

**Climate Change, Social Stress and Violent Conflict**  
**State of the Art and Research Needs**  
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*Abstract*

**Policy response to climate change in the Middle East and North Africa**

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According to the fourth IPCC Assessment Report (IPCC 2007, WG I, WG II) the Middle East and North Africa (MENA) region will be severely affected by the following physical effects of climate change: high temperature increases, significant decline in precipitation and especially the low lying coastal regions with high population density and the Nile Delta will also be severely affected. These changes will directly affect the agricultural production: rising evapotranspiration will contribute in most cases to crop yield declines. Thus, the rapidly declining self-sufficiency in food due to a continued high population growth until 2050 will necessitate a significant increase in food (especially cereal) imports. In several countries that are rich in fossil fuels, the reserves of oil and gas are projected to decline or to be exhausted by 2050. This raises for many MENA countries basic economic challenges: how to pay for the increasing need of virtual water, how to employ, house and feed a rapidly growing population?

These combined challenges posed by climatic, demographic and economic challenges many MENA countries will face until 2050 will affect the human security and survival of its citizens, but also the national security and stability of many countries, and through an increasing push and pull factors the migration pressure from some MENA countries to Europe, the Arab Gulf, North America and Australia may increase what has been considered by many EU countries as an increasing internal security challenge (justice and home affairs) that has become an international security issue. Migration has already been the major driver for European initiatives both in the framework of the Barcelona process (EMP) and of the new Union for the Mediterranean.

There are two alternative policy responses: a) a reactive short-term crisis management trying to cope with the migration streams by FRONTEX, retransfer of migrants in cooperation with countries in North Africa and in the Near East (Turkey); b) a proactive medium- and long-term strategy that addresses the climatic, demographic and economic root causes. While short-term policy responses still prevail in the EU-MENA context, this paper takes up two proactive policy scenarios suggested by the Millennium Ecosystem Assessment: a) a regional adaption fix and b) a global technology garden scenario for coping with both the effects of climate change and desertification by sustainable development initiatives.

Taking up a previous idea of a 'survival pact' within the EU-MENA regions by linking two key commodities of needed food imports (or 'virtual water') by the MENA countries with a need for increasing imports of sustainable energy sources in many EU countries (or 'virtual sun') this paper develops conceptual ideas that were developed further by three collaborative research projects for the German BMU and that were amalgamated in the DESERTEC project that was launched by a consortium of German technology and energy companies and banks in July 2009.

In a thought experiment the final part of this paper will discuss the potential of an interregional EU-MENA survival pact, and as an illustration the DESERTEC project initiative, as one of several tools for addressing the regional climate change impacts in MENA countries that mainstream adaptation and mitigation strategies for coping with climate change impacts of EU countries with regional economic development strategies of MENA countries. What conditions and requirements would have to be met to respond to satisfy Northern climatic concerns with Southern development interests in a way where the North pays for the learning curve with creating an economy of scale for renewables and the South benefits in terms of jobs, income and modernization of the economies and societies based on a gradually evolving mutual trust.