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## The risk of climate catastrophe bigger than what most people think

*Risk awareness. Few people would dare to fly if the risk of crashing was 1.8 percent. But so large is the likelihood of a global temperature increase of catastrophic six degrees. With a new tool climate risks will be made understandable, writes Laszlo Szombatfalvy, Margot Wallström and Johan Rockström in Global Challenges Foundation.*

**A** new Sifo survey shows that four out of five Swedes consider climate change as a serious threat to humanity. Politicians must take this anxiety much more seriously than they have done so far. To highlight the growing risks of global disasters that threaten humanity Foundation Global Challenge launches a global risk indicator.

Despite all the progress in raising living standards and reduce human suffering, we must dare to face the truth; humanity has never before faced so large risks as it does today. One of the biggest

risks is associated with climate change. This risk has arisen through an unprecedented population growth and fossil-based and resource-intensive lifestyles in a growing number of countries. Humanity has for the first time in its history been able to seriously damage the Earth's ecosystem, on which we all depend.

Since we have not intervened in time, we risk reaching a global warming of four degrees already during this century. It would be a disaster for humanity. If the world does not act, we can in a few years reach a state of "game over" for a stable climate on Earth, with gigantic implications. And the longer we wait to act, the greater the risks.

There are several reasons why we do not act. One reason is that the public and many policymakers are not sufficiently aware of and are unable to relate to the actual dimensions of the risks. Another is that the worst damage is expected to occur in a few decades or hundreds of years, while measures to avoid crises must be paid immediately. A third reason is that the risks are global and effective response requires global decisions. Such decisions can only be taken by an effective global decision-making body. Such a thing does currently not exist.

A conscious and active public is crucial to force far-reaching political decisions to reduce greenhouse gas emissions. Against this background, it should be cause for optimism. At least in Sweden. A completely fresh Sifo survey, commissioned by the newly formed Global Challenge Foundation, shows that four out of five Swedes, 80 percent of 1,000 respondents, regard climate change as a serious threat to humanity. More than three out of four in the survey, 78 percent, believe that global warming is primarily due to human influence. In addition, 72 percent think that global policy decisions to tackle climate change are insufficient to avert the risk of major climate disasters. Just as many, 72 percent in Sifo survey, believe that people should accept large or very large sacrifices for not exposing future generations of large climate risks.

It is well known that the size of a risk, in general, depends on the potential damage, and the likelihood that it occurs. But most people do not consider the fact that these two factors only have equal weight as long as it is possible to compensate for the damage in economic terms. When the potential damage is irreplaceable or almost infinite one must apply a different rule for the calculation of the magnitude of risk: The greater the damage, the heavier it weighs in relation to the likelihood of it occurring. This means that when billions of people's vital interests are at stake, the risk is so immense that even if the probability is very small, everything (within reason) must be done to avoid it.

It is therefore unacceptable that both scientific reports as well as media most often focus on the most likely scenarios for development. One example is the last (2007) Assessment Report of the UN Intergovernmental Panel on Climate Change (IPCC). The report specifies the expected warming at different concentrations of greenhouse gases in the atmosphere, but does not specify the expected warming for all the possible outcomes. The report stated that an increase of the current carbon dioxide concentration from 400 to 450 parts per million (ppm) would imply that the warming by at least 66 percent probability would be between 1.4 and 3.1 degrees Celsius. However, it did not mention anything about that the likelihood - based on the same assumptions - was about 7.1 percent for a warming of 4 degrees and 1.8 percent for a warming of 6 degrees or more. The research community is undoubtedly agreeing on the fact that both a 4 degrees and a 1.8 degrees warming would imply world disasters of different magnitudes. It is important to ask ourselves the question whether we are willing to accept these types of risks.

To relate to something we all are familiar with - aviation safety. If an accident would rate a risk of 1.8 percent, it would mean that we would have around 1,500 serious air accidents per day in the world. This is to be compared with today's approximately 30 accidents - per year.

The example illustrates something of importance. We would not tolerate even a fraction of climate change risk levels in everyday life. Although the accident rate in aviation would be as "low" as 0.1 percent, it would result in 80 aircraft accidents per day. How many people would then like to fly? The tolerance for global catastrophes should be even lower.

In order for the public and politicians to easily be able to get an idea about global risks, the Foundation Global Challenge Foundation has developed a global risk indicator. The first version focuses on the risks of dangerous temperature increases. The risk indicator also includes the less probable but very serious risks. It will be presented on September 27 in Stockholm at a seminar with international risk specialists and researchers.

The 27th of September is also the day when the UN climate panel 's presents its new assessment report in Stockholm. It is of major importance that the IPCC describes and focuses on the risks related also to the most serious scenarios. Only then will the world's politicians be able to get the overall picture and a sufficient basis for decision, as it should be impossible to ignore. Only then will the issue be considered seriously and given a forefront position. Is Sweden's and the world's leaders willing to decide on the sacrifices required in the short term in order to eliminate the possibility of a future climate catastrophe?

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