This discussion paper aims at stimulating the debate around the role of microinsurance within the context of climate change. If you are interested in joining the discussion, please send an email to info@microinsurancenetwork.org and we will keep you informed as to when an online discussion on the topic will be organised.
This discussion paper aims at stimulating the debate on the potential role of microinsurance in dealing with climate change as a long-term challenge and its impact on low-income people. The author argues that adaptation to a changing climate may be more important than protection through insurance. Insurance is not an appropriate tool to prevent climate change from unfolding.

Microinsurance may, however, facilitate and enhance adaptive investments and activities. Protecting investments made in a perspective of adaptation through insurance is certainly wise and offers plenty of room for innovative and useful products, including those for the low-income market.

CLIMATE CHANGE IN BRIEF

Today, for most climate scientists there is little doubt that our climate is changing rapidly. Carbon dioxide (CO₂) concentrations in the Earth’s atmosphere have been rising since the beginning of the industrial revolution. CO₂ is emitted when fossil fuels such as coal and oil are burnt, as well as any organic material such as wood. Other ‘climate-active’ gases are emitted in significant amounts from agriculture and industrial processes. Together with CO₂ they are called greenhouse gases because they absorb sunshine reflected from the earth’s surface: the so-called greenhouse effect. As a direct consequence, temperatures are rising, leading to global warming.

Increased temperatures in the atmosphere also indicate more energy in the climate system. Further, higher temperatures may trigger the following event-chain: glaciers melting, seawater levels rising, the ocean’s salinity changing and the deep-water circulation completely altered. The impact of all this is changes in weather patterns and more extreme weather events.
Climate change modifies the global risk landscape and in many countries increases the likelihood for natural calamities. As insurance is inherently dealing with risk it appears thus logical to call for insurance solutions. From an insurance perspective, climate change has three interesting, but challenging characteristics:

- While for many years climate scientists were not sure whether climate change will take place or not, the vast majority now argue that the question is rather to what extent it will happen, how quickly and to what degree for a given location. Thus, climate change as a phenomenon has become a fact and is no longer a hypothesis – though predictions on local effects are still highly uncertain.

- Climate change will lead to a higher variability in observed weather patterns, with more extreme events.

- In most regions, climate change will be observed as a trend, not as a single threshold event. In other words, the change is ongoing with no end in sight.

As with most risks, poorer communities tend to be more exposed than richer ones, and clearly they are more vulnerable and less resilient to economic shocks. Hence the call for microinsurance solutions to assist them. Nevertheless, climate change tends to impact most if not all sectors and population groups in a given region. This may open an opportunity for comprehensive risk management and adaptation strategies, though there are only a few practical examples from the past to draw upon.

In the debate about the consequences of climate change, natural calamities play an important role: droughts, floods, storms and heat waves may all be on the rise. These phenomena are not new and over the centuries, the insurance industry has come up with a wide array of products providing cover against most of them.

For example, property cover is today offered at almost all levels, from individuals to communities to countries and even whole regions such as the Caribbean. In short, insurance against natural disasters has grown into a solid, multi-billion-dollar business. However, most of it is written in the OECD (Organisation for Economic Co-operation and Development) countries, while property in low- and middle-income countries is typically less insured as the industry is still relatively young.

Given the importance and scale of climate change, it is worthwhile to have a closer look at what role insurance may play and what other measures should be taken to make such interventions more effective.

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1 In fact, we not only observe a call for such an involvement, but also direct proposals from various groups and associations, e.g. the Munich Climate Insurance Initiative (MCII) or the Geneva Association. The insurance industry, lead by global reinsurance companies, has been publishing on this topic since many years.

2 This is also true for poorer countries as compared to richer ones, though other factors such as efficient public institutions and political stability also contribute to disaster resilience.

3 Caribbean Catastrophe Risk Insurance Facility (CCRIF).
Higher variability in risk events occurring offers a strong case for insurance. Insurance can smooth out the highs and lows, and the need for such services is becoming ever more apparent. However, calls for ‘insurance against climate change’ ignore a basic fundamental rule: insurance does not influence the outcome of the insured event.

If, for example, we want to decrease the number of deadly car accidents on the roads, nobody calls for more insurance. Instead, road safety measures are implemented and public awareness campaigns initiated. At the same time, accident and liability insurance are still useful services in order to compensate those struck by the ‘inevitable’ incidents.

We face a similar situation in the case of climate change. Insurance against floods, droughts and storms is, if combined with preventive measures, a promising tool to attenuate the impact of climate change.

Insurance alone can only spread the cost of events, both over time and over geographies. However, there are two arguments that support the idea that the role of insurance goes beyond the sole purpose of spreading the risk:

- Firstly, the very fact of being insured can lead to changes of the insured entity, be it a human or an organisation, if it has some level of influence on the insured event. In general, insurers watch moral hazard suspiciously. In the context of climate change, however, the hope is that people will ‘read’ the price signal insurance companies would send through increased premium rates and seek to mitigate rising premiums through protective measures.

- Secondly, the insurer has a direct interest in minimising claims payout and hence may invest in preventive measures. Following the car accident example from above, an insurer may find the risk reduction effect from safety-driving courses offered to its clients worth the cost.

Both arguments are problematic in relation to climate change. While many insurance companies are already exposed to a potential rising of disaster costs, they hardly have the political power to seriously influence global climate policies. Furthermore, as insurance, more specifically property insurance, is usually offered on a short-term basis, insurance companies have little or no incentives to invest in long-term prevention.

On the low-income end of the insurance service chain, typical microinsurance clients have neither any influence on global climate politics nor can they control climate change in their area. The only real option for them is to reduce the effects of the events when they occur with activities such as reinforcing dams to protect against floods, building water retention basins to secure water for irrigation in times of drought, investing into new farming techniques (e.g. drip irrigation), the use of other seeds or crops, but also afforestation or, where possible, moving into less exposed zones.

We will return to the aforementioned adaptive measures later on, however, in terms of mitigating the risks of climate change, insurance can facilitate and enhance these efforts in two distinct ways:

- On the one hand, insurance can protect investments made in climate adaptive projects.

- On the other hand, insurance can still provide cover against a deviation from the expected average outcome – once it has been reduced through adaptive measures.

In summary, insurance is not an appropriate tool to prevent climate change from unfolding, but can play a useful role in broader efforts to mitigate the adverse effects of climate change.

**Tackling Climate Change**

What options exist to curb climate change? All efforts can be clustered into three distinct categories. *Reduced emission*: Greenhouse gas can be reduced at the source. *Absorption*: Greenhouse gas could be absorbed from the atmosphere and locked away. *Geo-engineering*: This is where the atmosphere is cooled by technological means. Which of these options (or which combination) is the most effective and realistic is subject to an ongoing debate.
A BROADER RISK MANAGEMENT APPROACH

The role of microinsurance as a risk coping mechanism can be dramatically increased if embedded into a broader risk management strategy. It will prove most valuable when customers see a reasonable path towards adaptation to a changing climate, and when insurance is able to unlock and facilitate adaptive activities.

Agriculture and property insurance are likely to be the products most affected by climate change. Health insurance will also see some impact from climate change, however, it remains to be seen what role these three product types play in helping people adapt to climate change. Agricultural microinsurance has seen increased attention in recent years from a variety of stakeholders, and climate change is only one argument for new product development initiatives, with food security as another important one. It is believed, more generally, that by focusing efforts on the agricultural sector, low-income populations have a greater chance of escaping poverty.

Designing meaningful agricultural microinsurance products has proven very challenging, even in a non-changing climate. In recent years, index based approaches have been strongly promoted and supported with substantial grants. However, in the absence of heavy subsidies, take-up rates by smallholders are generally disappointing.

Agriculture is a typical case where a broader risk management approach could unlock its full potential. If farmers are to improve their harvest in quantity and quality, they require training in better farming techniques, access to information, savings, credit and high-quality seeds and inputs adapted to the local climate, better integration into markets and secure land titles which will allow for longer-term investments to name but a few ingredients to a rural development strategy.

Still, insurance can play a role in this setting when skillfully integrated into a balanced range of multiple services. It can then give lending institutions a minimum of security, which will hopefully motivate others to enter the rural finance market and support investments to unlock some of the development potential.

In recent years we have witnessed several natural disasters affecting large numbers of low-income people. Though clearly not all of them are linked to climate change, such events have fuelled the debate on how to design insurance products for mass markets. In theory, there are a number of strong arguments in favour of property insurance. Yet, in practice, property insurance is still underdeveloped in many so-called developed insurance markets. This makes the challenge two-fold:

- How to motivate people all over the world to buy property insurance?
- How to mobilise enough resources to also develop insurance solutions for the low-income segment? Or, more provocative, are we able to design, deliver and administer insurance products that provide effective protection and assistance in case of large-scale disasters such as the 2010 earthquake in Haiti or the major flood in Pakistan in the same year?

Related to the call for more property microinsurance is also the question about reinsurance capacity. Many microinsurance schemes face difficulties in accessing international reinsurance capacity. Given the global reinsurers’ inherent search for new business that diversifies their traditional portfolios as well as for generating new income streams, the question is probably rather about the size of microinsurance portfolios rather than exposure to natural hazards. Once the microinsurance schemes reach significant scale and are able to pay for adequate protection, they should meet more interest from the reinsurance industry. It cannot be a lack of capacity that holds back reinsurers from offering their services. Other factors such as transaction costs, insufficient control mechanisms or management quality concerns are likely to be more important drawbacks.

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4 Index based insurance approaches are already the topic of many publications. This discussion paper will not deal with them extensively.

5 E.g. Australia, where huge proportions of the 2011 flood-damage was uninsured, or Switzerland (with a known earthquake exposure, but few homeowners buying protection) and the USA (where many homeowners prefer to rely on government assistance rather than buying hurricane or flood insurance).
Offering insurance to individuals and local communities as a coping mechanism with worsening conditions will not help over the long-term. Today, premium commensurate with the risk are already often perceived as unaffordable, and will most likely increase with climate change unfolding. The proposals to channel huge subsidies into climate microinsurance may do more harm than good if not coupled with meaningful investments into adaptation. There is a potential risk of trapping low-income populations in unsustainable practices or locations is evident.

For illustration, due to increased risk of drought, maize farming may become unsustainable in some countries. If these farmers were offered subsidised crop insurance, this may keep them involved in maize farming – until the subsidies run out and in consequence the insurance scheme collapses.

On top of this, determining the frequency of risk events is ever more challenging due to the higher variability. The pricing of products in this changing environment is extremely difficult as actuaries typically have to ‘guesstimate’ the future evolution of trends based on past experience.

Should both efforts, adaptation and insurance, come in parallel? Possibly yes, though the author suggests the focus should be on adaptation first. It appears often easier to design property insurance products than develop meaningful adaptation strategies for whole regions. Risk reduction through adaptation is likely to be the bottle neck, not insurance cover. And adaptation without insurance still makes sense, while insurance without adaptation is set to fail make a real difference.

Change and adaptation are likely to take time and will possibly be cumbersome or even painful. In either case, it is wise to start such processes sooner rather than later, as this would allow for comparatively smooth transitions, avoiding the stress of emergencies.
Climate change is high on the political agenda and microinsurance is attracting increased attention as a way to protect those most affected. Therefore, attempts to link both topics and to explore possibilities how to integrate microinsurance into the protection efforts come as no surprise.

Some aspects of climate change may be insurable, while many may not be in the long run. Investing into unsustainable microinsurance projects will do more harm than good to the customers, the insurer and the sector as a whole. When assisting low-income populations faced with a changing climate, the primary focus should be on adaptation, with microinsurance as a complement. Insurance should support and protect investments, and could encourage adaptation. Securing investments into adaptive measures with insurance offers plenty of room for innovative products that deliver long-term benefits.

The Microinsurance Network, hosted by Appui au Développement Autonome (ADA), is a member-based network of organisations and individuals active in microinsurance. The mission of the Network is to promote the development and proliferation of good-value insurance products for low-income persons by providing a platform for information sharing and stakeholder coordination.

FOR MORE INFORMATION ON:

**Microinsurance Network:**
www.microinsurancenetwork.org

**Appui au Développement Autonome (ADA):**
www.microfinance.lu

Any feedback or comments can be sent to info@microinsurancenetwork.org

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Before focusing on microinsurance, he acquired extensive insurance expertise during 8 years as an underwriter with Swiss Re. In 2008, he co-founded the Fair Trade Insurance Initiative, which promotes innovative insurance solutions for smallholders in developing countries.