2017 report

Munich Re Foundation From Knowledge to Action

Jan Feb

Mar

Apr



January

Start of construction work on 15 new CloudFisher collectors at Mount Boutmezguida, Morocco Page 43

26 January Dialogue forum "Migration – last resort or strategy?" Page 7

16 February Dialogue forum "Migration policy – from freedom of movement to the limits of humanity" Page 7

23–24 February Mobile Insurance Conference in Douala, Cameroon Page 36





1 March Dialogue forum "Environmental and climate change – when homes are lost forever" Page 7

14–16 March Microinsurance Learning Sessions in Hanoi, Vietnam Page 34 4 April Dialogue forum "Integration – win-win for everyone!" Page 7

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1 May Start of the 2017 RISK Award project "EpiNurses" in Nepal Page 20



24 May Presentation of the 2017 RISK Award at the Global Platform for Disaster Risk Reduction in Cancun, Mexico Page 20

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6–17 November UN-Climate Change Conference COP 23 in Bonn, Germany: presentation of projects and publications of the Munich Re Foundation Page 6

13th International Microinsurance Conference

6–17 November

13th International Microinsurance Conference in Lima, Peru Release "Landscape Study Latin America and the Caribbean 2017 – Briefing Note" Page 31

10 November Completing the construction phase of the new CloudFisher collectors in Qameyu, Tanzania Page 47



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Preview 2018

Dear Readers,

Innovation was once more the focus of our 13th International Microinsurance Conference (IMC), which took place in Lima (Page 30). Demand continues unabated: over 400 experts from more than 40 countries again took part in the discussions. Mobile insurance and payment systems are on the rise all over the world. They possess the potential to revolutionise insurance in poor countries.

2017 was dominated by debates around security and refugees. For this reason, we concentrated our efforts in 2017 on migration, flight and integration, also in our own projects. We held the Resilience Academy in Washington D.C. (Page 24) on these subjects, together with 40 young researchers. Our Dialogue Forums in Munich also addressed these topics (Page 7).

Together with our project partners WaterFoundation Ebenhausen and p(e)d world, we plan to set new standards in our fog net projects. In 2017, we entered the final leg of the "Fog Net Technology 2.0" programme. The largest fog net laboratory in the world is about to be completed in Morocco (Page 44), while in Tanzania, damaged, old nets are being replaced with state-of-the-art technology (CloudFisher). Our RISK Award project in India is mainly about women and children who live in slums. Marginalised nomadic communities have been added to this agenda. We launched a new project in India's neighbouring country, Nepal: the RISK Award, which we and the United Nations jointly bestow, went to a Nepalese nursing organisation (EpiNurses). Its goal is to significantly improve health services, in particular for people affected by disasters (Page 19).

And last but not least, our Gibika project in Bangladesh, aimed at strengthening people's livelihoods, is now nearing completion. Extensive training was provided in the south of the country to protect the region's inhabitants during major cyclones (Page 23). And while we are on the subject of training: education is of the utmost importance. For this reason, we have stepped up our efforts in this area (Page 13).

I wish you a stimulating read. Thomas Loster

J. In



Apsara Pandey is Vice-President of the Nursing Association of Nepal, and her team have together developed a new information and communication system. It is intended to improve healthcare management in the country. Page 20



Roger-Mark De Souza is Director of Population, Environmental Security, and Resilience at the Wilson Center in Washington D.C. He advises the US government in the wideranging field of "Resilience" and was the host of our Resilience Academy in 2017. Page 15



Agnes Uwanyiligira received her education as an actuary in England. Despite excellent career perspectives in the western world, she decided to return to her home country of Rwanda. She explains her motives for this decision in an interview. Page 27

Environmental factors are playing an increasingly important role in the decision to migrate. The faster changes take place in the environment, the harder it is to adapt. Crisis regions in Africa are frequently affected.

Climate migration — A human experience that can also have positive effects

Four questions put to Dina lonesco and Mariam Traore Chazalnoel, International Organization for Migration (IOM). The IOM is an aid organisation which works all around the globe. They support people who are forced to migrate, who are underway or who already have reached their destination. Climate-induced migration is a relatively new topic. In that case, environmental push-factors are main drivers to leave.



<u>Mariam Traore Chazalnoel</u> and <u>Dina lonesco</u> believe that migration needs to be included on the agenda of the climate negotiations. They are spearheading an IOM campaign for this purpose.

Since when has climate-induced migration been on the international agenda?

The first references to climate and migration within the global climate negotiations can be traced back to 2010, at the 16th Conference of the Parties (COP 16) of the United Nations Framework Convention on Climate Change (UNFCCC), in the Cancun Adaptation Framework. Fast-forward a few years, and in 2015, at COP 21, the landmark Paris Agreement represented the most

pivotal moment for climate migration, with references to the protection of the rights of migrants and the decision to create a Taskforce on Displacement. It should develop recommendations to address climate displacement as part of the mandate of the work of the Warsaw International Mechanism for Loss and Damage (WIM). In addition, since 2014 the WIM has had a work stream dedicated to climate migration, foreseen to continue at least until 2023. This means that climate migration issues are regularly discussed in the climate negotiations and that this will be the case for the next five years at least – a huge advance considering that a few years ago, migration was not present in the global climate discourse. One important step was in 2016 the convening of the first expert meeting on the topic by IOM and the WIM. The institutionalisation of climate migration opens up possibilities to act at both the policy and operational levels. Beneficiaries are the states facing climate migration challenges as well as the migrants themselves.

What are some hurdles to tackling the issue?

We still face many challenges to develop the global governance of climate migration. The discussions on this issue remain politically sensitive, with difficulties to reconcile the needs of both developed and developing states. The technicalities of climate migration have yet to be sufficiently investigated and it is essential to ensure that existing knowledge and data are shared with and understood by the decision makers. Hopefully, upcoming activities will help to fill these gaps, such as the organisation of an expert meeting by IOM and the Platform on Disaster Displacement in May 2018.

At the operational level, funding is a major issue as climate-related financing is not channeled into the development of innovative climate migration programmes. Finally, the impacts of climate change on migration are contextualised and every country/region needs to develop specific approaches. This also implies the need to bring together the different governmental entities that have a stake in the issue – from climate and migration to planning and agriculture. Such crosssectoral cooperation is not easy to achieve, although existing capacity-building initiatives are often an essential step to initiate a whole-of-government dialogue.

Where are the hot-spots on our earth?

Climate change and its current and future impacts on migration are experienced worldwide. The examples are numerous: Senegalese fishermen migrating to cities due to ocean acidification, communities in Alaska or Fiji forced to plan for relocation due to coastal erosion, rural to urban migration in Central Asia fueled by climate impacts on rural livelihood, storms in the USA displacing thousands of people, cities in Asia threatened by sea level rise, nomadic populations in East Africa facing desertification or droughts in Mexico or Peru leading to internal and international migration. Climate migration is a truly global issue, as outlined in the Atlas of Environmental Migration – a publication that provides case studies from all parts of the world. What solutions can we offer to people whose livelihoods are lost due to climate change?

At IOM, we strive to develop comprehensive solutions for people to stay, solutions for people on the move, solutions for people to move, and solutions for people who have already moved. Through IOM projects worldwide as well as the work of governments, civil society and the UN system, we have dozens of examples of good practices on how to manage climate migration, such as: investing in climate adaptation or green jobcreation targeting areas with high emigration rates (helping people stay); green job creation and training programmes for migrants in transit to encourage voluntary returns (helping people on the move); facilitated labour migration schemes (helping people to move); and projects that help migrant communities abroad to invest in climate adaptation in their countries of origin (solutions for people who have moved). We also need to better plan for the relocation of people who cannot remain in their degraded environment.

In addition, many actors are working on climate migration from different perspectives such as gender, protection, land rehabilitation, agriculture, youth, human rights, labour and development. There are entry points in different communities of practice to develop solutions. Of paramount importance is the need to acknowledge that migration is a human experience that can also bring positive effects for the migrants and their receiving communities. A tent city in Southern Sudan offers shelter to hundreds of displaced persons. Some of them have flown from unrest in the country, others are no longer able to till their fields due to climate change. It is often a combination of several different factors that ultimately forces people to leave their homes.

Climate change and education



2017 dialogue forums

"People on the move – Back and forth and back again?" Migration as a major challenge: scientists and policy experts discuss about migration and integration

Munich, January - May 2017

5 events with over 1,000 participants



Dialogue forum special

"Volunteer work for refugees" Dialogue forum special for pupils, trainees and students

Munich, 16 May 2017

100 participants

Project partner: Strascheg Center for Entrepreneurship at the Munich University of Applied Sciences Munich

"If living spaces become uninhabitable – What will the future hold for the world, Germany and Munich?" Dialogue forum special within the Klimaherbst München 2017

Munich, 12 October 2017

80 participants

Project partner: Münchner Klimaherbst 2017





Presentations on foundation's topics

65 specialist presentations from the foundation staff at universities and schools, at conferences and other events

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Education for sustainable development is key for climate-sensitive behavior and should be learnt from an early age.

Energy School Munich



School projects

Energy School Munich

Munich, 2016/2017 school year

500 participating pupils from primary and secondary schools Project partner:

Green City e.V.



Joint university projects

University of Applied Sciences Munich: Seminar on "Water, climate, environment – sustainable management strategies for global challenges"

Munich, ongoing seminar in winter and summer term

15–18 students each term

Eberswalde University for Sustainable Development: Themed week of the "Global Change Management" Master's course

Munich, 3–7 April 2017

20 young scientists

Bonn-Rhein-Sieg University: Short Course "Climate Risk Insurance" in collaboration with the World Bank and the UNU

Sankt Augustin, 6–8 September 2017

10 young international scientists

Seminar "Introduction to microinsurance"

Bonn, 20 December 2017

15 participants

United Nations University Tokyo: Seminar "Climate Risk Finance and Insurance"

Tokyo, 30 November – 1 December 2017

20 young scientists, Master and doctoral students (PhDs)

UNU-EHS – University of Bonn Joint Master: Seminar "Climate Risk Insurance"

Bonn, 7 December 2017

25 international Master students



Stefan Rebmann, Social Democratic Party (SPD), talking to Michael Reder from the Institute for Social and Development Studies (IGP). The development experts explained what solutions are available to people who lose their homes due to climate change.

2017 dialogue forums People on the move — Back and forth and back again?

Even though significantly fewer refugees and migrants arrived in Europe in 2017 than in previous years, migration remains the central political and social challenge of the 21st century. In Munich Re Foundation's 2017 dialogue forums, renowned experts from science, politics and NGOs spent five evenings discussing the opportunities and risks involved.

The cooperation partner for this series of events was the Institute for Social and Development Studies (IGP) of Munich's University for Philosophy. The topics ranged from reasons for fleeing and the influence of politics on migration movements to the possibilities of integration and voluntary work. To what extent does the support actually reach the migrants and what does volunteer involvement achieve? These questions were addressed in another dialogue forum organised specifically for students, in cooperation with the Strascheg Center for Entrepreneurship at Munich's University of Applied Sciences. As part of the annual "Münchner Klimaherbst" programme held by the Netzwerk Klimaherbst e.V., the foundation also hosted a dialogue forum together with the publishing house oekom verlag which examined the relationship between climate change and migration (Page 11). As always, a detailed summary of the dialogue forums is available on our website and in our Positionen 2017 publication. Some key insights that emerged in the often heated discussions between experts and the audience are provided in the following.

No improvement in sight

At the end of 2015, one in every 113 people worldwide was fleeing from their home. "Most of these approximately 65 million people are displaced in their own country, only some 21 million travel across borders", said Sophia Wirsching from the Bread for the World aid organisation. Germany and Europe only experience this to a small extent, the majority of these migrants (86%) live in developing countries. The flow of refugees is not expected to come to a halt. On the contrary: "The driving forces behind migration will increase in the coming decades and will differ in composition from today", says Petra Bendel of the Friedrich-Alexander-University of Erlangen-Nuremberg. "A great challenge will approach us, soon." According to estimates by the Red Cross, the number of climate-induced migrants alone could increase fivefold, from almost 40 million to 200 million between 2010 and 2050. The strong population growth will make matters worse - especially in Asia and West Africa - according to Reiner Klingholz, Head of the Berlin Institute for Population and Development. "One of the main problems is that the labour force is growing faster than the number of jobs, so that young people see no prospects for their lives", he explained. He expects the number of inhabitants of some countries in Africa and Western Asia to triple in the coming decades, which will cause considerable problems in supplies for the people. We must accept the fact of migration and flight movements being a normal condition of our times. Ultimately, they are a reflection of the pressing global challenges.

Hotspots of migration





"Displacement is a daily routine: 21 million out of 65 million displaced persons worldwide are transborder migrants."

Sophia Wirsching migration and development consultant in the Human Rights and Peace Department of Bread for the World

Germany is shrinking





"Germany's population is shrinking. The question must not be yes or no to migrants, but rather how to deal with the situation."

Dr. Reiner Klingholz Chair of the Berlin Institute for Population and Development

Original graphic in Positionen 2017, page 9; Source: Federal Centre for Political Education

Germany will become extinct without migration

Despite all the concerns that have arisen out of the refugee and migration crisis, one should not lose sight of the positive aspects. As in many other Western countries, there have been more deaths than births in Germany for decades. Given an almost unchangingly constant birth rate of 1.4 children per woman and a moderate increase in life expectancy, the number of the total population would shrink to about 60 million people by 2060, pointed out Reiner Klingholz of the Berlin Institute. Demographic change would not only lead to a shortage of labour but social systems would also face serious challenges.

The expert immediately went on to cite an important reason for immigrants increasingly encountering rejection: "Our fears arise from living at an extremely high level of prosperity and safety. We therefore have more to lose than African countries like Sudan, Nigeria or Congo, which currently host the largest number of refugees."

Even though we actually should be used to dealing with migrants. "Germany has been characterised by immigration for centuries. Since 1945, we have had various integration experiences", emphasised sociologist Jürgen Micksch. Crises that occurred repeatedly in social interactions have been successfully overcome through joint social commitment. "Germany and the EU should consider themselves more strongly as immigration countries", advised Kilian Kleinschmidt, former manager of the UNHCR refugee camp Zaatari in northern Jordan. As an example he identified Canada, which has an own immigration minister. A fundamental change in recruitment and integration practice has made immigration policy a central component of economic and social policy in this country. "If we pursued the same path, we would escape the narrow-minded way of thinking. To some degree our current system pressures people to abuse the asylum laws, because they perceive this to be their only chance of survival."

Isolation instead of solidarity

It is therefore all the more regrettable that the international solidarity in accepting refugees is falling. Even within the EU, which is actually committed to common values, many countries are trying to pass the buck of their responsibilities on to others.

Out of the more than 1.2 million people who applied for asylum in the EU member states for the first time in 2016, Germany accepted 60 %, followed by Italy (10 %) and France (6 %). In countries where the governments are following a strict anti-refugee policy, asylum numbers are declining significantly. "For the EU, the question is whether the community will integrate more strongly in terms of domestic politics or revert to a multi-polar system," stated EU Commissioner for Migration, Matthias Oel. To limit immigration, the EU concluded an arrangement with Turkey in 2016 and agreed to cooperate more closely with Libya. An approach that has not met with general approval. "So-called safe countries of origin need to be subjected to a human rights check. The accommodation of migrants also needs to be improved through consistent monitoring", demanded political scientist Petra Bendel. In Libya, for example, neither of these things are guaranteed. It is also important to fight the causes of flight at the roots. In this case, migration policy on its own can achieve very little, but must work closely together with foreign and development policy and with peace and conflict research.



Matthias Oel from the EU Commission described how difficult it is at present to reconcile the rights of climate refugees with international legislation.



A detailed summary of the 2017 dialogue forums can be found on our website and in the Positionen 2017 publication.

→ www.munichrefoundation.org/home/ MediaCentre



The map from the atlas of environmental migration depicts traditional migration routes in grey, and shows how relevant they still are today. New hotspots are marked in red. People are increasingly fleeing from these areas due to grave environmental changes.

Dialogue forum special "Münchner Klimaherbst 2017" If living spaces become uninhabitable — What will the future hold for the world, Germany and Munich?

The United Nations expect that climate change will trigger massive migration movements. The first people to feel the consequences of rising sea levels, severe storms or droughts are the poor and marginalised people in developing countries. Dina lonesco, from the International Organisation for Migration (IOM), emphasised that it is therefore all the more important to increase awareness of migration problems. One major obstacle is that there is still no generally accepted or even legally binding definition for environmental migrants.

It is therefore hardly surprising that it is difficult to estimate the number of future environmental migrants. Some facts, nevertheless, are clear: "Twentysix million people lose their homes every year due to natural disasters and environmental changes - three times more than those displaced by conflict", explained lonesco. Experts largely agree that migration is set to increase because of environment-related factors. Global agreements such as the Paris Climate Agreement, the Sendai Framework for Disaster Risk Reduction or the 2030 Agenda for Sustainable Development take this into account and refer explicitly to migrants.

The business world is also concerned about the impact of climate change: "About ten years ago already, Munich Re realised that climate change must be seen as a strategic challenge that has an indirect impact on business", admitted Ernst Rauch. He heads the Climate and Public Sector Business Development division of the reinsurer. One way of contributing to solving the problems is to make the reinsurer's knowledge and experience available to other countries. The insurance industry is also involved in specific projects such as the InsuResilience initiative launched by the G7 states in 2015. It was aimed at providing 400 million poor and vulnerable people in developing countries with access to insurance against climate risks by the year 2020.

Meanwhile, in far-off Europe, politicians are now looking for ways to cope with the expected streams of refugees. "The scaremongering that is some-

Dialogforen



For further information on this issue:

→ www.munichrefoundation.org/home/ DialogueForums/ 2017DialogueForums

times practised in this context is dangerous", Dina lonesco warned.

The consequences of climate change and environmental migration are the major challenges of our time. We therefore urgently need to find rules that apply across national boundaries and comply with human rights and international law.



Children attending the workshops of the Energy School Munich can use electricity metres to measure the power consumption of different household appliances. They also learn about the importance of the environmental efficiency class for the savings potential of the appliances.

Munich Energy School Experiencing energy and climate protection at first hand

Researching, experimenting, experiencing: pupils attending the exciting workshops of the Energy School Munich learn everything about sustainable power generation, energy conservation and climate protection. The Green City e.V. environmental organisation has been working towards greater sustainability in education since 1990 – with a lot of success. For further information on this issue:

→ www.munichrefoundation.org/home/ EducationClimateChange/ EnergySchoolMunich

 \rightarrow www.greencity.de

The goal of Green City's environmental teachers is to introduce the adults of tomorrow at an early age to topics that are relevant for the future, such as climate protection and energy consumption, and to motivate them to use resources and energy consciously and carefully. Even the youngest students are already able to conserve energy.

The environmental education team comes to elementary and secondary schools in Munich for several days because they usually have less access to these topics than grammar schools. Amongst others power metres are part of the programme, along with an energy bike and a solar cooker. Then class begins: the children can experience how much muscle power is needed to charge their mobile phone at first hand on the energy bike. They discover how much energy is packed into the sun when they cook tortellini on the solar cooker. And they discuss how much electricity they and their parents can save at home, and where our energy actually comes from. The pupils are very eager to participate and enjoy taking part. Equipped with practical energy conservation tips, the newly trained young "energy consultants" often motivate their parents and siblings at home to pay more attention to sustainable behaviour and active environmental protection in everyday life.

Parallel to the workshops, the teachers integrate the contents of the project days into their lessons. Green City provides teaching material such as worksheets, experimentation guides, films and solar modules. The "Energy with a Future" workshop is specifically aimed at the 7th and 8th grades of secondary schools, and addresses not only the issues of climate protection and energy but also professions in the field of renewable energies and sustainability. This has already made the difficult decision of choosing a career easier for many pupils. In the workshop, they get to know new professions – such as energy consultant – and are motivated to make a conscious decision for a sustainable career when it is their turn to choose an occupational education.

As in previous years, Munich Re Foundation once again supported the Green City project in 2017. Some 500 pupils from Munich took part. A huge success, not only for Green City but also for us, as the development of energy-sensitive behaviour at an early age paves the way for living responsibly in the future.

Joint university projects Global Change Management and Climate Risk Insurance

Students from the University of Eberswalde present their findings to a jury of foundation and Munich Re staff after a week of research into the relationship between climate, insurance, development cooperation and agriculture.

Eberswalde University for Sustainable Development

The world keeps on turning. It is constantly developing and changing day to day. This is nothing new. But what is different nowadays is the speed at which things are changing. Particular skills are needed to comprehend and monitor these changes in a proactive way. They include a willingness to innovate, interdisciplinary knowledge, and a sustainable view of the world. And this is precisely what the course in Global Change Management at Eberswalde University tries to impart. Every year, the Munich Re Foundation invites some 30 Master's students to come to Munich. Over the course of an intensive week of seminars, we discuss various global issues with them and with colleagues from Munich Re. These include subjects such as "agricultural insurance and food security - how can they co-exist?" and "climate change risks in the investment portfolio". The students work out solutions and present them to a panel of specialists.

Bonn-Rhein-Sieg University of Applied Sciences

It is frequently poor people who are worst affected by the impacts from climate change. They live in hazard regions, which increases their risk exposure, and they cannot afford the necessary adaptation measures, such as more stable houses, dykes, dams, irrigation systems and much more. In turn, this increases their vulnerability. Climate risk insurance that is specially designed for lower income groups can offer a solution to this dilemma. A fisher on the Caribbean coast with such a policy can expect a payment immediately after a hurricane, enabling him to repair his boat. In the Master's programme, Risk Management in the Context of Climate Change, we are investigating in seminars at the United Nations University in Bonn and the Bonn-Rhein-Sieg University of Applied Sciences exactly how climate change and finance instruments can interact.



Matalena Telea and her cousin Pricilla paddle through a reforested mangrove swamp in Samoa. Environmental systems can have a significant protective function in combating increasing sea levels and storms.

1.40

What does climate change mean for islands?

Climate change is a complex and time-sensitive challenge for all nations. For small-island developing states (SIDS), the implications are particularly dire. Their geography makes them inherently susceptible to natural disasters and other geological forces, including rising sea levels, intensifying storms, and degrading ecosystems.



Roger-Mark De Souza

Islanders are some of the first people to feel the effects, such as rising sea levels and soil salination. They need to take action now.

Moreover, climate-induced shocks have fastspreading impacts across closely coupled terrestrial, coastal, and marine ecosystems. These physical factors, when combined with population growth, concentrated development (particularly on the coasts), and economic dependency on natural resources, make small-island communities immensely vulnerable to the effects of climate change.

This heightened exposure to environmental risk has prompted SIDS to advocate for ambitious climate goals and adaptation innovations. Leaders from the Caribbean and Pacific islands are pressuring the international community to limit global temperature rise to 1.5 degrees Celsius. Most islanders also have a long track record of adapting to extreme weather. In building future resilience, the ability of island populations to overcome environmental adversities – along with their determination to resist a worsening trajectory – can be a vital source of inspiration for global climate action. Yet, island nations are still a long way from securing their social, economic, and physical infrastructures against the intensifying impacts of climate change. The current focus on increasing resilience offers many opportunities, but capitalising on them will require support from both the international and local communities, as well as tightly coordinated efforts across a broad range of stakeholders.

Preparing to move: Migration as an adaptation strategy

While natural disasters can temporarily displace coastal residents, individuals facing existential climate threats might seek more permanent refuge in relatively safer countries or communities. In both situations, relocation is used as coping mechanism. Can migration be a positive adaptation strategy?

The relationship between migration and climate change is not clear-cut. The Marshall Islands Climate and Migration Project, for example, has found that climate change is not the primary driver of migration from the islands; rather, concerns about livelihoods, economic opportunity, food security, and overall well-being largely influenced residents' decisions to leave for the United States – and most express a desire to return to the islands in the future. Moreover, many migrants send remittances to their family members in islands, which provide funds that may be used to make vulnerable coastal communities more resilient. Examining the socio-economic links between migration and climate change can illuminate ways we can use deliberate planning to strengthen the adaptive aspects of migration.

More specifically, mobility policies that encourage flexible employment regulations and community engagement in receiving countries can help displaced people and migrants choose positive relocation options. Building trust among adjacent coastal communities and between neighbouring countries is vital to ensure that policies in both source and destination areas are inclusive and support positive adaptation. Despite the inherent vulnerabilities of assimilating to a new way of life, preemptively preparing for relocation – instead of risking forced displacement – can empower islanders to choose their own destiny and set their own course on a more resilient path.

The politics of risk: Community-driven resilience vs. corruption

The political will and financial support for addressing climate risks is growing within many island communities. However, key challenges include the lack of transparency and inclusivity throughout the multiple stages of sustainable development. As international funding to SIDS increases as a result of COP 21 commitments, so do the risks of corruption. Islands need political frameworks that reify rule of law and strengthen accountability among public and private actors to ensure that funds are being appropriately allocated to projects that enhance resilience, rather than support the interests of those in power.

Community-driven resilience initiatives are one way of preventing power imbalances from directing the flow of financial resources toward ineffective solutions or corrupt actors. Humanitarian and development efforts that encourage community members to shape their own resilience agenda can increase citizens' access to the decision-making process. Community-led projects can also help identify where losses and damages are likely to occur, address multi-dimensional sources of vulnerability, mitigate context-specific climate risks, and stimulate innovative strategies that offer co-benefits for both, people and the environment.



Roger-Mark De Souza is Director of Population, Environmental Security, and Resilience at the Wilson Center in Washington D.C. He was born in the Republic of Trinidad and Tobago and has first-hand experience of the challenges posed to island states by natural hazards. Adi and her brother Waisake live in Fiji. In 2016, Cyclone Winston tore across the small island state with full force. They were only able to reach safety in a shelter with great difficulty. Precautionary measures are becoming increasingly important, since climate experts predict that the intensity of tropical cyclones will increase in certain regions. Project overview

Disaster prevention and resilience



RISK Award India

"Community Self-Assessment and Planning in Pune"

March 2015 – December 2017 Project partner: AIILSG



RISK Award Nepal

"EpiNurses"

May 2017 – April 2019 Project partner:

Nursing Association of Nepal (NAN)



2017 RISK Award

Awarding the 2017 RISK Award at the Global Platform for Disaster Risk Reduction

Cancun, Mexico, 24 May 2017

Project partner: UNISDR, GRF



Gibika

"Livelihood resilience for Bangladesh"

September 2012 – June 2018

Climate change adaptation and cyclone warning system

Project partner: ICCCAD, UNU-EHS



Innovation plays an

disaster prevention.

2017 RISK Award

important role in efficient

Capstone Conference Resilience Academy

"Enhancing resilience to minimise Loss and Damage – Providing knowledge for the UNFCCC"

Washington D.C., USA 16-20 October 2017

40 participants, 20 countries: politicians, scientists, journalists and NGO workers

Project partners: ICCCAD, UNU-EHS, Woodrow Wilson Center for International Scholars (WWCIS)



Resilience Academy – From knowledge to action

"New bricks for Bangladesh"

August 2016 – June 2017

Project partner: Building Pioneers



After the major earthquake in 2015, many people in Nepal had to flee to tent cities because their homes had been destroyed. The situation was often particularly difficult for children, as there was only limited access to schools and good medical care.

RISK Award and Resilience Academy Standing up to disasters

Climate change, natural disasters, war and violence can destroy a person's livelihood forever. People react by taking flight and migrating. The three examples below demonstrate Munich Re Foundation's efforts to offer uprooted people new perspectives, and show its research work on migration flow management.

Disaster prevention

RISK Award Nepal EpiNurses — Improving the healthcare system

On 25 April 2015 Nepal was hit by a devastating earthquake with a moment magnitude (Mw) of 7.8. Thousands of buildings collapsed, whole valleys were cut off from the outside world and infrastructure development was set back by years. Almost 9,000 people lost their lives, over 22,000 were injured. At that time, no one imagined that this was only the beginning of a disaster that would last until today. Many of the people affected are still living in the most difficult conditions imaginable and in extreme poverty. Although international aid was enormous at the beginning, the lack of risk management in the communities and the often poor organisation lamed a rapid response to the disaster and encumbered relief efforts, as funds could often not be used effectively. Also, many of the donations that were promised at that time have still not been paid.

To accommodate the large numbers of displaced persons from the disaster areas, tent camps were built that were intended to cater thousands of people for a matter of weeks. Twenty-four camps were set up in the nine affected districts, including the capital city, Kathmandu. However, it soon became evident that many towns and villages would no longer be habitable in the medium term, as the reconstruction measures would take a long time. Some of these emergency housing solutions are therefore still being used to this day.

However, these camps are not geared to long-term use as housing. While water and food supplies work reasonably well, sufficient electricity and education for internally displaced people is much more difficult to organise. The health care situation is particularly precarious. This is where the 2017 RISK Award comes into play. It was awarded by the foundation and its partners to a project of the Nursing Association of Nepal (NAN) in May 2017.



The 4th RISK Award was presented in May 2017 at the United Nations Global Platform for Disaster Risk Reduction in Cancun, Mexico.



Sakiko Kanbara (left) is a disaster risk adviser from Japan. She has developed an online-based health monitoring system. She is advising Apsara Pandey (NAN) about implementing a similar system in Nepal.



Successful disaster risk reduction begins at local level. With its prize money of €100,000, the RISK Award promotes new concepts in the area of risk reduction and disaster management to increase the resilience of communities. We award the prize together with the United Nations Office for Disaster Risk Reduction (UNISDR) and the Global Risk Forum (GRF) Davos. For further information on this issue:

 \rightarrow www.riskaward.org



The health service in Nepal depends mainly on the support of a large number of nurses. In a lot of places there are no trained doctors or hospitals. The 2017 RISK Award will provide the budget for advanced trainings for the nurses and for a new digital communication and information system.

NAN aims to improve emergency planning in the country's healthcare system through an innovative approach of data collection. In the short-term camps, it is sufficient for doctors and nurses to set up medical wards without creating patient files. However, this changes when people cannot return home for months or even years. In that case, the camps inevitably become permanent facilities with an inadequate and inefficient medical infrastructure. This is a real problem, not just for the doctors and nurses who are treating the patients. These shelters are wide open to new risks, such as typhus, cholera and other gastrointestinal infections which can spread easily under such conditions.

Nurses need comprehensive training and appropriate technology to cope more efficiently with this situation. The NAN project addresses this problem. Its goal is to train health workers as EpiNurses (Epidemiology and Nurse) based on the example of the nursing system that has already been implemented in Japan. EpiNurses learn how to create a digital patient file, take stock of medication supplies and network with other EpiNurses. Through this, they are enabled to report outbreaks of cholera in good time and prevent the disease from spreading further. The technical base is a data platform which the nurses can access using an app on their mobile phones. Fed with the extensive data entered by the EpiNurses, the system grows steadily and becomes more and more efficient. Even remote mountain villages can report medication shortages in good time via this communication channel. The result is an overall improvement in the logistics. In the long term, the EpiNurses programme will be developed to such an extent that it can be applied not only in the camps but also across the entire country.

Apsara Pandey, who heads the EpiNurses project in Kathmandu, tells us: "EpiNurses is a great opportunity for women in Nepal. They can do their job better and take on more responsibility." With the help of EpiNurses, internally displaced persons will be able to receive much better care in the future, and the worst consequences of a disaster can be mitigated.

RISK Award India Safety for the bottom fringe of society

Our RISK Award project in India is about a different form of internal migration. Some 110 million people belong to one of the more than 650 nomadic tribes whose members are not fully recognised as Indian citizens. Until the 1950s, these Denotified Nomadic Tribes (DNT) were often treated as criminals. Even today, they often live in the poorest conditions, often without infrastructure or educational facilities. As a result these people often lack awareness of the risks associated with environmental changes, natural disasters and other threats. This is all the more dangerous considering the fact that, in many cases, DNTs are forced to pitch their tents in remote, impassable areas. For them, migration is not escape from a disaster, but a survival concept practised over decades. Therefore, they repeatedly settle on slopes that are susceptible to landslides, in river valleys that are prone to flooding or in areas threatened by drought and heat.

Living in high-risk areas linked with insufficient resilience skills makes these people extremely vulnerable. Our partners from the All India Institute of Local Self Government (AIILSG) have consequently begun to include a number of tribes in the RISK Award disaster risk reduction programme which has been in place since 2015. Project leader Mukesh Kanaskar explains: "It takes a lot of tact and sensitivity to work successfully in these communities. But we must take action, because it is not acceptable that 110 million people are excluded from protective measures." In an increasingly densely populated world, where habitable areas are progressively dwindling, nomads are being forced to settle in more and more dangerous areas. The AIILSG disaster risk reduction programme aims to provide help.



In India, approximately 110 million people live as members of so-called Denotified Nomadic Tribes (DNT). For generations they have travelled across the country as day labourers, shepherds, jugglers and artists. Their nomadic way of life exposes them to many risks. Our 2015 RISK Award helps them to prepare better for adaptation to changes.



The southern coast of Bangladesh is hit repeatedly by devastating cyclones. The government has long since reacted and built a dense network of protective shelters. However, the residents often still do not know when it is really time to flee. Our Gibika project aims to eliminate these uncertainties. We are beginning this work with school children.

Gibika Minimising risks and improving living conditions

Gibika is the Bengali word for livelihood. For many people in Bangladesh, securing a livelihood is becoming increasingly difficult. Natural disasters, often reinforced by climate change, shake the foundations of their life-support systems. Gibika is also the title of our "Research to Action" project.

Several research projects are aimed at analysing the risk situation in six different communities in Bangladesh. One example is the village of Dalbanga South in the south of Bangladesh, where the flood and cyclone warning system is being improved. Despite the early warning system that was in place, many of the villagers did not make it to safety during the last cyclone. There are several reasons for this, which need to be analysed and corrected. Together with a team of local volunteers and young people, our project partners have developed a comprehensive plan of action.

The young helpers are particularly important to us in the Gibika project. It is their responsibility to recognise the various stress factors and act accordingly. Further, it will be their task to help the community to adopt the newly developed changes in the early warning system so that they become second nature. All village residents must participate and are integrated into the process. This is the only way to ensure the sustainability of the project ideas. Jagonari, the local organisation which has shown an interest in continuing the activities of the project, also contributes to the implementation of the new system. The next step planned by our project team is the expansion of the action area by integrating five other neighbouring villages. Inhabitants' livelihoods can only be secured if our initiative finds acceptance and support at the national level.



The Gibika project is a joint initiative of Munich Re Foundation, UNU-EHS, Bonn, and ICCCAD, Dhaka. UNU-EHS is responsible for project planning and the academic area, ICCCAD manages the work on the ground.

→ www.munichrefoundation.org/home/ DisasterPrevention/ Gibika-Bangladesh



The Resilience Academy brings experts from North and South together. Our colleagues from Bangladesh described how coastal erosion is threatening many localities. They were surprised to learn that similar problems also exist in industrial regions, such as in Louisiana, USA. The Academy is a great opportunity for the international exchange of experiences.

Resilience Academy Adapting to the inevitable

The international participants in this year's Resilience Academy in Washington D.C. were able to get an idea of how US President Donald Trump is attempting to turn back international agreements on curbing climate change step by step.

The US plans to withdraw from the Paris Agreement on Climate Change, and research programmes on climate change in the United States must fear for their funding resources. In the discussions held between the academy participants and political advisers and representatives, the ambivalence of Trump's behaviour became apparent. The example of a community in the marshy bays of South Louisiana was particularly noticeable: Isle de Jean Charles. The approximately 100 families who have lived here for generations are directly impacted by climate change. Rising sea levels have devoured more and more land on the island year by year. Today, the community is faced with utter ruin, hardly any land is still habitable and the people are forced to relocate.

Some academy attendees are involved in resettlement programmes or are conducting research on how migration flows are caused by environmental changes and how to manage them most effectively. In the case of the Isle of Jean Charles, the question arose as to where the money for the relocation of a complete village was to come from. The community has applied for the "The National Disaster Resilience Competition" launched by Trump's predecessor, Barack Obama, in 2014. Projects in the competition are intended to demonstrate how to prepare for natural disasters more efficiently. For further information on this issue:

→ www.munichrefoundation.org/home/Disaster-Prevention/Resilience-Academy

The Isle de Jean Charles won roughly 50 million US dollars and can now start tackling the planned relocation measures. Laura Olson, Policy Adviser and Resilience Academy participant, explains: "It is somewhat absurd that a local million-dollar climate-related relocation programme is being funded by the State which at the same time questions the Paris Agreement."

The example of Louisiana illustrates how adaptation measures to climate change and risk reduction against natural disasters are needed all over the world. Migration will become more important as a possible strategy, not only in countries such as India and Nepal, but also in industrialised countries. However, the financial resources required for people to sit out natural disasters in distant places or to permanently relocate their entire life are distributed extremely unequally. If we take the concept of the international community seriously, we must support the people at risk who have hardly any resources of their own to fall back on.



The Resilience Academy 2017 took place in Washington D.C. Participants from over 20 countries discussed how we can decrease the risks resulting from environmental and climate changes.

Maria Bedabazingwa from Rwanda is a coffee grower. As a member of the "Kana Coffee Farmer" cooperative, she can today again earn her living from coffee growing. The cooperative gives her support and security. The situation in the 90s – especially after the 1994 genocide – was much more difficult.

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Moving back was a no-brainer

"Brain drain" refers to the migration of highly skilled or welleducated individuals from economically weak regions to industrialised nations. The result is often a grave shortage of specialised workers in developing countries, which even worsens development perspectives for these areas. The best countermeasure is for highly skilled experts with experience to return to their countries and apply their know-how there.

In dialogue with Agnes Uwanyiligira



<u>Agnes Uwanyiligira</u> trained to be an actuary in England. After working in her profession there for some years, she moved back to her home country. It is important to her to help the insurance market grow and improve understanding of how insurance works in Rwanda.

You were part of the rapporteurs team at the 4th Southern and Eastern Conference on Microinsurance. You recently moved back to Rwanda from the UK where you had worked as an actuary. What got you interested in microinsurance?

The younger me was inspired by how small changes could yield a significant impact on people's livelihoods and I had my career path all mapped out. I was to study Development Economics and get involved in development projects for low income households. The actual path turned out differently – I became an actuary helping UK occupational pension schemes manage their risks.

Once my actuarial exams were over, I looked at the practicalities of moving back home to begin a new chapter in my career. Microinsurance came top of my list as it reconciles my inherent interest in sustainable development and my acquired skills set as an actuary.

What role did the Munich Re Foundation play in that respect?

Munich Re Foundation was the catalyst for my decision to explore microinsurance. I attended the 11th International Microinsurance Conference to learn more about the sector and the role of an actuary in microinsurance. The conference was insightful and a great platform to share knowledge, learn and connect with professionals in this field. I came away inspired and better informed to make a decision – I would be looking for opportunities in microinsurance space in the first instance. The following year I handed in my resignation letter.

How do you see the role of microinsurance or insurance as an industry for the development of Rwanda and the region and what should be done to create a more enabling environment for inclusive insurance?

Insurance enables efficient risk management, unlocks finance, encourages investments, improves livelihoods and offers peace of mind. It plays a crucial role in economic and social development.

A favourable microinsurance regulatory framework, targeted capacity building, effective consumer education, innovative, high value customer-centric products as well as leveraging on existing infrastructures and technological innovation in insurance distribution and administration could propel inclusive insurance in Rwanda. It is not very common that people give up a well-paid position to move back to Africa. What were your main reasons to do so and what are your expectations over the next years?

For me, moving back was a no-brainer. I believe that you can study or work abroad; but when the time is right you need to come home and contribute to the development of your motherland.

After a much-needed sabbatical, I am currently reconnecting and co-founding Rwanda Actuarial Society whilst exploring the opportunities my continent has to offer. The opportunity to contribute to the first microinsurance landscape study in Rwanda was a good start and I look forward to getting involved in more projects as the inclusive insurance takes off. I also expect to continue raising awareness about the actuarial profession in my country. Agricultural exports are important for Rwanda. Small farmers are increasingly joining together to form cooperatives and, as a result, are also interesting for insurance providers. Insurance sales often take place via mobile phone.

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Project overview

Microinsurance



13th International Microinsurance Conference 2017

"The future world of microinsurance – staying ahead of developments"

Lima, Peru, 7–9 November 2017

415 participants from 42 countries

Project partners: Asociación Peruana de Empresas de Seguros, Microinsurance Network

Field trips

"Mibanco and Pacifico" and "Banco Agropecuario del Perú – AGROBANCO and La Positiva Seguros y Reaseguros"

Peru, 10-11 November 2017

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We have to find a way to create insurance products that meet the peoples' needs. With this we can help build a more resilient economy.

International Microinsurance Conference, Peru



Mobile Insurance Conference

"Balancing customer needs with industry requirements"

Douala, Cameroon, 23–24 February 2017

100 participants from insurances, regulatory authorities and donor organisations

Project partners: Access to Insurance Initiative (A2ii), International Association of Insurance Supervisors (IAIS), CIMA

Cooperation partners: BMZ, GIZ, Ministry of Foreign Affairs of the Netherlands, fsd Africa, UK aid, Ministry of Finance Cameroon



Microinsurance Learning Sessions

"Policy-makers fostering microinsurance development in Asia"

Hanoi, Vietnam, 14–16 March 2017

70 participants, especially from MEFIN-countries (Indonesia, Mongolia, Nepal, Pakistan, Philippines and Vietnam)

Project partners: MEFIN Network, GIZ, Asia-Pacific Economic Cooperation, ABAC, Microinsurance Network



World Map of Microinsurance

New release in 2017

"The landscape of microinsurance in Latin America and the Caribbean" Briefing note in English

"El panorama de los microseguros en América Latina y el Caribe 2017" Briefing note in Spanish

Project partner: Microinsurance Network



Microinsurance Learning Sessions

"Insurers of tomorrow will serve the informal market"

Kigali, Rwanda, 29–30 August 2017

110 participants

Project partners: Association of Insurers of Rwanda (ASSAR), Access to Finance Rwanda (AFR), ILO Impact Insurance Facility, Denfri, Financial Sector Deepening Africa (FSDA), Microinsurance Network, A2ii Microinsurance



Some 410 experts from 42 countries took part in the 13th International Microinsurance Conference – "Inclusive Insurance for the Mass Market". Disruptive technologies and climate change insurance were the main focus of the conference.

Inclusive insurance Staying ahead of developments

Technological progress is transforming the insurance markets in developing and emerging countries and offers a wide range of possibilities to close insurance gaps. The participants at the 13th International Microinsurance Conference were able to gain an impression of the potential offered by innovative solutions in this area.

in recent years, largely due to increased efforts of the government. However, natural disasters in Peru repeatedly plunge millions of people back into poverty. "Despite economic growth, the middle class is still vulnerable to shock events", warned Peru's Deputy Finance Minister, César Liendo. Earthquakes, floods and hurricanes in 2017 showed that the safety nets, which include insurance, are far away from being strong enough.

According to the latest surveys, 8.2% of the population in Latin America and the Caribbean are covered by at least one microinsurance policy (for details, see Landscape Study Page 32). Compared to the last study, in 2014, this is an increase of 0.3%. Peru, the host of this year's "Inclusive Insurance for the Mass Market" conference, now counts almost five million policies. Along with Brazil, Mexico and Nicaragua, Peru has experienced the strongest growth in Latin America




Stefan Dercon, Professor at the University of Oxford, and Eduardo Morón, President of the Peruvian Insurance Association APESEG, underlined the need for protection against natural hazards.

"The El Niño climate phenomenon is also making its presence felt in the form of floods and droughts", explained Eduardo Morón, President of the Peruvian Insurance Association APESEG, and proposed: "Wherever there is a risk, there should be an insurance

"Wherever there is a risk, there should be an insurance to cover it." To build a more resilient economy, the insurers need to develop products that meet people's needs.

Protection against natural disasters is top priority

Stefan Dercon, professor at Oxford University and Chief Economist of the UK Department of International Development, called for the combination of different levels of risk prevention. It must be clear who covers which risks – and which risks are covered, he cautioned. Further, a coordinated and reliable plan needs to be drawn up in advance defining the measures to be taken in the aftermath of a disaster. This pre-disaster preparedness replacing the customary "begging bowl" approach has a positive impact on economic development, according to Dercon. Research in Mexico shows that the local natural disaster fund schemes stimulate economic growth by 2 to 4 % following an event.

Technology with a human touch

The lack of data and efficient instruments remains a major constraint for inclusive insurance. The increased use of technology can help overcome this hurdle. For example, IFMR, a research and development organisation, has developed apps in India that not only reduce the costs of an insurance but have also increased the demand for livestock insurance. Also, Chatbots – interactive online communication systems based on artificial intelligence – make it easier to get into contact with new customers. MARSH, a globally leading insurance

broker and risk advisor, has developed these costefficient interactive tools based on artificial intelligence that enhance customer service. In addition, the use of satellite data for agricultural insurance in Kenya has shown very promising initial results.

Another topic addressed at the conference was the use of mobile banking accounts, of which more than 500 million already exist around the world. They offer a cost-effective way of distributing and taking out microinsurances using a mobile phone (see also the contribution to the Cameroon Learning Session, Page 36). Especially in Africa and Asia, mobile banking is contributing hugely to the growth of inclusive insurance, as emerged at a regional Rwandan conference in late August.

Agriculture as a key sector

Like most developing countries, Rwanda depends heavily on the agricultural sector. More than 70% of the population earns its living with farming. The Landscape Study published by Access to Finance Rwanda (AFR) in 2016 shows that approximately 100,000 rural households have agricultural insurance. However, only some 50,000 low-income households have credit life insurance. According to market studies, there is no lack of positive experiences. "There was a report on the radio about global warming, so we decided to take out insurance for our harvest", as a peasant farmer explained. "Insurance payouts take about a week. For us, a fast solution," added another. However, such insurance policies are still not widespread. The sector has not yet proven profitable. The government must respond by stepping up its efforts and adapting insurance regulation to the market. Quite a few organisations could sell microinsurance, for example, but they do not have the requisite license. Flexible regulations can help. Rwanda has already made good progress in this respect and wants to continue developing the regulatory environment in cooperation with a number of other countries in the future. The goal is to protect farmers and guide them in making the right investment decisions. This will increase agricultural output and reduce hunger in the long term.

Health care insurance

Other studies in Uganda show that people with a low income go to hospital earlier if they have the appropriate insurance. Providers are using new technological options and mobile payment methods to cut costs and improve customer service in this area, too.

The Dutch organisation PharmAccess shows how this works. Its goal is to help people in sub-Saharan Africa gain access to better health care. In cooperation with the Telecom operator Safaricom and the payment service provider CarePay, a platform called M-TIBA has been developed to network service providers, patients and healthcare providers with each other. M-TIBA acts as a kind of "health purse" on the mobile phone. It allows users to save funds for health care, which they can access as required.

Government participation as a success factor

The strong growth of the insurance markets is responsible for the authorities' inability to keep pace with the rapid developments. They lack the necessary expertise and strategies to create the appropriate frameworks. Ways need to be found to make markets sustainable and protect customers from unfair business practices. "The changes we will be facing in just three years will be gigantic", predicted Carlos Belloni, a strategic advisor for digital transformation. The former Chief Operating Officer of Zurich Insurance in Latin America warned that the regulators need to be three steps ahead of development. Strong government involvement is therefore essential, he said.

The lack of regulation, or gaps in existing regulations, were also discussed at the Learning Session in March 2017 in Hanoi, Vietnam, as the development of microinsurance begins with a policy framework. Of the six countries (Indonesia, Mongolia, Nepal, Pakistan, Philippines and Vietnam) belonging to the Mutual Exchange Forum on Inclusive Insurance (MEFIN) network, Nepal, Pakistan and the Philippines have adopted relevant provisions. "Without microinsurance regulation, market growth is restricted", said Phung Ngoc Khanh, Director General of the Vietnam Insurance Supervisory Authority.



The conferences in Rwanda (left) and Vietnam (right) centred on the question of how companies, donor organisations and regulators can develop strategies for improving access to insurance solutions.

Field trip Microinsurance in Peru — Protecting the business

Erlinda Panebra runs a small quail farm near Lima. Small and mediumsized businesses like hers are a key economic factor in Peru. They are responsible for approximately 40% of the gross domestic product. Microfinance bank Mibanco and insurer Pacifico have developed special covers to protect businesses like these.

The insurance policy "Family Protection" helps the family in the event of accidents. The annual premium is just 36 soles (around € 11). The death benefit is 15,000 soles (approx. € 3,900), and the policy pays 5,000 soles in cases of disability. "The policy helps to ensure the future of our daughter", Erlinda says.



Teaching the basics of insurance

Mochamad Muchlasin, Director of the Indonesian regulatory agency OJK, added that education and insurance literacy remain a key challenge. Providers need to understand customers, and customers need to understand that protection and prevention are not only important, but also affordable. One-toone training of basics in a language tailored to the customers is costly, but offers promising results, according to OJK.

"Climate change exacerbates the risk situation, and protection will not be possible if we do not prepare the markets", said Carlos Belloni. To achieve this, it is necessary to recognise trends in good time, and to find a balance between consumer protection and the promotion of new products and markets, he counseled. María del Socorro Heysen Zegarra of the Peruvian regulator SBS (Superintendenta de Banca, Seguros) advised that high standards and fair practices are essential and that an insurance culture needs to be created to increase the demand for microinsurance. Immense efforts are required to provide people with basic financial knowledge. The Peruvian insurance association APESEG therefore has launched appropriate programmes. "We need to recognise and acknowledge that we still have a long road ahead of us." The superintendent was optimistic, as "recent developments show that we're on track."

Mobile Insurance Conference Consumer protection versus market growth

Mobile phones are today the most important sales channel for microinsurance in many countries. In 2017, a mobile insurance conference was therefore held for the first time in Cameroon. Its objective: to open up and develop new sales channels and facilitate access to insurance for low-income earners.



Mobile phone accounts now make it possible for several hundred million people in Africa to make cashless payments and open up accounts: a huge opportunity for developing countries worldwide. The distribution of microinsurances has changed significantly over the past ten years. According to the latest figures, 45% of the insurances are meanwhile being sold via Mobile Network Operators (MNO). Insurance companies use the mobile network infrastructure to maximise efficiency along the entire value chain and reduce costs. Specialised Technical Service Providers (TSP) such as MicroEnsure or BIMA, which reach almost 80 million customers with their products, play an important role in this respect. As a link between the risk carriers and the MNOs, they design products that are offered under the widest diversity of brands all around the world.

BIMA is one of the leading mobile insurance platforms and is active in different countries in Africa, South Asia and Latin America. MicroEnsure is a service provider for the development and distribution of microinsurances. These companies bridge the gap between mobile network operators and insurers by acting as highly specialised service providers. They not only possess insurance industry know-how that the MNOs lack, but also inside knowledge of the target group: low-income families in developing countries. Insurance companies often do not have this knowledge.

Insurance penetration in many African countries is less than 2%. The use of smartphones for selling and processing insurances offers immense opportunities. In particular payments can be carried out more easily, and data can be collected and transferred more efficiently. The regulatory authorities currently face the problem that the regulation provisions have not kept up with the flexibility of the new distribution models. Some regulatory authorities are gradually adapting to the new requirements and are trying to create a scope of regulatory freedom for innovations. Others impose rigorous constraints on mobile insurance.

There is basically no doubt, however, that mobile insurance offers many benefits: it reaches a large customer base and can respond much better to their needs, such as explaining insurance products via online platforms. This is urgently needed, for example, to reduce deficits in consumer protection. The first Mobile Insurance Conference, organised by Munich Re Foundation and partners in Cameroon in February 2017, focused on such issues as how efficient regulation can break down barriers and make better use of market opportunities. The key issues that regulators need to clarify include

- The acceptance of electronic signatures.
- The question of which information can be sent via which communication channels.
- The acceptance of virtual money in payments – especially of prepaid phone credit (Airtime).
- The acceptance of a fully digitised value chain.

It is clear to mobile insurance providers that consumer protection is in their own best interests: a customer who is not satisfied with an insurance product turns first to the mobile network operator and not to the insurer or the TSP. As mobile insurance involves such diverse sectors as telecommunications, insurance, banking and data protection, insurance representatives in Cameroon suggested appointing a leading regulator to work with the insurance industry and develop solutions.

Regulators should concentrate on fostering innovation and securing consumer protection by admitting new players to the market and ensuring balanced market conditions. Some new business models challenge the customary definitions of insurance and brokerage services. Regulation as a whole should be as simple and flexible as possible to meet future changes. "The playing field for market players should be clearly marked out", proposed Richard Leftley, CEO of MicroEnsure. The regulators should stay out of this field. "Don't regulate premiums or commissions, let the market decide", he advised.

It is essential not to lose sight of the customers' perspective. They need to know what risks an insurance covers, who their insurer is, what rights and obligations they derive from the insurance, and how they can make claims. "The development of microinsurance is a very long-term adventure", said Issofa Ncharé, Secretary General of the CIMA (Conférence Interafricaine des Marchés d'Assurances). "An adventure that benefits from the collaboration of all the players in the field." Mobile insurance is a great opportunity for advancing the insurance market in low-income countries - for the benefit of millions.

> Mobile-based insurance solutions are currently growing at a fast pace. More than 100 experts from 26 countries met in Cameroon to discuss which legal framework conditions sustainably promote this development.



Inclusive Insurance for the Mass Market 13th International Microinsurance Conference

Munich Re Foundation organises the annual international microinsurance conference in cooperation with its partners. The platform is held alternately in Africa, Asia and Latin America. Learning Sessions with a specific regional focus are also held to promote the transfer of knowledge in some particular regions. In 2017, the main conference took place in Peru, the Learning Sessions in Cameroon, Vietnam and Rwanda. We see microinsurance as an important building block for sustainable economic development and for combating poverty. Knowledge is the basis of successful development in this area.

 \rightarrow www.microinsurance conference.org/2017

Children in Alaska play on an ice floe in the Arctic Ocean. The increasingly warmer temperatures are thawing the permafrost soils and leading to coastal erosion.

Climate refugees — The challenge of the century

The unprecedented numbers of refugees in the summer of 2015 caught us all unawares – Munich, Germany, and even the entire EU. Discussions surrounding migration, flight and integration will continue on for a long time. It is already evident today that climate change forces countless people to flee.

Thomas Loster



Refugees at the Greek-Macedonian border wait to be admitted to a refugee camp. In view of the large number of migrants, it is becoming increasingly difficult today to precisely clarify the causes for their flight. Economic reasons, social reasons, safety aspects and environmental changes often go hand in hand.

When Europe saw itself confronted with an ever increasing number of refugees in the summer of 2015, the reasons for their flight were obvious: many people had fled from crisis regions or war zones such as Syria, Afghanistan and Somalia. Migrants from other countries were forced to seek their luck in Europe for economic or other reasons. It is known that changing or hazardous weather conditions also trigger flight. The International Organisation for Migration (IOM) in Geneva reported that in 2015, El Niño was the main cause for almost 20 million migrants in over one hundred countries. An estimated 250 million people per year migrate today all over the world. Most of them remain in their own country. Of approximately 65 million displaced persons, only roughly one third – about 20 million – crossed national borders. An impressive statistic: approximately nine out of ten migrants live in developing countries.

Environmental migrants have no rights

People who migrate for environmental or climate reasons have no official legal status. They are not recognised as "refugees" under the provisions of the 1951 Geneva Refugee Convention. The Convention only recognises persecution due to race, religion, nationality, membership of a particular social group or political convictions as a reason for taking flight. However, the number of environmental migrants today already distinctly exceeds the number of migrants forced to flee from conflicts.

Known hotspots

At the beginning of the 21st century, reports on environmentally induced migration increased significantly. The international press became aware of the problem and reported, among other things, on the Carteret Islands in Papua New Guinea and further Pacific Islands, such as Kiribati. The Inuit people in Canada and Alaska and other coastal inhabitants are also affected: they are increasingly suffering from the rising sea levels. Saltwater threatens fresh water resources and agricultural areas that are close to the sea. Storms are eroding the coastlines. In Alaska, as a result of global warming, mean temperatures have risen by roughly 3.5°C since 1950, which is causing the permafrost to melt. Houses like the ones in the Inuit community of Shishmaref topple over because the ground is thawing and their foundations have become unstable. In addition, people's livelihood options are dwindling, as fishing and hunting become increasingly difficult.

An obvious link between climate change and migration can be found in Bangladesh. Here, extreme weather conditions are on the rise. The monsoon patterns with floods and cyclone activities are changing. A quick look back into the history: on 12 November 1970, the huge hurricane Bhola devastated the coastal region of the country, which was still called East Pakistan at that time. Over three million people were affected, more than 300,000 lost their lives. Anyone who had the possibility of leaving, migrated to the capital. Today, a large slum area, the Bhola slum, is located in Dhaka. If – as a result of global warming – cyclone activity and intensity continue to increase in the Bay of Bengal, more and more people will be forced to flee. The African continent also has repeatedly been the focus of major migration studies. Here, a strong increase in migration is foreseeable - even without climate change: the complex interplay of political, demographic and economic risks is increasing people's willingness to emigrate. Although it is generally difficult to separate political, economic and environmental migration from each other, it is obvious that climate stress acts as a push factor. Practically, Egypt is a mono-causal example of future climate migration. The Nile Delta is the country's agricultural supply centre. If the sea level rises by approximately one metre during the course of this century, some 15% of the fertile soil will be flooded or salinated, and at least six million people will be forced to leave. It is obvious that the countries of the EU will be exposed to migratory pressure as well.

Tackling tomorrow's challenges today

Precise estimates of climate migration are difficult because of the dynamics of the parameters involved. What is certain, however, is that the number of environmentally-motivated migrants will increase strongly as a result of climate change. When people are literally up to their necks in water, the international community certainly does step in and provide emergency aid. This was demonstrated during well-known major catastrophes such as the floods in Mozambique in 2000, the tsunami in Asia in 2004 or the flooding in Pakistan in 2010. People are rescued at the last second and relocated to shelters. However, the question arises as to how sustainable these solutions are. If migration management is to succeed in the long term, the signs that we already see today must be taken seriously at an earlier stage. The international community must anticipate negative developments and coordinate its actions effectively. If this succeeds, environmental migration and climate change, despite the associated challenges, can become a successful adaptation strategy and not a problem.



Thomas Loster is Chairman of Munich Re Foundation. For many years he has followed the developments both in the climate change debate and in migration policies at the same time. It does not surprise him that the two topics are today closely linked. Droughts in the Horn of Africa – like here in the Afar region in Ethiopia – etiolate the landscape. Sooner or later people have to leave the region.

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Water

"

22,000 litres of water in only one foggy day! Since November 2017, the very first 15 CloudFisher collectors (approx. 800 square metre net surface) have been connected to the pipeline system. The water yield is exceeding all expectations.

Fog net project CloudFisher, Morocco



Net technology 2.0

Fog net project in the Babati region, Tanzania

November 2013 – December 2017

Project partner: p(e)d world e.V.



CloudFisher

Fog net project CloudFisher in the Anti-Atlas mountains, Morocco

April 2016 - April 2018

Project partners: WaterFoundation Ebenausen, Dar Si-Hmad, Federal Ministry for Economic Cooperation and Development (BMZ) "

Fog net technology is worth spreading around the world. For this purpose, WaterFoundation and Munich Re Foundation have set up an international platform - the FogNet Alliance (FNA).

FogNet Alliance

WaterFoundation Ebenhausen, Munich Re Foundation

Establishing the FogNet Alliance (FNA)

Project initiators and founding members:

August 2017

FogNet Alliance



The newly installed CloudFisher on Mount Boutmezguida has been producing drinking water from fog since November 2017. The results have exceeded all expectations. A daily yield of between 23 and 41 litres of water per square metre of net area has been achieved.

Harvesting drinking water from fog 15 new CloudFisher collectors for Morocco

The practice of harvesting drinking water from fog has gained worldwide recognition, not least due to the role played by Munich Re Foundation. We have been supporting the construction of fog collectors in arid regions for more than ten years. Now, the largest fog collector facility in the world is currently being constructed in the Anti-Atlas mountains of Morocco.

A fog net surface area of 1,627 m² stretched across 30 large steel frames is quite unique in the world! The German Federal Ministry for Economic Cooperation and Development (BMZ) approved funding for construction of the facility on Mount Boutmezguida in spring 2016. WaterFoundation Ebenhausen and the Moroccan NGO, Dar Si-Hmad, are jointly responsible for project management and implementation. Munich Re Foundation is a project partner and contributes half the equity capital required. The project also comprises numerous education programmes for women and children.



Installation of the CloudFisher collectors began in January 2017. The construction measures in the impassable mountain region were extremely challenging and strenuous. A great deal of painstaking manual work was required on site.

The challenging task of providing drinking water

By the end of 2018, the fog net facility will supply clean drinking water to 14 villages, harvested from fog. The Aït Baamrane region in the Anti-Atlas mountains borders on the Sahara and, because of its semi-arid climate, is one of the driest areas of Morocco. Women and girls spend hours every day walking to wells to fetch water for their families – eight litres per person.

Construction work on the first 15 CloudFisher collectors began in January 2017, and 15 more will follow in 2018. The construction measures in the rough mountain region are extremely challenging and strenuous. Every material and construction machinery has to be transported over narrow, steep and almost impassable roads to the top of Mount Boutmezguida. Bad weather was an additional difficulty for the installation work. Project leader Peter Trautwein and his Moroccan team colleagues were proud when the first collectors were completed and ready for operation in May 2017, and with good reason. The new CloudFisher fog collector type is the result of several years of design work conducted by the Munich industrial designer Trautwein. The CloudFisher is the first serial-production fog collector that withstands wind velocities of up to 120 kilometres per hour. It can be assembled quickly and easily. Also, it does not require any energy for operation, and is extremely lowmaintenance. All the materials used are of radiationresistant and food-grade quality.

Starting in 2018, the new CloudFisher park will supply roughly 660 people and one school with drinking water, as well as water for irrigation and livestock. The harvested fog water meets the drinking water standards of the World Health Organisation (WHO). Four water tanks on the mountainside guarantee continuous water supplies, even during the dry season. Thanks to the fog collectors, the village residents now have a daily supply of approximately 18 litres of water each at their disposal. And the CloudFisher delivers more than just water: it also opens up new and diverse educational opportunities, in particular for girls and women – it gives them back precious life time.



The Moroccan project team led by the Munich industrial designer, Peter Trautwein, was very motivated and worked closely together. The new collectors were completed in May 2017. Drinking water can now be harvested whenever the fogs drift over the ridges of the Anti-Atlas mountains.

How do fog nets work?

The wind drives the fog through the vertical net, or collector. Minute drops of water are caught in the net fabric and join together to form larger drops. The new drops run down into the collecting trough from where they flow through a pipeline into a tank. Depending on the region and time of year, the daily water yield ranges between six and forty litres per square metre of net surface area.





FogNet Alliance A new competence centre for fog net technology

For more than 20 years, researchers, engineers and non-governmental organisations worldwide have been working on harvesting drinking water from fog. Now, an international alliance for fog nets aims to pool the expertise acquired in this field and initiate joint activities. In August, WaterFoundation Ebenhausen and Munich Re Foundation gave the starting signal for the global partnership.

In many regions of the world, numerous project initiators, alone or in international partnerships, are currently working at promoting the use of fog collectors for drinking water production in arid areas and building up fog net projects. However, many of them are lone warriors. Since 2013, the German industrial designer and CEO of Aqualonis GmbH, Peter Trautwein, has been cooperating with international experts to refine the fog net technology. His latest collector type, the CloudFisher, has reached a new quality level. Not only is it more stable and durable, it also harvests many times more water than the firstgeneration collectors.

The FogNet Alliance (FNA) aims to bring together experts and stakeholders from science, technology, international organisations, politics (government and non-government organisations) and business. The aim of the alliance is to strengthen the innovative fog net technology and to initiate new projects or advance existing ones. The Alliance works towards promoting the generation of drinking water from fog in cooperation with investors and sponsors.

It pools knowledge and information. Additionally, it serves as a central contact point for ongoing projects or projects in the pipeline and for questions of every nature. People who are new to the field or new project initiators can obtain detailed information and learn about all the important aspects. This avoids errors in the early stages. A catalogue of installation instructions and basic information outlines the most important elements of successful projects and describes the individual steps of planning and implementation. Recognised literature on the subject, project reports and other relevant data are collected and made available on the FNA website. At the same time, fog net technology has its own platform for greater public visibility.

All stakeholders and interested parties are warmly invited to become a member of the alliance. It is organised in three groups: The Steering Committee is made up of active members who define the strategy and work programmes. The Advisory Group consists of experts from different disciplines who contribute their knowledge and advise the Alliance.

FogNet Alliance

The Interest Group is composed of representatives from all fields (individuals, NGOs, universities, project groups etc.) who are generally or specifically interested in fog net technology.

The starting signal has been given. The FogNet Alliance will now be brought to life – for a motivating exchange of knowledge and successful cooperation between global players. Through this, even more people will ultimately benefit from clean drinking water in arid but foggy regions.

For further information on this issue:

→ www.fognetalliance.org

ightarrow www.wasserstiftung.de



How exactly does the technology of the new fog collector work? The students of the secondary school in Qameyu and their teacher will be responsible for the daily care and maintenance of the new CloudFisher on their school grounds.

Net technology 2.0 — A new chance for Tanzania

Since 2009, the German non-profit organisation p(e)d world has been collecting water on a high plateau in Tanzania using fog nets. Just as previously in Morocco, in November 2017 an efficient CloudFisher was installed for the first time. The case in Tanzania shows: the transfer of the fog net technology is working perfectly.

So far, those who have benefited from the fog nets in the Babati region, some 250 km south-west of Mount Kilimanjaro, have been primary and secondary schools. In six different locations, each with over 250 pupils, the fog collectors provide water for drinking, cooking, cleaning and watering plants. This is water that would otherwise have to be laboriously fetched from streams that are often polluted, and carried back by the pupils in hour-long treks. That takes up valuable time, which often means less time for studying. The first-generation fog collectors have worked well, each gathering several hundred litres of water per fog day. Teachers and pupils were jointly responsible for protecting and maintaining the nets. And the system has functioned very well. However, the powerful winds, which blow particles of dust as well as water droplets through the nets, in combination with the intense UV radiation, lead to material fatigue as the years go by. For this reason, the collectors now need to be completely replaced in many locations.

A start was made in the secondary school in Qameyu. Together with CloudFisher developer Peter Trautwein, Bernhard Küppers from p(e)d world and his team successfully installed Tanzania's first CloudFisher in this school. Munich Re Foundation provided financial assistance to the costs for material and logistics. Over the last few years, Trautwein had been constantly refining the fog nets, creating an entirely new type of collector. The design incorporates many years of experience, eliminating previous shortcomings while at the same time significantly increasing the water yield.

Within a week, everything was set up. During an official ceremony, the head of p(e)d world, Bernhard Küppers, was able to hand over the new system to the pupils and teachers in Qameyu. The recipients were thrilled, and also extremely curious: how exactly does the technology in the new collector work, and how much water can you collect? Teams of pupils and teachers were organised, who will now look after the new nets each day. If it were up to the interested pupils, a number of additional collectors could be built – and that is precisely the aim of p(e)d world. In collaboration with project partners, it is now time to procure the necessary resources so that as many additional schools as possible can benefit from the new collectors.

Environmental performance 2017

The foundation takes its responsibility for climate protection seriously. Each year, we compensate for our CO_2 emissions with an offset project. In 2017, our carbon footprint was 1,300 tonnes of CO_2 . The bulk of this, some 1,200 tonnes, comes from our projects, conferences and seminars, while business trips and the operation of the foundation offices are responsible for the rest. The foundation's total CO_2 emissions for 2017 were approximately 200 tonnes greater than in the previous year. The reasons for this are higher numbers of participants at our events, and a larger number of business trips by staff. The use of new environmental performance indicators (based on Munich Re Standards 2016) also led to slight deviations.

The offset project: Forest protection in Peru

Our founder, Munich Re, compensates for the emissions from the foundation's offices and the business trips of employees. To offset the carbon footprint from our events, we purchase CO_2 certificates from certified climate protection projects. In 2017, we supported a project to prevent deforestation and promote the sustainable use of forests in Peru.

The aim of the forest protection project in the Peruvian province of Madre de Díos is to stop illegal lumbering of the rainforest in the Amazon basin. An area of 100,000 ha of rainforest is managed in accordance with the Forestry Stewardship Council's (FSC) international certification standard. The FSC sets important standards for sustainable forest management. At the same time, the region is closely and efficiently monitored. As a result, the forest areas have been maintained as carbon sinks, protecting the soil's capacity to store CO_2 . The annual reduction amounts to more than 660,000 tonnes of CO_2 equivalents.





In the province of Madre de Díos rainforest is being protected via the sales of CO₂ certificates.

More information:

→ www.munichrefoundation.org/home/ About-us/Environmental Internal foundation issues

Global partners

Microinsurance

Microinsurance Network

German Society for International Cooperation (GIZ)

Federal Ministry for Economic Co-operation and Development (BMZ)

International Labour Organization (ILO)/ Impact Insurance Facility

Georgia State University's Center for the Economic Analysis of Risk (CEAR)

Centre for Financial Regulation and Inclusion (Cenfri)

Munich Climate Insurance Initiative (MCII)

Access to Insurance Initiative (A2ii)

International Actuarial Association (IAA)

World Bank Group

Microinsurance Centre

UK aid

Ministry of Finance Cameroon

Mutual Exchange Forum on Inclusive Insurance (MEFIN) Network

Asia-Pacific Economic Cooperation (APEC)

APEC Business Advisory (ABAC)

Association of Insurers of Rwanda (ASSAR)

Access to Finance Rwanda (AFR)

Financial Sector Deepening Africa (FSDA)

Asociación Peruana de Empresas de Seguros (APESEG)

Innovations for Poverty Action (IPA)

Milliman

International Association of Insurance Supervisors (IAIS) Fog nets

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Dar Si-Hmad

WaterFoundation Ebenhausen

Energy School

Green City e.V.

RISK Award Global Risk Forum (GRF)

UN International Strategy for Disaster Reduction (UNISDR)

All India Institute of Local Self Government (AIILSG)

Nursing Association of Nepal (NAN)

Gibika and Resilience Academy

International Centre for Climate Change and Development (ICCCAD)

United Nations University, Institute for Environment and Human Security (UNU-EHS)

The Wilson Center

Climate change and sustainability

University of Applied Sciences Munich

Eberswalde University for Sustainable Development

Ludwig-Maximilians-Universität Munich (LMU)

University of Applied Sciences Bonn-Rhein-Sieg

Klimaherbst Munich

oekom verlag GmbH

University of Bonn

United Nations University Tokyo

Dialogue forum

Institute for Social and Development Studies (IGP) at the Munich School of Philosophy

Strascheg Center for Entrepreneurship

Missing Link (exhibition)



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Own Publications

2016 Report German and English

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Positionen 2017 dialogue forums: People on the move -Back and forth and back again? German

2017 RISK Award: First-hand news -Best project proposals 2017 English

RISK Award – The film English

Publications with partners and from projects

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Resilience Academy: Lack of spatial resilience in a recovery process: Case L'Aquila, Italy English

UNU-EHS Gibika photofilm: Nurmia "If we had left earlier ... " English

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IAIS-A2II-CIMA Mobile Insurance Conference



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22 February

Dialogue forum "Networked, innovative — How poorer countries can benefit"

15 March

14th International Microinsurance Conference – Call for proposals

15 March

Begin of summer term at the University of Applied Sciences Munich, "Seminar on Sustainability"

20 March

Dialogue forum "Blackout — How stable are our systems?"

21–22 March Microinsurance Learning Sessions, Sri Lanka

9-13 April

Themed week on Global Change Management with the Eberswalde University for Sustainable Development

12 April

Dialogue forum "Digital dictatorship — Prisoners in the new world?"

16–20 April Microinsurance Learning Sessions, Colombia

16 May

Dialogue forum "Work 4.0 – Of robots and people"

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Gibika Closing Ceremony Dhaka, Bangladesh

August

Announcement 2019 RISK Award IDRC, Davos, Switzerland

1 October

Begin of winter term at the University of Applied Sciences Munich, "Seminar on Sustainability"

October

Summer Academy World Risk and Adaptation Futures, United Nations University Bonn, Germany

6-8 November

14th International Microinsurance Conference in Lusaka, Zambia Project overview

Current projects 2017





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