

Part of the reading material (the rest available as PDF:s) before lecture on 25th of March by Vane M Aminga & Karolina Eklöv. The rest is the IPCC report, section 5.3 (Page 456-459), and to scan through the entire World Bank Action Plan.

What is climate change adaptation?

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A family carries their possessions from their village which had become engulfed by rising floodwaters, on September 14, 2011 in Badin, Pakistan. Photograph: Warrick Page/Getty Images for UNICEF

There are two main policy responses to climate change: mitigation and adaptation. Mitigation addresses the root causes, by reducing greenhouse gas emissions, while adaptation seeks to lower the risks posed by the consequences of climatic changes. Both approaches will be necessary, because even if emissions are dramatically decreased in the next decade, adaptation will still be needed to deal with the global changes that have already been set in motion.

Humans have been adapting to their environments throughout history by developing practices, cultures and livelihoods suited to local conditions – from the Mediterranean siesta to the Vietnamese practice of building homes on stilts to protect against monsoonal rains. However, climate change raises the possibility that existing societies will experience climatic shifts (in temperature, storm frequency, flooding and other factors) that previous experience has not prepared them for.

Adaptation measures may be planned in advance or put in place spontaneously in response to a local pressure. They include large-scale infrastructure changes – such as building defences to

protect against sea-level rise or improving the quality of road surfaces to withstand hotter temperatures – as well behavioural shifts such as individuals using less water, farmers planting different crops and more households and businesses buying flood insurance.

The IPCC describes vulnerability to climate change as being determined by three factors: exposure to hazards (such as reduced rainfall), sensitivity to those hazards (such as an economy dominated by rain-fed agriculture), and the capacity to adapt to those hazards (for example, whether farmers have the money or skills to grow more drought-resistant crops). Adaptation measures can help reduce vulnerability – for example by lowering sensitivity or building adaptive capacity – as well as allowing populations to benefit from opportunities of climatic changes, such as growing new crops in areas that were previously unsuitable.

Low-income countries tend to be more vulnerable to climate risks and some adaptation measures – such as increasing access to education and health facilities – will overlap with existing development programmes. But adaptation goes beyond just development to include measures to address additional risks specifically caused by climate change, such as raising the height of sea defences. It is still unclear how expensive these measures will be or who will pay for them, but the World Bank suggests adaptation could cost the same again as the world currently spends on development assistance.

From: <https://www.theguardian.com/environment/2012/feb/27/climate-change-adaptation>

What are climate-related security risks?

Humans and human societies are ultimately dependent on nature. All essential aspects of human life originate in nature, be it food, water, energy or shelter. Humans live in substantially different environmental and climatic conditions. These diverse conditions have posed various forms of security challenge over time: drought, heavy precipitation, wildfires and cyclones. Moreover, humans have also transformed nature throughout history. However, we are witnessing today a change in both the magnitude and the speed of this transformation, as human activities also alter the earth's climate system. This lies behind the assertion that we have entered a new era, the Anthropocene.² This not only affects all the types of changes already experienced in nature, but involves also new features such as increased levels of carbon dioxide in the atmosphere and oceans, and unprecedented sea-level rise.

Given this alteration in the earth's climate system, and the fundamental impacts that will follow for the biosphere and human societies, climate change is increasingly being treated as a security risk. Its diverse impacts mean that the security risks that might follow on climate change differ in character. The fifth assessment report of the Intergovernmental Panel on Climate Change (IPCC) concluded that climate change will, among other things, progressively threaten human security, lead to forms of migration that compromise human security, contribute to factors that increase the risk of violent conflict, affect vital transport, water and energy infrastructure, and increasingly shape conditions of security and national security policies.⁴ Consequently, different policy areas such as foreign affairs, development cooperation, defence, humanitarian aid, trade, the economy and agriculture are being or will be affected in various ways by climate change. The success of mitigating climate change and developing adaptive capacity to its impacts will be crucial to the ability to achieve the Sustainable Development Goals (SDGs).

From: <https://www.sipri.org/sites/default/files/Climate-related-security-risks.pdf>