

# How do environmental issues affect national security?

**Interview of WashingtonProfile correspondent Seva Gunitskiy with Hans Günter Brauch** who teaches international relations at the Free University of Berlin and is chairman of AFES-PRESS, Mosbach, Germany.

I'm looking at issues of global environmental change, and specifically six factors: climate change, desertification, water scarcity, increase in population, and food needs. The interaction of these factors contributes, under certain conditions, to increasing scarcity of food and water, as demand increases and supply declines. They may also contribute to environmental degradation, which in combination with scarcity contributes to environmental stress. This stress may intensify or trigger an ongoing conflict.

I'm not saying these are automatic or mono-causal linkages. But we could look at a specific case, like – will climate change contribute to conflict? The IPCC, the Intergovernmental Panel on Climate Change, in its third assessment report (TAR) published in 2001 stated that climate change has contributed to and intensification of extreme weather events, such as drought, flash floods, and storms. These extreme events can cause people to leave their home and settle somewhere else.

One extreme case is Bangladesh, where you had more than one million fatalities from natural events. In that country, you had very intense internal displacement. This resulted in clashes between migrants and residents, even leading to some massacres. In North Africa, where there were repeated droughts in the late 1980s and early 1990s, contributed to an increase in the process of food and water. In Morocco on several occasions during the 1980s and 1990s, after a severe drought and increase in food prices you had a general strike, which led to repeated clashes with the police, and a few hundred people were killed. These are small cases of violence not leading to major war.

But there is possibility for some major violence. My argument is based on a study commissioned by the German Ministry on the Environment, Nature Conservation and Nuclear Safety that was released in November 2002 and may be downloaded at: <http://www.bmu.de/files/climges.pdf>. The study discusses five cases: the Small Island States, Bangladesh, Mexico, Egypt and the Mediterranean region.

The first is in Bangladesh. There, if climate change results in a one meter sea level rise in the Gulf of Bengal, about 17% of the territory will be gone. This is already a highly overpopulated area, and the population will nearly double between 2000 and 2050. So you have demand increase, loss of land, and lower crop yields due to increased temperature caused by global warming. So you have a nightmare scenario. Demand is going up, supply is going down, and land is disappearing.

The second case is Mexico. One of the very clear messages is that due to climate change, the area for un-irrigated maize production – maize is a major cereal in Mexico, especially for the indigenous population – will go down. But the population of Mexico is increasing, demand is going up. Water is scarce in many areas, and probably will get scarcer. Without irrigation, the possibility of growing maize will go down.

Now, what are the security implications of this? One likely event, which we can already observe, is increasing migration out of Mexico. The first step is internal migration into the cities, leading to bigger slums. The pressure to move across the border will increase. This is the same pressure people in Bangladesh have in moving to India. From an Indian perspective, many security institutions talk about Bangladeshi immigration as a security challenge.

If you look at Egypt, the third case – what will be the implications of temperature increase? We don't know exactly how much the change will be – it depends on the assumptions, it depends on the model. Some say 2 degrees centigrade by the end of the century, others say 4 degrees. That means more heat waves, a tremendous effect on young and old people, which will create health problems. Egypt relies on 95% of its water supply from the Nile. The population in the nine Nile basin countries has increased significantly in the last fifty years, and the projection of the UN is maybe another 500 million increase in the next fifty years. If climate change comes on top of the increasing demand, and yield declines, you have another nightmare scenario.

So I cannot say for a fact that this will lead to a clash between Egypt and Sudan, or Egypt and Ethiopia, for instance, but I can say the trends toward conflict may intensify in the future if no countermeasures to mitigate against these consequences are undertaken now. The goal of this analysis has been to put the societal implications of climate change in this report. We also want to raise awareness, that with our consumption patterns in the North, with our use of oil and gas, we contribute to the intensification of global warming. The best strategy is not a military strategy to patrol borders and prevent low-scale conflict. The best counterstrategy is to think of the causes to address – reproductive health problems, for instance. Here you have an ideological constraint in some countries, where reproductive health or birth control is not being supported.

The Kyoto Protocol is just a small part of this to produce a 5.4% decrease in global warming until 2008-2012. The trend in the US, for example, has been a major increase since 1990 and in 2001 the greenhouse emissions in the US are about 24% above the target the US would have to achieve under the Kyoto Protocol it did not ratify. In Europe, the EU countries have all signed and ratified the Kyoto Protocol, and they are on record for agreeing to implement the protocol by 2008-2012. But many countries are far off from implementation. Upon EU enlargement on 1 May 2004, the new EU countries are under their national obligations the entered under the Kyoto Protocol until the first commitment period of 2008-2012.

You know very well that Russia has not yet decided to sign the protocol. The Europeans hope that Russia joins. But the major problem is the United States government, which has objected to join, and has doubted the credibility of the scientific approach, contrary to the argument and research of all major U.S. climatologists and many reports of the U.S. National academy of Science.

At the same time, the National Oceanic Atmospheric Administration, an American organization, noted that the concentration of greenhouse gases in the atmosphere has increased by 3 parts per million during 2003. There have been measurements since the Industrial Revolution, and at that time there were about 280 parts per million of greenhouse gases. Now we are at 375. But the NOAA assessment was that there was a

three-point rise just in the last year. That is obviously an indication of an increase. That is, if the measurements are not wrong, and I assume they are not, since NOAA is the most respectable organization, with the most accurate measurements for the last fifty years. So that is an indication that something is rapidly changing. Whatever we don't do today, it will continue to accumulate in the atmosphere.

The implications of global warming will be greatest for the poorest countries, which have the lowest adaptation capabilities. Major extreme weather events cause a lot more economic loss in developed countries, but human loss is highest in the poorest countries – for instance, this is the case with tropical storms.

### **What are the implications of climate change for Russia?**

Now, the implications are different. Some say that for Russia there will be beneficial elements, others say there will be many negative elements as well. It will probably be a mixed picture. One thesis that has been introduced in a report of the US National Academy of Science on Abrupt Climate Change says that the melting of the North Arctic

May cause a diversion of the Gulf stream what would then lead to a chilling in the North of Europe, including the Baltic Sea. The implication of this is that the global water conveyor belt will change. If this should occur, there will be abrupt climate change. The assumption is that global warming, leading to the melting of the Arctic, may contribute to the fact that the Gulf Stream will turn. And if the Gulf Stream does not go to Northern Europe, this will have a tremendous impact on places like Murmansk but also on St. Petersburg and the whole region. It could mean a major cooling, but no one can predict at present whether such a regional cooling caused by global warming will actually occur and if when it would take place.

Storms may hit Russia too. I have not analyzed the impact of intensive storms for this region. Flash floods, droughts may certainly have an impact on the southern parts of Russia. Russia may get more rain, but the increase in temperature will probably not be as high as for Europe. There are also beneficial elements – in parts of Russia, the soil may become better for raising crops if the abrupt climate change and a diversion of the Gulf Stream does not occur. If it should occur, major parts of Western Russia may experience a similar climate as parts of Canada in the same latitude.

The interview is based on a luncheon talk Dr. Brauch gave on 29 March to a meeting organized by the Friedrich-Ebert-Foundation in Washington, D.C., at the Carnegie Endowment of International Peace in Washington, D.C.. The talk and all powerpoint slides may be downloaded at: [http://www.afes-press.de/html/download\\_hgb.html](http://www.afes-press.de/html/download_hgb.html).

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