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Climate risk in developing countries
What is the responsibility of the Global North?

One Pager

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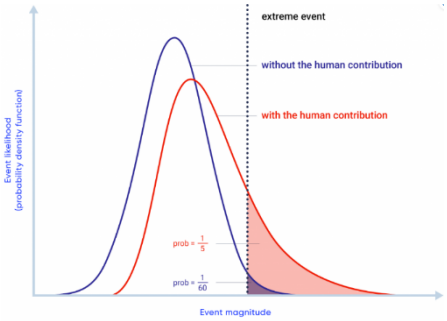
Findings of research in attribution theory suggest the possibility of separating anthropogenic climate change from inherent climate variability and other external driving factors. This opens up new dimensions for providing more balanced support to developing countries in safeguarding against climate risks especially through climate risk insurance.

More severe climate events

It is possible to observe a change in frequency and/or intensity for many extreme weather events since the pre-industrial era. Through the use of climate models, these changes can be partly attributed to anthropogenic climate change. Projections of climate change show that progressive warming will exacerbate extreme events, such as heavy rainfall, which can lead to flooding (IPCC, AR6). These changes in extreme events fluctuate strongly based on regional and seasonal differences.

Attributing of anthropogenic climate change

Anthropogenic climate change is increasing the likelihood of extreme events. Climate models that can simulate both, the current climate and the pre-industrial climate without human influence, are usually used as the basis for determining this change. This data can be used to derive how the likelihood of a particular event occurring has changed due to climate change. There are now standardised analyses to assess current events with respect to the probability shift (World Weather Attribution). The results allow specific statements to be made, such as that floods like 2022 in West Africa have become twice as likely and 5% stronger due to human-induced climate change.



The blue distribution curve represents the possible values of a climate variable in a world without human influence. The red distribution curve represents the possible values of the same variable in a world with human influence. The shaded areas indicate the likelihood of experiencing an extreme event (as defined by the dashed vertical bar) in each scenario. (Figure: Pacific Climate Impacts Consortium (PCIC), 2019)

Determining the contribution of climate change to expected losses

Natural hazard models used by insurance companies to determine potential losses are representative of the current climate. However, they can be adapted to also represent a pre-industrial view using information from science, such as frequency changes. The contribution of climate change can thus be derived by comparing the two perspectives.

Challenges and limitations

Attribution is based primarily on climate models and the data with which these models work. Depending on the hazard under consideration, deviations from reality do arise, e.g. due to low geographical resolution in the models. This is particularly relevant for small-scale phenomena (strong winds, hail, heavy rain, tornadoes). Climate models only map climatic changes. The consequences (losses) are assessed using suitable risk models in which the climatic effects on the expected losses are simulated. Establishing public confidence in risk assessment calls for adequate, transparent risk models that meet strict scientific standards. To this end, it is essential to expand and check the data situation on an ongoing basis.

At the political level, this can prompt intense discussions between industrialised countries as to who contributes more to anthropogenic climate change and thus has more or less financial responsibility towards developing countries.

Implications for the international loss and damage debate

A more precise differentiation between the climate risk and climatic changes caused by industrialised countries and the existing background risk can help to increase transparency and confidence, for example in the international debate about the financing of the Loss & Damage Fund. Concerns such as moral hazard behaviour and excessive cross-subsidisation due to subsidisation of premiums could be addressed, and the targeted and effective use of scarce public funds could be improved. Climate risk insurance policies supported through these means combine targeted compensation for human-made risk drivers with responsibility for risk prevention. At the same time, tailored risk allocation allows climate-independent hazards to be considered, which is essential for comprehensive risk coverage in many countries. The approach promises a new and deeper level of transparency, which can serve to specify liability more clearly and provide governments with a basis for argumentation in order to make further funds available for e.g. climate risk insurance in development cooperation.■

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