



Droughts, unlike earthquakes, are not something that catch us completely unawares. Nevertheless, because they last for such a long time, they are among the most destructive natural catastrophes, laying waste to entire regions. Year after year, millions are affected by droughts, a scourge which destroys the will to live even when it does not destroy lives.

The African continent is particularly prone to droughts. In Ethiopia alone, they caused some 600,000 deaths in the 1970s and 1980s, with seven million people being subjected to extensive periods of drought. Sudan, Malawi, Chad and Mozambique also struggle with extremely arid conditions. Currently, countries in the Horn of Africa are worst affected by water shortages, and the irony of it is that Ethiopia and Eritrea also have to face widespread floods. The paradox of having either too much or too little water is found elsewhere in Africa as well. United Nations scientists believe that climate change will further aggravate such extremes and that the number of people affected on the world's poorest continent alone could soon exceed the 200 million mark.

The UN has launched the ClimDev Africa project as a response to the problem of drought over the long term. Initially, the objective of the project is to collate and process data on weather and climate. Funds pledged by the United Kingdom will be used to improve risk management in a total of eight countries. The programme will be later extended to cover approximately one half of the African continent.

#### Drought and the poverty trap

Until the ClimDev Africa project takes effect, the UN and donor nations will be further called upon to provide famine relief in drought-stricken regions. The FAO (Food and Agriculture Organization) and WFP (World Food Programme) have had a regional presence for several decades, supplying food to some 90 million people each year. The WFP supports around 80 of the poorest countries. But for many, help comes too late. If crops are damaged, people are often forced to sell everything they have in order to survive until financial help arrives. They are caught in a poverty trap from which they can no longer escape by their own efforts.

For precisely this reason, it would be of benefit to develop and implement practicable insurance solutions for dealing with crop losses. In some industrialised countries, it has long been customary to insure against exceptional or extreme weather conditions. This enables US power suppliers, for instance, to make good any losses incurred if the winter is unseasonably mild. Similarly, ice manufacturers can take out insurance to cover any falls in revenue they may sustain in a cool summer.

## Thomas Loster

### Together we can beat the drought trap





**Thomas Loster**

For the past 20 years, the Chairman of the Munich Re Foundation has been involved in the field of climate change impacts. The foundation is able to draw on this experience in its endeavours to find solutions to help drought-stricken countries.

Weather derivatives or index products would also be suitable for the developing countries in the drought corridors, and this would open up a large market to the insurance industry, offering huge potential. The mechanics are as follows: compensation is paid if there is insufficient rainfall in crucial growth periods. This allows people to purchase food ahead of a failed harvest, a major step in overcoming poverty. If this then leads to the establishment of a viable insurance market, the result will be a system which is more reliable and cheaper to administer than cumbersome international aid programmes.

#### **Obstacle to development**

In many countries in South America, Asia and Africa, index and derivative products of this kind fail for want of suitable or reliable data. Moreover, reactions tend to be negative. It is particularly difficult to win trust and understanding for insurance schemes in developing countries as, by and large, they have not previously had access to financial services. And it is very hard to explain that premium payments are not savings.

#### **The world's first humanitarian insurance**

Thankfully, there are now plans to remove these obstacles. The proposals range from individual microinsurance schemes to meso-scale coverages designed to improve living conditions for several million people over a sizeable area. (See diagram, page 15.)

The first concrete moves in this direction were made in Ethiopia in 2005 when the WFP and other donors issued a policy to insure people against extreme droughts. In essence, if 26 weather stations record insufficient rainfall during the period March to October, 17 million farmers receive compensation.

Even where multi-year covers are involved, the success of innovative schemes of this kind still hangs by a thread where Africa is concerned. If rainfall is below the trigger threshold for a period of several years, it is difficult for the insurer to recover loss payments via the premiums. If, on the other hand, conditions are clearly arid but rainfall does not fall below the trigger threshold, no compensation will be paid – perhaps even for several years. In that case, people will not understand why they have to pay premiums when they receive nothing in return.

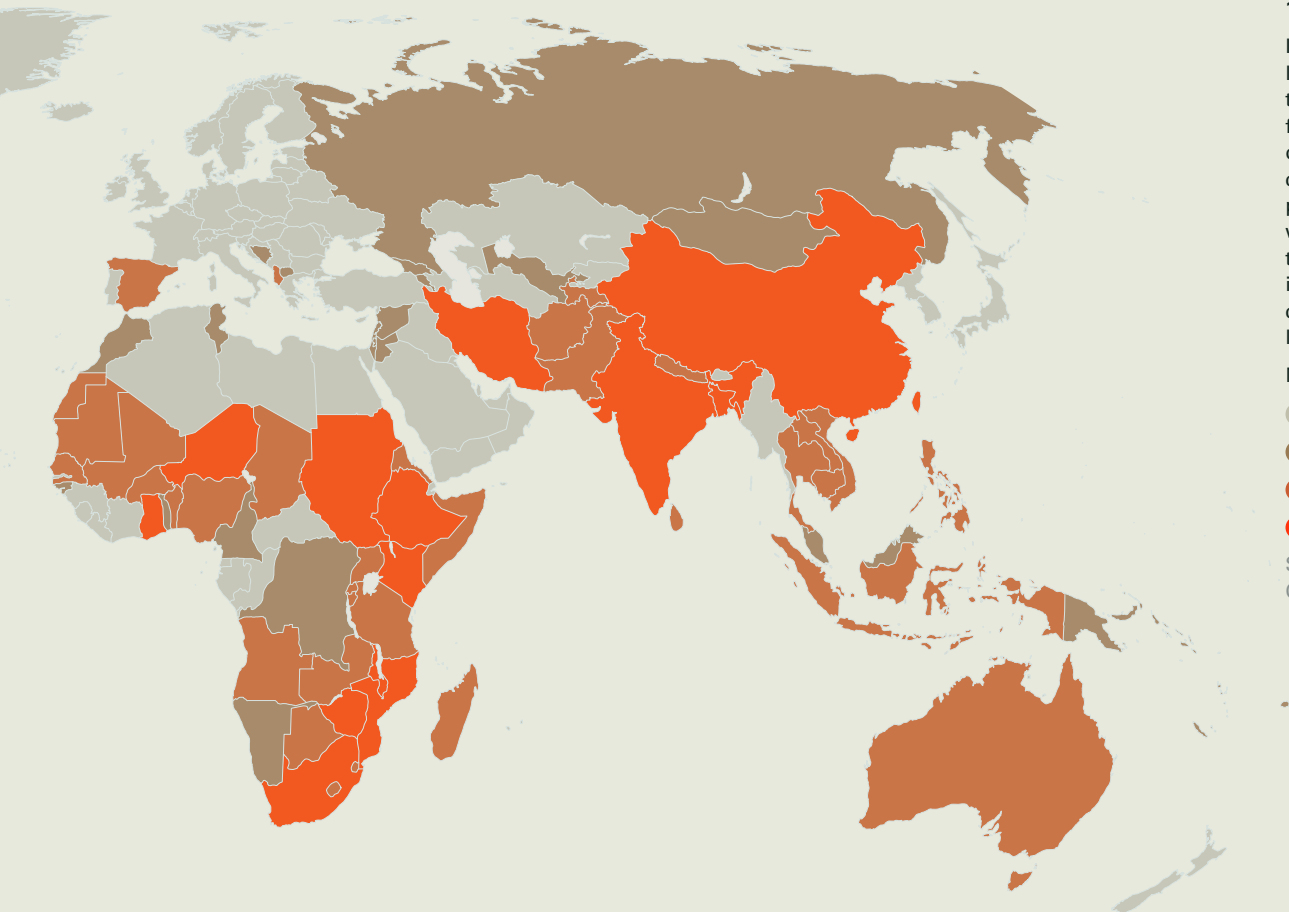
#### **Number of people affected by drought worldwide in the period 1970–2006**

Industrialised countries like Spain, Belgium and the USA also suffer from frequent droughts. They do not necessarily have to cause famine disasters in poorer countries. The worst of these occurred in the mid-70s and mid-80s in the Sahel zone. Each claimed several thousand lives.

Number of people

- 0
- 1–1,000,000
- 1,000,001–10,000,000
- > 10,000,000

Source  
CRED, Brussels, 2006



This example holds the key to an acceptable solution. It takes a relationship built up over many years and a sufficiently broad geographical distribution to achieve a spatial or temporal risk equilibrium. Success basically depends on the product design and on the establishment of long-term, continuous partnerships.

### What makes a successful product?

#### Simple forms of cover

The ancient Egyptians had an agricultural tax which was linked to the depth of the River Nile at Elephantine Island. The deeper the water, the better the harvest and the higher the tax imposed. Although such a simple solution is not appropriate for drought insurance, complex formulae with triggers that only experts can understand tend to be counter-productive, especially when disputes arise. If the situation is not clear-cut the insured tends to suspect foul play.

#### Allowing for losses

The insured think that they are being exploited if the meteorological trigger is set so high that seemingly no claims are paid. Arid years, when there have clearly been crop losses, are a particularly thorny issue. The structure should make some provision for payments in less critical situations. Although this increases the premiums, it is essential in order to persuade people to accept the scheme.

#### Multi-year terms

Risk partnerships developed over a period of years and based on trust are fundamental to risk-sharing, whereas insurance that relies only on short-term gains does not work. A stable partnership is far better than constant wrangling over premiums.

#### Geographical distribution

The wider the geographical distribution of an insurance product, the easier it is to bear the load. Insurance is a system based on solidarity and works best with a broad geographical spread.

### Risk partnership as a success factor

#### Dialogue and understanding

As a rule, the different players – politicians, scientists, economists, the people concerned – do not “speak the same language”. To minimise the risk of misunderstandings, there has to be a clear consensus about the objectives and time-frame, together with free-flowing dialogue. It is not essential to agree on every single point, and an element of dissent may even be beneficial provided all sights are firmly fixed on the common goal. The parties involved will not give their full support unless they can see the benefits of cooperation. The importance of ensuring continuity of personnel is often underestimated in this respect.

#### Specific agreements

The partners have to agree on coherent strategies, forge realistic plans, consistently measure the results and involve as many of the decision-makers as possible from the outset. Moreover, the higher the entry barriers and objectives, the longer it takes for projects to get under way and the more crucial the roles of motivation and mutual encouragement. Consequently, small projects often have a better chance of getting off the ground. Prospective partners should not overstretch their resources by embarking on major projects from the start.

#### External communication

Finally, it is important to share success stories and make no secret of obstacles encountered and lessons learnt. Failure to learn from our mistakes means continuously reinventing the wheel. Projects involving market leaders tend to have a multiplier effect.

At a time when climate change requires many different kinds of adaptation, more thought has to be given to underwriting tools. By a judicious integration of preventive measures, they provide more than just financial equilibrium. In addition, risk transfer can be a way to ease the suffering and improve the lot of millions of drought victims.

The foundation will continue to encourage networking among experts at all levels in the future. The way to escape the drought trap is for all those involved to seek sustainable solutions.

**Insured**  
Individual  
**Geography**  
Home  
**Sum insured**  
US\$ 50–5,000

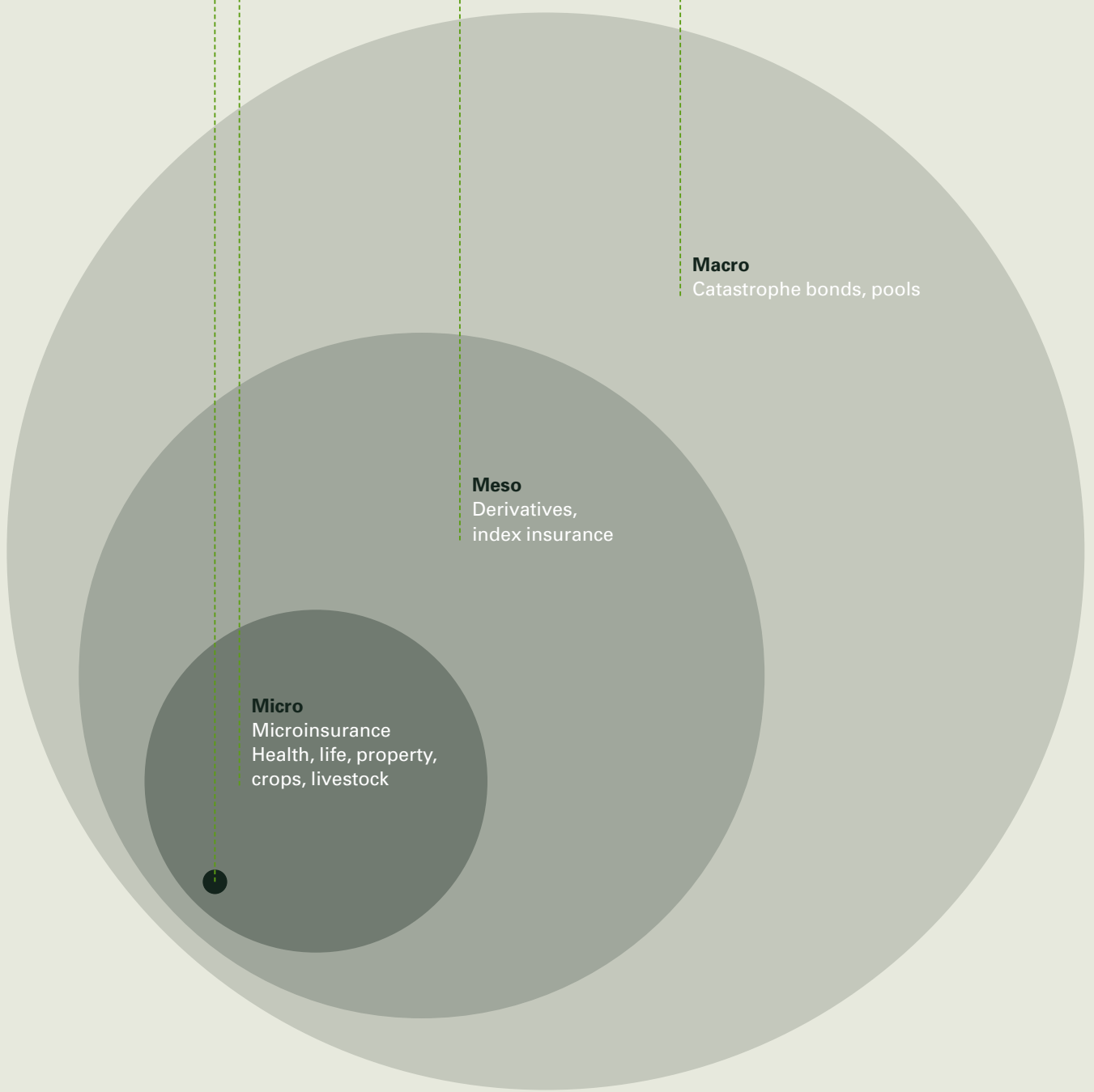
**Insured**  
Group  
Up to several hundred  
**Geography**  
Town, local community  
**Sum insured**  
US\$ 50–5,000

**Insured**  
Larger community  
Thousands to millions  
**Geography**  
Region  
**Sum insured**  
US\$ 200,000 to several million

**Insured**  
Nation/Government  
Hundreds of thousands to several million  
**Geography**  
Country  
**Sum insured**  
US\$ 100m to several billion

**Insurance products for people in developing countries**  
Scale, products, beneficiaries  
Innovative insurance solutions can be tailored to individuals or large groups. The products and mechanics vary widely. If developed, they have the potential to help many millions of people.

Munich Re Foundation, 2006



**Micro**  
Microinsurance  
Health, life, property,  
crops, livestock

**Meso**  
Derivatives,  
index insurance

**Macro**  
Catastrophe bonds, pools