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Climate Change as a Threat Multiplier

SPECIAL

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and Conflict Management

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EDITORIAL

Global climate change poses an existential danger to humanity, but has faded into the background somewhat during the coronavirus pandemic. Now the issue is back with force. In the United States, President Biden formally rejoined the Paris climate agreement on the day of his inauguration, and has since announced very ambitious climate targets. In Germany, climate protection has remained a focal point of political debate even during the pandemic, and is one of the key issues in the upcoming parliamentary elections. The UN Climate Change Conference (COP26) promises to be an interesting event. It was postponed because of the pandemic and will now take place in Glasgow in November 2021. Will the international community agree on further improvements to limit global warming to well below two degrees Celsius?

The fact is that the past decade was the warmest since weather records began 140 years ago, and 2015 to 2020 were the six warmest years in that whole period. Climate change threatens the livelihoods and health of millions of people – especially in vulnerable regions of the global South. Possible consequences include a worsening of economic inequalities, conflicts over resources, the migration of refugees and displaced persons, and even the collapse of state structures.

Pope Francis drew attention to the dangers of climate change in 2015, in *Laudato si'*, the first ever encyclical letter about the environment. In this text, he describes climate change as “one of the principal challenges facing humanity in our day” and a “global problem with grave implications: social, economic, [and] political [...]”.

Although there is now a broad consensus within the global community that the impacts of climate change may threaten the living conditions of many people, it is a much disputed topic whether and how climate change contributes to the emergence of armed conflicts. During its two-year membership of the United Nations Security Council from 2019-20, Germany tabled a draft resolution describing climate change as a threat to international peace and security. The proposal was blocked by the United States, Russia and China.

It would no doubt be a simplification to say that the impacts of climate change will inevitably lead to armed conflicts. However, with increasing fragility in regions of the world such as sub-Saharan Africa and the Horn of Africa, they should certainly be taken seriously as threat multipliers. These dangers must be considered when assessing the needs and focus of humanitarian aid and disaster relief, international development cooperation, efforts to promote peace and resilience, and state-building.

This brings us to the tasks and instruments of classical security policy. There is increasing pressure to integrate crisis prevention and conflict preparedness more strongly into security policy concepts. At the same time, demand is growing for the military to become more sustainable, given its enormous consumption of financial and ecological resources. For our armed forces, this means modernizing their equipment and at the same time adapting their capabilities in light of potential new operational scenarios.

I am delighted to present this new edition of *Ethics and Armed Forces*, which puts forward an extremely important topic for discussion. I would like to take this opportunity to thank the authors for their intelligent and thought-provoking contributions, and I wish you an enjoyable read.

Dr. Veronika Bock
Director of zebis



OUT OF THE GREENHOUSE

JOINTLY AND GLOBALLY, THE CLIMATE CHANGE SECURITY RISK CAN STILL BE PREVENTED

Author: **Michael Czogalla**

Introduction

When we think of climate change, most of us think of natural disasters, melting icebergs and, with a guilty conscience, possibly also going on vacation by plane. But the problem and its consequences go far beyond rising sea levels, forest fires, droughts and floods. Climate change is now an international security risk that affects every country, and it can only be prevented or contained if we join forces. Current commitments by countries to reduce their emissions date back to the 2015 Paris Agreement. Yet in the foreseeable future, these commitments will miss the target also set at that time: to limit global warming to 1.5 degrees Celsius. The signatories would need to cut global emissions by 7.6 percent each year until 2030 – a 45 percent reduction from 2010 levels – in order to stay below the 1.5 °C target.¹ “The data [...] show that the global mean temperature for 2020 was around 1.2 °C warmer than pre-industrial times, meaning that time is fast running out to meet the goals of the Paris Agreement.”² If global warming then rises to 2 degrees Celsius or more, the international community will face very different challenges – namely gigantic flows of refugees from regions that are no longer habitable, enormous international relief efforts to alleviate natural disasters and famines, and an increasing threat of climate-related conflicts.

Politicians have been aware of the problem since long before Paris. For more than three decades, scientists have pointed to increasing global warming, which has risen steadily with industrialization since the mid-19th century. “The last time the atmospheric CO₂ amounts were this high was more than 3 million years ago, when temperature was 2-3 °C (3.6-5.4 °F) higher than during the pre-industrial era, and sea level was 15-25 meters (50-80 feet) higher than today.”³

The problem of global warming has been sufficiently documented by science. It is a well-known fact now. What has been lacking to date is the will on the part of the international community to follow through on their

Abstract

The facts about climate change are clear, the goals are scientifically supported: to limit global warming to 1.5°C, greenhouse gas emissions must be reduced by around 50 percent by 2030. This calls for committed action, especially from the largest emitters. Since U.S. President Biden took office, many have been counting on his commitment to climate policy and diplomacy. The recent stricter reduction targets of many major emitters, together with China’s commitment to climate neutrality and phasing out coal, give reason to hope that cooperation in the spirit of the Paris climate agreement is possible. Not only the United States, but also its “system competitor”

China need to adopt a leading role. Despite many lines of conflict and areas of dispute, they must not allow geopolitical rivalry to interfere with their common goal of climate protection. This requires:

- 1. a willingness to invest heavily in economic transformation and to support those countries that cannot afford to do this on their own;*
- 2. binding long-term commitments and treaties that survive changes of government; and 3. an understanding of the numerous security risks associated with climate change. The humanitarian costs of unchecked climate change, i.e. global warming in excess of 2°C, would far outweigh the efforts required now. In combination with an incentive and penalty mechanism that still has to be put in place, there is an opportunity to hold those states to account that refuse for various reasons to protect the climate. Significant steps in this direction should be taken at the COP26 climate summit in Glasgow.*

understanding, rethinking, promises and commitments with measurable action. Almost 69 percent of global greenhouse gases are caused by only ten countries. The United States lies in ignominious second place behind China, followed by the European Union and India. Russia, Japan, Brazil, Indonesia, Iran and Canada trail somewhat behind.⁴ These countries should set an example, and yet too often the blame is placed on others. Emerging economies want to catch up, and industrialized countries are having a hard time making the transition – as was made clear by the United States' temporary withdrawal from the Paris Agreement, for example.

Joe Biden goes all out on climate

After four wasted years with a U.S. administration under Donald Trump that was not even remotely interested in climate issues, now that Joe Biden is in the White House, there is a great opportunity to set new, international climate justice goals. Even before the U.S. presidential elections in November 2020, climate change was one of the main themes on Biden's overall ambitious agenda. He called it "an existential threat".⁵ President Biden seems to have recognized the seriousness of the situation: not only did he rejoin the Paris climate agreement on his very first day in office, and shortly afterward order the decarbonization of the U.S. economy (which is to reach net zero by 2050), he also described climate change as the greatest threat to the national security of the United States. Biden named former U.S. Secretary of State John Kerry as his special envoy for climate – sending an important signal that America wants to move forward internationally as well as domestically. At the same time, he appointed Gina McCarthy as White House National Climate Advisor. Her role is to coordinate the administration's climate efforts, from the military to the diplomatic service to the Department of the Treasury and the Department of Transportation. She will also lead negotiations with Congress to pass new climate legislation that will endure and can-

not easily be watered down or rolled back by the next administration.

When Biden hosted a virtual climate summit on Earth Day, on April 22, 2021, Pope Francis and German Chancellor Angela Merkel were joined by Chinese President Xi Jinping, Russian President Vladimir Putin, and many other heads of state and government. Right at the beginning, the United States made a surprise commitment to halve its emissions by 2030 compared to 2005 levels. That is almost twice

President Biden seems to have recognized the seriousness of the situation: he described climate change as the greatest threat to the national security of the United States

the reduction compared to the most recent pledge under Barack Obama.⁶ Biden also announced that the U.S. would double its annual climate funding for developing countries by 2024. In addition, the U.S. announced it would protect 30 percent of its land and water from human exploitation by 2030, thereby joining the international "30 x 30" initiative that enjoys bipartisan support in the United States Congress.⁷ And this is only one of the points on which the U.S. can find a common basis for negotiation with China. These are crucial developments ahead of the United Nations Climate Change Conference (26th Conference of the Parties, COP26) scheduled for November in Glasgow.

Everyone for the planet?

China announced at the virtual meeting in April that it would cut its carbon emissions to net zero by 2060. President Xi Jinping also promised that the country would phase out coal from 2026 and by 2030. Considering the otherwise anything but harmonious relationship between China and the United States, this is an important announcement that shows that China, too, seems ready to (help) tackle the most important global challenge.

Competition and even rivalry will continue in trade relations, technological and digital growth, and in the respective understanding of democracy and human rights. Not only between the U.S. and China, but also against Russia and others. Yet, despite all competition and even antagonism, when it comes to climate protection cooperation must be at the forefront. Joe Biden has already understood that climate change is an opportunity to build infrastructure (from roads to ports and energy grids), and he wishes to transform his country's economy accordingly. He is responding to the realization that dramatic climate change is not only a threat to the environment that transcends borders, it is also throwing the global financial and economic system into disorder.

When Germany's Federal Constitutional Court ruled in April 2021 that the country's Climate Change Act (*Klimaschutzgesetz*) was inadequate, the German government reacted swiftly with ambitious improvements. Svenja

Dramatic climate change is not only a threat to the environment that transcends borders, it is also throwing the global financial and economic system into disorder

Schulze, Environment Minister, and Olaf Scholz, Finance Minister and the SPD's candidate for Chancellor, immediately proposed new targets. The current climate targets now provide for a 65 percent emission reduction by 2030 instead of the planned 55 percent, rising to 88 percent by 2040. Climate neutrality is to be achieved by 2045 instead of 2050.⁸ At the 12th Petersberg Climate Dialogue, which also took place in April, Chancellor Angela Merkel additionally proposed an international CO₂ pricing system to help curb global CO₂ emissions. Reactions to the pricing system proposal were rather mixed.

Other top 10 greenhouse gas emitters have also increased their emission reduction targets. Japan, for example, is aiming for a 46

percent reduction by 2030 compared to 2013, up from 26 percent. Canada, too, revised its targets and announced it would reduce emissions by 30 percent below 2005 levels by 2030. Prime Minister Justin Trudeau underlined Canada's existing commitment to reach the net zero target by 2050. Brazilian President Jair Bolsonaro promised that Brazil would achieve climate neutrality by 2050 – ten years earlier than previously stated. Illegal logging in Brazil's rainforests is also set to stop by 2030.

Seen against the emission reduction targets that had been set before, these are moves in the right direction. But experts believe this still will not be enough to reach the overall target and stop global warming or keep it below 1.5 degrees Celsius.

Geopolitical framework and impacts

Climate change is entwined with current global challenges such as the pandemic, globalization, the threat to democracy, and energy dependence. Its impacts can now be observed in all regions of the world. It is not only the poorest countries or remote regions like the Arctic that are affected. Climate change affects the entire planet. It acts as a threat multiplier for political instability in some of the most volatile regions of the world. Negative impacts will be felt in the form of health risks, food prices and availability, and economic competitiveness. Countless people will pay for climate change with their lives. And last but not least, it will devour enormous financial resources. All of this is not in some distant future – it is already happening, and it will become exponentially worse.

Let us take the example of Syria, whose ongoing, climatically enhanced conflict started in 2011. Before the civil uprising, there were several factors that contributed to tensions within society. Between the late 1980s and the end of the century, several droughts plagued the country, and rivers began to dry up. In addition, around 1.2 to 1.4 million refugees arrived in Syria during the Iraq war.⁹ In 2005, a record-breaking five-year drought began, causing water shortages, economic losses,

and negative social consequences. The combination of the climate-induced drought, migration flows from Iraq and the social tensions arising from these two factors contributed to the turmoil in Syria.¹⁰

Geopolitical rivalries can be additional obstacles in the fight against climate change. The world's largest countries tend to be geopolitically hostile toward each other. There have been brief periods of rapprochement between Russia and the U.S. – they were allies from 1941-1945 in the war against Nazi Germany, and in more recent history both countries worked toward a better understanding in the immediate post-Soviet period from 1992 to the end of the century. But they keep reverting to a competitive stance.

Like Russia, Saudi Arabia, not an easy partner for the United States either, relies heavily on fossil fuel sales. Fossil fuels account for the lion's share of government revenues in both countries. Their governments know that this cannot be a permanent source of revenue; the fossil resources are expected to run out in a matter of decades. But so far neither country has shown the necessary political nor, as it were, the entrepreneurial will to embrace the transformation and start to rethink. This in turn may have considerable consequences for the stability and security of their regions.

Of course, China is most important when it comes to international security. The United States and China are the world's largest economies, and together are responsible for 43 percent of global carbon dioxide emissions.¹¹ Europe and many other countries see the United States as occupying a leadership and guidance role, but there are many other states that will look more to China when it comes to implementing or increasing their own targets. China seems ready to take necessary steps to reduce emissions at home, while at the same time moving into a vanguard position. Both countries do not only need to rigorously implement the existing reduction targets, but they must also gradually increase them. Only then can the U.S. and China set an example that other countries will take seriously, which will move them to actually implement the targets they have set for themselves.

President Biden stands behind his ambitious USD 2 trillion climate package, but it needs to pass both chambers of Congress before he can sign it into law. If it succeeds, it would send a signal not only to China but to the entire international community that the United States is indeed back. Now the U.S. and China will need to compartmentalize their relations, otherwise the joint fight against climate change cannot work. It is not that system conflicts, trade disputes, human rights,

Europe and many other countries see the United States as occupying a leadership and guidance role, but many other states will look more to China when it comes to implementing or increasing their own targets

Taiwan, technological competition and other potential sources of tension should become irrelevant, but they should be addressed and discussed through other diplomatic channels. Under no circumstances should the fight against climate change be allowed to become a political football, to be exploited by states in retaliation for other points of difference, or to gain advantages. At a press conference on March 7, Wang Yi, China's highest-ranking diplomat, indicated that his country was willing to cooperate openly with the United States on the issue of climate change. A first signal was the announcement of improved targets at the Leaders' Summit on Climate convened by President Biden on Earth Day. While this on its own does not bring positive results, it does offer the opportunity for further cooperation in this area.

It would also be important for China to halt its global fossil fuel based industrial investments via the Belt and Road Initiative (BRI), or switch to renewable energy. Since the BRI was established, China has invested billions of U.S. dollars in fossil fuel projects worldwide.¹² This is clearly heading the wrong way in the fight against climate change. A first positive step was the Belt and Road Initiative International Green Development Coalition (BRIGC),

founded in 2019, which aims for sustainable, green development throughout the BRI project and participating countries, and supports the United Nations 2030 Agenda for Sustainable Development.

Furthermore, most developing countries will need a huge amount of aid – not only financial – to be able to counter climate change. The United States and China are needed here. Existing instruments (Adaptation Fund, Green Climate Fund) should be expanded in the long term and new structures developed. In this context, Biden has announced the mobilization of public and private sector funding to advance net zero and help vulnerable countries cope with climate impacts.¹³

The role of the United Nations

Since the UN Framework Convention on Climate Change (UNFCCC) entered into force in 1994, its ultimate objective has been “to stabilize greenhouse gas concentrations in the atmosphere at a level that will prevent dangerous human interference with the climate system, in a time frame which allows ecosystems to adapt naturally and enables sustainable development.”¹⁴

Since then, the international community has met once a year under the UNFCCC for multilateral negotiations. The 2020 event was only canceled because of the pandemic, and the meetings will now continue in November 2021 in Glasgow as “COP26”. Despite the universally acclaimed successes of the Paris Agreement (COP21) for example, none of the results negotiated in the past 26 years

have been contractually binding – including the emission reduction targets. Not only are there no internationally applicable legal remedies, there is often a lack of political will to take global issues seriously and consider them in the long term – rather than for just one term in office. Donald Trump’s presidency made this clear. The sheer Herculean task of tackling the problem of climate change, the costs involved and the ease of counting on ignorance – which should not be underestimated – could always obstruct voluntary climate agreements or even condemn them to failure.

The knowledge that the transition to climate-neutral economies will consume enormous financial resources worldwide leads some states to choose caution, pursue low targets, or simply ignore targets. The right incentives are lacking, as are penalties for non-compliance. Joe Biden sees climate change as an opportunity not only to save the planet, but also to rebalance his country’s economy, making it climate-neutral but growth-oriented at the same time. The United Nations can learn from this and set the right incentives. They should set a binding agenda and create instruments that are not only coordinated globally, but also monitored. This requires financial incentives, for example, and a catalog of sanctions. Both could ensure the continuous and long-term participation of the negotiating countries.

The renowned British naturalist Sir David Attenborough addressed the members of the UN Security Council during a debate on February 23, 2021, with a sobering message: “If we continue on our current path, we will face the collapse of everything that gives us our security: food production, access to fresh water, habitable ambient temperature, and ocean food chains,” he said, adding “and if the natural world can no longer support the most basic of our needs, then much of the rest of civilization will quickly break down.”¹⁵ The consequences of climate change, if they are not prevented, may lead to social and political instability, harm the international economy, bring about demographic changes and mass migration, and trigger civil as well

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as military conflicts. For these reasons, the UN Security Council, which is responsible for maintaining international peace and security, has been addressing climate-related security risks since 2007. Such risks feature prominently in the Council's deliberations, and since that time there have been various resolutions emphasizing the negative impacts of climate change, and calling for further steps to be taken.

All hopes pinned on Glasgow?

Many climate activists breathed a sigh of relief when Joe Biden took the helm in the White House. With his commitment to climate policy, as described above, he will play an important role at Glasgow. But what Joe Biden is shaping now must also endure. Whatever form the agreement takes, whatever new targets are set, everything must be legally underpinned and binding. The next U.S. president cannot again relinquish the leading role at the stroke of a pen, and condemn the globe to climate disaster.

By 2030, global greenhouse gas emissions should be halved. By mid-century, humanity's net greenhouse gas emissions should reach zero. That is the goal, but the actual individual targets are divergent: not every country sets the same targets, nor are they always pursued with the necessary resolve.

Expectations for COP26 in Glasgow could hardly be higher. 2020 was one of the three warmest years ever recorded. Ocean warming is at an all-time high. In a talk hosted by the London School of Economics, UNFCCC Executive Secretary Patricia Espinosa summarized the four main goals of COP26: keeping promises to developing countries (including USD 100 billion annually in climate aid); finally and fully implementing the Paris Agreement; further reducing emissions and raising climate ambitions; and engaging observers and impartial stakeholders.¹⁶

Glasgow cannot be a second Paris, a business as usual. Glasgow must set new targets that match the reality – and are therefore much higher and more ambitious than those currently in place.

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CLIMATE CHANGE AS A RISK AMPLIFIER

ON THE LINKS BETWEEN CLIMATE CHANGE CONFLICT

Author: **Michael Brzoska**

Introduction

When former U.S. Vice President Al Gore and the Intergovernmental Panel on Climate Change were awarded the Nobel Peace Prize in 2007, the decision was met with great approval by some, and heavy criticism by others. Criticism was sparked mainly by the fact that at the time of the award, no general empirical relationship could be established between the increase in greenhouse gases in the atmosphere and the prevalence of violent conflicts. On the contrary: compared with the 1990s, the number of armed conflicts had decreased significantly while climate change had progressed. Looking to the future, critics were also sceptical as to whether the close connection posited by the Nobel Committee between climate change-induced environmental changes and armed conflicts really existed. Those on the other side of the argument pointed to a number of recent wars such as the one in Darfur in Sudan, and to the conflict potential associated with scarce resources such as arable land and water, whose availability – in their view – will decrease because of climate change.¹

Since 2007, the question of the links between climate change and conflicts has become the subject of scientific studies and publications now numbering in the hundreds.² While the results of these studies and the conclusions drawn from them are still mixed, a number of broadly accepted findings can be identified. These are presented below.

Climate change as a threat or risk

The different reactions to the 2007 Nobel Peace Prize stem from two basic positions in the analysis of conflicts. One emphasizes environmental factors, the other underlines the societal dimension as the decisive factor in the emergence of conflicts and their escalation into violence. In the scientific debate surrounding the links between climate change and conflicts, these two basic positions are

Abstract

Changes in the natural environment caused by climate change affect people's living conditions as well as the conditions for managing and resolving conflicts of interest. Climate change is therefore also a risk factor for violent conflicts. However, its links with economic, social and political conflict drivers are complex, and its significance therefore cannot be determined in isolation. For the foreseeable future at least, whether or not a conflict escalates is determined not so much by the magnitude of environmental changes, as by how conflict-prone the situation is in which these changes take place. In general, the risk of conflict is especially high at the local level, because this is where climate change has the biggest impacts – for example in extreme weather events or as a result of rising sea levels. The close intertwining of the impacts of climate change on the environment with other conflict factors presents a wide range of opportunities for reducing the risk of conflict induced by climate change. However, the conditions for successfully mitigating the conflict risk diminish as climate change advances. Risk factors beyond climate change itself include the dangers of over- and underestimating its significance for the occurrence of conflict. Exaggeration can lead to militarization, while underestimation can mean a failure to take useful steps to mitigate the climate change risk factor.

strongly associated with the disciplines in which researchers are based. While authors with a background of climate research or ecology generally regard environmental factors as dominant, conflict researchers tend to focus on the human-made conflict process.

The two basic positions are well illustrated by the example of the impact of drought on the war in Darfur from 2003.³ The outbreak of this war, which resulted in several thousand deaths, had been preceded by repeated violent clashes over land and water. These mainly involved farmers and cattle herders, but had also taken place between different ethnic groups. Population growth, but also a trend of diminishing annual rainfall – which was manifested particularly in the form of recurring droughts – had exacerbated these conflicts over the decades. Yet this did not result in numbers of victims on the same scale as was seen after 2003. After 2007, following negotiations and agreements, the fighting subsided. Not least, this also happened because a peace force comprising several thousand troops was stationed in the region. Currently the situation in Darfur is largely calm. However, the number of displaced persons remains very high, and there are ongoing local battles among armed groups and with government units.

Declining rainfall and recurring droughts have placed people's lives in Darfur under increasing strain over the decades. The link between this deterioration of environmental conditions and global climate change is obvious. Therefore, from an ecological perspective, the war that started in 2003 was an eruption of violence between groups over increasingly scarce water and usable land. Ban Ki-moon, the then Secretary-General of the United Nations, called the Darfur conflict the first climate war.

However, the war did not follow one of the many droughts. It came after a series of comparatively rainy years. Nor was it triggered by one of the frequent local clashes. Rather it was a deliberate effort by the Sudanese central government in Khartoum to gain control over Darfur – a province in which it had had little presence until then. This was made possible by the ending of another war, which had

been a priority for the government up until that time. The rebels in southern Sudan had gained the upper hand militarily, and in the Machakos Protocol of 2002, the government had made far-reaching concessions that opened the way to ending the fighting and independence for the south. An important tool used by the government to take control in Darfur was to recruit and arm paramilitary units – the Janjaweed – who used brutal violence, mainly against civilians. Thus the esca-

Climate-related environmental changes are by no means accompanied by an intensification of conflicts or even wars everywhere

lation of conflict in Darfur did not result from environmental changes directly, but was the consequence of political decisions instead. On the other hand, it took place in an environment trending toward an increasing scarcity of land and water.

Other examples, such as the significance of a drought in the northeast of Syria for the still ongoing war in that country,⁴ or of disasters in the Philippines for local fighting,⁵ reveal a similar picture. While it is true that environmental changes linked to climate change preceded the armed conflicts, the actual lines of conflict lay elsewhere – in particular, they were struggles over political power.

Moreover, climate-related environmental changes are by no means accompanied by an intensification of conflicts or even wars everywhere. In South America too, for example, climate change is affecting the conditions under which people live – e.g. in the Andes. But still there has been no increase in armed conflicts.

Nevertheless, the impacts of climate change are not irrelevant. They are not determinant, though.⁶ There are two reasons why this is the case. Firstly, the impacts of climate change are relevant almost exclusively in places where conflicts of interest between different groups already existed before. Here they can intensify disputes, for example by making water or fertile land scarce, or affecting their

distribution between groups. Secondly, even in such situations, the people affected have various response options open to them. For example, they can fight over the diminishing fertile land, or they can agree to share its use. Apart from the intensity of conflicts, an important factor determining the prevailing response is the existence of institutions for dealing with and managing conflicts. Where there are widely accepted ways of reconciling the interests of different groups, the likelihood of conflict escalation is reduced. Other factors also influence response patterns, for example the relative shifts in wealth and income associated with environmental changes, or the exploitation of conflicts by political actors who seek to augment their own power.

Researchers with different disciplinary backgrounds can agree that from this perspective, climate change is a risk factor for armed conflicts among many others. How significant it

change has an influence on the occurrence of conflicts in the world in general, the question of its significance for current, never mind future developments remains a question with varied answers.

An interesting attempt to shine some light on this issue was made a few years ago by researchers from Stanford University in California, USA.⁷ They held a retreat for scientists who had published prominent research on the link between climate change and conflicts, with very different findings in some cases. The scientists were asked to discuss what significance they thought climate change had, compared to other risk factors, for the occurrence of conflicts now and in the future.

Even with this approach, only a rough estimate of the relative importance of climate change as a risk factor for armed conflicts can be obtained. But it is interesting to note that despite differences in detail, the experts agreed on a number of points in their assessments. For example, they agreed that climate change is currently far less important than other risk factors, such as low per-capita income, the presence of ethnic conflict, or weak statehood. Estimates of the contribution made by climate change to conflict risk in the recent past ranged from 3 percent to 20 percent, although all researchers expressed a high degree of uncertainty. They agreed that the significance of climate change will increase in the future. Most expected a weak to moderate increase in its significance, with a global temperature rise of 2 °Celsius, or a moderate increase in a 4 °C scenario.⁸

Local, regional and global contexts

As well as a growing consensus on the general significance of climate change for conflicts, there is also increasing recognition that the risks of climate change differ not only from region to region, but also on different levels of societal organization.

Drinking water offers a good illustration of this last point. Contrary to what is often claimed in sensationalist articles and books, water has very rarely caused wars between

Given the close intertwining of environmental changes with other risk factors for the escalation of conflicts, it is very difficult to assess or quantify the influence of climate change

is depends partly on the relative importance of environmental changes and the respective economic, social and political contexts, and partly on the choices between escalation and de-escalation made by the relevant actors. Thus to explain why environmental changes linked to climate change are occasionally important for the escalation of conflicts, we must consider both the ecological, economic, social and political initial conditions, and the specific conflict process in the conflict region.

Given this close intertwining of environmental changes with other risk factors for the escalation of conflicts, it is very difficult to assess or quantify the influence of climate change. This is true for case studies as much as for quantitative studies, which use statistical methods to analyze many of their cases. Even though it is undisputed that climate

states in the past. At the same time, there is little likelihood that this will change in the future.⁹ Even where this does seem possible, for example because the building of dams could exacerbate water shortages – as currently with the construction of a Nile dam in Ethiopia – past experience suggests that an amicable settlement is far more likely than armed conflict. One reason for this is that the costs of war would be far higher than the losses of water, in terms of a loss of income for farmers and other users of the water, that could be expected in negotiations. The situation is different when the issue is no longer one of distribution of water but of absolute scarcity, or where agreements on sharing are not possible because of the lack of any institutions able to sanction breaches of those agreements. Both are particularly common at the local level. Confrontations over water usage in the Sahel zone, for example, occur mostly where there are no traditional institutions such as councils of elders, or modern ones such as courts, to organize a reconciliation of interests. On the other hand, water scarcity often leads to greater trust and cooperation between population groups.¹⁰

Water is only one of various environmental changes linked to climate change. Others include the loss of usable land due to rising sea levels and salinization, or the expansion of drylands. Here too, local conflicts are more frequent than national or international ones. An important reason for this is the relative significance of environmental changes such as reduced rainfall, natural disasters or rising sea levels on people's living conditions and livelihoods. While the impacts may be very great locally, with a few exceptions such as small Pacific island states, they are rarely as important for larger geographical units. Another reason is that greater diversity of employment opportunities and lifestyles increases the capacity to compensate for problems caused by climate-related environmental changes, for example in agricultural production. This tends to be the case in larger units. Finally, institutions for conflict management and resolution are often particularly weak at the local level. However, local conflicts can also develop national and regional dimensions, particularly

in fragile states, where central institutions do not function well either. For example, when Typhoon Haiyan struck some islands of the Philippines in November 2003, insufficient aid delivered to the victims triggered armed conflicts between government troops and armed groups.¹¹

Yet it is not only local environmental changes that can cause local effects. In our globally networked world, negative consequences of climate change can show up in very different

In our globally networked world, negative consequences of climate change can show up in very different places than where the environmental changes occur. Migration and prices are important transmission belts

places than where the environmental changes occur. Migration and prices are important transmission belts. Environmental changes in one region, especially natural disasters, can lead to conflicts in regions that people migrate into. However, the importance of this conflict factor is highly disputed in the scientific literature.¹² One example of the significance of prices for local conflicts is the repeated "bread riots" in numerous countries of the Global South. Since local prices for bread-making cereals can be strongly dependent on world market supply and demand, a sharp drop in production in one region of the world can have a considerable impact elsewhere. Some authors have cited this mechanism as a factor in the Arab Spring of 2011. Because of droughts in Russia, China and several other countries of the Global North, world market prices for bread cereals had risen far above average in the fall of 2010, fueling protests in a series of Arab states.¹³

A major exception to this focus on local conflicts is suggested frequently in the Arctic. The impacts of climate change in the Arctic are fundamentally different from those in most regions of the world. Here there is no widespread deterioration of conditions for income generation. Indeed they are improving

– for everyone except the indigenous population. The increased use of shipping passages in the Arctic, and in particular the possible exploitation of natural resources, hold considerable potential for conflict. However, the Arctic states have so far managed to resolve their conflicting interests through treaties.

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In these regions, strong negative impacts on people's income as a result of droughts, floods, storms and other natural disasters converge with existing economic, social or political conflict lines. In all these regions, income levels tend to be low and the main source of livelihood is agriculture. For the future, other hotspots are identified where creeping climate change will lead to environmental changes via a permanent decrease in precipitation and rising sea levels – such as the Mediterranean region and southern Africa.¹⁴

The Author



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Conflict mitigation and peacebuilding

The close linkages between climate-related environmental changes and social and political risk factors offer a variety of starting points for measures and activities to reduce the conflict potential of climate change.¹⁵

First and foremost are measures to limit the extent of climate change. Impacts on the environment and the associated strains on the cohesion of societies and relations between states grow with the degree of global warming. Accordingly, it is also significant for the occurrence of conflicts in the future whether the international community is able to limit the global temperature increase to 2 °C or even less, compared to the pre-industrial era.¹⁶

The impacts of climate change on the physical environment and the availability of resources such as land and water can also be modified by taking active measures. Disaster risk reduction plays an important role here, because even gradual climate change – as seen for example in a rising sea level – will initially cause damage primarily in extreme situations, in this case storm surges. Adaptation measures are therefore a second instrument for influencing how climate change affects the occurrence of conflicts.

Projects aimed at strengthening societies' resilience to climate-related environmental changes go further than adaptation measures. For example, rapid economic recovery after a disaster can prevent conflicts from forming between social groups who have been affected to differing degrees.

Alongside these measures, aimed at limiting environmental changes resulting from climate change, are those aimed at containing the social and political forces of conflict escalation. In principle, these are no different from what has proven useful in conflict management and peacebuilding over the course of decades, ranging from programs to stabilize the economy, to strengthening institutions to deal with conflicts, and to activities intended to bring about reconciliation between adversarial social groups.

However, it seems obvious to combine conflict management and peacebuilding measures with activities aimed at mitigating environmental risks.

This is attempted in a particularly active way in “environmental peacebuilding”, where, for example, measures to protect the environment are combined with programs for reconciliation between adversarial groups. In practice, such a combined approach is difficult to implement, and can produce unintended consequences.¹⁷ For one thing, activities to mitigate environmental risks and social and political conflict risks often compete with each other. One example would be the construction of dams, which reduces the risk of flooding, but at the same time involves the forced resettlement of people. Another example is the large-scale cultivation of crops for energy production, which is often associated with a shortage of land for food production by small farmers. Conversely, peacebuilding measures – such as those aimed at stimulating the economy in post-conflict societies – can also worsen environmental conditions. Secondly, actors who are concerned with environmental risks and social and political conflict risks are often isolated from one another. An example of this is the different objectives of international development and aid organizations, which usually have a clear focus on a limited field of activity.

Dangers of “securitization” and underestimating the climate conflict risk

The complexity of the link between climate change and conflicts not only complicates empirical analysis and efforts to mitigate conflicts influenced by climate change, it also leads to underestimation and exaggeration of the importance of this link.¹⁸

This was particularly clear in the second half of the first decade of this century. An important reason for this was the attitude of a number of governments, led by the U.S. administration under George W. Bush, on the one hand, and the strengthening of social

movements for more climate protection on the other. Emphasis of the conflict risk of climate change proved to be a powerful argument for mobilizing for more climate protection. But this came at the price of increasing fears about mass migration to Europe and the United States, and turning former and active military personnel into dominant promoters of the dangers of climate change. So far, admittedly, there have been few signs of a “securitization” of climate change, meaning roughly a widespread adoption of the view that climate change is an existential threat, which can only be countered by eliminating democratic processes and employing coercion. There has also been little sign of any activities aimed at countering the risks of climate change by military means.¹⁹ On the other hand, the fear of a huge wave of cli-

The fear of a huge wave of climate migrants into Europe and the United States is stubbornly persistent in politics and society, even though it is not supported by analyses of migration movements to date

mate migrants into Europe and the United States is stubbornly persistent in politics and society, even though it is not supported by analyses of migration movements to date. This has become an important factor in the migration policies of a number of states. Exaggerations of the importance of climate change also serve the interests of politically failing decision-makers and elites. They can blame a factor beyond their control for poor living conditions and protests – even escalation into armed conflicts – for which they are in fact culpable. The conflict in Darfur is an example of this, too.

Alongside exaggerations of the risks to peace and security, a downplaying of climate change can be seen – both in general and specifically when it comes to questions of social cohesion and dangerous conflicts. For example, the Trump administration in the U.S. rejected any kind of attempt on the

practical, political or diplomatic level to link climate change with conflicts, because they disputed the very notion of anthropogenic climate change. Other actors in international politics, while accepting that climate change affects living conditions for many people, are unwilling to see this as a relevant con-

Some actors in international politics, while accepting that climate change affects living conditions for many people, are unwilling to see this as a relevant conflict risk

flict risk. For example, not only the United States, but also Russia and China prevented Germany, during its two-year membership of the UN Security Council in 2019/2020, from successfully introducing a resolution that identified climate change as a threat to international peace and security. This angered a number of states particularly affected by climate change, such as the small Pacific island states, who would like to see the international community do more.

Climate change as a present and future risk

It makes little sense to view climate change in isolation from other conflict factors. Its impacts on societies are determined to too great an extent by people's dependence on environmental conditions, their ability to adapt to environmental changes, how the negative consequences of such changes are distributed among different social groups, and how these distribution issues are perceived by the population – to mention just a few important factors.

However, with a rising global temperature and its consequences for climate and weather, the expected magnitude of environmental changes also increases, especially in the form of extreme weather events, but also longer-term changes such as rainfall and sea level. This tends to increase the risks of armed

conflicts. Yet even in the foreseeable future, these risks are likely to become dominant only where there is a high level of dependence on agricultural production, and where other lines of conflict intersect with those over the distribution of the negative consequences of environmental changes.

The close intertwining of climate change with other conflict factors opens up a wide range of opportunities for mitigating the risk of conflict. Here again, however, the conditions for success diminish as climate change increases. This is because the close entanglement also means that important brakes on conflict escalation, such as trust between different social groups and institutions for conflict management and resolution, lose their power to shape events as climate change intensifies.

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IF YOU WANT PEACE, PROTECT THE CLIMATE!

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Abstract

Not only do we know the effects of anthropogenic climate change (which are increasingly being felt) – rising sea levels, extreme weather events with destructive consequences, devastating bush and forest fires, the triggering of negative self-reinforcing processes and the loss of biodiversity, even of entire habitats and ecosystems – we also know who's causing it. Wealthy industrialized nations, many of them members of the NATO "alliance of values", make a disproportionately large contribution to greenhouse gas emissions. Yet they are far less affected by the consequences. To rectify this situation requires a theologically based concept of climate justice. First, it is important to clear up a misapprehension: the human species has no kind of right to treat Creation as it pleases. The key verses of Genesis emphasize man's responsibility and duty to protect the Earth and all Creation on it. From the intrinsic worth of our fellow creatures and the inviolability of human dignity, three main aspects of climate justice can be distinguished: global, intergenerational, and ecological.

If, against our better judgement, we accept that entire regions and the living beings that populate them may be harmed or lost, then this amounts to a fundamental state of strife – and not only from a theological and ethical perspective. Whether we side with the inhabitants of small Pacific island states, who face being inundated by the oceans, or refer to largely unanimous scientific and policy studies, it is clear that water and food scarcity, the loss of national territory and people's homes, increased migration and the destabilization of whole regions have an exacerbating effect on conflicts. Instead of continued spending on military defense, the available resources – especially those of powerful states and actors – should be directed toward prevention. That means climate protection, in keeping with the precept of common but different responsibilities and respective capabilities. Time is running out, but it is not too late yet. Civil society pressure must be maintained, and the principle of climate justice must increasingly find expression in judicial decisions. Finally, the equitable pricing of goods and services from an environment and climate point of view could send an unmistakable signal and mark the beginning of a transformation: as Pope Francis calls for in "Laudato si'", of our consumption-oriented, short-term-profit focused economy and way of life.

Previously...

In 2015, Pope Francis released *Laudato si'*, the very first encyclical letter to address the environment. In it, he states that "climate change is a global problem with grave implications: environmental, social, economic, political, and for the distribution of goods. It represents one of the principal challenges facing humanity in our day" (LS 25).¹ That same year, the United Nations Climate Change Conference adopted the *Paris Agreement* – the new climate treaty, binding under international law, that has since been ratified by 191 countries. The signatory countries recognize an "urgent threat" in global warming that is a "common concern of humankind".²

The situation

The years 2015 to 2020 were indeed the six warmest years and the past decade the warmest decade on record. 2020 was one of the three warmest years, along with 2016 and 2019, according to the World Meteorological Organization.³ Experts are in complete agreement, based on solid evidence, that current climate change is anthropogenic.⁴

There are two main causes: massive greenhouse gas emissions currently amounting to around 50 billion metric tons of carbon dioxide or CO₂-equivalents per year,⁵ and the large-scale destruction of forests and other important carbon sinks. The gases that harm the climate are mainly caused by burning fossil fuels for electricity and heat generation, and for civil and military aviation, shipping, and road transportation. Gases are also emitted by industry, especially cement production; from the flaring and venting of associated gas during oil extraction; from the waste sector; as a result of deforestation, and from forest and bush fires; as well as from industrial agriculture and livestock farming. Another factor is the increase in per-capita consumption of energy and resources, combined with an ever-growing human population.

Despite all the shutdowns and lockdowns during the COVID-19 pandemic, CO₂ emissions

from the use of fossil fuels and cement production only fell by 5.3% in 2020 compared to 2019.⁶ This reduction was wiped out by the increase in forest and bush fires alone.⁷ As a result, the concentration of this long-lived gas in the atmosphere climbed still higher – and has now risen by almost 50 percent since the pre-industrial era.⁸ The upward trend is continuing.

The devastating consequences are well known: climate change is already injuring and killing countless people and other living beings through extreme weather events such as storms, heavy precipitation and heat – with increasing frequency and/or intensity. The consequences include storm surges, floods, droughts, as well as forest and bush fires – all of which have dangerous impacts on lives, health, water supplies, and food. Sea levels are rising, slowly but steadily flooding low-lying coastal zones, islands and river deltas and causing soil and freshwater salinization. This in turn is detrimental to the livelihoods of local populations and may damage or completely destroy their habitats. Climate zones are shifting – with disastrous consequences for biodiversity. Entire ecosystems, such as coral reefs, are collapsing. Apart from warmer water, this is also due to the enormous ocean uptake of CO₂, which in turn makes the ocean more acidic. This has a huge negative effect on shell-forming organisms and hence also on the food chain.

Making things worse is the fact that consequences of climate change can themselves become causal. Climate research refers to “positive” feedback loops or “tipping points” that humans are currently triggering or could soon reach. These include lowering the albedo, i.e. the amount of sunlight reflected back off the Earth. This happens as ice and snow-covered areas melt. As a result, the ground and air become warmer, while more bright areas disappear, causing the temperature to rise still further, and so on.

Of the members of the North Atlantic Treaty Organization, three countries – the United States, Germany, and Canada – are among the top ten emitters of greenhouse gases. NATO’s thirty member countries, making up some twelve percent of the global population, were

responsible for disproportionately high emissions of 10.63 billion metric tons CO₂-equivalent in 2018. That is around 22 percent of global greenhouse gas emissions.⁹ Four-fifths of NATO members are OECD countries. Taking per-capita gross domestic product (GDP) as an indicator of wealth, in 2019 five NATO members were among the world’s ten richest countries, ten among the twenty richest, and 22 among the fifty richest. The populations of almost all alliance members (except for Albania and North Macedonia) are counted among the richest

Climate change is already injuring and killing countless people and other living beings through extreme weather events such as storms, heavy precipitation and heat – with increasing frequency and/or intensity

third of the world’s nations. Consequently, it is here that the legal and ethical obligation of the polluters to cut emissions joins together with a high economic capacity in regard to climate protection, adaptation, and reparation of loss and damage. The basis in international law is the principle of “common but differentiated responsibilities and respective capabilities”, which was laid down in the 1992 *Rio Framework Convention on Climate Change* and reaffirmed in the Paris Agreement (cf. Art. 3 No. 1 UNFCCC, Art. 2 II Paris Agreement).

Assessments

Some unfortunate misinterpretations are stubbornly persistent in many people’s minds when it comes to the tasks which God assigns to our species in relation to the Creation. These obligations are to be found in the Book of Genesis, specifically in the first two chapters, which form an artfully connected whole. The four meaningful Hebrew verbs contained in these chapters originally stand for: 1. not a violent “dominion” or “domination”, but a non-violent administration of the land and the animals in the sense of a *caring stewardship*, as was expected of a good regency (cf.

Genesis 1:26-28); 2. not primarily a “tilling” or “farming” but rather the obligation to serve the soil and the Paradise Garden, as only then does it remain fertile (cf. Genesis 2:5.15); 3. not a “subduing” or “subjugation” of the earth, but setting a foot on it, which in ancient times was understood as a gesture of *protection* (cf. Genesis 1:28); for 4. man is to *guard, preserve, and care for* the Garden of Eden, the biotope Earth (cf. Genesis 2:15). The prophetic books also explain God’s idea of a successful world: justice and righteousness shall reign; there shall be shalom: that is, a life-enhancing political, legal, social, and creaturely order. In a wider sense, there shall be a non-threatened well-being, happiness, quietness and assurance, comprehensive salvation for all, including future generations. “And the work of

some inevitable fate, but rather represents a massive injustice that only intensifies existing inequality.”¹²

This state of affairs undermines global security and is the opposite of climate justice. Climate justice can be achieved in any system, status, law, situation, relationship, measure or action, but only if the legitimate claims – i.e. the *rights* – of all those who are affected or threatened by climate change and its consequences are adequately taken into account. However, we owe justice not only to our nearly eight billion fellow human beings, but also to future generations and our fellow creatures. The latter two “groups” have done nothing to cause climate change. However, they are suffering or will suffer most from its consequences. In addition, they cannot stand up for their rights themselves. The reasons why we have an obligation toward those living now and in the future are obvious: the equal, inviolable human dignity of all human beings, as well as the intrinsic value of extra-human Creation (cf. Genesis 1:31). *That is why* we have an obligation to respect them and protect their rights.

The German bishops also emphasize that anthropogenic climate change “is a question of justice at three levels: global, intergenerational, and ecological.”¹³ From an ethical perspective, the most serious injustice is the one between the main emitters who cause the rise in temperature, and those who suffer most because of it: 1. between the heavy-emitting rich industrialized nations, emerging economies, and elites in developing countries on the one hand, and the poor, vulnerable countries of the global South on the other, especially in Africa and the South Pacific; then 2. between adults living now on the one hand and the youth, children unborn, and generations yet to come on the other; and finally, 3. between current adult humans and extra-human nature.

With regard to the completely inadequate German Federal Climate Change Act, the German Federal Constitutional Court in its decision of March 24, 2021 found that there had been a violation of the principle of intergenerational justice (see 2. above). The adult generation now living “must not be allowed to consume large portions of the CO₂ budget while bearing

Solidarity, meaning commitment to justice, must also be paramount when dealing with the Earth, its creatures, and its climate system

righteousness shall be peace” (Isaiah 32:17). Solidarity, meaning commitment to justice, must therefore also be paramount when dealing with the Earth, its creatures, and its climate system.

The actual situation around the world, however, is far removed from this ideal. “Already today, the struggle for scarce ecological resources (water, minerals, agricultural land, etc.) [...] is a frequent cause of armed conflict,” the German bishops noted back in 1998 in their document *Action for the Future of Creation*.¹⁰ Two years later, in a pastoral letter entitled *A Just Peace*, they warned about global warming being a possible cause of migration and war: “Changes in the earth’s atmosphere will influence our climate and have unforeseeable consequences [...] forcing the local population to abandon their traditional living spaces. Special attention must be paid to water supply. Experts are worried that water, not oil, could be the cause of future conflicts.”¹¹ And in 2007, the Bishops told us that the “dangerous anthropogenic influence on the world climate is not

a relatively minor share of the reduction effort if this would involve leaving subsequent generations with a drastic reduction burden and expose their lives to comprehensive losses of freedom.”¹⁴ This would be an unconstitutional infringement of young people’s liberties. Therefore, the legislative body must now take appropriate precautionary steps to reduce the burden of mitigation imposed on current children and young people from 2031 onwards¹⁵ and to “ensure a transition to climate neutrality that respects freedom.”¹⁶

As the former prime minister of the island nation of Tuvalu, Saufatu Sopoanga, forcefully told the UN General Assembly, the threat posed by climate change and its consequences “is real and serious, and we liken it to a slow and insidious form of terrorism against us.”¹⁷ Marlene Moses, the UN ambassador from neighboring Nauru, makes a very similar assessment: “Climate change can devastate countries just like wars and attacking armies.”¹⁸ It is obvious *who* the aggressor is here: it is the countries that emit the greatest amounts of greenhouse gases. But how are these assertions to be judged? Are they exaggerations by the political elites of two small countries who want to appear important in the eyes of the world?

That this is not the case is shown by the fact that the United Nations Security Council (UNSC) has expressed analogous views. In July 2011, this most powerful UN body discussed the dangers of climate change and instructed its president to issue a statement. This communiqué underlined the body’s responsibility in preserving peace and security, but also in promoting sustainable development. The Security Council expressed concern that climate change could exacerbate existing risks. The statement was prompted by an urgent request from Pacific island nations, which are already clearly feeling the adverse effects of global warming. As an example, the document cites the rise in sea levels, which threatens small, low-lying nations with the loss of their national territory, or at least the permanent flooding or salinization of large areas of land.¹⁹

The consequences would be firstly conflicting over increasingly scarce (fertile) land, drinking water, and food, and secondly migration

and flight. Overall, there will be a rise in the number of people taking refuge from drought, storms or floods, who have to give up their home and security. In addition, those who can no longer return will have to be permanently accommodated and integrated elsewhere. Such developments do not usually proceed without conflict. Certainly, this declaration is not a resolution of the UNSC, but a statement

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by its president. Nevertheless, the statement is highly significant as an impetus for reassessing the dangers of climate change.

In its 2007 flagship report, the German Advisory Council on Global Change also discussed *Climate Change as Security Risk*, noting that “without resolute counteraction, climate change will overstretch many societies’ adaptive capacities within the coming decades. This could result in destabilization and violence, jeopardizing national and international security to a new degree. [...] Climate change will draw ever-deeper lines of division and conflict in international relations, triggering numerous conflicts between and within countries over the distribution of resources, especially water and land, over the management of migration, or over compensation payments [...]”²⁰

In its 2016 *Global Strategy for the European Union’s Foreign and Security Policy*, the EU identifies climate change as a current threat to its population and territory, in addition to terrorism, hybrid threats, economic volatility, and energy insecurity.²¹ It causes further disruption, on top of existing global difficulties:²² “Climate change and environmental degradation exacerbate potential conflict, in light of their impact on desertification, land degradation, and water and food scarcity.”²³

In this context, the EU uses the interesting term “pre-emptive peace”: “It has long been

known that preventing conflicts is more efficient and effective than engaging with crises after they break out. The EU enjoys a good record on pre-emptive peacebuilding and diplomacy. We will therefore redouble our efforts on prevention, monitoring root causes such as human rights violations, inequality, resource stress, and *climate change* – which is a *threat multiplier* that catalyzes water and food scarcity, pandemics and displacement.”²⁴ But what if prevention fails? My answer is: as long as the various precautionary options through the generation of more equitable domestic and

What would we do if the AOSIS states were the main emitters, beneficiaries and also among the least vulnerable, and we, the populations of NATO members, were among the low-emission, highly vulnerable countries to suffer particular harm?

international structures have *not even begun* to be used earnestly, let alone been maxed out, we should direct all efforts toward *success*, instead of continuing to drive up global military spending. It reached USD 1,981 billion in 2020, according to SIPRI – a 2.6 percent increase in real terms over 2019, despite the pandemic. Just imagine if this money were used to implement the 17 Sustainable Development Goals, i.e. if it were spent on climate protection and poverty reduction, for example.²⁵

The Alliance of Small Island States (AOSIS), representing almost one fifth of UN member countries, invites us to try another thought experiment. What would we do if the situation were reversed? In other words, if the AOSIS states were the main emitters, economic beneficiaries and at the same time among the least vulnerable, and we, the populations of NATO members, were among the low-emission, highly vulnerable countries to suffer particular harm. How would we react if the island states regarded our dead and injured as mere collateral damage, so to speak, that had to be accepted as an unavoidable side effect of lifestyles cultivated on the other side of the planet? Would NATO invoke Article 5 of the *North Atlantic Treaty* and threaten to destroy the Pacific states’ coal-fired power plants? Would Ger-

many’s security then be defended not only in the Hindu Kush but also in the South Pacific? If so, then we would also have to concede to the AOSIS states the right to defend *their* freedom on the Rhine, Elbe and Danube rivers. As I said, this is only a thought experiment. Violence will not solve the climate crisis – only fair international cooperation will. Article 1 of the *North Atlantic Treaty* also points in this direction. It states that member parties, in accordance with the *UN Charter*, shall “settle any international dispute in which they may be involved by peaceful means in such a manner that international peace and security and justice are not endangered, and to refrain in their international relations from the threat or use of force in any manner inconsistent with the purposes of the United Nations.” That NATO does not wish to endanger justice is a noble goal. However, it would be better to actively promote the values of democracy, individual liberty, and the rule of law – which are declared fundamental in the preamble to the treaty – in the global context, but also within NATO’s own ranks (e.g. in Turkey, Poland and Hungary).

Yet the glaring discrepancy between the main emitters and the main sufferers is not the only injustice. It is also extremely unfair that the vast majority of polluter states and many of the stakeholders in their societies block or weaken climate protection measures out of pure national, corporate or individual greed. Even the attempt to do so violates the principle of justice established in Rio and Paris as a common obligation of the international community. Moreover, in international environmental law and international criminal law, it is being discussed whether this might even constitute intentional ecocide or postericide, i.e. a crime that calls for appropriate sanctions by means of a climate lawsuit.²⁶ There are welcome efforts, supported by Pope Francis²⁷ among others, to include ecocide in the *Rome Statute* of the International Criminal Court, along with genocide, crimes against humanity, war crimes and the crime of aggression.²⁸

Another injustice consists in denying or downplaying climate change itself, the causal importance of greenhouse gases, and/or humanity’s responsibility as the causer of glob-

al warming. Healthy skepticism is a scientific virtue. However, anyone who sows doubt on the scientific reliability of climate research, or on the credibility of experts and their widely verified and validated results – a favorite tactic employed by the oil and coal lobby (from the U.S. to Europe and the Middle East to Australia), as well as by right-wing populist parties and the media close to them – out of a lack of willingness to obtain information from verified sources, or against their own better judgment, or, worse still, out of pure egoism, is guilty of concealing or downplaying climate-related human rights abuses and attacks on Creation.

What is to be done

Pope Francis calls on humanity to “recognize the need for changes of lifestyle, production and consumption, in order to combat this warming or at least the human causes which produce or aggravate it” (LS 23). In the *Paris Agreement*, the international community commits to the goal of net-zero emissions, i.e. “to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases [e.g. forests] [...] on the basis of equity” (Art. 4 I). To achieve this, CO₂ emissions, but also emissions of nitrous oxide and methane from agriculture, methane from livestock farming and waste management, of black carbon²⁹ and hydrofluorocarbons must be significantly reduced as soon as possible.³⁰

However, all of the nationally determined contributions (NDC) to climate protection will not be enough to keep the rise in global temperature below the agreed limit of 1.5 degrees Celsius – especially since warming of 1.2 ± 0.1 °C has already taken place (compared to the period 1850 to 1900). “With countries’ current climate plans, it will be 2.6 °C warmer in 2100 than before the industrial revolution,” says Christian Mihatsch on klimareporter^o.³¹ In the best case, the global average temperature will “only” rise by 2.1 °C, in the worst by 3.3 °C.³² While the former would be dangerous, the latter would be catastrophic.

It is true that 127 countries, which are responsible for two thirds of emissions, are now aiming for the net-zero target. However, it is

crucial to substantially revise the NDC targets for 2030 and accelerate their implementation in policy to ensure that the long-term goals can be met: “Steeper emissions reductions over the next five to ten years will be essential.”³³

In its latest report, the Intergovernmental Panel on Climate Change (IPCC) stated that humanity may only emit a further 420 to a maximum of 570 billion metric tons of CO₂, if we want to limit warming to 1.5 °C with a two-thirds probability.³⁴ That sounds like a lot, but it is not, because current global emissions are 42, maybe even 45 billion metric tons of CO₂ per year. If we follow the precautionary principle and assume the lower value for the remaining budget and the higher value for current emissions, then our “dumpsite”, i.e. the atmosphere, would be at capacity in just nine years, i.e. in 2030. We can only extend this period through immediate ambitious climate action.

Thus, there is no alternative to an immediate turnaround. In their *Ten theses on climate protection* from 2019, the German bishops warn: “It

Since any half-heartedness or delay in climate protection will cause greenhouse gas concentrations to rise further, the challenge and the financial cost of bringing them under control will grow simultaneously

is equally a question of justice and political wisdom to invest more resources in mitigating climate change and adapting to its consequences. In addition, this is increasingly proving to be a major contribution towards peacekeeping and in the international fight against the causes of displacement and migration.”³⁵ Since any half-heartedness or delay in climate protection will cause greenhouse gas concentrations to rise further, the challenge and the financial cost of bringing them under control will grow simultaneously. *This is why* it makes more sense politically but also economically to prevent the explosion of costs that will otherwise occur, not to mention preventing the suffering of countless creatures as a result.

This requires a mix of instruments comprising a wide variety of technical and policy measures. Nevertheless, there is a *silver bullet*. Ernst Ulrich von Weizsäcker summed it up: “Prices must tell the truth.”³⁶ In other words, the ecological and social costs incurred in production and consumption must no longer be passed on to other people, living beings and generations, but must be fully priced in. This will make goods and services that harm the climate much more expensive – and they will probably disappear from the market in the long term – while making climate-friendly goods significantly more attractive.

For all their differences, COVID-19 and climate change have some things in common. In both cases, the danger is only noticeable or visible to those affected and to experts, yet both threats objectively exist and are complex, global in scope and terrible because of their massive negative impacts, which mainly affect the poor. And in both cases, inaction, a lack of solidarity and a lack of caution are deadly and therefore absolutely irresponsible. The current pandemic has shown that despite all the sometimes considerable implementation problems, policymakers can be open to advice and capable of taking action, and that they are able to put in place what is necessary and needed in an emergency. All of this would also be called for in the climate crisis: recommendations from the scientific community have been taken into account, billions have been made available, tough laws and regulations have been enacted. For the much-needed containment of global warming, this is just as encouraging as the unrelenting efforts of the *Fridays For Future* movement. One can only hope that the

young climate activists’ dedication will soon be able to unfold its full effect again, so that they – together with *Scientists for Future* (S4F) and other allied partners – will succeed in placing this vital issue at the top of the political agenda. Faced with the powerful lobbyists of the fossil fuel industries, a strong civil society counterforce is needed.

Last but not least

The momentum, the opportune instant, the right time (cf. LS 59) is here for the great transformation of the economy and society toward strong sustainability and effective climate protection. If the global warming crisis is finally recognised as such and taken seriously, there is still hope. “For we know that things can change,” Pope Francis tells us (LS 13). Humankind is still capable of leaving the chosen path and taking positive action (cf. LS 58, 61, 205); “injustice is not invincible” (LS 74). But let us not deceive ourselves: “The entire system” must be “reviewed and reformed” (LS 189). Even more than that, according to Pope Francis: We urgently need a “bold cultural revolution” (LS 114).³⁷

Si vis pacem, conserva caelum: If you want peace, protect the climate!

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1 Francis (2015): Encyclical Letter *Laudato Si’ On Care for Our Common Home*. Vatican 2015. Henceforth cited as LS plus paragraph number. – I wish to thank the editors of *Ethics and Armed Forces* and especially Mr. Rüdiger Frank, scientific research editor, for their constructive criticism, and Mr. Richard Hewitt for the German-English translation of this article.

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3 WMO (2020): *2020 closes a decade of exceptional heat*. Geneva, December 24, 2020. <https://public.wmo.int/en/media/news/2020-closes-decade-of-exceptional-heat>.

4 In 2019, James L. Powell and his team reviewed no less than 21,000 thematically relevant scientific articles in recognized journals. One hundred percent (!) of those articles assumed that global warming is anthropogenic. Cf. Powell, James L. (2020): *Scientists Unanimous on Anthropogenic Global Warming in 2019*. In: *Bulletin of Science, Technology & Society* 39, issue 1-2, pp. 3-3. <https://journals.sagepub.com/doi/10.1177/0270467620922151>.

- 5 WRI – World Resources Institute (2021): *Climate Watch. Historical GHG Emissions*. Washington, DC, <https://www.climatewatchdata.org/ghg-emissions>. Greenhouse gases differ greatly in their global warming potential, which can be expressed in terms of an equivalent amount of CO₂. For example, 1 kg of methane is equivalent to about 28 kg of CO₂; 1 kg of nitrous oxide to around 265 kg of CO₂. The unit of measurement is called CO₂-equivalent.
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- 15 Cf. *ibid.*, margin no. 244.
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CLIMATE JUSTICE AND CLIMATE CONFLICTS AS A SECURITY POLICY CHALLENGE IN THE 21ST CENTURY

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Demands for climate justice

In climate ethics, which is a sub-discipline of applied ethics, there has been an intense debate over the substance of demands commonly referred to as demands for “climate justice”.¹ Three main focuses have emerged. *First*, there is a dispute over the *fair share of compensation for climate damage*. A basic fact of climate change is that the main polluters – the countries and individuals with high emission paths – do not suffer the greatest harm. The damage that is visible today includes flood damage, droughts, periods of extreme heat, land inundation, severe weather events, storms and exceptional precipitation. The people who are ultimately harmed are those who live in the affected regions and have to cope with changing living conditions. *Second*, there is a discussion about a fair allocation of the *dumping space in the atmosphere* that is *still available* for greenhouse gases, without exceeding maximum warming targets.² This is about distributing the “pollution rights” that can still be allocated without leading to a climate collapse, based on fair principles. However, researchers now think it is very risky not to cut emissions to zero as soon as possible. *Third*, the *rights of individuals* are being discussed again in light of a situation where serious changes to environmental and living conditions are occurring, and with regard to the resulting consequences – such as climate migration.

Different claims are asserted in each of these three spheres of climate justice. In general, the issue is one of agreeing on a just and fair sharing of the burdens arising from climate change in a global context. Not only does the “*polluter pays*” principle apply here, imposing special burdens on rich nations, but also the burdens arising in the pursuit of reduction targets should be distributed justly – this can be called *fair burden-sharing*. In particular, when it comes to sharing the burdens associated with climate goals, a *capacity principle* is considered fair: those who are able

Abstract

Climate change is a reality. Today, the consequences of climate change are not only already visible everywhere, they are also increasingly perceived as a threat to the stability of the political order. However, it is clear too that states can only react to climate conflicts by means of security policy if elementary demands for “climate justice” are taken into account. These include justified demands for compensation and duties to assist vulnerable states, and also involve questions of causation and responsibility. This article attempts to build a bridge between climate justice and security policy. The goal is to highlight the importance of guarding against a twofold narrowing of the security policy perspective: with a purely pragmatic perspective, it will not be possible to adequately grasp the major challenges of climate change or deal with them in a groundbreaking way. And nor will it be possible for states in the future to hide from their responsibilities as conflicts intensify because of climate change. At the end of the discussion, there are three suggestions for how to deal with the security policy challenge.

to do the most *should* do the most, given the urgency of the situation. All three principles should also be applied to the distribution of burdens imposed by adaptation measures, i.e. *adaptation goals*, as well as to *transformation goals*. Apart from dealing with damage, the most costly task in the future is likely to be the shift to climate-neutral technologies and a climate-neutral economy. Actually achieving these goals is not only a matter of justice to future generations; it is equally important that the cost should not be imposed on the weakest.

Climate justice and near-future issues

Many demands for justice are backward-looking, though they are no less important for that. Such demands quantify the just claims of climate victims against the main users of the atmosphere as a dump for large amounts of greenhouse gases. Currently, however, the discussion is taking a new direction. The consequential damages of climate change have assumed such proportions that the costs are now exploding, entire regions of the world are suffering from extreme weather conditions, and countries are losing the capacity to support their populations.³

One consequence of this situation which has received far too little attention is an increasing instability of the international order. It would be naïve to think that the international order was founded on justice. But in a situation where a pragmatic security policy is reaching its limits anyway, demands for climate justice serve as a background factor conducive to a groundbreaking and constructive approach. Above all, states must not get away with hiding in the international arena when faced with just demands. From the standpoint of climate ethics, a number of demands can be formulated with regard to the global context:

- According to the polluter pays principle and the capacity principle, rich states have an obligation to **actively support victims of climate damage, including in the international context**. In particular, obligations

to support adaptation and transformation efforts are required.⁴

- It is not only because the consequential damages can still be limited that an effective reduction of greenhouse gases must take place in the shortest possible time. Rather, the demand is also based on the **rights of future generations** to a natural inheritance that not only does not imperil their livelihoods and existence, but also continues to enable a life lived in freedom.⁵
- In contrast to that which applies to international agreements negotiated between sovereign states, the insistence on voluntariness must be suspended when it comes to duties of constructive and cooperative

A duty to cooperate on climate goals is a legitimate demand, since climate protection is about cooperating to protect a global and at the same time essential life-sustaining collective good

engagement with climate change. A **duty to cooperate on climate goals** is a legitimate demand, since climate protection is about cooperating to protect a global and at the same time essential life-sustaining collective good. Accordingly, the global community should be able to punish any failure to act.⁶

- Finally, the **duty of foresight** and the **obligation to provide assistance** should be discussed. Climate impacts are not limited to disastrous living conditions. They also produce refugees and violent conflicts. From an ethical perspective, protecting people is an absolute requirement that transcends national borders. But to state this requirement more precisely first requires a deeper analysis of security policy considerations.

Climate justice and security policy: the principled dimension

In order to assess the security policy issues associated with climate change, it is necessary to recall the foundations of the international order. A new approach to preventing and outlawing war through the League of Nations and the Kellogg-Briand Pact (1928) seemingly met with little success. However, the creation of the United Nations and the declaration of universal human rights after the Second World War set a clear limit to violent conflicts between states through a system of collective action. Admittedly, however, this has been put to the test on occasion.⁷ One problem arose in connection with the state's internal sovereignty and the fact that its actions in relation to its own citizens

The principle on which modern states (and associations of states like the EU) are based – namely that of mobilizing and exploiting resources without limit – has actually become untenable

are difficult to sanction in this system, as the acceptance of this sovereignty was seen – with good reason – as being essential for the avoidance of wars. The limits of this approach became abundantly clear during the wars in the former Yugoslavia, and the genocide in Rwanda (1994). This led to the negotiation of

a political “auxiliary construct” referred to as the Responsibility to Protect (R2P). It should be pointed out in particular here that R2P aims to prevent not only violent conflicts but also large-scale violations of human rights in peacetime. It is also possible to intervene with the approval of the UN Security Council, without the consent of the state concerned.⁸ But what happens if R2P, this so-called third “pillar”, is also applied to climate protection?

Notwithstanding the question of whether this is possible or useful, French president Emmanuel Macron clearly had something similar in mind during the recent Amazon fires. As the rainforest burned, and in view of its importance for the world climate, he offered to provide a French military presence to help protect the forests from arson. Supposedly this was not or could not be adequately provided by the Brazilians themselves. In a reflexive response that might have been predicted, the Brazilian president Jair Bolsonaro rejected the proposal out of hand as a colonialist impulse from a former colonial power.⁹ This episode hit a nerve, which understandably is a recurring theme in discourses around climate targets and how to meet them. Macron's offer highlights the gulf between the polluter states and those states that end up disastrously affected by the polluter states' actions – while not even being granted the right to play industrial catch-up.

It remains unanswered whether the French president suggestively referred to R2P and to what extent this political “auxiliary construct” in the field of assistance or even military intervention is the most suitable principle for penalizing actions that harm the climate. But anyway, the question arises in the long-term historical context outlined above of how climate justice and security policy can be linked and reconciled in the 21st century. This will certainly be subject to a number of internal nuances and caveats. The fact remains, however, that the principle on which modern states (and associations of states like the EU) are based – namely that of mobilizing and exploiting resources without limit – has actually become untenable. Unless one willfully closes one's eyes. Yet a renunciation of national

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egoism and the quantitative “ever more”, which is surely conceivable and desirable, is blocked from a security policy perspective by the question of what principles can and should guide practice. Climate justice could help to develop guidelines in this context. And these would be at least as demanding as hinted at in the example of protecting the Amazon rainforest and its inhabitants.

Climate justice and security policy: a pragmatic dimension

The outlined considerations on the relationship between climate justice and security policy could be described as proactive, inasmuch as they attempt to take a fundamental look at the problem of climate change, or better: the threat of climate catastrophe, in the context of transnational action. However, security policy always has a side that must act in the here and now, without losing sight of tomorrow and the day after tomorrow. Yet it is precisely here that we are not starting from scratch.

Consideration of climate change has long since found its way into the thought and actions of the German armed forces (*Bundeswehr*) at institutional and statutory level, for example in their handling of resources or in the “2016 White Paper”. As far as is known, however, no other civilian-military complex on earth has taken a more thorough and comprehensive look at the significance and consequences of climate change than the United States. Surprisingly, this has less to do with political directives than it is rooted in the military’s self-image as a professional institution. It is a course that was embarked upon in the noughties, and maintained even during the Trump era. The consequences of climate change and a constructive approach to its expected development are seen as being of immediate importance to the functioning of the U.S. military.¹⁰

Five interlinked scenarios are considered. A first scenario involves humanitarian disasters such as the consequences of Hurricane Matthew in the late summer of 2016, which caused devastation particularly in the Caribbean. A second scenario concerns failing states like Syr-

ia, where climate change – as in other scenarios – should always be recognized as a *threat multiplier*, and never seen in isolation. Third, global impacts of regional events can be expected. One example is the 2010 heatwave in Russia, which led to a shortage of grain on the world market due to a Russian export ban. A fourth scenario consists of possible great power conflicts over resources. The possibility of resource mobilization as Arctic ice melts is seen as the most likely source of conflict at present. The fifth and final scenario considers domestic military deployments, as in the case of Hurricane Katrina in 2005. In all these scenarios, the U.S. military of course does not regard itself as the only instrument capable of crisis management.

As far as is known, no other civilian-military complex on earth has taken a more thorough and comprehensive look at the significance and consequences of climate change than the United States

But it does see itself as being called upon to act as best it can, and to be prepared accordingly.

In view of this pioneering role of the United States in security policy relating to climate change – which will undoubtedly gain an even sharper focus under the new president, Joe Biden – it would seem permissible to ask whether and how Germany intends to establish a clearer profile in this respect. Especially since more resolute statements at national level would be appropriate after the

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ruling by the German Federal Constitutional Court on the prioritization of climate protection.¹¹ The possible effect of such statements would have to be seen in the context of existing security policy partnerships – but one should not be allowed to hide behind these, as sometimes seems to be the case. Anyone in Germany who wants to talk about climate justice for future generations, even in a global context, will then also have to take a closer look at the role of the *Bundeswehr* and draw conclusions. With regard to the five scenarios mentioned, it is evident that the *Bundeswehr* is or will only be capable of acting in an alliance context, be it transatlantic or European. But we should ask what the state of readiness actually is, when it comes to taking mean-

Anyone in Germany who wants to talk about climate justice for future generations, even in a global context, will also have to take a closer look at the role of the Bundeswehr and draw conclusions

ingful action on such an elementary level as providing assistance in inevitable future disasters (floods, famines, waves of refugees, and so on). While civilian aid organizations such as the Federal Agency for Technical Relief (THW) do exist, they are limited in terms of the large-scale equipment and number of personnel available to them. It is worrying that even the idea of equipping the *Bundeswehr* with more medical staff triggered astonishment in the political arena.¹² But perhaps a rethink is possible here too.

Three security policy options for the future

Let us broaden our horizons once more and consider the challenges posed by climate change as an international task. Three security policy alternatives emerge from the considerations set out above. Each of them offers a basis for forward-looking principles of action for political actors and military leaders in times of imminent threat from climate change.

First, it may be necessary to sharpen the definition of international obligations toward climate refugees and climate victims, which are also grounded in the protection of human rights, and assume responsibility as part of an **expansion of R2P**. Even if the obligation upon states to assume a protective responsibility for the benefit of broken states remains disputed, there is an immediately obvious obligation to protect the population in the climate scenario. In the face of increasing climate disasters, which put additional strain on particularly vulnerable states at their most vulnerable points, the urgency of interventions in favor of maintaining functions of order and care will increase. More and more states will find themselves in the awkward position of no longer being able to help themselves, while at the same time insisting on their sovereignty as autonomous countries. A strategy of international responsibility to protect populations in threatened states would have to cover both resilience and post-disaster assistance. It is even conceivable that R2P could include precautionary duties, provided that climate disasters and the consequences of destruction and displacement are immediately foreseeable. However, both the justification basis (as seen in the example of protecting the Amazon), and the pragmatic side are questionable. Which nation will be able to afford to protect the world's climate victims from such a global catastrophe?

Second, it may be the goal of security policy in the future to increase **national self-protection by strengthening alliances**. Even in a global world that is growing

ever closer together, the issue of security is today still closely linked to national security interests. States have a primary obligation to their citizens when it comes to protecting fundamental vital interests. Even in a global world that is structured by international alliances, the logic of national self-protection is the main motive for interaction. With regard to climate change, however – but this also applies to other international threat scenarios – it becomes clear once again that no state is able to protect itself, no matter how well positioned it is in security matters. Climate action must necessarily be cooperative action. This is especially true with regard to the shared goal of timely and effective reduction of greenhouse gases, which is also cemented by international agreements. The defining question of the future may be whether the international community will manage, through alliances, to achieve a stable international security situation to avert the threat of climate change, while at the same time strengthening their national self-interests.

Third, it must be remembered that climate change is an extremely dynamic phenomenon. It carries very high risks, in part precisely because of how it impacts on the security situation. Given its dynamic nature and the potential for extremely dangerous developments, states and the military are called upon to see and understand climate events as a catalyst. It is a matter of recognizing that **multi-factor threat scenarios call for new capabilities of anticipation and institutional response**. Linear risk assessments need to be replaced by systemic analyses and flexible institutional possibilities. Intelligent, goal-oriented alliances must be forged, including across borders. At the very least, it will be necessary to replace a wait-and-see attitude – which at best is able to fight a fire while it is already spreading – with anticipation and also responsible action at all institutional levels. There is very little time left.

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WHY WE NEED A GREEN AND MORE COMPREHENSIVE INTERNATIONAL SECURITY AND DEFENCE POLICY

Author: François Bausch

New security challenges and traditional response mechanisms

In Western democracies, the overall objective of security and defence policy aims to protect the nation state and its citizens from the full spectrum of security risks and threats. Typically, this includes assurance of territorial integrity and of national sovereignty, but also encompasses a wide spectrum of risk mitigation and threat prevention, comprising i.a. readiness, preparedness and resilience.

That was the main objective behind the creation of NATO and has helped allies of the North Atlantic Area to cooperate in defence matters and align their capabilities around a same objective. Thanks to the principle of collective defence enshrined in Article 5 of the Washington Treaty, we have been enjoying peace and security for over seven decades.

The European Union's Common Security and Defence Policy follows a similar principle of defence solidarity and aims for increasing cooperation among EU Member States, thereby gradually building a Union capable of defending its values and interests in a globalized world.

The underlying capabilities, strategies and military doctrines representing the firepower of both organizations have however so far largely been used to respond to one major threat, namely a potential aggression by Russia. Rising tensions with Russia in the aftermath of the Crimea annexation in 2014 have contributed to further cementing this view and kept NATO's Strategic Concept largely focused on traditional deterrence and defence on the eastern flank.

The world has however changed dramatically over the past 30 years: the rise of new and more assertive (super)powers and the arrival of agile non-state actors have increasingly influenced international security debates. Furthermore, new technologies, such as the internet, social media and the increasing digitization and interconnectivity of our supply chains, economies and societies have revealed new vulnerabilities. In addition, new and steadily growing risks and threats are arising from human made impacts on the world's ecosystems.

Abstract

With their orientation toward alliance solidarity and collective defence, NATO and the EU have provided stability and security for decades. On the other hand, the focus on the threat from Russia has led to a neglect of new security risks – including those resulting from human pressures on nature and ecosystems. Economic systems based on overconsumption of resources and the burning of fossil fuels have led, among other things, to biodiversity loss and climate change. More frequent and extreme weather events threaten human security through severe heat and drought, more powerful and destructive storms and floods, and rapidly spreading health risks. Those can further fuel instability, such as food and water scarcity, disaster-related human displacement and the disruption of production and supply chains. As global warming continues, it will exacerbate conflicts over natural resources, and lead to violent resistance and migratory pressures, particularly in politically fragile contexts.

At the same time, climate change also affects the operational readiness of militaries. The economic and geopolitical consequences and resulting vulnerabilities of climate change adaptation and mitigation need to be addressed by adopting business models of circular economy and through mutually beneficial economic partnerships.

The carbon footprint of militaries needs to and can be reduced by investing into research and development of carbon neutral fuels and propulsion systems for military vehicles and upgrading military infrastructure. Approaches taken so far to making military activities and facilities more sustainable are nowhere near sufficient; they need to be stepped up considerably, including at alliance and international level, with a targeted package of measures. The Covid pandemic has shown that the integration of non-traditional security risks calls for a more comprehensive foreign, security and defence policy encompassing arising security risks and threats from emerging technologies and global environmental degradation and combining military equipment and expertise with civilian mediation and peacebuilding approaches. It is time for climate security to fully permeate strategy at NATO and EU level.

Climate change and its effects

Although human beings are not the most populous species to inhabit planet Earth, our footprint on this planet is by far the largest and has only been increasing since the industrial revolution. Due to a productivist and largely fossil fuel-based economic system with an enormous hunger for natural resources, such as food, timber and land, humanity's ecological footprint is now almost 60% higher than what the world's ecosystems can renew.¹ The effects of such a massive ecological overshoot manifest as climate change, biodiversity loss, stress on freshwater, deforestation and loss of fertile land and soils.

Climate change may be the most prominent impact of overshoot. The U.S. National Oceanic and Atmospheric Administration reports that the atmosphere currently contains the greenhouse gas equivalent of 500 ppm CO₂ equivalent.² In contrast, according to the 2014 report of the Intergovernmental Panel on Climate Change (IPCC), 450 ppm CO₂ equivalent is the threshold beyond which we have less than a 66% chance to cap global warming at 2°C.³

In 2018, the IPCC issued an alarming special report on the impacts of a global warming of 1.5 °C above pre-industrial levels. It stated that at 2°C of global warming, greater proportions of people would be exposed to risks across the food, water and energy sectors, which could create new and exacerbate current hazards, exposures, and vulnerabilities. Small island states, arid and semi-arid regions as well as economically disadvantaged populations are particularly vulnerable and may even face existential threats.⁴

Extreme weather events are a security risk

If left unchecked, a global temperature rise of 1.5 to 2 °C over the next three decades will produce more frequent and extreme weather events leading to natural disasters, such as severe heat and drought, more powerful and destructive storms and floods, and rapidly spreading health risks. Those can further fuel instability, such as food and water scarcity,

disaster-related human displacement and the disruption of production and supply chains, threatening peace and security across the world, often with a greater impact on the most vulnerable populations and posing major humanitarian challenges.

Thus, in its 2020 Global Risks Report, the World Economic Forum ranks “extreme weather” as number one of the top ten global risks in terms of likelihood to occur.⁵

The Internal Displacement Monitoring Center (IDMC) reports that, since 2008, natural hazards – many of them linked to climate change – have forcibly displaced approximately 265 million people⁶, more than three times as many as those displaced by conflict and

In many countries, military forces already support civilian first responders to natural disasters and the disaster risk management community. This role is likely to increase with growing security risks and occurrence of such disasters

violence. In 2019 alone, 24.9 million people were reported as internally displaced as a result of weather-related disasters.⁷

The international security community has thus a responsibility to prepare for and mitigate the risks and impacts related to climate change-induced extreme weather events. In many countries, military forces already support civilian first responders to natural disasters and the disaster risk management community. This role is likely to increase with growing security risks and occurrence of such disasters.⁸

Climate change, decreasing natural resources and the risk of conflict

More and more evidence has also shown the implications of climate change for peace and security. The most immediate effects of climate change occur in terms of internal conflicts, particularly in institutionally fragile contexts.⁹ According to the Climate Security Expert Network, 70% of the countries most affected by climate-related security issues belong to the top quartile of most fragile ones.¹⁰ In many

parts of the world, and particularly in the EU neighbourhood, these often present as tensions or conflicts around the access to natural resources, such as fertile agricultural and pasture lands and/or water resources.

Acute droughts between 2007 and 2010 in Syria resulted in a reduction of the GDP of rural regions by 40% on average. As a result, many considerably impoverished rural populations emigrated to the cities, contributing to unem-

It is imperative that risks arising from climate change as well as from institutional failure be systematically integrated into our security assessments as well as in our development, security and defence policies

ployment and extra pressure on public services. Perceived or real feelings of grievance led to popular uprisings and subsequent political upheavals.

In the Sahel region, erratic rainfall and prolonged periods of drought greatly contribute to a decline of the fertility and productivity of agricultural and pastoral lands, while population densities continue to increase substantially. This situation has not only exacerbated land overuse (further reducing its fertility), but has also multiplied tensions and conflicts around the access and the tenure of agricultural and pastoral lands, which are in most cases still governed by, nowadays totally overburdened and ineffective, informal land tenure systems.

As a result, the number of violent conflicts, in particular between sedentary agricultural communities and nomadic or semi-nomadic communities have greatly increased and, in 2019, the number of victims of inter-community violence exceeded those linked to terrorist attacks. The creation of self-defence militias by several ethnic communities to defend what they consider to be “their” lands risks to further exacerbate tensions and conflicts.

Concurring observations report that jihadist circles systematically target the recruitment of young combatants at communities feeling most neglected by public institutions. In the

Sahel region, targets would mainly include members of nomadic or semi-nomadic herder communities, often of Islamic belief, and, by virtue of their nomadic lifestyle, less territorially anchored and politically less well represented. In the Middle East, jihadist recruits often belong to fringes of rural populations strongly affected by recurrent droughts who feel let down by the lack of response of public institutions to provide support.¹¹

While the effect of climate change on armed conflict within states has been modest so far, it is expected to rise with rising global temperatures.¹² Careful modelling suggests that changing climate patterns could lead to a 50% increase in conflict in Sub-Saharan Africa alone. This would result in several hundred thousand additional deaths and the displacement of millions as well as contribute to transnational terrorism and mass migration.¹³

Apart from the Sahel region and the Middle East, similar impacts of climate change on natural resources and intra-state conflict have been described from Bangladesh¹⁴, Darfur¹⁵ and Colombia¹⁶.

Whilst climate change is certainly not the only cause of the aforementioned conflicts, it nevertheless exacerbates the causes of conflict and is considered by experts as a “multiplier of risks and threats”. Thus, the International Crisis Group included it in its list of “Ten conflicts to watch in 2021”, describing it as “an accelerating phenomenon with an increasingly discernible impact on conflict”.¹⁷

It is therefore imperative that risks arising from climate change as well as from institutional failure be systematically integrated into our security assessments as well as in our development, security and defence policies.

Climate change affects military readiness

In its 2020 World Climate and Security Report, the International Military Council on Climate and Security describes the effects of climate change on military infrastructure, force readiness, military operations and the broader security environment. Thus, NATO deployments in the Middle Eastern region have experienced

a degradation of force readiness due to water scarcity and extreme heat impacts on base infrastructure and operations. NATO military installations along the Mediterranean and Atlantic coasts are facing rising sea levels and increased flooding that further impact systems, personnel, and force readiness.¹⁸

The United States' Department of Defense published a study in January 2019 stating that the majority of U.S. military installations are at risk, with 53 of its 79 bases being at risk of flooding, 43 of drought and 36 of wildfires.

When hurricane "Michael" hit Tyndall Air Force Base in Florida in 2018, 95% of the base's buildings were either severely damaged or destroyed. The installation was also home to one-third of the Air Force's pricey fleet of F-22 Raptor stealth fighters with 17 of them being damaged. The cost of all these repairs was almost \$5 billion. No enemy attack on U.S. bases in Iraq or Afghanistan has ever caused that much damage.¹⁹

Potential second-order effects of climate adaptation and mitigation

As climate change mitigation and adaptation strategies emerge, it seems already clear that even a gradual transition from a hydrocarbon-based economy to one based on renewable energy will not only drastically improve our energy bills, but also have an enormous economic impact on oil and gas exporting countries. A resulting decrease of their relative economic and geopolitical weight could not only reduce some ongoing tensions, but may also be a source of future instability, which we ought to start anticipating and preparing for.

At the same time, we may see a new geopolitical competition, particularly around scarce mineral resources required in the green transition and thus highly sought after. This growing vulnerability needs to be addressed by promoting and implementing viable business models of circular economy in all industrial sectors as well as defence, allowing for a reuse of components, materials and resources, and by establishing mutually beneficial partnerships with countries exporting such resources.

The Defence sector's ecological footprint and how to reduce it

Global security and defence are not only affected by, but also contribute to global warming. In a recent study, the 2019 carbon footprint of the EU Defence sector, including both national armed forces and military technology industries based in the EU, was conservatively estimated at approximately 24.8 million tCO₂eq.²⁰ This exceeds the total emissions of a country like Croatia and is equivalent to the annual CO₂ emissions of about 14 million average cars²¹. With efforts underway to further increase defence capabilities, this figure is likely to rise further, unless less carbon-intensive energy sources are used.

According to the European Defence Agency, transport fuels accounted for 52% of the energy consumption of 22 Member States (96,9% of EDA Member States' overall defence expenditure) in 2016 and 2017.²²

Military infrastructure and buildings are another large consumer of energy. According to the same EDA survey, in 2017, heating alone accounted on average for 32% of Member States armed forces' energy consumption and 75% of it was generated by oil fuels and natural gas.²³

Despite its high dependency on fossil fuels, the defence sector has so far never been

In 2019, the carbon footprint of the EU Defence sector, including both national armed forces and military technology industries based in the EU, exceeded the total emissions of a country like Croatia

part of any international agreement aiming to reducing carbon emissions. While the 1997 Kyoto Protocol explicitly excludes Defence – considered an essential sovereign domain – from any mitigation obligations, it is not mentioned in the 2015 Paris Agreement, leaving it to national governments whether to include mitigation efforts of Defence into their national commitments towards the UNFCCC.

Even though there have been some attempts to “green” certain aspects of military operations by increasing renewable electricity generation on bases or relying on e-vehicles for civilian duties, Defence remains the single largest institutional consumer of hydrocarbons in the world. Moreover, given the long life cycle of military aircraft, warships and other vehicles, Defence has locked itself into a hydrocarbon-based dependency for many years to come.

This is why it is imperative to start now by investing massively into research and development of carbon neutral fuels and propulsion

Even though there have been some attempts to “green” certain aspects of military operations, Defence remains the single largest institutional consumer of hydrocarbons in the world

systems for military vehicles on land, sea and air. Given the dual nature of such investments, they could also have some positive spill-over effects to the civilian sector, in particular for the ailing civil aviation industry, looking for less energy intensive and more cost-effective business models after the COVID-19 pandemic.

Reducing emissions from heating buildings is a lower hanging fruit, as technology for improving the energy efficiency and the carbon footprint of buildings already exists. Large-scale renovations and refurbishments of military buildings would also contribute to upgrading military infrastructure with the latest digital technologies and create a better

working environment for the staff. A feasibility study for a renovation and extension project of the Luxembourg Army headquarters projects a reduction of 78% of current carbon emissions from heating, despite a 25% increase in the ground surface of said buildings.

The EU is an internationally recognized leader on reducing greenhouse gas emissions and fighting climate change. This leadership should also include the Defence sector!

Therefore, we should urgently consider:

- systematically mapping our emissions in order to address the current lack of reliable and internationally comparable data on energy consumption and greenhouse gas emissions in the Defence sector;
- building on existing “green” defence initiatives in EU Member States and at the EDA to leverage and mainstream experience and best practices of carbon mitigation pilot projects into policies and operational procedures;
- significantly increasing investments into a “green” defence, in particular by dedicating a specific share of Defence funding to R&D for carbon neutral fuels and propulsion systems for military aircraft, ships and other vehicles;
- exploring the setting of voluntary targets to reduce the carbon intensity of military emissions;
- adopting a political pledge as like-minded countries to commit our respective militaries to work towards zero carbon emissions by 2050. Such a “*European Climate and Security Pledge*” could be officially announced at the 26th UN Climate Change Conference (COP26) in November this year;
- seeking active cooperation and joint implementation of common initiatives together with other partners and actors in the security and defence sector, such as the UN and NATO.

The European Defence sector will have all to gain from implementing such measures, as green defence contributes to improving the effectiveness of our Armed forces. More energy efficient and carbon neutral infrastructures and technologies will significantly reduce energy bills and our external dependence on

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energy supply. Less fuel-intensive and fossil fuel-independent vehicles in operational theatres will also significantly decrease the logistical burden, increase operational resilience and save lives, as fuel transports are easy targets for attacks. Increased joint investments into carbon neutral fuels and propulsion systems will further promote interoperability.

Towards a more comprehensive security and defence policy

Increasing non-traditional security risks and threats arising from new technologies and global warming compel us to revisit our current security and defence policies to ensure that we are adequately prepared for the future and able to guarantee our long-term security.

The COVID-19 crisis has clearly shown us that a 21st century understanding of security needs to include non-traditional risks and threats, such as climate change, into a broader and more comprehensive concept of security in our foreign, security and defence policies.

As Ambassador Ischinger rightly put it: “Adapting our definition of national and international security is so important, because it decisively influences the way we allocate our resources. Our collective lack of pandemic preparedness – despite ample warnings – has highlighted this fact in the most painful manner”.²⁴

A revised, broader and more comprehensive security concept encompasses current and future security risks and threats arising from hybrid, cyber and emerging technologies as well as from global environmental degradation, such as climate change, desertification and biodiversity loss.

Risks and threats arising from these “novel” threats need to be adequately assessed, mitigated and prepared for. Given the multitude of tensions and conflicts around natural resources, under pressure due to climate change, reinforced intelligence cooperation between partners and allies is key. Early warning and strategic foresight need to be given more emphasis and means, to prepare for early action and, if possible, to prevent conflicts from breaking out or worsening. Ex-ante mediation

and peacekeeping efforts as well as governance support and resilience building prior to the outbreak of potential conflicts will need to become central elements of our future security and defence policies.

Given that these are not necessarily traditional areas of armed forces’ expertise, cooperation with civilian mediators and peacekeeping actors is essential to ensure that effective threat prevention becomes a stronger element in our future defence strategies, doctrines, capability developments and trainings. Moreover, a future-proof security and defence policy ought to contribute much more to resilience building efforts within a whole-of-government approach and with a specific attention to the situation of women, children and vulnerable groups.

While welcoming the fact that contemporary UN peacekeeping missions have become more multidimensional, we recommend their mandates be further expanded to help to prevent eruption of conflicts as well as to support local communities in building resilience.

A corollary of a more comprehensive security and defence policy is to allow our defence organizations to prepare for rising risks and

Cooperation with civilian mediators and peacekeeping actors is essential to ensure that effective threat prevention becomes a stronger element in our future defence strategies, doctrines, capability developments and trainings

threats with adequate means and sufficient funding. This entails investing not only into modern weapon systems, ammunition as well as logistics and transport capabilities, but also into additional sensing and monitoring capabilities, allowing e.g. for an early detection and monitoring of environmental degradation impacting livelihoods, as well as into conflict prevention, mediation and environmental peacebuilding.

Although some of these operations may be undertaken by civilian actors we suggest that the related costs be systematically financed out of budgets earmarked for defence spend-

ing. Future defence budgets ought to include, besides traditional military expenses, also costs related to civilian efforts of conflict prevention, such as mediation, peacekeeping, resilience building, support to good governance and the protection of human security.

In my view, within the current NATO 2030 reflection process and in preparation of a new NATO Strategic Concept, Allies should have

A well explained more comprehensive security and defence policy will not only help to prepare and mitigate those risks and threats, but also gain more easily public acceptance

an open debate about a more comprehensive security concept and the related instruments, including the criteria of what can be accounted as defence spending and what not.

As a more comprehensive defence will probably have a higher cost, it is key to communicate and explain this in a transparent manner to citizens and voters. A well explained more comprehensive security and defence policy, responding to a much wider array of security risks and threats, will not only help to prepare and mitigate those risks and threats, but also gain more easily public acceptance.

A better coordinated foreign and security policy

As conflicts are usually rooted in a combination of factors, such as competition for natural resources, weak governance and social inequality, security and defence policy needs to be embedded in and closely coordinated with other areas of foreign policy.

Accordingly, Luxembourg takes a “3D” approach to international peace and security which is based on the means of diplomacy, development cooperation and defence used in a complementary manner to contribute to international security, sustainable development, the respect of human rights and the rule of law.²⁵

In practice, this “3D” approach implies that ministerial responsibilities related to diplomacy, development cooperation and defence are all part of one single ministry, which allows for regular coordination and joint decision making on policy options and positions to be adopted in international fora.

In this context, experience has shown that it is key to closely coordinate development cooperation, humanitarian assistance as well as climate finance with peace and security concerns. While supporting communities to adapt to climate change, it is essential that development cooperation, humanitarian assistance and climate finance become more “conflict sensitive” and avoid creating or exacerbating potential tensions between communities. Proposed solutions that do not account for local dynamics or integrate the needs and perspectives from local communities risk inadvertently contributing to additional security risks.

Conclusion

Although climate change has been part of the security agendas of the EU and NATO for several years, in practice, it is still all too often only dealt with on the sidelines. We should therefore take advantage of the currently ongoing reflection processes at both organizations to change this and ensure that the rising risks and threats related to climate change are fully reflected into the new NATO Strategic Concept and the EU’s Strategic Compass.

As the world looks to the UNFCCC COP26 this November, we should capitalize on the global momentum of this climate summit to lead strong climate security action in the months ahead.

We are the generation that still can induce meaningful change. Let us not waste this opportunity and let us use all the means at our disposal to leave a more secure and sustainable world to our children.

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MORE TASKS, MORE RESOURCES, MORE INCLUSION

REQUIREMENTS FOR HUMANITARIAN ASSISTANCE IN TIMES OF INCREASING CLIMATE RISKS

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Climate change is a threat to peace and security

Images of dried-up river beds, eroded farmland or flash floods are a powerful illustration of how environmental conditions in many regions of the world are being affected by climate change. Droughts and increasing resource scarcity are leading to the loss of formerly reliable sources of drinking water and pasture land, as well as threatening the already precarious food security of many people. Crop failures and hunger, the destruction of their homes, or intensifying conflicts over water and farmland – these dangers are felt particularly by people who are already among the world's poorest. Although climate change is becoming more noticeable in the industrialized countries of North America and Europe, it is mainly the inhabitants of tropical and subtropical regions in Africa, Asia, Latin America and Oceania who are facing its consequences. It seems almost cynical that the people who suffer the harshest consequences have contributed the least to global warming, in an international comparison. Cause and effect as well as causers and sufferers are often geographically and financially far apart. As Pope Francis points out: "When people are driven out because their local environment has become uninhabitable, it might look like a process of nature, something inevitable. Yet the deteriorating climate is very often the result of poor choices and destructive activity, of selfishness and neglect, that set humankind at odds with creation, our common home."¹ Since the end of the 1980s, there have been increasing reports of changes in the climate, with warnings of serious impacts. But only now is there a growing realization that climate change is becoming the biggest threat in the world, and also has many indirect consequences. The speed and magnitude of global warming are playing an ever more significant role, particularly in the emergence and intensification of humanitarian needs.²

Abstract

A worsening of living conditions and food security in the world's regions most affected by climate change poses enormous challenges for humanitarian assistance, particularly since these regions often also have the lowest capacity for adaptation. The expected continued increase in weather-related disasters, which can already be observed today, forces commensurate adjustments in terms of infrastructure and the scope of emergency aid measures. Moreover, the consequences of climate change overlap with conflicts in many respects, causing and amplifying complex crises. Resource scarcity due to rising temperatures and a diminished capacity for self-sufficiency can result in vicious cycles of uprooting, impoverishment and violent conflicts. Internal migration spurred by climate change increases the number of refugees and displaced people, and not infrequently leads to a loss of cultural identity and social status.

Knowledge of the contexts described above, consideration of local traditions, the inclusion of civil society, and gender equity are all key elements that must be taken into account in humanitarian assistance activities as well as in crisis management and prevention. For aid organizations, it will be more important than ever, moving beyond technical and infrastructural adaptation possibilities, to ensure that responsibility for disaster preparedness is deeply embedded in the affected societies. Yet this can only succeed if financing issues are resolved at the global level and combating climate change in accordance with the Paris Agreement, as well as financial compensation of the immense damage and losses, are accorded top priority.

Climate change calls for greater emergency relief and disaster assistance

The Global Climate Risk Index³ is a measure of how severely countries are affected by extreme weather such as floods, storms or heat waves. Puerto Rico, Myanmar and Haiti led the index with the greatest weather-related losses in the period from 2000 to 2019. Mozambique, Zimbabwe and the Bahamas subsequently topped the list following catastrophic storms and flooding. In 2019, 97.6 million people were acutely affected by disasters resulting from extreme weather events.⁴ This came as the number of disasters recorded each year doubled from around 200 twenty years ago to more than 400 worldwide today. For humanitarian assistance, this inevitably means there are more tasks needing to be done. In drought areas, building water reservoirs, retention basins and cisterns will probably no longer be enough going forward, as dry periods become ever longer. In the future, large pipeline systems will be needed just to supply water to people affected during droughts in northern Kenya, Ethiopia and Somalia, for example. Or tankers will have to drive to drought regions instead. Since 1990, Somalia has experienced more than 30 climate-related crises, including 12 droughts and 19 floods – three times as many climate-related crises compared to the period from 1970 to 1990.⁵

In South Asia, a major change in the monsoon has been measured over the past decade: rainfall was more intense, while monsoon seasons were shorter and less predictable overall. In the future, a further “increase in total monsoon rainfall” is expected.⁶ In 2018, a “flood of the century” in the Indian state of Kerala had been preceded by other severe floods in India, Bangladesh, Pakistan and other countries in the region. In 2010, another “flood of the century” in Pakistan was responsible for millions of people losing their homes. But it is not only unpredictable monsoon rains that pose a flood hazard. Just recently, 200 scientists with the International Centre for Integrated Mountain Development

(ICIMOD)⁷ published extensive studies on the effects of climate change in Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal and Pakistan: if our planet continues to get hotter, then by the end of the century at least one-third of the glaciers in the Hindu Kush Himalayas will melt. This is the site of the world’s third-largest ice reserves. These ice bodies feed Asia’s most important rivers, and supply water to around 1.9 billion people. If the glaciers melt, the water supply to these people is in jeopardy. As the ice melts, enormous volumes of water will flow down into the valleys, creating flood risks in combination with heavy rainfall. It should be noted that many events go unnoticed at international level, and the affected country or peo-

Since 1990, Somalia has experienced more than 30 climate-related crises, including 12 droughts and 19 floods

ple generally have to deal with the damage on their own. Up to 80 percent of humanitarian aid funds is raised solely to mitigate suffering caused by existing wars and conflicts.

Global armament is a double security risk

According to the Conflict Barometer published by the Heidelberg Institute for International Conflict Research (HIIC)⁸, in 2020 the number of global wars grew from 15 to 21. Meanwhile, global military spending has been rising for the sixth year in a row. The expansion and renewal of armed forces and weapons systems swallowed up a record 1,981 billion U.S. dollars (about 1,644 billion euros) last year – an increase of 2.6 percent on 2019. With an annual budget of USD 718.7 billion, the United States continues to spend more than any other country. It is an unfortunate choice of priorities, as the Global Militarization Index of the Bonn International Center for Conversion (BICC) shows: a comparison with the Global Health Security Index reveals that less-militarized countries

achieve better results overall in terms of health security, as the high level of resources spent on the military comes at the expense of health.⁹ The current consequences of the Covid-19 pandemic should serve as a warning for future and similar situations, such as the climate crisis.

Germany invested the seemingly small sum of USD 51.2 billion in its own military in 2019. However, this represented a ten percent increase in spending by the Federal Republic compared to the previous year, and was the largest increase among all EU states.¹⁰ Moreover, German arms exports have contributed significantly to the “militarization of the foreign policy of Arab countries”.¹¹ Their share of total German arms exports has risen from

According to several studies, future conflicts in the world will almost always involve a climate element

3.1 to 32 percent over the past 20 years. The increase in global armament levels poses a double security risk: “It is not only about the destructive potential, which grows as more weapons are produced and unfolds whenever the calculation of mutual deterrence does not work out. It is also about the resources that are tied to global armament and therefore are not available for other, humanitarian tasks.”¹² For example, the announced additional British defense spending comes at the expense of international aid.¹³

Climate risks engender and amplify fragility

The need for humanitarian assistance in wars and conflicts is intensified when disasters resulting from natural hazards and violent conflicts, including displacement, occur in parallel or influence one another mutually. Today, the majority of humanitarian funding is already directed toward so-called complex crises.¹⁴ Further studies¹⁵ indicate that future conflicts in the world will almost always involve a climate element. “Growing non-tradi-

tional security risks, such as climate change, are also rapidly changing the risk landscape,” according to a position statement by the German federal government’s Advisory Council on Civilian Conflict Prevention and Peacebuilding.¹⁶ More frequent and more destructive extreme weather events contribute to the genesis of conflicts and amplify existing conflicts. In particular, climate-induced threats to livelihoods create the potential for escalations of violence. According to a study by the Stockholm International Peace Research Institute (SIPRI), climate change intensifies the incidence of extremism as well as conflicts and violence. Mali, for example, has experienced a steady rise in temperatures since the 1960s. Global climate models predict they will rise by between 1.2 and 3.6 degrees Celsius by the end of the 2050s. These climatic changes will mainly affect poor sections of the population whose livelihoods are based on agriculture and animal farming. Where usable land is diminishing, water sources are drying up, and no alternative sources of income are created, conflicts are inevitable among a rapidly growing population. In a struggle for resources, it is easier for extremism and violence to take hold. It is said that in the Sahel zone, for example, the terrorist organization Al Qaeda specifically recruits young people who have fallen into financial difficulties. “Without integrating climate change, peacebuilding is hardly possible,” concludes security expert and co-author of the report, Florian Krampe.¹⁷ The Ecological Threat Register 2020 estimates that 31 countries are not sufficiently resilient to absorb the environmental and political changes that the coming decades will bring. The relationship between political conflicts and ecological threats can be a vicious circle, the effects of which may increasingly be felt by countries such as Mozambique, Madagascar, Kenya, Pakistan and Iran in the future. Moreover, states like Syria, Afghanistan, Iraq, Yemen and the Central African Republic face additional ecological threats on top of ongoing armed conflicts.¹⁸ Six of the ten largest UN peacekeeping operations in 2020 took place in countries that are the most vulnerable to climate change.¹⁹

Recent skirmishes between Kyrgyzstan and Tajikistan attest to the great importance of water as a resource. They were triggered by a dispute over access to water resources on the Isfara river.²⁰ Because of the dispute, two Caritas projects in the region are now barely accessible. On the Crimean peninsula, too, tensions over water are building up. The construction of the Grand Ethiopian Renaissance Dam, at the end of the Nile river, may be a reason for Egypt to go to war. Downstream in Sudan, there is already less Nile water arriving than usual. Similarly, Iraq and Syria are water-dependent on others, as both the Euphrates and the Tigris come from Turkey, where the Ilisu Dam went into operation in 2018.²¹ Already, lower water levels and salt-water intrusion from the Persian Gulf have left the province of Basra in Iraq with almost no arable land. According to the Ecological Threat Register, more than one-third of countries will experience high or extreme water stress by 2040 – and this is now being felt in Latin America, too. Glaciers in the Cordillera Real region of Bolivia have lost 37 percent of their surface area since 1980. Yet millions of Bolivians rely on meltwater from the glaciers. For Peru and Columbia too, the glacial masses are a vital source of water – not only drinking water but also water for agriculture and power generation. Losing such a resource will have dramatic consequences.

Displaced in their own country

In addition to people who have been displaced for political or social reasons and are in need of protection, in the future there will also be those who are displaced by the consequences of climate change. The World Bank predicts that by 2050, more than 140 million people will be permanently displaced within the borders of their own country because of climate change, and will have to migrate.²² Through involuntary migration from rural to urban areas, people experience a loss of their cultural heritage. As a consequence, they face higher rents and insecure low-wage employment in congested big cities. At the same time, the existing

“acute and pressing reasons [for granting protection] under the Geneva Convention should not be extended carelessly,”²³ as VENRO (the umbrella organization of development and humanitarian non-governmental organizations in Germany) put it back in 2009. Additional protection mechanisms are needed for people displaced by climate change, such as humanitarian visas or easier access to immigrant working visas. As an international instrument of contemporary

Through involuntary migration from rural to urban areas, people experience a loss of their cultural heritage – a loss that can not be made up for in monetary terms

climate policy, the German Advisory Council on Global Change proposes a climate passport for humane migration.²⁴ Such measures are a matter of global justice, and were brought before the German *Bundestag* in 2019.²⁵ However, these considerations fail to include those who (have to) stay behind, many of them women and elderly people. Nor can the loss of cultural heritage be made up for in monetary terms.

It is mostly African countries that are referred to as being at a particularly high risk. That is not surprising, since according to the Conflict Barometer, sub-Saharan Africa is the region with the highest number of wars. A combination of climate-related crises and armed conflicts has seen the number of internally displaced people in this region double within the last three years. In 2018, six of the world's ten worst floods were recorded here. Five of the world's eight worst food crises, now already being caused by a combination of climate change and conflicts, occurred in Ethiopia, the Democratic Republic of Congo, Nigeria, Sudan and South Sudan. Without immediate relief efforts, the already dire humanitarian situation in Somalia will be made even worse by a looming drought, and this will become a major cause of displacement with a rise in so-called “protection risks”. By the end of the year, at least

3.4 million people are expected to be affected by the drought. If the “gu” rains begin, they will be short and heavy, causing flash floods as the parched soil cannot absorb the water. Access to clean water is affected by its scarcity, and its cost has risen by 60 percent in some areas. People are forced to travel even further in search of clean water, or they attempt to escape scarcity by resorting to negative coping strategies, such as making cutbacks in other areas of life, e.g. spending less on food, health or school education. Or they have to find ways to generate more income, for example by clearing forest areas and processing the wood into saleable charcoal, or hastily selling or slaughtering animals, in spite of falling prices, or marrying off family members. As grazing land becomes depleted, livestock farmers turn to cereals to feed their animals. This in turn has pushed grain prices up by 30 percent. Relief efforts have already been stepped up in the hardest-hit areas. However, funding bottlenecks remain a major challenge, as does safe access to these regions. So far only 15 percent of the aid proposed in the Humanitarian Response Plan for 2021 has been pledged. Dumping external food aid on local markets is not an option here, as undercutting local producers’ prices can be very risky. Instead, it is possible to support local food markets in the countries, for example by buying regional products.²⁶

Local peace potential and inclusion

A study by the International Institute for Environment and Development (IIED) found that the assumption that violent conflicts are due to disputes breaking out between settled farmers and nomadic herders (pastoralists) is far too simplistic and can lead to misinterpretations.²⁷ Intersections exist in only two percent of all violent conflicts that were considered. There has been no marked increase in farmer-herder conflicts over the past ten years. In the period from 1997 to 2017, 173,000 civilians were killed in conflicts in a region comprising 16 countries with a total population of 580 million. Of this number, 10,000 deaths are said to be due to conflicts involving pastoralists. Farmer-herder conflicts are present in many countries and will sometimes intensify due to resource scarcity. On the other hand, these tensions have rarely escalated – which shows that these two diverse groups were doing peace work and conflict prevention long before concepts like “conflict-sensitive adaptation” or “environmental peacebuilding” even existed in international cooperation. The realization that it is essential to involve the people affected by climate change in decision-making processes must precede considerations of how to counter climate change as a security risk. The inclusion of local potential determines the effectiveness and sustainability of peace and security processes: where civil society participates in negotiations, the risk of peace agreements failing is reduced by 64 percent.²⁸

Women’s participation still represents an untapped potential. Their participation in negotiations raises the chance that a peace agreement will be reached at all.²⁹ Similarly, the likelihood that an agreement will last at least two years goes up by 20 percent; and that it will still be in force after fifteen years, by 35 percent.³⁰ However, the decisive factor here is not participation alone, but rather the opportunities and willingness to exercise influence and advocacy.³¹ The Columbian peace agreement is a shining example, coming after more than 50 years of armed con-

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flict. Implementation of the Women, Peace and Security Agenda – the United Nations international framework for the full, equal and effective participation of all genders in peace and security – is rightly a priority of the German federal government. The response to international crises should be gender-equitable, and the needs and interests of women and girls should be better taken into account in humanitarian assistance, crisis management and reconstruction measures.

The most urgent tasks in times of climate change

Humanitarian assistance must not be limited to alleviating suffering and mitigating symptoms. There are many options for technical and infrastructural provisions as part of “adapting to climate change”, depending on the nature of the particular hazard situation. For example, it is possible to build dams and protective structures in areas threatened by flooding, or install cisterns, water retention basins and water pipeline systems in drought regions. In the medium and long term, changes to farming methods, drought-resistant crops or protective planting against erosion caused by the wind, water and sun can also help guard against the effects of climate change. Where adaptation measures are no longer sufficient, people will require assistance with planned resettlement to secure regions. But these activities will only be truly effective and sustainable if they enable people to prepare for climate change themselves, protecting themselves against disasters and other threats. Disaster preparedness – or adaptation to climate change – therefore requires far more than technical and infrastructural solutions. It must take social and cultural conditions into account, include people at risk from disasters in its concepts, draw on experience gathered locally and regionally, and thus involve society as a whole in disaster preparedness. More than before, the central characteristics of aid organizations will have to include socio-spatial integration and social inclusivity. It sometimes becomes clear only on second

glance why it is necessary to strengthen the social component within disaster preparedness as a whole. For example when engineers have built a dam, but it is not clear who will maintain it. Or when rescue boats are available to use during a flood, but no-one knows where older people or people with disabilities who need specific help actually live. So professional social work is required at the socio-spatial and community level to implement permanent disaster preparedness in communities, schools, workplaces and neighborhoods.

Despite all the focus on local conditions and specific regional possibilities, it is important not to lose sight of the fact that climate change is a global phenomenon – and

Adaptation to climate change requires far more than technical and infrastructural solutions

therefore also requires a globally coordinated approach. The key points of reference are the UN Sustainable Development Goals and the Paris Agreement. When it comes to the question of who should bear the necessary costs, we inevitably run into questions of (climate) justice: How can losses and damage caused by climate change be compensated? Who should pay for preparedness and adaptation? No satisfactory answers have been found yet.

On the contrary, while climate change is advancing and millions of people around the world are at this moment starving, have no access to clean water, and are being forced to migrate, nearly 300 million U.S. dollars are spent every day on nuclear weapons.³² This prioritization is another factor that makes climate change the greatest threat to peace and security.

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“WE CAN SIGNIFICANTLY IMPROVE OUR APPROACH TO CLIMATE CHANGE AND SUSTAINABILITY”

What does climate change mean for the armed forces? What tasks have to be tackled, what priorities have to be set, what role should the military play in the future? In the context of the UK's strategic realignment with the “Integrated Review of Security, Defence, Development and Foreign Policy”, the UK Ministry of Defence published the “Climate Change and Sustainability Strategic Approach” in March 2021. Lt Gen Richard Nugee, the author of the strategy document, has answered questions from the editorial staff.

Lt Gen Nugee, the British Ministry of Defence has recently published its *Climate Change and Sustainability Strategic Approach*. Can you briefly situate it in the larger context of the *Integrated Review*? What specifically led you to develop this strategy?

The *Integrated Review* states that Climate Change is the UK's number one international priority and describes it as a “threat to humanity”, a significant change from even recent previous reviews of Security, Defence, Development and Foreign Policy. The UK is putting Climate Change at the heart of its policies, in line with the legally binding national commitment to reach net zero by 2050. Defence has, in the past, not really recognised the very significant role that it can play both in the reduction of national emissions, as well as supporting others around the world to be able to cope with the effects of climate change. I developed this strategy to show the relevance of climate change to Defence, and to show that there is great opportunity for making Defence more effective and efficient as well as show there is a need to reduce emissions.

The document envisages a three epoch-approach – from now to 2025, from 2025 to 2035 and from 2035 to 2050. In only four years, you want to lay the foundations for a comprehensive transformation of the defence sector. How do you want to achieve the goals set, and who is going to coordinate and watch over the implementation?

Any powerful change needs to lay proper foundations, and the next few years we will do so, by changing our processes and procedures, and by demonstrating through actions that we can significantly improve our approach to climate change and sustainability throughout the department. We have a delegated model, so each area and Command will be responsible for their own approach, and we have set up a central directorate to oversee the response across defence, and to link in with other government departments and other nations. We will set carbon targets for each part of defence, and then hold them to those targets – this will take a little time to get right.

Until recently, sustainability did not count among core military values. Now the document stresses the importance of reducing the military's carbon and environmental footprint – from fostering biodiversity on military sites to promoting energy-efficient solutions, e.g. “aircraft powered by algae, alcohol and household waste”. Everything shall be looked at through a “climate lens”. How much of a mind shift is needed to get that done, and how shall this change of attitude be brought about?

We must change our procurement, commercial, assurance, audit and financial regimes and processes to make sure that we scrutinise every act to ask how this decision or contract affects climate change. The UK government is introducing a new policy that for any government contract over £5 million, the contractor will have to show a route and plan to net zero. We must also look to our land estate to pursue every opportunity to sequester carbon and increase biodiversity. To change our culture we must

have support from the top of Defence, which we have, we must change our processes, which we are doing, we must show visible progress, which we are doing on the estate as a first priority, and we must tell our people what we are doing. We have created the Defence Green Network and are using every opportunity to talk about this important subject. Just recently, for example, the Chief of the Air Staff declared whilst in the US that the RAF would reach net zero by 2040, and the Chief of the General Staff (Army) stated in an article in a national newspaper that “we have a responsibility to more than play our role in terms of a sensible and sustainable environment agenda.” There is an important caveat: we must not compromise our capability or effectiveness as a defence force, as the requirement to defend the nation must remain our purpose.

With the Strategic Approach, the UK claims global leadership in the field, from horizon-scanning to climate-proof and energy-efficient armed forces, and wants to engage in partnerships on an international level. What could that look like? Who do you have in mind with regard to those partnerships? Are there already successful initiatives and cooperations on which to build?

I think there is great potential for new alliances and relationships to be built. The scientists tell us that there will be more need for Humanitarian Assistance and Disaster Relief as storms and the weather become more violent. This offers an opportunity for greater collaboration both geographically and in terms of equipment and skills. Similarly, those areas that will be most affected by climate change, wherever they are in the world, will need support – we, along with other allies, can offer assistance potentially,

and through this we can build new relationships and partnerships. Further, the military, through its extensive networks of defence attaches, can build deeper relationships with many countries across the world that perhaps we find it less easy to build diplomatic partnerships with; already our

To change our culture we must have support from the top of Defence, we must change our processes, we must show visible progress, and we must tell our people what we are doing

attaches are telling us that this subject, so global in nature, is opening new areas and lines of communication with their hosts.

Speaking of adaptation and resilience, the document explicitly refers to a 2 to 4 degrees scenario. Is it time to get real about climate change? What could be the most important consequences for military training and deployment in such a world, and how will they change the conditions for international missions operated by the UN, NATO or any other coalition?

The UK Committee on Climate Change, an independent Committee set up by Parliament to ensure that we reach net zero as a country, has stressed the need to prepare for eventualities that they are trying to avoid but which may not be. The shift in behaviour required to reach net zero by 2050 is profound, and there are increasing calls to make that behavioural shift by 2030 or we will miss the Paris Accords and their promise for a world of plus 1.5 degrees. So looking at 2 and 4 degrees is prudent. The bold statement in my report that “if you don’t deal with it today you will not be able to deal with it tomorrow” is an acknowledgement that how we act in the next 10 years will have an extraordinary impact on the decades after. Scientists are telling us that we may already have reached over half the known tipping points that make adverse

climatic conditions irreversible, and so we need to act now to stop any further being reached. Unfortunately, the urgent always trumps the important, and so we need to recognise and acknowledge that, even if it doesn't always feel like it, climate change is already urgent.

Defence has a clear purpose, to protect the nation's citizens from harm. While this is usually translated as protection against

developed, such as cyber or the digital revolution. This is no different; we should be embracing the potential military advantage from new energy technologies, however difficult it is now to see which technologies to focus on. And here lies huge potential for collaboration – indeed it is essential to make sure that allies all use similar energy systems. NATO's single fuels policy will be more difficult to achieve as the large number of new technologies become available, but that makes such policies even more important to maintain.

A hotter, more unpredictable world as a result of the effects of climate change holds all the ingredients for increased tension and greater conflict throughout the affected regions. And yet in order to meet the UN Sustainable Development Goals there is a requirement to reduce the incidence of conflict. Therefore, in my opinion, the role of allies and coalitions as well as formal alliances become more important to try and prevent tension and resulting conflict in the most harshly affected areas. This potentially means more advisory and supporting deployments to help build resilience for those who are struggling to cope with the effects of climate change. I see this as a potential role that the military can play a key part in, as part of an approach that encompasses Defence, Diplomacy and Development – the 3D of climate change.

Lt Gen Nugee, thank you very much for the interview!

Questions by Rüdiger Frank and Kristina Tonn.

Unfortunately, the urgent always trumps the important, and so we need to recognise and acknowledge that, even if it doesn't always feel like it, climate change is already urgent

traditional threats, as acknowledged by the *Integrated Review* climate change is a threat to our citizens. So, in order to protect its citizens, the nation's defence forces must both adapt to the future climatic conditions, such as increasing surface sea temperatures and the melting of the summer arctic ice in 15-20 years, and at the same time must adapt its training and its exercises to be able to cope with hotter, more unpredictable climatic conditions.

It is not enough though just to be able to adapt. As significant sources of emissions, defence forces must look to reduce their own emissions through the use of novel technologies. I see this as an opportunity. Traditionally militaries have looked to harness new technologies that have been

Profile



Lt Gen Richard Nugee was commissioned into the British Army in 1986. He completed operational tours of Northern Ireland, Bosnia, Kosovo, Iraq, Cyprus and Afghanistan. He also specialised in personnel (HR) roles culminating in Chief of Defence People (equivalent to Global HR Director for Defence). He spent his final year in the Army writing a Review of Defence's approach to Climate Change and Sustainability, and since has been appointed as the Non Executive Director for Climate Change for Defence.

Ministry of Defence (2021): *Climate Change and Sustainability Strategic Approach*: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/973707/20210326_Climate_Change_Sust_Strategy_v1.pdf

Mr. Hodder, you are the first climate and security expert within the framework of a UN mission. How would you describe your job? What are your main tasks, and what is your principal role: adviser, coordinator, collection of data and research?

My role has two halves. Firstly it's to try to work with the political, security and rule of law institutions to mainstream climate and environment into their work. This includes climate risk integration into political analysis and peacebuilding approaches. We are also trialing out new and innovative approaches to environmental mediation and peacekeeping as well.

The other half is to work on coordinating environmental and climate approaches across the country, the UN system and with local CSOs and NGOs. I also advise senior leadership on climate and environmental issues and I collect data and evidences on the links between climate change, competition over natural resources and conflicts in Somalia. Finally, I also support and advise the federal member states (*Somalia consists of six federal states, with Somaliland in the north claiming independency; the editors*) on environmental policy and co-chair several task forces on coordination across the Humanitarian/Development/Peace Nexus.

This does not seem to be a routine job. To illustrate what you're doing and to better understand how it integrates into the UNSOM mission, what would a working week look like? Do you spend most of your time on the telephone, in meetings with officials and representatives or on the ground working with local institutions and people?

That's right, it's definitely not normal! So yes, my normal week is advising on the senior management teams and meeting officials on the Monday. On the Tuesday I coordinate the cross UN task force on Environmental Coordination where we look at joint planning, joint programmes and coordinating on the aid architecture to Somalia. On Wednesday I would be speaking to local NGOs and CSOs and support programmes, giving training, doing capacity building calls and then also working on the environmental approaches to mediation. On Thursday I would usually be chairing the

“SOMALIA WILL BECOME ALMOST UNLIVABLE IN CERTAIN AREAS”

UNSOM is special political mission that operates under a UN Security Council mandate to support Somali institutions, strengthen Somali coordination with international partners in the security sector, help Somalis advance in reconciliation and democratic governance, and promote the rule of law and human rights. It was established in 2012 and has been extended several times. It is the first mission to include the post of an environmental security advisor focussing on issues related to climate change and environmental degradation and the impact on society, security and conflict. It is funded by the German Ministry of Foreign Affairs (Auswärtiges Amt). Christophe Hodder from the UK has been working in this position from June 2020.

national Nexus task force on flooding and water management and looking at issues around climate and water. Then I would have several discussions with government and then also with the AMISOM military on drone dropping seedballs or working with the International Organization for Migration (IOM) on issues of climate displacement. Friday is usually a day off in Somalia however I often work and catch up on research, do reading and try to write concept notes on innovative ideas for programmes.

Climate change is often referred to as a threat multiplier. How do climate change and security or conflict risks relate, especially with regard to the situation in Somalia? Has your personal understanding of the linkage deepened during your job?

For me Somalia and much of the Sahel and Horn areas are experiencing right now the impacts of climate change. Warming temperatures, now annual flooding/drought cycles and locust plagues that we see contribute to or multiply as you say the conflict. Last year alone 75% of all the 2.9 million

people displaced in Somalia was due to flooding and drought overtaking conflict as the main cause of displacement. The displacement has led to heightened conflict over natural resources from grazing lands to water rights to not having enough space for everybody to live. UNEP and IOM did a great study on maladaptive techniques of climate displaced populations. We can see clearly that the displaced populations have to cut trees for their energy needs, this in

We believe that a majority of the conflicts in Somalia are originally over natural resources. With climate change we predict this will increase

turn contributes clearly to soil erosion and therefore increases in flooding and desertification. This in turn leads to further displacement and further conflict. Therefore, this cycle of climate-induced flooding/drought – displacement – desertification/deforestation – flooding – displacement is something that is very real and clearly showing in the trends. We are trying to make an estimate on the levels of conflict due to competition over natural resources. We don't have the data yet but we do believe a majority of the conflicts in Somalia are originally over natural resources. With climate change we predict this will increase with Somalia heading to a 4 degrees rise by 2080 which is almost

unlivable in certain areas. This is leading to massive urbanization, huge changes in livelihood and earning capabilities and is also playing into the hands of militant groups like Alshabab who are recruiting youths who have less and less livelihood options due to climate change.

As for climate change and conflict, environmental issues can also stimulate cooperation. On the other hand, adaptation measures should not aggravate existing tensions or create new ones. Do these ideas play any role in your work or for UNSOM in general?

So yes, for my role that does play an important part. As I mentioned we are trialing an environmental mediation approach where we are trying to see if we can galvanize the clans to stimulate cooperation on climate issues rather than see it as an inter-clan issue. And part of my role is also to see if we can make adaptation and mitigation approaches more conflict sensitive, as in trying to work with local communities to see climate adaptation as playing a role in the statebuilding and building of local systems.

UNSOM is a special political mission, without military involvement. But with regard to the MINUSMA mission in Mali, for example, the Stockholm International Peace Research Institute (SIPRI) also calls for an environmental security adviser "to support both increasing the priority of climate-related security risks and improving the capacity to address it". In what way could that be helpful?

I think it would be incredibly useful for MINUSMA to have someone in a similar role that can help coordinate environmental approaches, can advise on environmental mediation and environmental peacebuilding approaches as well as trial and work on new approaches to peacekeeping such as environmental policing, protection of natural resources or bio-diverse areas as part of the peacebuilding approaches. It would be great to learn and work together and really get to the bottom of what do we do about climate security and how can we establish this as core parts of peacekeeping missions.

Profile



Christophe Hodder is the first Climate Security Advisor for a UN Peacekeeping mission in the world. He has spent the last 20 years in conflict or fragile states working on community and policy/political engagements working in some of the most unstable areas of the world. From working in Northern Nigeria and Mali to working on nature-based solutions in response to the Earthquake in Nepal, he is a passionate environmentalist that has a background in Environmental Health and behavior change. He currently lives in Nairobi with

frequent travel to Somalia and lives there with his wife and two children.

You have been working for around a year now in that position. What are the most urgent needs and long-term goals, and what has been achieved so far?

The most urgent needs include the flooding and drought cycle leading to displacement and conflict. Climate displacement and urbanization are going to really destabilize any peacebuilding approaches and with temperatures rising and more and more unpredictable weather events we need to ensure we are focusing fully on mitigating and adapting to the events. The long-term goals are to really ensure the mission is climate ready, have strategies and plans in place based on the predication models to try to deal with or at least support the communities' and the system's resilience building where we can.

So far we have managed to mainstream environmental and climate change in the UN Cooperation Framework. We have a lot of great coordination approaches set up which are already starting to deliver some results and finally we have concept notes that will hopefully lead to programmes looking at conflict mediation, environmental peacekeeping, climate displacement, reforestation and rangeland management etc. We have also delivered on helping and supporting the government at federal and local level to ensure the right policy and protection systems are in place. We hope all this will really start making an impact next year.

Some people might criticize that funding a position like yours is highly useful and necessary but addresses only the symptoms instead of the causes. The focus should also be on mitigation and reaching the goals of the Paris agreement.

While I agree the Paris agreement is absolutely essential and delivering on it is imperative for human survival, I think that roles like mine can totally help; first bring up evidence to the Security Council and to the international community and show that we need to act now as a global community; secondly we can help the peacebuilding/military/security and the political approaches to tackle and come up with innovative ways to the conflict

and to the climatic events; thirdly my role can help coordinate, mainstream and provide expert technical advice to the UN and its partners and be a catalyst for change on green growth and mitigation/adaptation approaches.

Climate displacement and urbanization are going to really destabilize any peacebuilding approaches

Mr. Hodder, one last question, would you share your personal motivation with our readers?

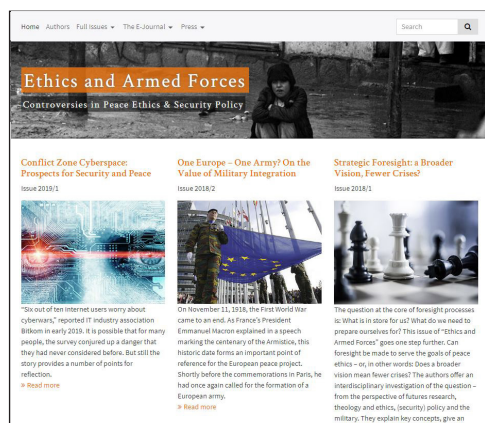
My personal motivation is very much around trying to do something in this time of a global emergency. My opinion is that climate change will be the greatest challenge humankind has ever experienced and I wanted to be part of that, help with my skill set to really try to make a difference and to try to be part of doing something about the climate emergency.

Mr. Hodder, thank you very much for the interview!

Questions by Rüdiger Frank and Kristina Tonn.

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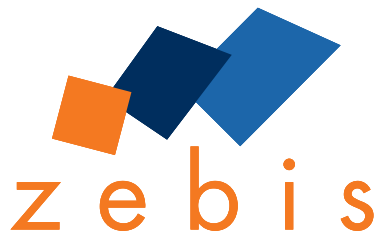
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