepted by the court in itself constitutes a judgement. It more or less implies that the Commission accepts climate change as a fact, and that the USA and/or other nations are responsible for the problem. So the Inuit case cannot simply be ignored.

Incidentally, the Alaskan native village of Kivalina is suing the oil companies, claiming that they are liable for people being forced to migrate. However, which way these cases will be decided is still far from clear.

Warner: Cosmin, you've worked on Tuvalu and Kiribati in the South Pacific. The inhabitants of these tiny island states are in the very difficult position of having to abandon their land. What is the current situation?

Corendea: The island states are conducting negotiations with Australia, New Zealand, and other potential host countries likely to offer refuge. As well as losing their land the islanders will also have to give up their homes and their socio-cultural and political environment. Even if they are resettled elsewhere, integrating them into society will be a major challenge.

I'm also dealing with the case of the Maldives. The situation there is much worse because the archipelago does not belong, for example, to the African Union or another regional umbrella organisation. Support prospects are therefore much more limited. Before long, the Maldives will have sunk beneath the waves, but not one country has offered help. Last-minute rescue from drowning is not a viable migration solution. It will only lead to conflict and huge social problems.

Warner: The journalists could have a field day with that. Won't media attention put pressure on people to find solutions?

Marino: Yes, in Alaska's case the media have definitely focused public attention on the problems of Shishmaref and other communities. But whether this will also help in the search for solutions remains to be seen.

Warner: Will Alaska's example act as a signal to other parts of the world?

Bronen: Oh, yes. Alaska's not an isolated case. Sudden and dramatic environmental changes have triggered humanitarian crises elsewhere. We now need binding rules governing resettlement of those forced to migrate for environmental reasons. As climate change continues, protecting the rights of such people becomes increasingly crucial.

Warner: That means we need national and global programmes, and we have to take responsibility at international level.

Bronen: That's right – a huge challenge, bearing in mind that it will take at least five years for an international framework to be accepted and ratified by the countries concerned.

Corendea: In the meantime, people in tiny island states are already "up to their necks" in water. They can't go on waiting. They need help right now.

Drought in Ethiopia:
A goatherd and his charges
negotiate the arduous
path to the waterhole.
Although the developing
world is worst hit by
global warming, the
phenomenon is primarily
caused by the industrial
countries.



Climate change and justice — Change divides and unites

Prof. Hartmut Grassl

Greenhouse earth

The level of CO₂ in the atmosphere, which has varied between 180 and 280 ppm (parts per million) through successive geological eras, could rise to well over 500 ppm this century unless emissions worldwide are drastically reduced.

Source: National Geographic Society



The injustice of climate change is nothing short of scandalous, and cries out for a fair, globally coordinated policy of climate protection. If the developing world is ever to adapt to the new environmental conditions, it will need the support of the industrial nations.

Climate is our primordial natural resource. People can only survive in significant numbers in places where the sun provides enough warmth and sufficient water is available, the two constituting the basis of our plant foods. Changes in climate caused by shifts in the earth's orbit around the sun have altered that basis at intervals of tens and hundreds of thousands of years.

Although changes in the orbital ellipsis have caused the annual energy the earth derives from the sun to vary by a few per mille at most every 100,000 years, the climate zones have shifted dramatically. This is because differences in the angle of the earth's rotational axis and in the position of the ellipsis in space change the distribution of available energy across the earth's latitudes. Consequently, massive ice sheets have formed and disappeared, causing changes of more than 100 metres in sea levels.

The area which is now Germany has alternated throughout between tundra and glaciation, the mixed deciduous forests found in the current Holocene geological period lasting no more than about 10,000 years. Mankind has therefore had to undertake vast migrations, surviving in decimated communities or, in some areas, dying out completely.

The situation we now face is entirely different. Concentrations of carbon dioxide, the second most important greenhouse gas in the earth's atmosphere, are higher than at any time in man's history. On average, depending on our actions in the 21st century, the global climate will change at least 30 to 100 times faster than would be expected as result of natural processes. The fast-forward version of current, and in future even greater, climate changes: to him that has shall even more be given and from him that has not enough shall a portion be taken away.

Since the industrialised world is largely responsible for the growing pace of climate change, the very injustice of it all is blatantly obvious. The vulnerable, i.e. poor people in developing countries, who have often played a very small part in climate change, have to stand by and watch as their livelihoods dwindle, and their aridified or inundated lands are lost. Migration flows also make it difficult to even partially solve two other related and equally serious issues: the need to reduce absolute poverty and the need to keep a check on population increases in the developing countries. The United Nations Millennium Development Goals for 2015 (to halve absolute poverty and ensure supplies of clean drinking water for all) are hampered by the speed of climate change. It is therefore up to the international community to act now, and organise a climate protection policy coordinated on a global scale.



Prof. Hartmut Grassl, former Director of the Max-Planck Institute for Meteorology in Hamburg and former Head of the Climate Research Programme of the World Meteorological Organisation (WMO), Geneva. He is a member of the foundation's Board of Trustees, and chairs the "Climate change and justice" project committee.

That the December 2007 Bali climate summit kept to the Kyoto Protocol timetable is grounds for hope. Although December 2008's Poznan climate talks failed to produce any appreciable returns, the 2009 summit in Copenhagen certainly looks set to yield tangible results. Emissions in the industrial countries should then be substantially reduced, and the emerging countries will be at least partly integrated into efforts to protect the climate. From the perspective of climate change and justice, it is significant that emissions trading helps reduce the financial burden that developing countries face in having to adapt to climate change. Germany already allocates a major share of the proceeds of its EU emissions sales to the funding of corresponding measures in developing countries, and this gives cause for hope.

Apart from the political and economic aspects, however, we should not lose sight of the ethical issues. Climate protection involves helping the poor, a duty not only of the Christian faith, but of all religions.



Thaw in Shishmaref:
Many communities in Alaska
will be forced to settle
elsewhere in the years to
come. Global warming is
causing the permafrost
to thaw, making the area
uninhabitable. The Inuit
are also losing their land
due to coastal erosion.



Fourth International Microinsurance Conference

Growing demand

Microinsurance offers poor households in developing and emerging countries protection against natural hazards. The extent to which this issue has grown in importance was apparent from the interest attracted by the Fourth International Microinsurance Conference, which took place in Colombia from 5–7 November 2008.

Some 450 experts and practitioners from 50 countries travelled to Cartagena for the first international conference of this kind in Latin America. The conference focused on the topics of regulation, training, technical solutions, and innovative sales channels. Representatives of insurance companies and financial services providers made up the largest contingent, accounting for around two-thirds of the participants – evidence that microinsurance has long since ceased to be seen only as a weapon in the war on poverty, and is increasingly viewed by the insurance industry from an economic perspective as well. The potential target group is enormous: in Central and South America alone, 350 million people find themselves at the bottom of the income pyramid.

Business, not handouts

In his opening speech, Colombia's President, Álvaro Uribe, expressed the hope that microinsurance will continue to grow in popularity. "We need to introduce the concept to the poorest members of society and emphasise that it is the best option for personal risk management – whether for health problems, times of financial hardship or natural catastrophes", explained Uribe. Instead

of going to moneylenders or black-market racketeers, people should use insurance products, he said. Uribe stressed that microinsurance is not charity. "Microinsurance is heartfelt, but it is about business, not handouts."

Colombia is considered to be one of the main microinsurance markets in Latin America. The first microinsurance products were developed here over five years ago. Today, 11 companies offer life, personal accident, funeral expenses and other covers. Property policies are now planned to meet rising demand. Experts attribute the success microinsurance has had in Colombia to close cooperation between the insurers and the authorities.

Regulation — A driving force

The influence of regulation on the spread of microinsurance has been researched by the Microinsurance Network (formerly the CGAP Working Group on Microinsurance) on the basis of studies undertaken in Uganda, Colombia, India, the Philippines and South Africa. These studies showed that the target group for microinsurance stems chiefly from the informal, often non-regulated sector, which accounts for 20% in India and over 50% in Colombia. A further factor is that those who make up this group lack the education needed to understand how insurance works.

Official strategies to tackle these problems range from the introduction of a moderate form of regulation, based on cooperation between insurers, the government and the microfinance industry (Colombia), to making it compulsory for the private sector to offer microinsurance (India). Roberto Junguito, President of the Colombian insurance association, FASECOLDA, spoke out in favour of the Colombian model and emphasised that new rules were not needed. "Even without intervention, the private sector is vigorously working on the development of custom-tailored, affordable solutions to satisfy increasing demand", he explained. That alone would guarantee further growth in this area, he concluded.

Other experts joined Junguito at the conference in calling for the use of incentives rather than enforcement to spread microinsurance – informal must be replaced by formal types of insurance.

The President of Colombia, Álvaro Uribe, inaugurates the conference, attended by more than 450 participants from 48 countries.



15 Straight choice — Insurance or lottery tickets

But one obstacle remains even if the scenarios and products are right. People do not understand the purpose of insurance and the benefits it has to offer. It is interesting to note that those in Colombia's lower-income bracket spend roughly the same on insurance as on lottery tickets, although it has been shown the chances of a return on an insurance policy are much higher. This example reveals how important it is to explain the way insurance works. Steve Boucher of the University of Davis, California, introduced delegates to a game designed to do precisely that (see Spotlight on page 16).

Innovative marketing

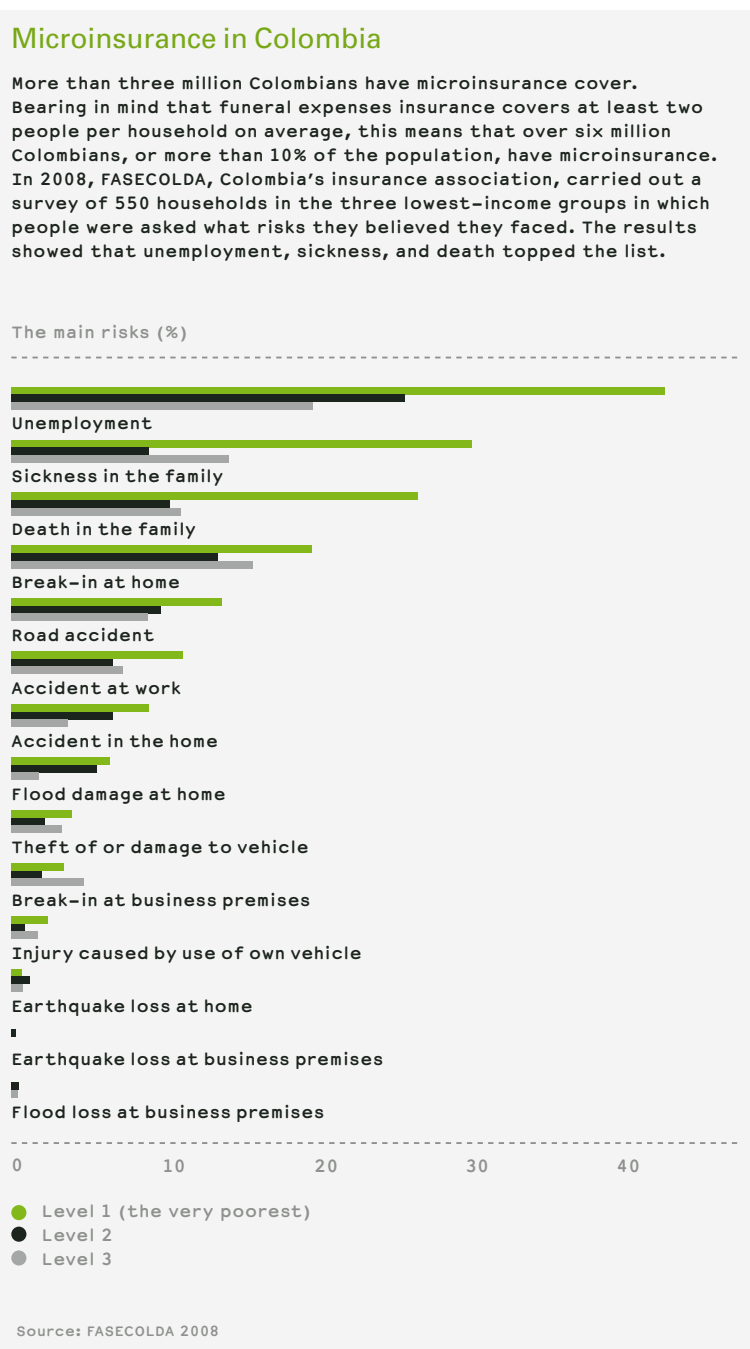
High fixed costs in comparison to premiums still constitute one of the major hurdles. An example showing how innovative distribution channels can help access new client groups and reduce costs is the insurer Mapfre, which is cooperating with utility company Condensa in Colombia. As a result, more than 300,000 families, 90% of whom are in the lowest income groups, pay their insurance premiums with their electricity bills.

The potential of IT solutions to enhance efficiency has yet to be exhausted, but this will involve considerable time and effort. About half of all microinsurance providers surveyed in a study by the Microinsurance Network develop their own software, only 10% obtaining programs from third-party providers. Moreover, there is still technical potential to be tapped in the form of solutions like smart cards. However, the use of new technologies needs to be carefully considered, as the decisions involved have long-term effects, and internal processes will have to be optimised in order to leverage the full potential.

Overcoming the challenges, developing the products

Craig Churchill, Chair of the Microinsurance Network, which co-organised the conference, emphasized at the end of the conference: "We have achieved a great deal. Now it is time for commercial insurers to develop more solutions and to bring these to the market."

The conference in Cartagena showed that, in Latin America in particular, insurance industry commitment to microinsurance is growing. Nevertheless, many challenges remain, costs and the tailoring of products to needs being among the central issues. These problems will be addressed not only by the Microinsurance Network but also by the next International Microinsurance Conference, which is to be held on 3–5 November 2009 in Dakar, Senegal.



Spotlight Insurance — Learning by playing



A new experience:
Peruvian farmers play
a game demonstrating
how crop failure can be
covered by insurance.

Since July 2008, cotton farmers in Peru's Pisco Valley have been able to obtain crop microinsurance from their local Caja Rural Señor de Luren bank to help them cope with massive fluctuations in yield.

If the valley's average yield falls below 1.5 t per hectare, they receive index-based payments. The premium charged for this cover is US\$ 41 per hectare, i.e. 3–5% of production costs.

Peruvian farmers, like their counterparts in other developing countries, have almost no experience of insurance, and find it hard to understand why they should make regular contributions when payments are made only in exceptional cases. Steve Boucher from California has developed a game designed to convince farmers of the advantages of crop insurance. By simulating different yield scenarios it helps them understand the costs and benefits. He presented the results to delegates attending the Microinsurance Conference in Cartagena.

The game consists of several rounds in which participants simulate a situation with and without insurance. Real money is used and the average harvest for the valley (poker chips) and individual yields (lucky balls) are determined by chance.

How much a player receives depends on the combined result of ball and chip. The game teaches players that, although insurance means having less money at their disposal, at least they need have no fear for their livelihoods in the lean years. The Peruvian project showed that potential demand is high once the principle of insurance has been grasped. Farmers can then make an informed choice about whether or not to insure.

Source: Steve Boucher,
University of California (Davis)

For further information
on this issue:

Microinsurance
Conference
[www.microinsurance
conference2008.org](http://www.microinsurance
conference2008.org)

Microinsurance Network
[www.microinsurance
focus.org](http://www.microinsurance
focus.org)

Climate Change, Environment and Migration Alliance established From Knowledge to Action

Migratory movements have always been part of the planet's cultural development. However, the ranks of social and economic migrants are gradually swelling, due to globalisation and population growth. The aim of the Alliance on Migration is to pool migration research and make recommendations for practical action.

According to UN figures, there were 175 million refugees in 2007. They now make up the world's sixth largest population group. Migration has both positive and negative effects, but apprehension is what dominates public perceptions, with population pressures, social unrest, security risks, and diminished opportunities for economic development regarded as the main threats.

Although the migration issue will take on major proportions in the future, politicians and the general public tackle current migration problems at best on an ad hoc basis. Research into this phenomenon lags behind by comparison with other global challenges. For example, following the many disasters that marred the latter part of the last century, the General Assembly of the United Nations declared the 1990s to be the International Decade for Natural Disaster Reduction (UN-IDNDR). Now, action by the International Strategy for Disaster Reduction (UN-ISDR) and policy-makers has led to the important Hyogo Framework for Action. The Intergovernmental Panel on Climate Change has been investigating the increasingly apparent impacts of climate change since 1990, making joint recommendations that have influenced political decision-making at the highest level for some time now.

Consequently, as a matter of urgency, steps must be taken to ensure research into migration is pooled and better coordinated at international level. That alone will ensure that the recommended actions obtain the necessary mandate and carry the required weight.

The Climate Change, Environment and Migration Alliance, set up in April 2008 by the International Organisation for Migration (IOM), the United Nations University (UNU), the United Nations Environment Programme (UNEP), the Stockholm Environment Institute (SEI) and the Munich Re Foundation, marks a first major step in the right direction. The aim of the Alliance is to promote understanding of the migration phenomenon, and to analyse the various push and pull factors involved. It will be an interdisciplinary platform, promoting and initiating international cooperation in this field. The work of the Alliance will focus on

- increasing awareness among politicians and the public,
- broadening the knowledge base,
- offering a neutral and open forum for dialogue,
- giving practical support.

The Alliance on Migration will create a framework designed to improve conditions in potential emigrant countries, an agenda fully in keeping with the foundation's motto, "From Knowledge to Action". Provided we act promptly, resilience will be increased and the risks ahead minimised.

For further information
on this issue:

Environment, Forced
Migration and Social
Vulnerability
www.efmsv2008.org



Presentation of the Climate Change, Environment and Migration Alliance at the International Conference on Environment, Forced Migration and Social Vulnerability (EFMSV) in October 2008. The photo shows the initiators.

Climate change and justice

Appeal for a global deal

In their efforts to make economic headway, the developing and emerging countries are consuming more fossil fuels. Will they, like the industrial states, have to drastically cut their greenhouse gas emissions? What constitutes an ethically responsible climate policy? The foundation discussed answers to this question with partners and experts at conferences organised in connection with the climate change and justice project.

The inherent contradiction between climate protection and economic growth has become the main issue at international climate talks. Experts say that, by 2050, CO₂ emissions must be reduced by between five and two tonnes per head on average to ensure a global rise in temperatures of no more than 2°C. According to Prof. Ottmar Edenhofer, Chief Economist at the Potsdam Institute for Climate Impact Research, "unchecked climate change is dangerous". Once average global temperatures exceed a certain level this could well trip the switch of crucial processes, causing irreversible climate changes.

Climate change is hitting developing and emerging countries harder than industrial nations. Moises Benessene is well aware of this. The Director of Mozambique's National Meteorological Service paints a sombre picture of his country's situation. At meetings on climate change and justice in May and June 2008 that took place in Munich and Tutzing, he pointed out that "weather catastrophes have dire consequences for poor countries." In the long term, stability and economic development are at risk. National and regional disaster prevention schemes like the River Búzi flood-warning system, set up by the German Agency for Technical Cooperation (GTZ) and the Munich Re Foundation, provide some relief.

Benin, where around 70% of the population live off the land, also faces a desperate situation. Climate change is altering the seasons, resulting in lower or higher than average rainfall. Regions are becoming poorer because of a lack of reservoirs. Disputes over rights to fertile land and water are on the increase, whilst towns and cities are under growing pressure to absorb more people.

Regardless of climate change, the developing and emerging countries are insisting that they too have a right to economic development, especially as they bear little responsibility for the increase in greenhouse gases. Between 1850 and 2004, three-quarters of energy-related greenhouse gas emissions were caused by the industrialised nations and only a quarter by the developing countries. However, the burden of climate change now falls mainly on the latter, which raises questions about global justice.

Tackling climate change calls for a joint effort

Prof. Johannes Wallacher of the Institute for Social and Development Studies at the Munich School of Philosophy sees climate change as a global, interdependent, environmental problem that cannot be addressed by countries in isolation. Wallacher: "The solution is for us each to sacrifice our short-term interests in favour of the long-term interests of mankind as a whole." Potsdam Institute for Climate Impact Research Chief Economist Edenhofer, agrees that "climate change is the most crucial issue of public good mankind has ever encountered". He believes we cannot assume that the problems will be solved just as long as everyone makes a small contribution. "That won't work", he warns.

Prof. Ottmar Edenhofer, Chief Economist at the Potsdam Institute for Climate Impact Research, warns of the dangers of uncontrollable climate processes and sets out a fair-energy roadmap for the 21st century – the global deal.



19 Where does the solution to this dilemma lie? Edenhofer believes we should negotiate a global deal in which the world community would follow a detailed energy roadmap, significantly reducing CO₂ emissions and investing more in renewable energy. This would only work if CO₂ emissions carried a proper market price. The industrial countries would then be able to purchase emission allowances from the developing countries. The latter would invest the proceeds in infrastructure, energy, education and health.

Understanding cause and effect

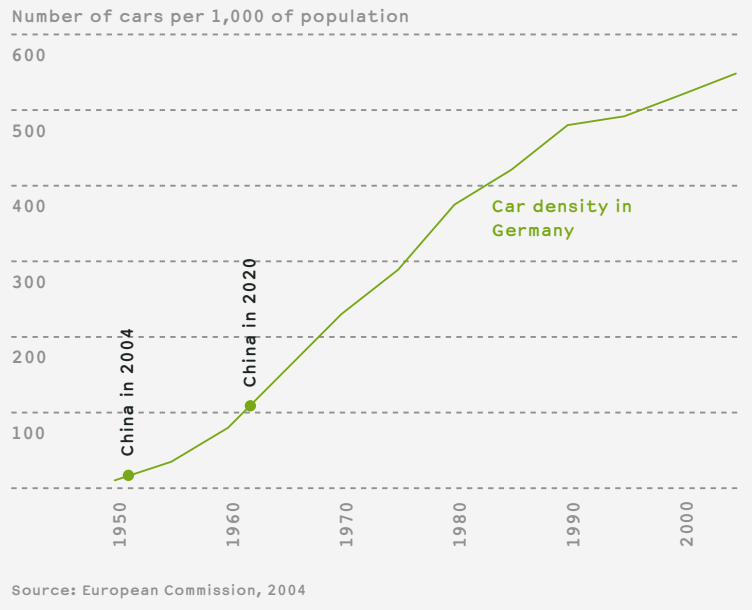
However, despite the plan's evident appeal, it will probably be difficult to implement because many people in the developing world fail to perceive the threat climate change poses. More immediate issues take precedence, such as hunger, poverty, and crime. Speaking at the Tutzing conference, Juan Carlos Villagran of the Institute for Environment and Human Security at the UN University in Bonn explained: "The ice may be melting at the Arctic Circle – but that's an awfully long way from Central America. Many natural catastrophes are regarded as inevitable, or as a form of divine retribution. It is vital that people in the Tropics, for example, realise that, by cutting down the rainforests, they too are contributing in some measure to natural catastrophes."

In addition, emerging nations like China and India are keen to emulate western lifestyles, with trappings such as cars and consumer goods. It will be not be easy to persuade them to reduce their CO₂ emissions and invest in clean energy. Experts are therefore demanding that NGOs be included in the debate as far as possible, to complement current negotiations at government level. This will ensure the global deal is not undermined by vested interests and corruption loopholes.

To sum up, rich or poor, we all have our part to play in protecting the climate. However, two principles must be observed: not only that "the polluter pays" but also that we pay according to our means. We need to act quickly. Our societies, countries and cultures only have a realistic chance of sharing a common future if the benefits and obligations are fairly distributed.

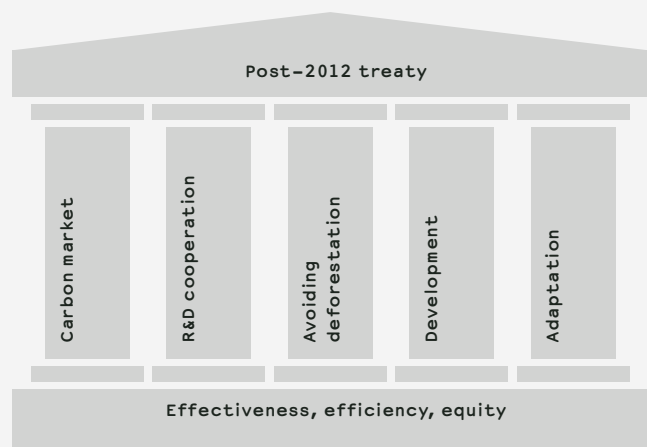
Car ownership: The Chinese lag far behind

Car density in China is on a par with that of Germany, some 60 years ago, just after the Second World War. Now, on average, every other German has a vehicle. If China catches up, damage to the environment will increase.



Components of a global deal

To be globally fair and sustainable, 21st-century international climate policy has to take account of a number of key factors.



Source: PIK 2008

For further information on this issue:

Climate change and justice
www.klima-und-gerechtigkeit.de

Trading on the floor of London's International Petroleum Exchange. Fears of oil shortages drove 2008 prices to record levels.

INTERNATIONAL PETROLEUM EXCHANGE OF LONDON

4759		IPE BRENT		CRUDE		FUTURES		TIME		15:27	
MSK	HIGH	LOW	TIME	VOL	SETT	WTI	CHG	HIGH	LOW	HIGH	LOW
4888	4888	4898	4878	1527	13315	4799	NOV	5200	5200	5192	5192
4810	4810	4830	4767	1527	20541	4739	DEC	5210	5220	5200	5143
4775	4775	4765	4787	1521	6781	4780	JAN	5180	5170	5170	5049
4675	4680	4705	4688	1524	3949	4723	FEB	5097	5095	5105	5019
4617	4617	4645	4596	1522	1536	4766	MAR	5018h	5008	5010	4946
4580	4580	4598	4538	1522	106	4718	APR	4926	4929	4929	4873
4455	4455	4488	4438	1527	1015	4754	MAY	4858h	4828	4852	4800
4320	4320	4320	4320	1513	200	4700	JUN	4798	4785	4821	4738
4167	4200	4218	4167	1527	1414	4650	JUL	4718	4718	4718	4718
3988	3988	3988	3988	1586	395	4708	B/G	8/XHO	8/XHO	8/XHO	8/XHO
3885	3885	3884	3884	1135	228	4664	NOV	10.68	11.22	3.72	3.72
3788	3788	3695	3700	1135	300	4623	DEC	9.92	12.17	4.88	4.88
XV10647	EFP	3421	OPT	25	49774	4638	JAN	9.52	12.70	4.14	4.14
14:27	DUC	Sep	N. Sea gas production up 71 pct yr/yr in Sept			4620	FEB	8.89	12.68	4.12	4.12
14:24	DUC	Sep	North Sea oil output up 12.3 pct yr/yr			3713	MAR	8.52	11.18	3.21	3.21
14:23	Perenco		to improve Gabon's Oguindjo crude quality			3741		(7.45)	(8.42)		
						3775	XHH	LAST	2NDL	HIGH	LOW
						3652	NOV	7120	7138	7347	7045
							DEC	8135	8158	8324	8011



Peak oil — Why the time has come for a re-think

Dr. Werner Zittel and
Dr. Daniele Ganser

Even if current oil prices do not signal a shortage, the oil era is bound to come to an end. If we do not switch to new energy sources in the very near future, we will soon find ourselves caught up in a very real supply crisis.

In times of economic hardship, climate-protection goals have to take a back seat as politicians readjust their priorities and see the additional financial burdens as a further obstacle to competitiveness. After all, first things first! This is to ignore the fact that, far from being a bolt from the blue, the latest economic downturn was entirely predictable. Our intention is to throw light not on what sparked the crisis, the unbridled development of new financial instruments, but on the rapid rise in oil prices. An analysis by economists Jeff Rubin and Peter Buchanan of Canadian Imperial Bank of Commerce showed oil was a key factor, even though high oil prices could not in themselves have caused a recession of such severity.

The crisis is being addressed using the same old models: the problems are first considered in isolation and then ranked in order of importance. We have to stimulate the economy before we can afford the luxury of climate protection, whilst the goal of reducing oil consumption comes a very poor third. However, this is to disregard a banal truism: by definition, non-sustainable structures cannot survive in the long term.

To act sustainably requires no special moral qualities, nor is it a luxury to be indulged only in the good times. It is simply a dictate of reason which assumes a certain planning foresight. Those who do not subscribe to this view should just try maintaining a non-sustainable lifestyle whilst certain key resources are gradually exhausted.

The current crisis clearly shows that this does not work. Blinded by short-term success, industry and consumers have not felt the need to question the long-term basis of their economic actions. Prices have soared precisely because consumers have not changed their behaviour even though oil is a finite resource. We should not be deluded into thinking that limited oil resources are not a problem simply because the collapse in the oil price coincided with the economic crisis.

On the contrary, the situation is precarious from any perspective. A number of experts on this subject, among them Werner Zittel, believe that we have already passed the peak whilst others, including Daniele Ganser, think we will reach it in the very near future.

In the meantime, the German Federal Institute for Geosciences and Natural Resources has also endorsed the Energy Watch Group analysis which concluded that world oil production has been falling since 2006. The International Energy Agency's World Energy Outlook 2008 opens with the words: "The world's energy system is at a crossroads" and concludes: "For all the uncertainties... we can be certain that the energy world will look a lot different in 2030 than it does today."

Viable solutions have to take account of all aspects of the current problem. That means, for instance, supporting the changeover to a sustainable energy sector instead of financing structures that have no future. Thus, ten years ago, the best strategy for car manufacturers would have been to honour their own commitment to build clean, low-fuel cars. Instead, politicians gave in to industry pressure and gradually reduced the targets.

We know that we have to switch to renewable energies and develop efficient application technologies. We also know that we need to base our urban planning on minimal energy consumption. Those are the markets of the future. However, if we stick to the same old behaviour patterns when economic times are hard, it will not be long before we slither into the next crisis, and that really will be a supply crisis.

That apart, changing to renewable energy also has a geopolitical aspect. If we consume fewer scarce resources, the politicians do not need to safeguard access to raw materials. That, rather than the practice of forming alliances to prolong the survival of our own, non-sustainable structures at others' expense, will make a genuine contribution to an active peace policy.

It has long been an open secret that we can change from oil to renewable sources. Pioneering sectors that have made a real commitment in this respect have seen demand for their products steadily grow, even in economic downturns. This shows that making the transition early on also brings financial benefits.

Has production passed its peak?

Production, currently over 80 million barrels per day, will fall in the next 20 years to the point where it no longer meets growing demand.

Source: www.energywatchgroup.org

Oil production in million barrels per day



The Munich Re Foundation's 2008 dialogue forums focused on Munich in the future. The series consisted of five evening debates at which scientists, politicians, and members of the general public had an opportunity to discuss what the future might hold for Bavaria's state capital in 2030. The experts' answers on the most important issues are summarised below.

Munich 2030 dialogue forums Looking ahead

Is Munich dying out?

Asked whether Munich was dying out, Dr. Reiner Klingholz, Director of the Berlin Institute for Population and Development, responded with a clear "No". Nonetheless, even Munich cannot escape the effects of certain demographic trends. Firstly, with increasing life expectancy, the average age is rising, putting pressure on social services, and causing tax revenues to fall. Secondly, birth rates have fallen by about half since the sixties, with corresponding impact on regional development such as the building of schools and kindergartens. Thirdly, society is becoming ever more mixed, Germany being home to growing numbers of people from an immigration background.

Dr. Elisabeth Merk, Director for Urban Planning on Munich's City Council, foresaw even more growth ahead for Munich. On current estimates, the population will pass the 1.4 million mark for the first time in 2012, and could rise still further by 2020. This is because Munich is a net beneficiary of Germany's migration flows. The number of small children and those in the 25–39 age bracket will grow. There will be a 30% increase in the over-75s. The face of society is rapidly changing.



Animated discussion at the dialogue forums. Christian Ude (left), Mayor of Munich and Dr. Karlheinz Steinmüller, futurologist, answer questions from the floor. The forum was chaired by Dr. Patrick Illinger.

What will this mean in terms of quality of life?

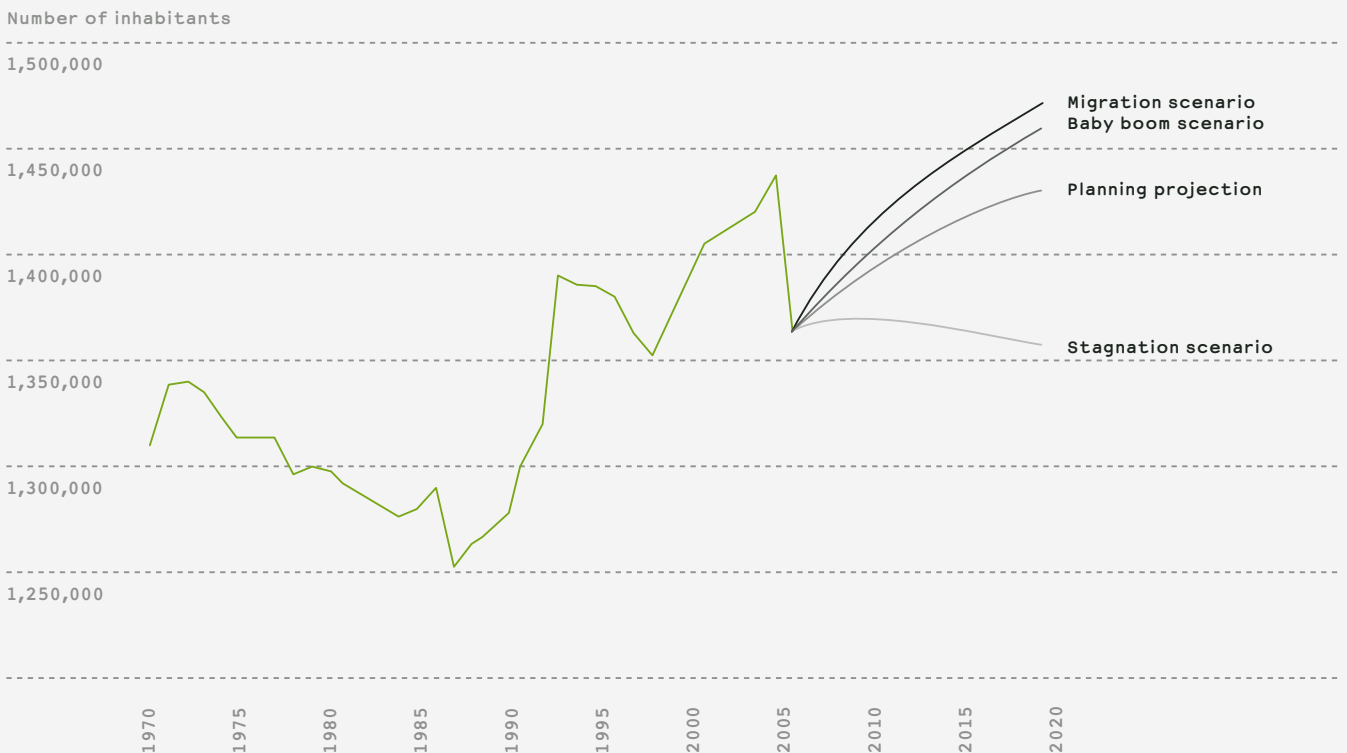
Merk: "We have to create conditions that ensure Munich remains social." The key issue is affordable housing. She believes the city scores low on child-friendliness because of the high cost of living. Consequently, accommodation for families is well up on the list of priorities. "The goal is to keep people from all layers of society in the city." To make the city attractive for older people, consideration will have to be given to the establishment of a viable local mobility scheme, and new forms of sheltered housing explored. Christian Ude, the Mayor of Munich, emphasised the need for a varied city with an abundance of culture. "A good mix is what makes Munich an attractive, desirable location."

Will we manage to sustain our level of prosperity?

There were signs that poverty among the elderly would increase, and that the prosperity of broad sections of the population would be under threat, according to Prof. Meinhard Miegel, Director of the Bonn Institute for Economic and Social Research (IWG) (see also interview on p. 28). Miegel believes "our prosperity cannot be defended – it even conflicts with the earth's capacity for provision and disposal", and he called for a show of solidarity on society's part. The number of poor people has soared in recent years, due to changes in the value creation process caused by globalisation and the unequal distribution of assets. The Head of the IWG, Bonn, commented "those who only have work to contribute are badly off". Without political intervention, in itself a difficult option, these trends would be further accentuated.

Munich — A growing city

Although Munich will not be unaffected by the overall trend in Germany, most scenarios predict a rise in the city's population. Current figures show an increase.



Source: Dialogue forums, Dr. Merk's presentation



What does poverty actually mean in Munich?

Munich is in a fortunate position compared with other cities with regard to factors such as Hartz IV payments, according to Friedrich Graffe, Director of Munich City Council's Social Services. Nevertheless, 177,000 of its inhabitants are living in the shadow of poverty – 30,000 more than in 2000. A survey revealed that people's dissatisfaction over social differences has increased substantially.

The Director of Social Services believes Munich will face three central issues in 2030. Will we be able to keep young families in the city? Will we get to grips with poverty among the elderly? Will we succeed in integrating immigrants into the population? Graffe advocated an active education policy, a reversal of pension cuts, greater social commitment, and a minimum wage. He believed this would "relieve the strain on the social security system".

Does Munich offer adequate educational opportunities?

Globally, the last ten to 15 years have been a time of rapid change, giving rise to competition in the market of global education and research. Prof. Max Huber, Vice-President of the German Academic Exchange Service (DAAD), believes that Munich, like other major cities, will have to overcome a number of challenges. With two first-rate universities, the city has a real competitive edge. Huber: "Quality of life, universities, research centres, and a pleasant environment are in plentiful supply for the families of the specialists working here."

The city's first education report, published in 2006, was also optimistic. Munich's Director of Education, Elisabeth Weiss-Söllner, noted that around 50% of school leavers qualified for university compared with the Bavarian average of 32%. Nevertheless, almost a quarter of the city's pupils leave school with few or no qualifications, and there is a close link between education and social background. An immigrant background is one of the factors involved. The "Vision for Education 2030" sets out guiding principles for a viable, liberal-minded education system, geared to urban needs. All-day and comprehensive schools are the first step. Private schools will not solve the problems. It is up to the state schools to provide high-quality, all-round education. Weiss-Söllner: "However, we also need increased parental cooperation and support."

Will Munich be able to cope with climate change?

What will happen if Munich's average temperatures rise by 2°C? Prof. Manfred Stock of the Potsdam Institute for Climate Impact Research says: "We cannot make precise forecasts about extreme precipitation, wind and hailstorms." The scientific models are still subject to a large element of uncertainty and only reflect a trend.

Joachim Lorenz, Head of Munich's Department of Health and Environment, sees challenges ahead in three main areas: flood defences, the drainage system, and heat islands. In response to the problem of urban warming the city plans to replace heat-absorbent surfaces in areas like Riem, former site of the city's airport. In some cases, steps taken in the past have provided fortuitous solutions. For instance, when the drainage system was built many years ago, the stormwater retention basins were designed with sufficient margin to prevent flooding even in today's torrential downpours. Lorenz: "Restoration of the banks of the River Isar was also originally designed to improve leisure and recreation facilities. But, if the work had not been carried out, the city's Thalkirchen area would have been flooded in summer 2005." Lorenz nevertheless believes the city will face floods more frequently in the future.

Lorenz is also in favour of geothermal power. "It has a great future in Munich." The city has ordered seismic surveys to be carried out to find suitable locations. It is used in Riem and in the new development at Freiham in the west of Munich, whilst hot water from thermal springs can actually be used to generate electricity at Sauerlach, south of the city.

What demands will be placed on the health system?

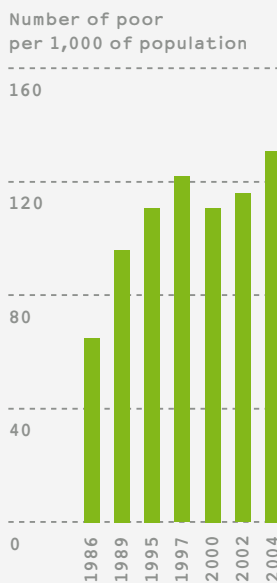
The World Health Organisation (WHO) believes that infectious diseases will claim the greatest number of climate-change victims. This will not be a major concern for Munich. Lorenz: "Schwabing Hospital has a department that specialises in treating highly infectious cases." However, he doubts whether current facilities will be able to cope with large-scale epidemics. Responding to the huge number of heat-stress enquiries received during the record 2003 summer was a huge logistical challenge. New jobs in the field of environmental medicine should help to ease the situation. Stock explained: "2003's extreme temperatures will be the summertime norm in the 40s, and on the cool side in the 60s."

In addition to international experts and representatives of various City Council departments, futurologist Dr. Karlheinz Steinmüller, who graduated in physics and subsequently obtained a doctorate in philosophy, described the very different, multi-faceted Munich of the future. His conclusion gives grounds for hope: "Come what may, Munich is, and is likely to remain, an enviably beautiful city."

The 2008/2009 dialogue forums deal with the important subject of resources. The first forum was held on 21 October 2008. Discussion topics: raw materials shortages, providing enough food, peak oil, energy paths of the future.

Poverty on the advance

Even though Munich comes off well compared with other German cities, the number of poor rose by 30,000 from 11% in 2000 to 13% in 2004.



Source: Report on poverty in Munich 2007

For further information on this issue:

Munich Re Foundation
www.munichre-foundation.org

Interview

Pressure mounts up under the lid



Prof. Meinhard Miegel:
Our prosperity is resting on thin ice.

Friedrich Graffe:
Civil commitment is a vital option.

The growing discrepancy between poor and rich and threat to the prosperity of broad sectors of the population are highly explosive social issues. The Munich Re Foundation asked Friedrich Graffe, Munich City Council's Director of Social Services, and Prof. Meinhard Miegel, Director of the IWG Bonn Institute for Economic and Social Research, about potential solutions.

Where do the causes of this polarisation lie?

Miegel: By the time we realised how thin the ice was on which our system is built, it was too late. All the countries that industrialised early on used to enjoy incredible privileges as they overran the world, tapping into its resources. On the other hand, there was no fair trade because we were producing high-knowledge goods and the others were making low-knowledge goods, which gave us a huge advantage. Now we suddenly find the Chinese and Indians are claiming their share of the world's resources.

Do we need to redefine our role in the global contest for resources?

Miegel: Precisely. We're no longer the ones who call the shots, but are ourselves players. We find this a difficult role to assume, particularly since we're confronted with demographic disruptions and society is neither willing nor able to cope with such developments.

Has the acuteness of the situation got through to the politicians at all?

Miegel: The attitude of the politicians is curious in this respect. They don't in any way deny that the problems exist in open debate. But in terms of galvanising the population into action, they postpone the challenges to a later date.

Graffe: As Director of Social Services, it's somewhat easier for me to identify and address poverty, given my long and close association with the City Council. And we are at an advantage because Munich, unlike other cities, can afford to develop its social services and give additional voluntary benefits to those in need.

What about the willingness to "come clean" with people?

Graffe: Since I am someone who implements the policies, my role is primarily to carry out my duties. Regarding implementation of the Hartz IV labour reforms or dealing with the long-term unemployed, I find the higher up you go the less people are prepared to listen.

If the social divide continues, what will it ultimately lead to?

Miegel: Pressure is mounting up under the lid. The section of the working population worse off now than 20 years ago is increasing. People see the empty promises of the politicians for what they are and know they haven't benefited from the upturn. That produces political discontent – an increasingly difficult situation for a democracy.

What options are open to us? Are the civil society or service-trading schemes a possibility?

Graffe: I don't go along with service-trading schemes because they don't safeguard livelihoods. Also, many people lack the necessary autonomy or skills. However, social commitment is one important way of addressing the confidence crisis issue.

Miegel: You have to do the one without neglecting the other. The foundations have to be underpinned by state support but a civil society could achieve far more than at present, for instance where crèche or day-care facilities are concerned.

Full-length interview
with Prof. Meinhard Miegel
and Friedrich Graffe:
[www.munichre-
foundation.org](http://www.munichre-foundation.org)

 For further information
 on this issue:

Green City Energy School,
 Upper Bavaria
[www.energieschule-
 oberbayern.de](http://www.energieschule-oberbayern.de)

Climate expedition
www.bne-portal.de

World Water Week
www.worldwaterweek.org

Other projects

Green City Climate expedition World Water Week

Green City Energy School, Upper Bavaria

Energy School Upper Bavaria is the name of an educational project launched by Green City e.V., an environmental organisation in Munich. The focus is on exploring innovative approaches for the future, such as sustainable energy sources, efficiency and savings. The Munich Re Foundation supported this educational project in 2008. The Energy School has evolved from the Agenda 21 initiative dedicated to transforming our energy system. Together with the local Agenda 21 team, the Energy School develops and implements energy-related educational projects for sustainable development and climate protection in Upper Bavaria.

Local project sessions make exemplary and viable contributions to promoting sustainability in Munich and neighbouring districts by increasing public awareness of climate protection and sustainable energy use. The aim is to educate children, teenagers and adults on smart ways to transform our energy system, and on the difference this can make for mankind and the environment. Learners receive practical guidance, which enables them to apply the knowledge gained in their everyday lives.

Climate expedition 2008

We again sponsored the German-watch/Geoscopia Climate Expedition in 2008, the ports of call being North Rhine-Westphalia and Bavaria. The appeal of the Climate Expedition is that it combines hands-on technology with fascinating images showing how the face of the earth is being altered by environmental and climate change. The Munich Re Foundation sponsored over 25 project days, designed to bring the message home to 2,500 schoolchildren, and encourage them to play their part to protect the climate. Among the highlights were the action days for the United Nations' Decade of Education for Sustainable Development, held at Borken, North Rhine-Westphalia, on 26 September. The goal of the Decade (2005–2014) in promoting education is to enable people to anticipate, address and solve global problems. The action days on behalf of Education for Sustainable Development, 320 events in all, were held throughout Germany in the week of 19–28 September.

Water and Climate Days — World Water Week 2008

During the 2008 World Water Week in Stockholm, over 150 experts discussed in depth the impact of climate change on the water cycle during two special Water and Climate Days. The delegates included government representatives from Indonesia, Lesotho and elsewhere. Over 30 international scientific institutes and organisations, including the Munich Re Foundation, were involved in organising the event.

A number of recommendations emerged from the discussions. The speakers stressed the need to increase awareness of the impact of climate change among water managers and develop national action plans broken down into individual regional measures. The results and proposals reached at the event will be included in discussions at the Fifth World Water Forum in Istanbul (16–22 March 2009). The annual World Water Week in Stockholm is the largest water conference of its kind in Europe, with 2,300 participants from 130 countries.

Building wells in Kenya:
Many promising development
projects fail through lack
of ownership. Often no one
takes responsibility once
the aid workers have left.



Ownership for a better place

Thomas Loster

Where aid and development projects are concerned, success and failure go hand in hand. Although success depends on a great many factors, projects are almost certain to fail if the ownership element is lacking, or has not been clarified.

Day after day, hundreds of aid and development projects start and finish throughout the world. We have long been accustomed to appeals for donations not only when natural catastrophe strikes but also when aid organisations routinely solicit funding for projects and development work. Business informatics specialist Till Behnke's Betterplace.org has devised a new approach in this area. His platform offers social initiatives worldwide a chance to raise donations by presenting themselves on the internet. Projects range from desks for a school in Golukati, Ghana, to restoration work at Wallwitzburg Castle in Dessau, Germany.

Whilst many donation-backed projects achieve notable success, others may fail miserably due to a lack of follow-up, one example involving the sinking of wells in arid parts of Africa. Experience shows that, once the aid workers have departed, enthusiasm wanes; the wells dry up and fill with sand because no one takes responsibility for them. The German Agency for Technical Cooperation (GTZ), which regularly evaluates its development projects, has a success rate of over 70%. The GTZ says that the crucial factors are planning expertise, the ability to influence the situation, and capacity development, i.e. training partner organisations. If, on the other hand, the target group has not been sufficiently involved in the project and the partner does not accept responsibility, the ownership element is absent and the project is doomed to failure.

Last year, the Munich Re Foundation learnt a number of valuable ownership lessons from its projects in Africa. Despite helping to successfully establish the second River Save warning system in Mozambique, we were forced to abandon plans to extend our fog nets project in Eritrea. The political situation and ownership issues put paid to our efforts. This was all the more regrettable because the technology worked perfectly, enabling hundreds of litres of drinking water to be harvested daily from fog.

In Eritrea, the authorities were the weak link in the essential ownership chain. The political and economic situation had deteriorated dramatically from 2007 on, making it impossible to travel, obtain supplies, and appoint local experts unhindered. A further blow came when staff employed by our project partners were arrested. The project was finally brought to a halt by the sudden disappearance of a headmaster who played a key role in it. We take cold comfort from knowing we were not the only ones facing such problems. Other organisations, including the highly experienced GTZ, were forced to close their offices in Eritrea.

The events in Eritrea show the importance of ownership at all levels. Everyone involved in the project must be aware of and fully behind the objectives during the various stages of the work. The vertical ownership chain in the Eritrean example consists of the pupils, parents, school, community, mayor, district government, water authority, and national government.

The failure of just one link in that chain jeopardises the whole project and can also have repercussions for the horizontal group comprising, for example, young people connected with the pupils or the school.

It takes a lot of effort to ensure ownership. Firstly, you have to promote awareness, and maintain it through training and practice drills. Secondly, you have to formulate disruption scenarios, and make corresponding contingency plans. For instance, in the case of the Mozambican flood-warning system: how will people react if the river does not flood for a period of several years? What will happen to the warning committees once project initiators and sponsors have departed? And what if a key person suddenly leaves the project?

GTZ figures show how important it is to keep track of ownership. After all, even the best-laid projects, for all their time lines, milestones, optimum monitoring and evaluation, are of little avail if the local population does not truly identify with the programme. Till Behnke's vision of a better place will not become reality unless this is taken sufficiently into account.



Thomas Loster is Chairman of the Munich Re Foundation. He has been dealing with climate change and its effects for the past 20 years.

Who gives what?

Monetary aid donated by governments and major NGOs (US\$ bn)



Source: OECD

দুর্যোগ ঝুঁকি হ্রাসে শিশুদের অংশগ্রহণ প্রকল্প
(Children's Participation in Disaster Risk Reduction Project)
বাস্তবায়নে : পি ও প্যান বাংলাদেশ হাতিবান্দা প্রোগ্রাম ইউনিট
অর্থায়নে : ডিপেকো (DIPECHO)



Disaster prevention:
Villagers in Bangladesh
draw up emergency
flood plans.





Massive flood waves regularly wash away the banks of the River Save, threatening many communities in Central Mozambique. This photo was taken at Govuro following the January 2008 floods.

Mozambique flood-warning system In action on the River Save



Above left: All present and correct for the warning drill. A disaster emergency committee reports for duty in Machanga. It carried out a successful evacuation when the River Save flooded in 2008.

Above: Joczabeth Guerrero (right), who acquired considerable disaster-prevention experience in Central America over many years, was to a large extent instrumental in the project's success. She organises training courses and is helping people on the River Save set up the early-warning system.

Left: The new emergency centre at Machanga is equipped with a radio transceiver and evacuation plans.

35 Following positive experience in Mozambique with the River Búzi flood-warning system, the foundation has set up another system on the River Save helped by local partners. The system has already passed its first test.

Torrential rain triggered two flood-waves on the Save in January 2008. Rescue teams in Govuro sounded the alarm on 1 January, a major holiday in Mozambique. It was a case of "action stations" for the disaster emergency committees, which were able to make full use of skills acquired just weeks before. The situation on the Save in Central Mozambique is not the same as on the Búzi. The flood risk stems largely from Mozambique's neighbour, Zimbabwe, where dykes and dams are used to regulate the flow of water and irrigate farmland. Since upstream water-level readings are needed to estimate the downstream flood risk accurately, reliable gauges have been installed at Massangena, close to the border.

The key to the system lies in smooth radio communications. With antennae and radio stations in place, it has been possible since June 2008 for vital data to be relayed between six centres. Water levels recorded at Massangena are analysed in the provincial capitals of Inhambane and Beira, so that if necessary warnings can be transmitted to Govuro, Machanga and other areas under threat. The gauges are a crucial element and Govuro, on the lower reaches of the Save, has 24 in all. With the aid of the gauges, water levels can be tracked from the bank of the river to the village, beyond a small embankment.

Floods can soon transform this very flat region into a vast lake. The District Administrator therefore set up a small emergency centre at Machanga in 2008 as part of a project. The walls are hung with maps, sketches, emergency numbers and water-level schedules; a computer and a radio transceiver stand ready for use in one corner. People realise the importance of contact with the other control units. Daily test transmissions and regular water-level communications have top priority: "Massangena, Búzi, do you read me?" Contact is quickly established via the system's own frequencies. Two motorcycles and a jeep are parked in front of the building. Machanga is ready for action.

Transmission networks in place

The River Save system was officially inaugurated on 15 November 2007. Since then it has been a matter of working towards the project objectives in close liaison with administrators, local emergency committee representatives, and meteorologists in Vilankulo and Caia. Training coordinator Joczabeth Guerrero, from Central America, has already gained a wealth of valuable experience in the field of disaster management. Courses to train teachers, emergency workers, religious leaders, and the local AJOAGO youth organisation in the necessary skills also encourage other volunteers to come forward, thus laying the foundations for an effective warning system.

A small radio station has been set up in Govuro. Enthusiasm for this medium among the population is all the more keen because very few homes possess receivers. AJOAGO therefore decided to include a Central Mozambique flood information service in the radio programme. Regional reports issued several times a week alert listeners to flood risks and outline preventive action.

The final project phase comprises training courses to explain how the flood-warning system functions and to consolidate the work. Liaison talks will be held between the various meteorological institutes and flood and disaster prevention authorities to ensure that the Save flood-warning system, like its Búzi counterpart, is a best-practice model.

Disaster summit: Who will keep the system running?

On 3 October 2008, Búzi District Governor Sérgio Moiane convened a summit at the district government offices. Seven district heads from the Búzi and Save river basins discussed options for developing the flood-warning systems. However, the first item on the agenda was the inauguration of a disaster emergency centre at the offices themselves. Villagers and emergency committees attended the small ceremony at which Dr. Ana Cristina, Head of the National Institute for Disaster Management, Maputo, cut the red ribbon to mark the official opening. Thus, here too, the warning system has acquired a fixed abode, giving it a special meaning for the local population.

The main item on the summit agenda was deciding who would be responsible for developing and maintaining the systems when the project was formally signed off by the Munich Re Foundation and its partners, the German Association for Technical Cooperation (GTZ) and IP Consult. There are still people in remote areas who are not linked to the system, and work needs to be done to fill the gaps and ensure the additional emergency committees receive the necessary training.

Ana Cristina made it clear at the meeting that she believes the responsibility lies with her organisation. Her commitment will continue even after project manager Wolfgang Stiebens from the capital, Maputo, local project managers and Central American trainers have left the region. The summit thus provided a positive answer to the ownership issue. It encompasses national decision-makers, district administrators, and individual flood-warning workers. The latter had a further opportunity to demonstrate how well organised they are during the flood summit.

Interview Maintaining vigilance

In January 2008, even before the Save flood-warning system had been completed, the river burst its banks. Foundation Chairman Thomas Loster discussed the weather disasters at the start of the year with Daly Cumanda, the Head of the Govuro District.

Thomas Loster: In 2007, Cyclone Favio caused severe damage in Central Mozambique. This was followed by Cyclone Jokwe in March 2008. How badly was your region affected?

Daly Cumanda: The north of the country was worst hit by Jokwe, whilst we were left largely unscathed. However, torrential rain in early January caused widespread flooding, and indeed the Save burst its banks on 1 January, an important holiday in Mozambique. Huge lakes formed in no time because the river crosses a wide plain at that point. Following a second floodwave, the area was under water until mid-January.

Loster: How had things changed compared with earlier flood disasters?

Cumanda: Fortunately, well-trained helpers were quickly on the scene. We had started setting up disaster emergency committees in September 2007, as part of the flood-warning project, and there are now more than 20. With the aid of two government launches and two belonging to villagers, we were soon able to evacuate the areas threatened by floods. One of the project managers, Joczabeth Guerrero, an expert from Central America, had clearly done an excellent job in training the committees.

Loster: What conclusions would you draw?

Cumanda: Because we were so well prepared, we were even able to help neighbouring districts, and people were very impressed. Now meetings are being held between the Save and Búzi district administrators to see where we go from here. We need to include as many regional communities as possible. After that, it will be a case of "practice makes perfect". To be certain we're ready for action, we have to ensure people maintain their vigilance.



Daly Cumanda (centre left), District Head of Govuro, inspects spring flooding on the Save.



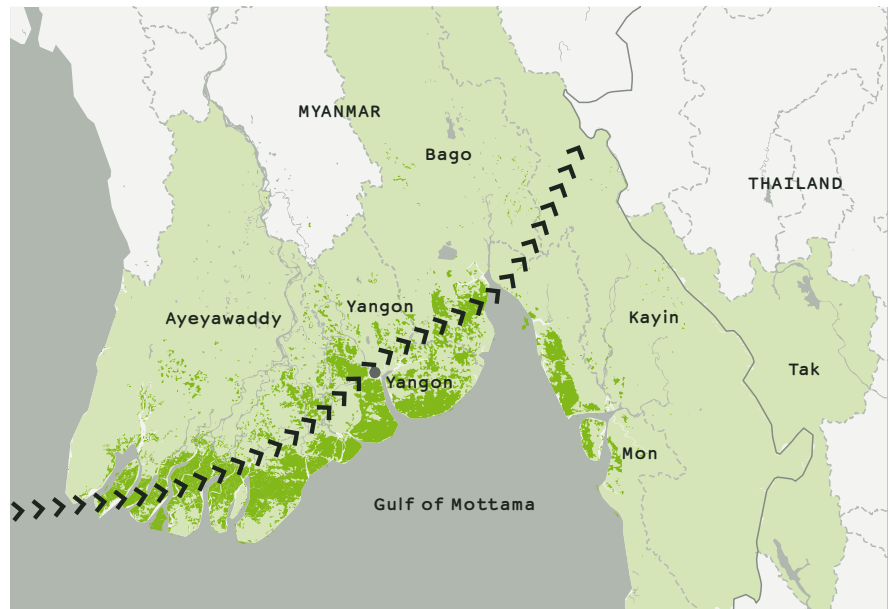
When the river bursts its banks, this very flat area is rapidly transformed into a series of vast lakes. The photo shows the scene at Machanga in January 2008.

Fateful track

On 2 May 2008, Cyclone Nargis made landfall in Myanmar. It caused widespread devastation and 80,000 lives were lost. Worst affected was the Irrawaddy Delta.

- Cyclone Nargis
- Satellite-detected flood waters
- Affected areas

Source: www.reliefweb.int



Cyclone Nargis Emergency relief for Myanmar

In May 2008, Cyclone Nargis laid waste to large parts of Myanmar. To restore drinking water supplies as soon as possible, the Munich Re Foundation supported a project organised by the arche noVa aid organisation. The August 2008 project report confirms that the funds arrived safely.

The tropical cyclone that left a trail of devastation across Myanmar affected over two million people. The disaster area, the Irrawaddy Delta, was virtually cut off from the outside world, making it very difficult for aid to get through. Drinking water, normally obtained from rainwater reservoirs and a number of deep wells, was a major problem. The wells had to be cleaned as soon as possible, and the reservoirs, which were contaminated with salt water and debris, pumped dry to be ready for the start of the monsoon season in June.

At the same time, emergency tool kits, pumps and plastic sheeting were distributed to 1,000 families in Bogale, Papyon and Kawhmu to enable them to build makeshift rainwater tanks. This gave 10,000 people access to clean drinking water. The "Aktion Deutschland Hilft" network helped coordinate the project.

Arche noVa will remain in the field and continue to assist with water supplies, medical care and reconstruction work even after the emergency measures have been completed. The aid organisation and its local partners – the Amara Health Foundation, the Community Development Association and the Kweh-Ka-Baw Clinic mobile hospital – will also carry out a number of medium- and long-term projects.

Aid provided by arche noVa finally reaches cyclone victims in urgent need of food and drinking water.



For further information on this issue:

arche noVa
www.arche-nova.org

Aktion Deutschland Hilft:
www.klima-und-gerechtigkeit.de



The fog nets have to withstand the strong winds that sweep across the plateau. The photo shows two workers inspecting cracks in the supports.



Water harvested from fog is collected in tanks. The yield can be as much as several hundred litres per day during the main fog season.

Fog nets in Eritrea Shadow cast on success

The pilot project proved that the water supply was greatly improved by the installation of fog nets on the Eritrean Plateau. Despite this positive result, continuing the project is currently out of the question due to the political situation in Eritrea.

Villages on the Eritrean Plateau have always had to contend with water shortages. We began supporting the fog nets pilot project, designed to improve the water supply, in 2005. The project, which was initiated by the WaterFoundation Ebenhausen and the Canadian FogQuest company, has been a resounding success. The technology worked, and has been used to supply around 2,500 school-children and 120 families with good-quality water since the 2007/2008 fog season. Yield in the first eight months (800,000 litres) exceeded expectations.

But success did not come easily. Although the project had the official blessing of the authorities, it took months in some cases to obtain the travel permits without which the aid workers were not allowed to leave the capital. This was one of the main reasons for the endless delays. The situation was not helped by rising prices and difficulties in obtaining the necessary materials. There were problems in procuring the vehicles and fuel needed to transport the materials, and vital imports were held up in customs for months on end. Only half of the scheduled 40 collectors were constructed because, in the end, costs were virtually double those of comparable projects in South America.

We are not the only ones to have experienced problems in Eritrea. Due to the situation in the country, the GTZ (the executive arm of the German Federal Ministry for Development and Cooperation) was forced to close its Eritrean office in late 2007 and put its development plans on hold.

Where do we go from here? The WaterFoundation plans to monitor operation of the fog nets and improve maintenance via its contacts with Vision Eritrea. The Technical University of Munich is carrying out a scientific evaluation of the project. However, the current political and economic situation in the country is such that the cost of extending the project would be prohibitive. The Munich Re Foundation is ready to resume its commitment at any time, provided the situation improves, because the technology clearly has the potential to supply 800,000 people on the Eritrean Plateau with water.

For further information
on this issue:

FogQuest
www.fogquest.org

The WaterFoundation
("Wasserstiftung")
www.wasserstiftung.de

Tonga early-warning system Emergency radio network

The last station in Phase One of the new warning system has been linked up. The project, designed to alert the people of Tonga to imminent storms, tropical cyclones, tsunamis, earthquakes, and other natural hazards, was funded by our foundation prize awarded in 2006.

Despite delays in obtaining materials and in carrying out technical trials in the tropical humidity of the Pacific Islands, the system was finally completed in August 2008. Tongatapu, Vava'u and Ha'apai, three islands in the Kingdom of Tonga, are now linked by a radio network which relays vital environmental and weather readings. The project's main objective is to upgrade the existing early-warning mechanisms, but at the same time the network can be used to transfer data of a general nature, and emergency communications have been improved.

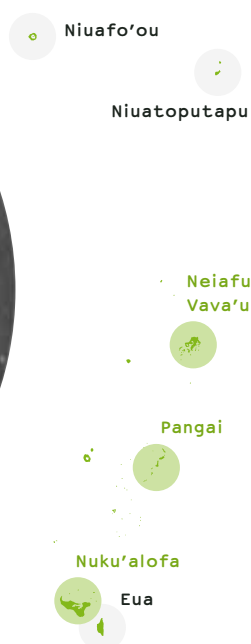
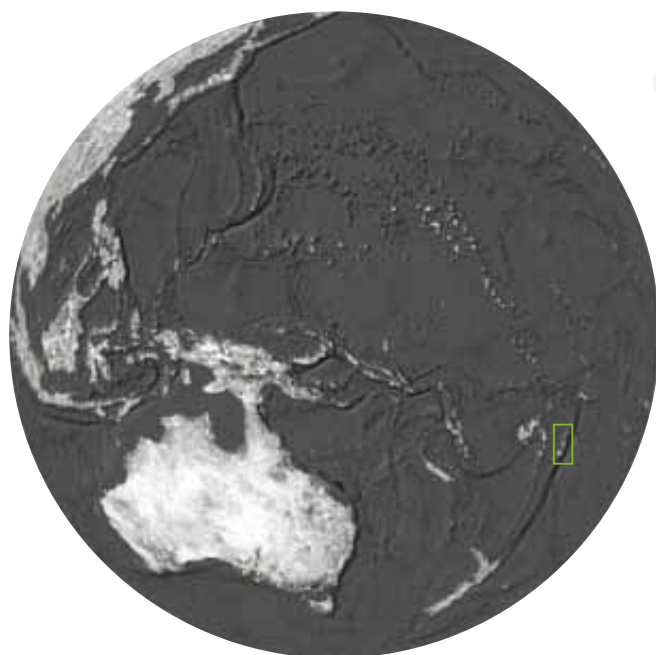
Early warning is crucial to Tonga, the South Sea kingdom being exposed to natural hazards such as storms, tropical cyclones, floods, earthquakes and tsunamis. In the past, the more remote islands have, at times, been completely cut off from the outside world, because the previous, satellite communication system had to be shut down on safety grounds whenever winds exceeded 120 km/h.

As well as enabling information to be relayed around the clock, the new radio frequencies also link Tonga to the RANET (Radio and Internet for the Communication of Hydro-Meteorological and Climate Related Information) Pacific warning system and to EMWIN (the Emergency Managers Weather Information Network).

Constant maintenance and repairs are needed to keep the system running as smoothly as possible in the changeable tropical climate. Local scientists and engineers are given the necessary training in courses organised by the Australian Meteorological Service and the NOAA (the USA's Oceanographic Atmospheric Administration).

Now that the system is up and running, the meteorological service and the National Emergency Management Office are already planning to press ahead with the next stage, which involves installing transmission stations on more remote islands in the archipelago. The Tonga government has already given the go-ahead for extending the system to Niuafu'ou, Niuatoputapu and Eua. If all goes well, other installations will follow, with local funding.

The denser the data network, the more it helps those exposed to the risks. However, the system has also brought improvements for air traffic, the meteorological service and universities, for example, because it relays weather data as well as warnings, thus ensuring Tonga's forecasts are more accurate.



Extensive kingdom

Due to its exposed position, the South Pacific archipelago is prone to cyclones and tsunamis. There are plans to extend the early-warning system, which currently serves three archipelagos.

- Installation completed
- Installation planned

For further information on this issue:

Third International Conference on Early Warning (EWC III)
www.ewc3.org

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Munich Re
(until December 2008)

Angelika Boos
Team Assistant

Thomas Loster
Graduate in Geography, Chairman,
Munich Re Foundation

Martina Mayerhofer
Master of Political Sciences,
Project Management

Dirk Reinhard
Graduate in Industrial Engineering
and Management, Vice-Chairman,
Munich Re Foundation

Eva Stiepel
State-accredited translator,
Project Management and Media
Relations

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Munich Re Foundation
Königinstrasse 107
80802 München, Germany
Telephone +49 (89) 38 91-88 88
Fax +49 (89) 38 91-7 88 88
info@munichre-foundation.org
www.munichre-foundation.org
Letters: 80791 München, Germany

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Editorial team
Thomas Loster, Martina Mayerhofer,
Munich Re Foundation
Andreas Schuck, Munich

Editorial support
Monika Handschuch-Hammann,
Munich
Jana Pia Junghardt, Eva Stiepel,
Munich Re Foundation

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ZG Reproduktionen, Munich

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Page 34

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2008, Munich Re Foundation
Page 36

arche noVa, Dresden
Page 37

WaterFoundation, Ebenhausen
Page 38

Sources

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Page 3

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Page 11

FASECOLDA-FUNDASEG-YANHAAS 2008
Page 15

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Page 19

Prof. Ottmar Edenhofer, Potsdam
Institute for Climate Impact
Research
Page 19

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Page 23

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Page 25

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Page 27

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Page 32

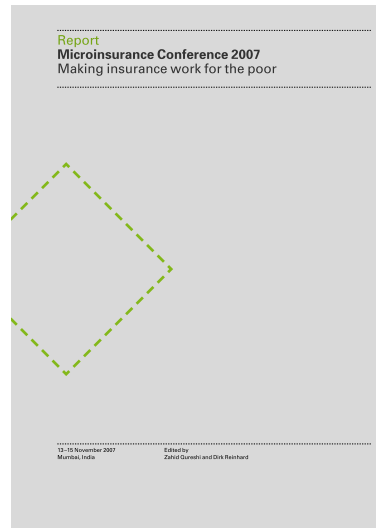
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Page 37

Google Earth
Page 39

Publications

Annual report	2005 report Date of publication 04/2006 Order numbers German: 302-05000 English: 302-05001	2006 report Date of publication 03/2007 Order numbers German: 302-05348 English: 302-05349	2007 report Date of publication 03/2008 Order numbers German: 302-05641 English: 302-05642	
Conference report	Microinsurance Conference 2005 Making insurance work for the poor: Current practices and lessons learnt Date of publication 06/2006 Order number English: 302-05046	Microinsurance Conference 2006 Making insurance work for Africa Date of publication 06/2007 Order number English: 302-05381	Microinsurance Conference 2007 Making insurance work for the poor Date of publication 04/2008 Order number English: 302-05491	
IntoAction	IntoAction 1 Microinsurance Making insurance work for the poor Date of publication 01/2006 Order numbers English: 302-05002 French: 302-05003 Spanish: 302-05004	IntoAction 2 Flood-warning system in Mozambique, completion of the Búzi project Date of publication 06/2007 Order numbers German: 302-05421 English: 302-05422		
welt-sichten	"welt-sichten" magazine Climate change and poverty A challenge for a fair world policy Dossier of the climate change and justice project Date of publication 05/2008 German and English			
Books	Protecting the poor A microinsurance compendium Date of publication 11/2006 Order number 302-05140 Text in English 654 pages ISBN 978-92-2-119254-1			

New publications 2008



20 January, 17 February, 17 March, 21 April
 Dialogue forums on resources

22–23 January
 Ludwigshafener Gespräche (Ludwigshafen talks): Climate change, poverty, and justice

March 2009
 Microinsurance Compendium, publication of the Spanish version "Protegiendo a los pobres. Un compendio sobre microseguros"

2–4 March
 Munich Re Foundation attends the World Bank's regional microinsurance workshop at Kampala, Uganda

Summer 2009
 Feasibility study on Ethiopian fog nets project 2009/2010

26 July–1 August
 Fourth Summer Academy on "Tipping points in humanitarian crises" at Schloss Hohenkammer

16–22 August
 Seminar on climate change and water management at World Water Week in Stockholm

3–5 November
 Fifth International Microinsurance Conference at Dakar, Senegal

November 2009
 Microinsurance Compendium, publication of the French version "Protéger les plus démunis. Guide de la micro-assurance"

2008 environmental performance

Each year, the Munich Re Foundation issues an environmental review giving a breakdown of unavoidable CO₂ emissions caused by the foundation's work.

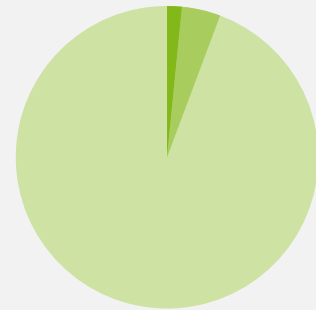
At 1,220 t, total CO₂ emissions were up by 135 t (around 10%) on the previous year. International events, and above all the Microinsurance Conference, accounted for the bulk of these. The 2008 conference was held in Cartagena, Colombia. The rise in emissions was due to significantly higher attendance figures, which are up by 150 compared with the 2007 conference (India). Calculations are based on kilometres travelled per conference participant.

This albeit small rise due to conference activities was partly offset by savings on business trips. Business-travel emissions fell by 10%, one reason for this being that, where possible, journeys were made by train instead of by plane.

As in previous years, to compensate for climate-relevant emissions CO₂ certificates were purchased relating to high-quality climate-protection measures (VER standard minimum).

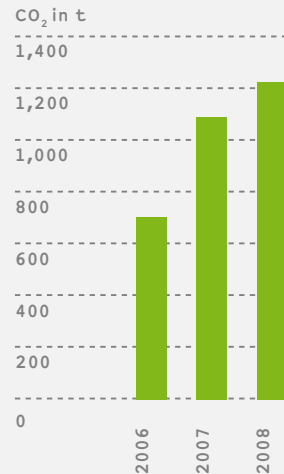
This year we are supporting the construction of a small hydroelectric power station in Guatemala, which will supply the population with clean, renewable energy, replacing the use of heavy heating oil, coal and diesel. The project will also create permanent jobs, thus improving living standards. To ensure the population has lasting benefit from the hydroelectric power scheme, trees will be planted to prevent erosion of the banks. In this way, the project will make a significant contribution to sustainable development.

The Munich Re Foundation's 2008 CO₂ emissions amounted to 1,220 t.



- Office premises 19.3 t
- Business trips 50.5 t
- Events 1,153.7 t

Comparison of the Munich Re Foundation's emissions 2006–2008



Munich Re Foundation
Königinstrasse 107
80802 München, Germany
Telephone +49 (89) 38 91-88 88
Fax +49 (89) 38 91-7 88 88
info@munichre-foundation.org
www.munichre-foundation.org
Letters: 80791 München, Germany



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