

University of Luxembourg

European Master's Degree in Human Rights and Democratisation
Academic Year 2014/2015

The Impacts of Militarism on Climate Change: A sorely neglected relationship

**The effects on Human Rights and how a Civil Society Approach
can bring about System Change**

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Dear posterity! If you are not more just, more peaceful and generally more prudent than we are or have been, to hell with you.¹

- Albert Einstein

¹ Translated freely from German: "Liebe Nachwelt! Wenn Ihr nicht gerechter, friedlicher und überhaupt vernünftiger sein werdet, als wir sind bzw. gewesen sind, so soll euch der Teufel holen." Found in Dukas, & Hoffmann, 1979, p. 159.

Thanks to:

Professor Jean Paul Lehnars

*for his kind guidance and cordial nature and for enabling me to come to Luxembourg, a place
full of opportunity to learn about sustainability.*

Dr. Ariane König

for opening my eyes to the interdisciplinary and complexity of climate change.

Professor Tonie Van Dam

*for taking me deep into the climate science, never getting tired of answering my many
questions.*

Lisa

for her literary and methodological inspiration.

Michalis

for keeping my writing in check.

Abstract

Militarism, in the form of the Military-Industrial-Media and Entertainment Complex, is possibly the world's biggest producer of GHG emissions and ecological degradation. Regardless of whether it is during war or peacetime, the world's armed forces consume enormous amounts of fossil fuels, produce immense quantities of toxic waste and have exceedingly high demands for all kinds of resources to support their infrastructures, all along being exempted from environmental restrictions and emission measurements. According to the treadmill of destruction theory, war is waged nowadays mainly for securing natural resources which are themselves being massively consumed in the process, thereby establishing a self-perpetuating cycle of destruction. Moreover, military spending diverts massive funding from climate mitigation and adaption initiatives.

It seems obvious that militarism is closely related to climate change but unfortunately this connection has been hugely neglected, if not wilfully ignored.

This paper illuminates this fateful relation and the political, economic and legal setting in which it thrives as well as obstacles to public awareness. The extensive impacts of climate change on human rights are explored, highlighting unequal burdens and particularly vulnerable groups. Finally, a possible solution for this situation is proposed in the shape of a civil society approach, taking full advantage of the power of nonviolence, bottom-up strategy and the tools of the arts, humour and creativity.

- Preface -

I chose this topic because I am troubled by the current state of our natural and social environment and concerned about future developments in the view of overwhelming obstacles. I wanted to know what can be done to fight climate change and the destruction of our environment. And I wanted to find out what everybody can do, you and I right now, not having to make do with just sitting and waiting for politicians, international organisations, corporate managers or shareholders, environmental lawyers, or anyone else, to act. I searched for a perspective on how we can work together and create added value for our efforts, not having to resign ourselves to having only a small impact as individuals. In my research I came across the utterly harmful potential of militarism for the natural environment. Unfortunately I had to realize that the topic is widely neglected in environmental debates and should be taken up. Consequently the research questions were formulated: *What impacts does militarism have on climate change? How is climate change affecting human rights? How can civil society contribute to resisting the effects of militarism on climate change?* These questions are worth answering and can raise awareness for this important but shamefully ignored topic, especially in these times where we are witnessing a growing militarisation with increasing international tensions and a possibly runaway change of our climate.

The main concepts are very comprehensive and complex and would make a complete investigation of all relevant aspects exceeding the scope of this thesis by far. Still, an inquiry leaving out only one of the main concepts would disrupt the context and be incomplete. Therefore, I am including only their most important aspects, which are still quite a few, creating a high density of information. I will try to transform this potential weakness into an advantage by choosing an expedient line of discussion working my way through the intricacy of the topic arriving at a proposal for a solution. It might be unconventional to suggest a solution in an academic work, but it is my conviction that just discussing problems is not enough and solutions cannot be left out. In this paper I will explain why it is imperative to promote positive and feasible solutions, because nobody is motivated by pessimism, particularly in the face of overwhelming obstacles and uncertainty of future developments. In my opinion complete objectivity does not exist in the disciplines of social sciences, especially not in an interdisciplinary thesis. While I am upholding the principle of academic objectivity in this paper, I am openly promoting a human rights as well as a nonviolent approach as an axiom for harmonious human coexistence.

My primary aim is to bring the topic closer to the reader, enabling her or him, despite the relative briefness of this thesis, to obtain an understanding of the fundamental aspects of the four immensely complex topics and their manifold interconnections: Climate Change, Militarism, Human Rights and Civil Nonviolent Resistance. I hope the reader will be induced to reflect on her or his own role in the system that governs these topics and their complex relations. And I hope that the topic of this thesis will become more widely known, because climate change and militarism might be the biggest challenge to human rights and humanity as a whole, especially when they are combined.

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1 Introduction

1.1 Concept Visualisation

To give a first overview and explain the framework of my thesis in a simple way I am using a visual sketch.

Figure 1 – The Interplay of the three Main Concepts



Figure 1 shows the connections between the three main concepts which work both ways: militarism and climate change as well as climate change and human rights. On the one hand, militarism is exacerbating climate change, and for example by amplifying security risks, climate change is a popular argument for the proliferation of militarism. On the other hand, the changing climate has impacts on basically all human rights and at every stage of advocacy (respect, protect, fulfil), while a society incapable of adhering to human rights harms our natural environment which consequently reinforces climate change.

Due to the given complexity and entanglement of the concepts, actors and aspects examined in this thesis, it is difficult to illustrate a truly complete picture as well as explaining it in a concise manner. Figure 2 presents a more holistic illustration in an attempt to make the framework of this thesis more easily comprehensible.

Figure 2 – Complex Interconnections of Concepts, Actors and other Aspects

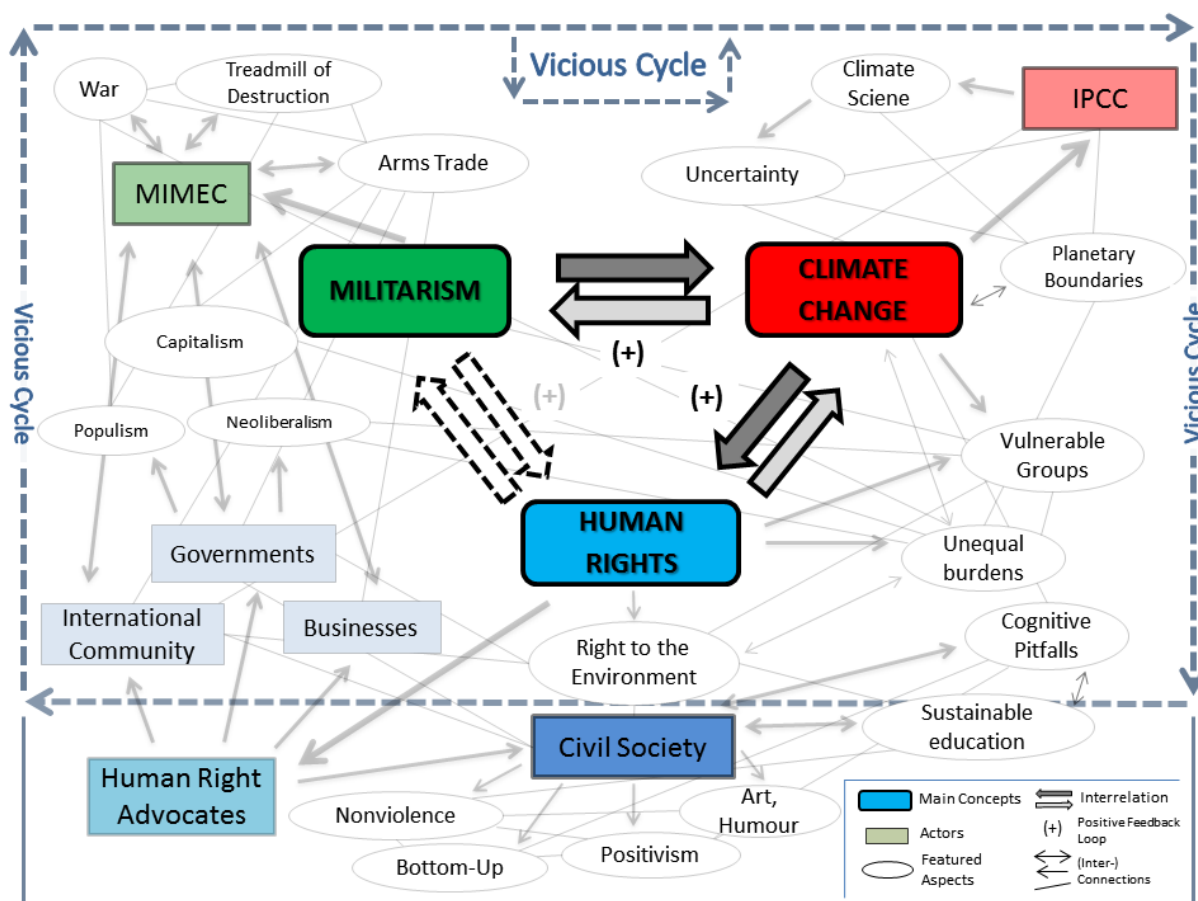


Figure 2 gives a glimpse of the complex interconnections between the issues discussed in this paper. It illustrates the interrelations between the three main concepts including the relationship of human rights and militarism. The mutual reinforcements of the correlations of the three concepts establish positive feedback loops (indicated by 'plus' signs), creating a perpetual dynamic that amplifies the original cause, if not interrupted.

The relationship between human rights and militarism constitutes a topic of its own and is not a central issue of this thesis (dashed arrows). Nevertheless, it is of significance for the topic as it closes the vicious cycle of the interplay of the three main concepts, perpetuating the chain reaction of the three single feedback loops.

Figure 2 also demonstrates that each of the three main concepts is represented by an actor, the Military-Industrial-Media-Entertainment-Complex, the Intergovernmental Panel on Climate Change & Human Rights Advocates (with special focus on Civil Society) which will be thoroughly discussed in this thesis. Civil Society lies outside the vicious cycle as it represents a way out, while all the other human right advocates are caught up in the system. The transparent background shows some of the main aspects governing the interrelations of the

concepts and the related actors that form a part of this paper. Sustainable education and the human right to the environment are capable of permeating the borders of the vicious cycle. Of course this model is also a simplification and cannot take into account all actors and aspects, but a more detailed model would make the illustration unclear.

1.2 Research Questions & Structure

The research questions for this paper are as follows:

- *What impacts does militarism have on climate change?*
- *How is climate change affecting human rights?*
- *How can civil society contribute to resisting the adverse effects of militarism on climate change?*

In an attempt to comprehensively cover all the various aspects and facets of the chosen research questions in a logical manner, this study is divided into four corresponding sections. The many interrelations between the concepts and actors pose complications for structuring and make some inter-chapter references necessary.

The framework for this inquiry starts with a description of the basic scientific circumstances of climate change, its extensive implications and the complexity of the topic. I iterate that climate change is a pressing issue, related to other major problems our world is facing, highly relevant in all areas of human existence. The IPCC and its reports are evaluated and the uncertainties in climate science highlighted.

After laying this foundation for a general understanding of the Earth system I draw the connection between militarism and climate change, a link that is seldom established even though militarism is possibly the largest cause for pollution on the planet. I delve into the discussion of the Military-Industrial Media and Entertainment Complex with its many tentacles in human societies, the treadmill of destruction as the cause and consequence of climate change, the USA's and NATO's special status in this problem as well as what has been done to address militarism and climate change until today.

In the third section, I debate the role of human rights and our environment, focusing on violations and hazards that climate change poses to human rights. I will show that our basis for living and consequently all human rights can be and are already affected by the impacts of

climate change and will highlight specifically vulnerable groups. I conclude the section by discussing how a human right to the environment can help curbing militarism's effect on our climate.

Then, after explaining why politics, the international community and the global economy have an important role to play in the process but have failed so far in establishing a feasible and functioning solution for curbing militarism and climate change as well as establishing a stable basis for sustainable life on Earth, I propose that a civil society and community-led approach is the best response to tackle these dangers. Nonviolence, I will argue, is the answer to the widespread militarism that haunts our societies all around the world. My text will point out how bottom-up approaches represent effective alternatives and can help, together with sustainable education, to overcome human cognitive pitfalls. I conclude by giving some examples of artistic, creative and humorous projects from various fields that provide an insight on the possibilities for action available to civil society.

1.3 Sources & Methodology:

I draw my research mostly from traditional sources like academic writing, textbooks, journals, monographs, reports, declarations and resolutions of international and other organisations, along with sources which are often neglected. In this regard I am utilising multimedia resources² (documentations, online video clips, TV reports, podcasts, educational software and games, first-hand interviews). I am choosing this approach because it reflects the nature of the activities and initiatives I am presenting. It is not always practical or even feasible to capture unconventional, artistic or otherwise creative civil society activities in academic writing. Sometimes they are best reflected/reproduced in audio-visual footage or similar materials. Also I want to feature the voices of activists and advocates for change in my paper who did not put down their stories in writing, but used other ways of publicity. Last but not least, in comparison with a book a video often has a much higher effectiveness in reaching a broad number of people and therefore a much greater value in raising awareness. Also multimedia resources play a leading role nowadays in obtaining information as well as in our culture and

² The OHCHR recently expressed its fondness of films for Human Rights education and reach: OHCHR website, *Films help educate students about human rights*, available at <http://www.ohchr.org/EN/NewsEvents/Pages/HRFFSchools.aspx> (consulted 10.05.2015).

social relations. I am adhering to quality criteria that apply to written academic work for multimedia sources, keeping in mind that neither all books nor all video materials have 'scientific quality'. However, it is clear that multimedia sources cannot fully replace established academic sources for a thesis like this, which is why I back up multimedia resources with traditional academic ones. A wide range of secondary sources were consulted through the analysis of existing literature on the project topic.

My topic is highly interdisciplinary; accordingly I am combining disciplines like natural science, psychology, sociology, cybernetics, law, human rights, philosophy and a few historical examples in the attempt to draw a complete picture. I am not claiming to be able to present the topic in its entirety since I am not sure if this is at all possible given the secretiveness and close-to-the-vest behaviour of states concerning their military data as well as the utter complexity and ensuing uncertainty of climate change.

My topic is inherently encompassing the whole planet. However, the major polluters and holders of extensive military force are industrial countries situated in the global North. They have prime responsibility when it comes to mitigating the detrimental effects of their past behaviour with regards to the climate.

I have to face the issue of military secrecy and states being very protective of their so called 'defence policies' making relevant data difficult to acquire.

Taking all of this into account I am choosing a global perspective and will try to offer examples of past and current civil society actions in a wide spectrum. There is a certain focus on areas with sufficient data and on countries in the global North who have prime responsibility to act. The USA feature prominently in this regard, but this, I argue, is justified given its impact on climate change due to its tremendous economic and military engagements.

2 The Science of Climate Change

2.1 The Earth System

In order to understand the reason for why I chose this topic as well as the role of climate change in connection to human rights, it is important to first understand the basics of our planetary system and the context in which we are living right now. Everybody should be able to make her or his own decision about whether the climate crisis (see Chapter 2.2) is worth worrying about or not. Coming to an informed rational decision requires a minimum knowledge of the underlying scientific circumstances.

To begin with, I am choosing a working definition of ‘the Earth system’ as an equivalent of the interacting physical, chemical, and biological processes in the atmosphere, hydrosphere, geosphere and biosphere, including natural cycles (carbon, water, nitrogen, phosphorus, deep earth and others) and life. The Earth system also accommodates human society with their social and economic systems embedded in it. They present the main drivers of global change in the Earth system nowadays. ‘Global change’ refers to not only short-time and large scale changes in the Earth system.³

The Earth system is closely related with ‘the environment’ or ‘natural environment’, meaning all non-human natural surroundings which are affected by phenomena like climate change, pollution or biodiversity loss, or in its broadest sense the whole planet Earth.⁴

The Earth system is changing. In fact, our planet has always been changing and will most probably continue to do so for many billions of years. However, there is a profound difference between the changes occurring at the moment and those that occurred in the past. Our planetary system is changing faster right now, much faster than it ever has throughout most of its 4.6 billion year existence.⁵ It is clear today that human activity is responsible for at least a major part of this acceleration. While the human population and our technological abilities are increasing exponentially, our understanding of these developments lags behind and we have reached a point at which we are significantly influencing our environmental system without

³ Global IGBP Change Website, *Earth system definitions*, available at <http://www.igbp.net/globalchange/earthsystemdefinitions.4.d8b4c3c12bf3be638a80001040.html> (consulted 26.05.2015).

⁴ Giddens, 2013, p.158.

⁵ The only faster changes might have been in the aftermath of giant impacts like meteorite collisions.

knowing the consequences. Nevertheless, we can recognise the effects of our behaviour most clearly in the relatively thin layer of gases that sustains life on Earth; the atmosphere. Global climate⁶ is in the process of changing caused by the anthropogenic boost of greenhouse gases to the atmosphere and ensuing enhancement of the greenhouse effect.⁷

We are living in a new era that began with the Industrial Revolution (1750) and which is marked by global environmental change through human activities: the Anthropocene. (See below chapter 2.4) While regular temperatures, available freshwater and biogeochemical flows remained within relatively narrow limits for the longest time, they are fluctuating now. In fact these changes could result in pushing the Earth system outside its stable state with disturbing consequences.⁸ Without human interference the environmental system is expected to be stable for human beings to live for at least several thousand years.⁹

Earth's climate is not only a consequence of radiation from the sun, the interaction of the seasons with wind and clouds or the global distribution of land and water, but it is in close interdependency with all processes in the biosphere. With that our climate is connected, more closely than we want to think, with the interaction of living things, especially human behaviour and its effects on vegetation, the composition of the air, the water balance and maritime life. For several decades now, humans are amplifying the greenhouse effect and are thus creating a development that not only threatens but is already destabilising the global climate.¹⁰

While the two terms are often used interchangeably, it is important to differentiate between global warming and the greenhouse effect. The greenhouse effect is a natural effect, inherent in the Earth's climate system, keeping the planet's surface temperature warmer than it would be in the absence of an atmosphere.¹¹ Without it our planet would be an ice planet, frozen at an average temperature of -18°C and consequently without life. Therefore it is an essential part of our environmental system, accounting for a contribution of 33°C to the planet's effective radiating temperature and making life possible at an average temperature of 15°C.¹²

⁶ Global climate means the prevailing weather patterns of our planet over time.

⁷ Kump et al, 2010, pp.1-2.

⁸ Rockström et al, 2009, pp.472-473.

⁹ Berger, & Loutre, 2002, p. 1287.

¹⁰ Vester, 2006.

¹¹ Kump et al, 2010, p.3.

¹² Kump et al, 2010, pp. 43-44.

Global warming is the rise of overall mean temperature, which does not mean that it is getting warmer everywhere on Earth. It has its origin in the greenhouse effect and is directly correlated with the rise of greenhouse gases in the atmosphere.¹³ The consequence is an increased trapping of infrared radiation or heat energy, disrupting the global energy balance that kept our planet inhabitable for billions of years.¹⁴

2.1.1 A Definition of Climate Change

“Climate change refers to a change in the state of the climate that can be identified (e.g. by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcings such as modulations of the solar cycles, volcanic eruptions and persistent anthropogenic changes in the composition of the atmosphere or in land use.”¹⁵

For comparison, in its Article 1 the Framework Convention on Climate Change (UNFCCC) necessarily connects climate change (directly or indirectly) to human activity in addition to natural climate variability.

Global warming and climate change are often used as synonyms, even though climate change is a more versatile and scientifically accurate term that describes also other atmospheric changes than just temperature rise, such as change in precipitation patterns, sea-level rise, melting permafrost, unusual extreme weathers or devastating natural disasters.¹⁶

It has to be noted here that in the environmental discourse there is an immense collection of claims and concerns compiled by a huge number of actors with fragmentations and contradictions.¹⁷ I will do my best to distil the relevant problems, which brings us to the issue of complexity.

¹³ Kump et al, 2010, p.4.

¹⁴ In fact Earth's climate has remained stable enough for the last 3,5 billion years (the time that we know that life existed on the planet) to sustain life. See: Kump et al, 2010, p.379.

¹⁵ IPCC Synthesis Report, 2015, p.120, available at http://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf.

¹⁶ Gilbert, synonym website, available at <http://classroom.synonym.com/term-global-warming-used-referring-climate-change-21643.html> (consulted 22.06.2015); Conway, NASA website, 2008, available at http://www.nasa.gov/topics/earth/features/climate_by_any_other_name.html (consulted 22.05.2015).

¹⁷ Hajer, 1995, pp.2-3.

2.2 The Earth System's Complexity

The impact of human activities on the environment is of an interdisciplinary nature.¹⁸ Inherent characteristics of our climate system are feedback loops and tipping points. Negative feedback-loops stabilise the state of our climate system while a positive-feedback loop creates a dynamic that reinforces the original cause and destabilises the current climate regime.¹⁹ Tipping points have the effect of causes building up while the impacts are delayed. This inertia has received relatively little attention so far²⁰ and is mainly due to the heat capacity of the oceans and the melting of the ice sheets in Greenland and Antarctica. It makes climatic changes appear slow, but when the effects kick in they can cause a sudden shift from one climate system to another.²¹ These dynamics are one part of the complexity of climate change. Another area of complication is represented by the causes of global warming, which are deeply rooted in our social behaviour as well as global industrial infrastructure and therefore difficult to tackle which makes the topic deeply controversial.²²

Now the question arises whether it is possible to distinguish between natural trends and human induced developments.

It certainly is difficult to accurately determine long-term temperature trends, because our climate is not only influenced by the greenhouse effect, but by many other aspects as well. At the same time, even though we have a lot of historical temperature data for certain parts of the world (mostly Europe and North-America), this is not the case for some other parts and the data coverage is thus incomplete. Other obstacles are errors and uncertainties in evaluations due to problems with measurements and varying methods over the years.²³

One fundamental problem that exists for all of the environmental dilemmas we are facing right now is inadequate perception in the public sphere. Starting in school, we are taught to make distinctions aiming for an easier understanding of the world. But too often this is taken to

¹⁸ Postiglione, 2010, p.528.

¹⁹ Kump et al, 2010, pp. 22-33.

²⁰ Royce, 2011, pp.3-12.

²¹ Parenti, 2013, available at <http://www.dissentmagazine.org/article/a-radical-approach-to-the-climate-crisis> (consulted 18.05.2015).

²² Kump et al, 2010, p.3.

²³ For example the 'heat island' effect is a known factor of uncertainty: Weather stations located near cities might observe a warming trend when a growing city covers an increasing area with dark surfaces (asphalt), absorbing more solar energy and heating the local air temperature up to 3°C. As a systematic error this effect can be removed from the data, but it remains a source of uncertainty as it is difficult to eliminate accurately. Kump et al, 2010, p.6.

extremes when we objectify borders that belie the interrelated and dynamic reality of our world. Popular divisions comprise humans/nature; local/global; present/future; cause/effect.²⁴ This method of education is part of the reason why many people lack interconnected thinking and have a hard time to look through the complex entanglement of the climate crisis. (Also see Chapter 5.1.2.2). This issue was highlighted in the Report of the World Commission on Environment and Development, '*Our Common Future*', or more commonly known as 'Brundtland Report'. It held already in 1987 that human activities and their effects are "neatly compartmentalised within nations, within sectors (energy, agriculture, trade), and within broad areas of concern (environment, economics, social). This applies in particular to the various global 'crises' that have seized public concern, particularly over the past decade. "These are not separate crises: an environmental crisis, a development crisis, an energy crisis. They are all one."²⁵ But generally, we are still thinking of them as separate issues and fail to see the important connections between them.²⁶ Especially the atrocious effects of militarism, in times of war but as well as in peacetime, are seldom mentioned with regards to climate change even though there is a close interrelation.²⁷ The relationship between militarism and climate change will be addressed in detail in Chapter 3.

The issue of climate change is extremely complex also because it involves many different parts of the Earth system. The *Climate Crisis* is the sum of all environmental problems our planet is facing at the moment: deforestation, loss of biodiversity, ocean acidification, disruption of the nitrogen and phosphorus cycle, freshwater depletion, soil erosion, atmospheric aerosol loading and chemical contamination.²⁸ The tipping points of climate change are related with thresholds of these environmental problems. Consequently we have to take a look at planetary boundaries as well.

²⁴ Sterling, 2001, p.16.

²⁵ Report of the World Commission on Environment and Development: *Our Common Future*, Chapter I.2 paragraph 11.

²⁶ Sterling, 2001, p.16.

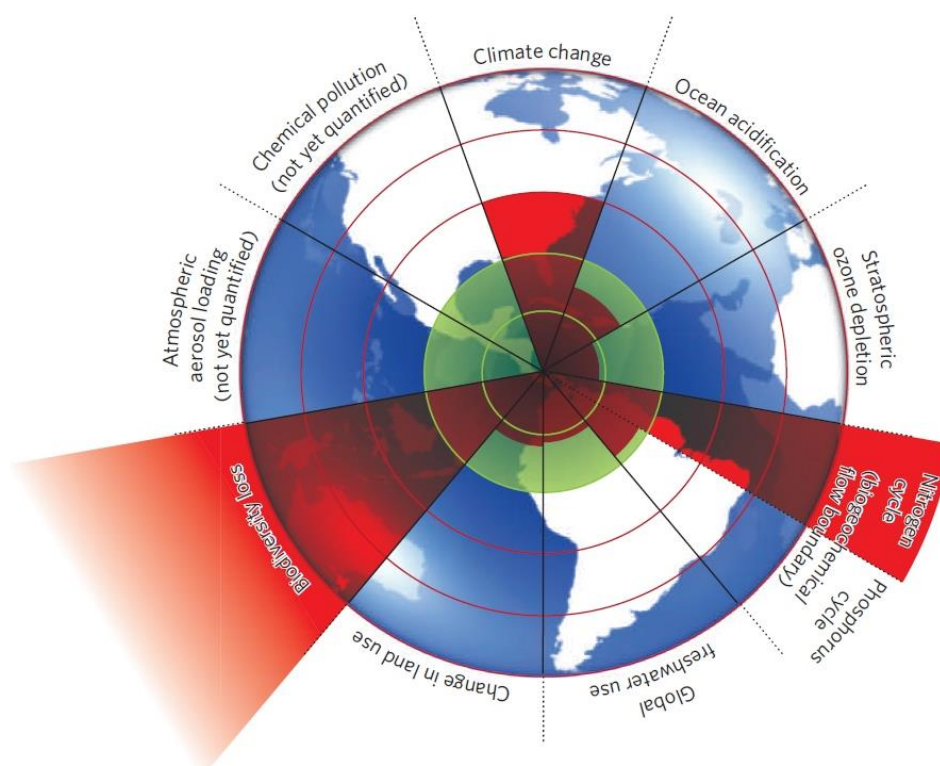
²⁷ Lorincz, 2014, p.33.

²⁸ Unfortunately this list is not exhaustive.

2.2.1 Planetary Boundaries

The greenhouse effect is not the only criterion that sustains life on Earth and which is endangered by human activity. There is a delicate balance of planetary boundaries that are thoroughly coupled, as illustrated in Figure 3.

Figure 3 - Beyond the Boundaries



“The inner green shading represents the proposed safe operating space for nine planetary systems. The red wedges represent an estimate of the current position for each variable. The boundaries in three systems (rate of biodiversity loss, climate change and human interference with the nitrogen cycle), have already been exceeded.”

Source: Rockström, 2009, p.472.

That is why it makes little sense to impetuously isolate one from the other. If one boundary is exceeded, then other boundaries are affected too.

Going into the details of all of these complex aspects would exceed the framework of this thesis but for the sake of completeness two aspects should be mentioned shortly. I want to indicate that stratospheric ozone layer depletion and loss of biodiversity are global threats

likely as severe as climate change. Without an ozone layer to guard us from ultraviolet rays we would get instantaneous sunburn on exposure to the sun with serious implications for cancer and a corrosion of organisms vital for the health and fertility of sea and soil.²⁹ Closely connected to deforestation, the loss of biodiversity on our planet has amounted to a mass extinction (the widespread dying out of many species in a geologically short period of time) and is still underway.³⁰ It is threatening the survival of all other species on Earth when the gaps in the natural cycle of life pass a threshold where viability of the system becomes uncertain.³¹ A way to judge the seriousness of these problems is to estimate how long it would take the Earth system to recover from their effects.

The ozone layer needs the shortest time to recover. Chlorofluorocarbons (CFCs), who are proven to have destructive effects on ozone, linger in the atmosphere between 50 and 150 years until they are destroyed by ultraviolet radiation. Concerning global warming, if we continue on our current path of carbon emissions, their level in the atmosphere could remain raised above a “safe” threshold (see Chapter 2.4) for many thousands of years.³² The time scale for recovery of biodiversity measures tens of millions of years, if there is recovery at all. In fact the system never goes back to its original form, because the new species are different.³³ In my point of view, these problems are not distinct from one another, but form part of the complex network of problems humanity needs to solve if it wants to keep living on the planet. In this regard, even though these fields deserve their own consideration, sustainable solutions to climate change are also solutions for our difficulties with biodiversity and the ozone layer.

²⁹ Here it has to be mentioned that ozone holes are located over Antarctica and sometimes the North Pole at certain times of the year. Fortunately, very little people or other life forms are living in these areas and thus there is only a small impact on life on Earth. But the current confinement to the poles (mainly South Pole) cannot be taken for granted, leaving close living populations in the South of Chile or New Zealand worried. The good news is that production of ozone depleting gases has been dramatically reduced (not least due to civil society action and the Montreal Protocol, 1987) and mid-latitude ozone reduction has slowed in recent years. Maybe this will be an example of how human kind acted just in time to avert a catastrophe. See: Kump et al, 2010, p.10.

³⁰ Our global ecosystem is currently witnessing the 6th mass extinction. “Averting a dramatic decay of biodiversity and the subsequent loss of ecosystem services is still possible through intensified conservation efforts, but that window of opportunity is rapidly closing.” See: Ceballos, 2015, available at <http://advances.sciencemag.org/content/1/5/e1400253.full> (consulted 21.06.2015).

³¹ Kump et al, 2010, pp.11-12.

³² During this time most of the overabundant CO₂ would be absorbed by the oceans and the time it would take to remove the excess CO₂ from the sea and the atmosphere, so the atmosphere can return to its preindustrial state would be more than a million years. Kump et al, 2010, p.12.

³³ Kump et al, 2010, p.12.

However, stopping greenhouse gas emissions is arguably the most acute challenge of the larger climate crisis and a more specific problem.³⁴

2.2.2 The Link to Extreme Climate Events

Can we directly link, without a doubt, extreme weather events that we are observing with our own eyes to a warming climate?

The answer is no, as it is impossible to claim with absolute certainty that a single event is the direct effect of a change in climate and it is unsure if we will ever be able to establish a clear link to call an individual event a 'climate change event'.³⁵ We do not have the knowledge or tools to untie the huge muddle of complexity with the sheer infinite interrelated facets that climate change embodies.³⁶ There are few certainties regarding climate change.³⁷ Acknowledging this, complexity can be used as a synonym for uncertainty with respect to climate change. However, many processes can be attributed to climate change up to a high certainty. The Intergovernmental Panel on Climate Change (IPCC) anticipates pervasive, systemic and irreversible impacts on people and ecosystems through water stress, food security threats, coastal inundation, extreme weather events, ecosystem shifts and species extinction on land and sea.³⁸ Atmospheric dynamics have changed, so that every climatic event that happens nowadays is in the context of global climate change and "different from how it would have been."³⁹

³⁴ Parenti, 2013, available at <http://www.dissentmagazine.org/article/a-radical-approach-to-the-climate-crisis> (consulted 14.05.2015).

³⁵ Anderson, 2012, available at <http://transitionculture.org/2012/11/02/an-interview-with-kevin-anderson-rapid-and-deep-emissions-reductions-may-not-be-easy-but-4c-to-6c-will-be-much-worse/> (consulted 21.04.2015).

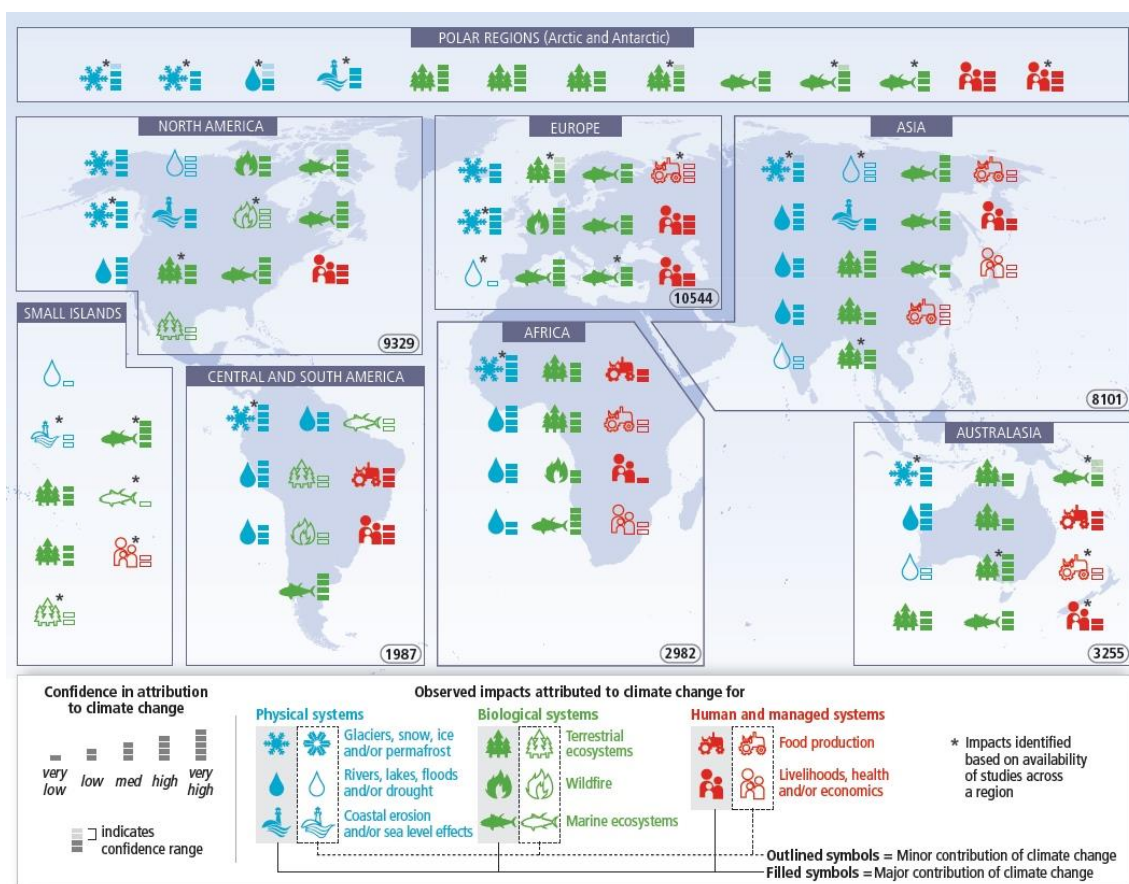
³⁶ Postiglione, 2010, p.528.

³⁷ Giddens, 2009, p.27.

³⁸ IPCC Synthesis Report, 2015, p.7; PricewaterhouseCoopers, 2014, pp.2-3.

³⁹ Nyks & Scott, 2014, available at <http://watchdisruption.com/> (consulted 22.06.2015).

Figure 4 – Widespread Impacts attributed to Climate Change



“Based on the available scientific literature since the 4th IPCC Assessment Report there are substantially more impacts in recent decades now attributed to climate change. Attribution requires defined scientific evidence on the role of climate change. Absence from the map of additional impacts attributed to climate change does not imply that such impacts have not occurred. The publications supporting attributed impacts reflect a growing knowledge base, but publications are still limited for many regions, systems and processes, highlighting gaps in data and studies. Symbols indicate categories of attributed impacts, the relative contribution of climate change (major or minor) to the observed impact and confidence in attribution. The numbers in ovals indicate regional totals of climate change publications from 2001 to 2010. These numbers provide an overall measure of the available scientific literature on climate change across regions; they do not indicate the number of publications supporting attribution of climate change impacts in each region. Studies for Polar regions and small islands are grouped with neighbouring continental regions.”

Source: IPCC Synthesis Report, Climate Change 2014, p. 7.

The changes in the natural environment that we are observing, in fact generally match the situation expected with climate change. “We are struggling to find any other reasons for

them(...).”⁴⁰ The World Meteorological Organization (WMO) confirms that natural disasters, like heat waves, droughts, hurricanes and floodings have greatly increased since the 1970s.⁴¹

Past changes in the Earth’s climate system can offer valuable clues about how it is operating and how it will behave in the future. The effects on the natural environment can only be estimated and predicted⁴² but in important cases to a high degree of certainty. It is true that there are still voices questioning climate change but the number of climate change sceptics is small today⁴³, not least because of the work of the leading scientific organisation in the field, the IPCC.

2.3 The Intergovernmental Panel on Climate Change (IPCC)

The IPCC was created in 1988 by the World Meteorological Organization (WMO) and United Nations Environment Programme (UNEP) to provide a scientific basis for governments at all levels to develop climate related policies. Its work underlies negotiations at the UN Climate Conference based on the United Nations Framework Convention on Climate Change (UNFCCC).⁴⁴ The evaluations by the IPCC, on which this paper is building on, are conducted by a panel of renowned experts and scientists from around the world, on an extensive literature base, peer-reviewed and executed with the highest scientific standards.⁴⁵

⁴⁰ Anderson, 2012.

⁴¹ Lorincz, 2014, p.6; World Meteorological Organization, *WMO statement on the status of the global climate in 2013*, published online, available at <https://drive.google.com/file/d/0BwdvoC9AeWjUeEV1cnZ6QURVaEE/edit> (consulted 23.06.2015).

⁴² Key findings in IPCC reports are expressed as a qualitative level of confidence (from *very low* to *very high*) and, when possible, probabilistically with a quantified likelihood (from *exceptionally unlikely* to *virtually certain*). A level of confidence is expressed using five qualifiers: very low, low, medium, high and very high. The following terms have been used to indicate the assessed likelihood of an outcome or a result: virtually certain 99–100% probability, very likely 90–100%, likely 66–100%, about as likely as not 33–66%, unlikely 0–33%, very unlikely 0–10%, exceptionally unlikely 0–1%. See: IPCC Synthesis Report, 2015, p.2.

⁴³ 98% of scientists and every major scientific institution recognise climate change. (See: Seis, 2008, p.267.) NASA reports a consensus of 97% of climate scientists. See: NASA website, *Consensus: 97% of climate scientists agree*, available at <http://climate.nasa.gov/scientific-consensus/> (consulted 22.06.2015).

⁴⁴ IPCC Factsheet: What is the IPCC?, 2013, available at http://www.ipcc.ch/news_and_events/docs/factsheets/FS_what_ipcc.pdf, (consulted 04.05.2015).

⁴⁵ IPCC Factsheet: What literature does the IPCC assess?, 2013, available at http://www.ipcc.ch/news_and_events/docs/factsheets/FS_ipcc_assess.pdf, (consulted 04.05.2015); IPCC Factsheet: How does the IPCC review process work?, 2013, available at https://www.ipcc.ch/news_and_events/docs/factsheets/FS_review_process.pdf (consulted 04.05.2015).

2.3.1 Criticism of the IPCC

It has to be noted though that the IPCC itself as well as its findings are also subject to criticism. For instance it has been argued that a big part of the IPCC reports' authors are not actual scientists but government bureaucrats, who possibly ignore facts and findings that correspond to the main scheme.⁴⁶ It is surely true that the IPCC is a political, bureaucratic body which might lead to agreement on findings in the way of the lowest common denominator, constituting a potential for rather conservative outcomes. The IPCC has to walk a thin line between independent science and diplomacy: While scientists are providing the materials for reports, governments have influence on all levels of assessment (adopt the outline for each chapter, review drafts and approve the final reports).⁴⁷ It is also a fact that the scientific researchers have differing opinions on the evolution and consequences of climate change. However, this circumstance is addressed by the way the reports express their findings in a qualitative level of confidence representing the existing uncertainties and gaps of knowledge.⁴⁸

The IPCC is a consensus organisation, making it good at stating conclusions which have a high level of certainty. On the other hand, the IPCC is not so good at declaring givens where controversy or uncertainty is high. As already mentioned, the topic of climate change contains many uncertainties.

David Victor, one of the very few political scientists who was involved in the drafting of the last IPCC assessment report claims that the IPCC "is becoming irrelevant to climate policy" because the really important insights lie outside of the range of the natural sciences. To get the whole picture on climate change it is crucial to understand how people and societies perceive and respond to environmental changes. Unfortunately, for the last 25 years only a small segment of the IPCC's authors came from a social science background and most of those who did were economists. It is vital to include social scientists who research human behaviour, for example from disciplines like sociology, political science and anthropology in future assessments.⁴⁹

⁴⁶ For further information see: Micheals, 2005.

⁴⁷ Victor, 2015, available at <http://www.nature.com/news/climate-change-embed-the-social-sciences-in-climate-policy-1.17206> (consulted 18.05.2015).

⁴⁸ Giddens, 2009, pp.23-25.

⁴⁹ Victor, 2015; Victor, 2015, nature podcast, minutes 15:00-20:30.

Then again, there is also a vivid 'denial industry', situated especially in the USA, that spends enormous amounts of money to halt climate legislation and public awareness, while propagating the 'lie of climate change'.⁵⁰

2.3.1.1 Underestimating the Dangers?

There are also those who accuse the IPCC's conclusions of underestimating the advance and extent of dangers posed by climate change. So it has been maintained that most of the IPCC's future scenarios are following rather slow and steady trajectories and do not take into account tipping points which could entail sudden changes in the Earth system.⁵¹ One example for such a tipping point is connected to the potential for the land ice on Greenland to melt quickly. The IPCC deems this process to be irreversible as soon as the melting starts, but sees this possibility only in the far future.⁵² Specialists on the cryosphere are warning though, that large fractures in the land glacier ice enable melt water, caused by recently warmer temperatures, to filter to the base of the glacier and cause extreme acceleration of glacier movement.⁵³ This could lead to big scale melting in the course of just a decade.⁵⁴ The major problem for humans is that the total melt of Greenland ice is coupled with a sea level rise of 7 meters⁵⁵, meaning that even partly thawing would "wreak havoc with Earth's present geography"⁵⁶. A similar potential is given for the West Antarctic ice sheet, which is held in place by two big ice shelves at its edges. Should they melt away, the whole ice sheet would flow rapidly into the water.⁵⁷ The process is complicated, highly speculative and describing it in detail would go beyond the scope of this thesis. However, it should be noted that rapid changes with huge implications for human living space are not out of the question.

⁵⁰ See for example: Monbiot, 2006, available at

<http://www.theguardian.com/environment/2006/sep/19/ethicalliving.g2> (consulted 25.05.2015).

⁵¹ Pearce, 2007, pp.40-43. It has to be added that in the meantime the 5th IPCC report was published and acknowledges rapid and irreversible changes, but only in context with a timescale of "beyond 2100". Compare: IPCC Synthesis Report, 2015, p.73.

⁵² The threshold is supposed to be a millennium or more years. IPCC Synthesis Report, 2015, p.16.

⁵³ Glaciers are naturally flowing with a speed depending on ice structure, temperature, slope, bedrock type, and the presence or absence of water at the base. Compare: Kump et al, 2010, pp. 114-117.

⁵⁴ Giddens, 2009, p.26.

⁵⁵ IPCC Synthesis Report, 2015, p.16.

⁵⁶ Kump et al, 2010, p.325.

⁵⁷ Kump et al, 2010, p.323; Global greenhouse warming Website, *West Antarctic Ice sheet*, available at <http://www.global-greenhouse-warming.com/west-antarctic-ice-sheet.html> (consulted 08.05.2015).

Another important tipping point for our climate system lies in the enormous amounts of decayed organisms buried in permafrost⁵⁸ and trapped in clathrates⁵⁹. It is a fact that permafrost is melting worldwide due to increased surface temperature and changing snow cover⁶⁰ and with rapidly accelerating speed.⁶¹ Receding permafrost releases staggering quantities of carbon dioxide as well as methane, which is a more than 20 times more potent greenhouse gas than CO₂. Although shrouded in uncertainty and not included in IPCC reports,⁶² this phenomenon “makes even the soberest scientist afraid.”⁶³

Maybe the most prominent author to claim that certain dangers from climate change are underestimated is the head of the NASA Goddard Institute for Space Studies James Hansen. He argues that stopping average temperatures from increasing to 2°C is already inconceivable and not sufficient to forestall serious consequences. Concerning safe atmospheric carbon dioxide (CO₂) concentrations, he sees the threshold at 350ppm (corresponding to a danger limit of 1°C), a level that is far below our actual one.⁶⁴ (See Chapter 2.4.)

⁵⁸ Permafrost is ground with a temperature below 0°C for more than 2 years. See: Kump et al., 2010, pp. 112-113.

⁵⁹ Clathrates are solid compounds formed at low temperatures and high pressure that can trap molecules in them. See: Pearce, 2009, available at http://climatechangeapsychology.blogspot.com/2009_06_01_archive.html (consulted 08.05.2015).

⁶⁰ The Arctic is warming much faster than the rest of the planet because of positive feedback loops, like the snow and ice albedo feedback. See: Kump et al, 2010, p.113.

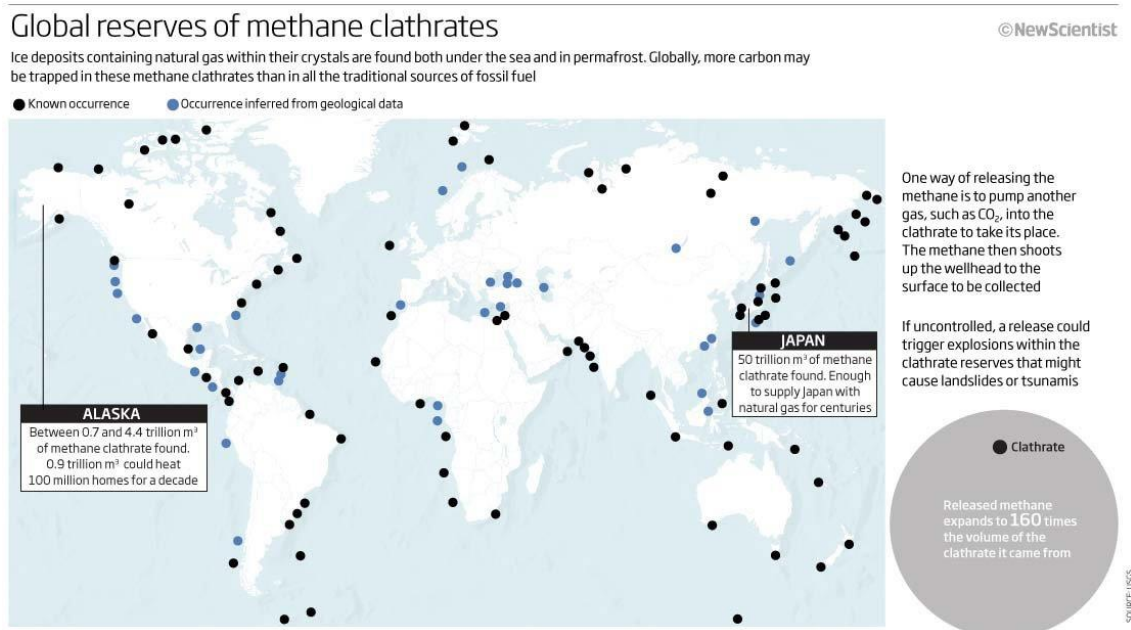
⁶¹ IPCC Synthesis Report, 2015, p.42.

⁶² Kump et al, 2010, p.113.

⁶³ King & Walker, 2008, p.80.

⁶⁴ “[T]he oft-stated goal to keep global warming less than two degrees Celsius (3.6 degrees Fahrenheit) is a recipe for global disaster, not salvation.” See: Hansen et al, 2008, available at <http://www.worldwatch.org/node/5798> (consulted 24.06.2015); Giddens, 2009, p.27; Climate Emergency Institute Website, *2 Degrees Celsius*, available at <http://www.climateemergencyinstitute.com/2c.html> (consulted 24.06.2015).

Figure 5 - Global reserves of methane clathrates.



Source: Pearce, 2009, available at http://climatechange psychology.blogspot.com/2009_06_01_archive.html (consulted 08.05.2015).

2.3.2 IPCC Assessment Reports

The IPCC published five assessment reports so far, the last publicised in 2015. Hundreds of scientists from academia, governments, industry and non-profit organisations, mainly from the natural sciences, volunteer for a time cycle of three to five years to write these reports. Their task is to assess the current scientific, technical and socio-economic information related to the understanding, impacts and risks of climate change, as well as possibilities for adaption and mitigation on a comprehensive, objective, open and transparent basis.⁶⁵ There is a division in three groups, one focusing on the physical science, one concentrating on impacts, especially impacts on systems that affect humans directly, and one concerned with strategies for mitigating and controlling emissions. In the end these three group reports are combined into a comprehensive synthesis report that takes into account the interrelations between the topics of the peer groups.

⁶⁵ IPCC Factsheet: How does the IPCC select its authors?, 2013, available at http://www.ipcc.ch/news_and_events/docs/factsheets/FS_select_authors.pdf (consulted 04.05.2015).

Some of the key findings of the most recent IPCC report (2014) speak for themselves:

Human influence on our climate system is clear, unequivocal and the changes are unprecedented over millennia. Recent climatic changes already have widespread impacts on human and natural systems.⁶⁶ “Many aspects of climate change and associated impacts will continue for centuries, even if anthropogenic emissions of greenhouse gases are stopped. The risks of abrupt or irreversible changes increase as the magnitude of the warming increases.”⁶⁷

2.4 The Current Trajectory of Greenhouse Emissions

Increases in greenhouse gases (GHGs) like carbon-dioxide (CO₂), water vapour (H₂O), methane (CH₄), nitrous oxide (N₂O), Ozone (O₃) and fluorinated greenhouse gases (chlorofluorocarbons, CFCs) are largely caused by human activity and are altering the atmospheric composition. The biggest part of the increases derives from the burning of fossil fuels (oil, gas, coal) and wood, as well as the change in land use (disappearance of CO₂ sinks and associated capture processes).⁶⁸

CO₂ is the primary heat trapping gas because it makes up for about 75% of global anthropogenic GHG emissions.⁶⁹ This is a problem because CO₂ stays in the atmosphere for many thousands of years on average.⁷⁰ Other GHGs are more chemically unstable and remain for much shorter time periods, like methane with a residence time of 10 years. However, this is not necessarily a cause for relief because, as mentioned before, CH₄ has a much bigger global warming potential (GWP) compared to CO₂ (more than 20 times) and can oxidise to CO₂.⁷¹ The situation of nitrous oxide is similar. It is much less abundant than CO₂ but has a 296 times the GWP of CO₂.⁷²

⁶⁶ IPCC Synthesis Report, 2015, Summary for Policymakers, p.2.

⁶⁷ Ibid, p.16.

⁶⁸ Kump et al, 2010, pp.44-46.

⁶⁹ U.S. Environmental Protection Agency Summary Report, 2012, p.2.; Lorinzc, 2014, p.15.

⁷⁰ In the course of thousands to millions of years CO₂ is deeply buried and converted into sedimentary or metamorphic rock. See: Kump et al, 2010, p.151.

⁷¹ Ibid, p.156.

⁷² Matthews, 2006, available at <http://www.fao.org/newsroom/en/News/2006/1000448/index.html> (consulted 31.05.2015).

While the “normal” CO₂ concentration in the atmosphere was hovering around 280 parts per million⁷³ (ppm)⁷⁴ before the industrial revolution and never went above 300ppm, today it has exceeded the 400ppm mark⁷⁵, making humans responsible for more than a 40% increase in the amount of atmospheric CO₂.

Since the beginning of the industrial revolution (1750) until 2011, cumulative anthropogenic CO₂ emissions in the atmosphere amounted to approximately 2040 GtCO₂⁷⁶. What is particularly worrying is the fact that the IPCC states with high confidence that more than half of these emissions have been produced since the year 1970.⁷⁷ As an inherent characteristic of our Earth system, only about 40% of these emissions have remained in the atmosphere (880 ± 35 GtCO₂) and the rest was taken up by plants (primarily in rainforests) and soils on land and in the ocean. In fact the sea is a major storage of carbon dioxide⁷⁸ and has absorbed about 30% of the emitted anthropogenic CO₂.⁷⁹ Only, for decades now the rainforests are being cut down and the ocean cannot take up infinite amounts of CO₂.⁸⁰

Figures 6 and 7 clearly show the correlation of temperature rise and GHG emissions.

⁷³ Concerning our atmosphere’s composition, one ppm (by volume) denotes one molecule in 1 million molecules. An atmospheric CO₂ concentration of 400ppm therefore means that 0,04% of the atmosphere consists of CO₂.

⁷⁴ Kump et al, 2010, p.5.

⁷⁵ CO₂Now Website, *Earth’s CO₂ Home Page* showing 403ppm of CO₂ (May 2015), available at <http://co2now.org/>, (consulted 18.04.2015).

⁷⁶ A gigaton (Gt) is 1 million tons. GtCO₂ denotes only the mass of carbon atoms, excluding all other atoms to which the carbon is attached.

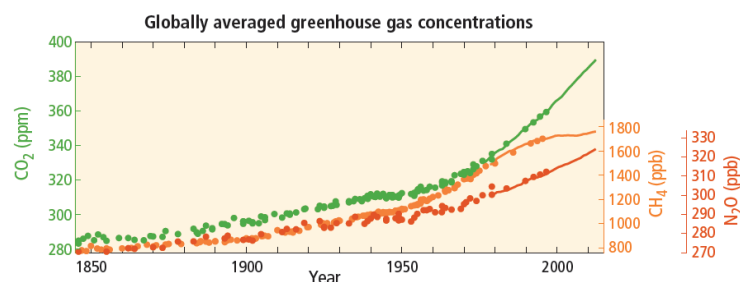
⁷⁷ IPCC Synthesis Report, 2015, pp.3-4; Kump et al, 2010, p.4.

⁷⁸ Compare: Spiegel Online, 2007, available at <http://www.spiegel.de/wissenschaft/natur/co2-speicher-meer-klimawandel-verstaerkt-sich-selbst-a-483315.html> (consulted 17.04.2015).

⁷⁹ IPCC Synthesis Report, 2015, p. 4.

⁸⁰ Carbon dioxide diffuses from the air to the ocean, but the processes usually works also the other way around with CO₂ going back into the atmosphere. The atmospheric CO₂ concentration has increased so much though, that the ocean is now only taking up carbon dioxide and serves solely as a sink. Unfortunately the capacity of this important depository is receding as the oceans are getting more and more carbon saturated, at the same time causing detrimental acidification. See: Kump et al, 2010, pp. 162-163.

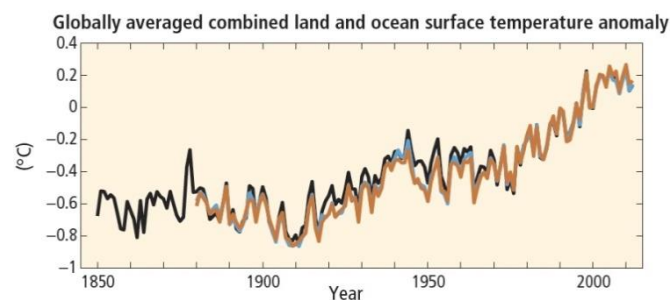
Figure 6 – Greenhouse Gas Concentrations



Atmospheric concentrations of the greenhouse gases carbon dioxide (CO₂, green), methane (CH₄, orange) and nitrous oxide (N₂O, red) determined from ice core data (dots) and from direct measurements (lines).

Source: IPCC Synthesis Report, Climate Change 2014, p. 3.

Figure 7 – Surface Temperature Anomalies



Annually and globally averaged combined land and ocean surface temperature anomalies relative to the average over the period 1986 to 2005. (Colours indicate different data sets.)

Source: IPCC Synthesis Report, Climate Change 2014, p. 3.

2.4.1 Staying below 2°C ?

The goal to stay below a global warming of 2°C by 2050 to forestall dangerous climate impacts was formally adopted at the Climate Summit in Cancun, Mexico in 2010, although countries did not determine how this goal should be achieved.⁸¹ As already mentioned above (Chapter 2.3.1.1) the prospect of this threshold is debateable.⁸²

⁸¹ Lorincz, 2014, p.17.

⁸² Plenty of low-lying island states and many of the poorest nations plead for a 1.5°C target, but were disregarded so far by wealthier industrialised nations. See: Tollefson, 2015, available at <http://www.nature.com/news/global-warming-limit-of-2-c-hangs-in-the-balance-1.17202> (consulted

To meet the target of not more than 2°C overall increase in temperature (or 450ppm) agreed by governments under the UN Framework Convention on Climate Change (UNFCCC), cumulative fossil fuel CO₂ emissions between 2010 and 2100 need to be no more than 990 GtCO₂.⁸³ There are still approximately 2,795 GtCO₂ in verified oil and gas reserves, so most of it has to be kept in the ground.⁸⁴ Unfortunately the current global emissions are over 40 GtCO₂ a year and still rising⁸⁵, a carbon burn rate that is about to consume the world's so called 'carbon budget'⁸⁶ for the century in less than 20 years.⁸⁷ Remaining within the carbon budget is a zero sum game: a transgression by one country has to be counterbalanced by increased ambition by others.⁸⁸ The main part of the necessary emission reductions must be accomplished before 2050 because of the impacts of GHG accumulation, so that net greenhouse emissions approach zero.⁸⁹ To complicate matters even further, staying below the threshold of 450ppm atmospheric CO₂ is consistent with only 50% chance of achieving the 2°C target.⁹⁰

This begs the question of how much of our carbon budget, if anything at all, should be allocated to military forces? And can we afford to burn our limited supply of fossil fuels to build new weapons, drop bombs and start more wars?⁹¹ Chapter 3 on militarism will look into these issues.

On our current path we will reach a global warming estimated by the IPCC ranging from 3.7 – 4.8°C in the course of the 21st century. PricewaterhouseCooper's Low Carbon Economy Index (LCEI) displays that the global economy needs to reduce its carbon expenditures by 6.2% per year from now to 2100, which represents more than five times its current reduction rate.⁹²

24.05.2015). For more information see: Climate Emergency Institute Website, *2 Degrees Celsius*, available at <http://www.climateemergencyinstitute.com/2c.html> (consulted 24.06.2015).

⁸³ PricewaterhouseCoopers, 2014, p.2; IPCC Synthesis Report, 2015, p. 4; Kump et al, 2010, p.63.

⁸⁴ Lorincz, 2014, p.15.

⁸⁵ IPCC Synthesis Report, 2015, p. 4; Kump et al, 2010, p.3.

⁸⁶ There is a particular amount of cumulating CO₂ emissions, called the 'carbon budget', which is fixed only to a certain extent as the climate is a variable system. It will stay within the two degrees target with varying probabilities. See: PricewaterhouseCoopers, 2014, p.9.

⁸⁷ Ibid, p.2.

⁸⁸ Ibid, p.9.

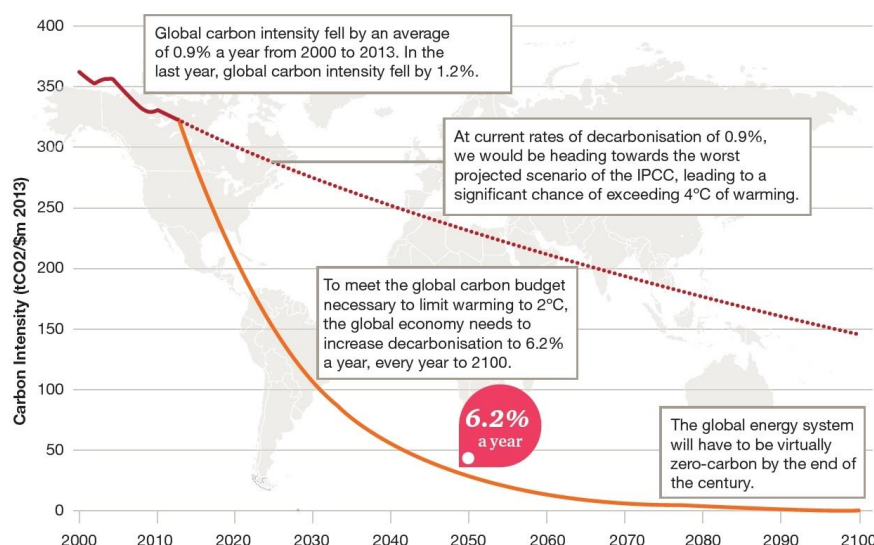
⁸⁹ Lorincz, 2014, p.15.

⁹⁰ IPCC Synthesis Report, 2015, p.28.

⁹¹ Lorincz, 2014, p.7.

⁹² PricewaterhouseCoopers, 2014, p.2.

Figure 8 – Pathway to 2°C



Source: PricewaterhouseCoopers, 2014, p.3.

Such drastic cuts in carbon emissions in such short periods of time have so far only appeared in giant economic collapses and it remains to be seen if the required radical measures will be implemented.⁹³ The fact that relatively little has been achieved so far does not bode well. In fact, cumulative GHG emissions were rising at an ever faster rate until 2013⁹⁴ and are still on the rise right now.⁹⁵

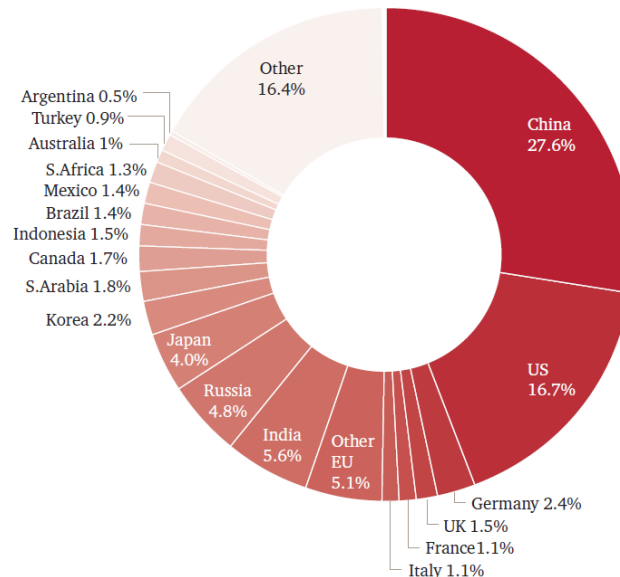
⁹³ Parenti, 2013.

⁹⁴ Guardian Press Association, 2014, available at <http://www.theguardian.com/environment/2014/sep/09/carbon-dioxide-emissions-greenhouse-gases> (consulted 25.05.2015).

⁹⁵ Always up-to-date and reliable data on CO₂ emissions can be accessed on the Earth System Research Laboratory Website, *Up-to-date weekly average CO₂ at Mauna Loa*, available at <http://www.esrl.noaa.gov/gmd/ccgg/trends/weekly.html> (consulted 25.06.2015).

Figure 9 – GHG Emissions by States

Energy-related emissions breakdown 2013



The pie chart shows the share of each G20 country's emissions relative to the total global energy-related CO₂ emissions.⁹⁶

Source: PricewaterhouseCoopers, 2014, p.3.

After the Copenhagen Climate Summit (2009) a number of States voluntarily pledged to reduce carbon emissions. Unfortunately states have had the tendency to prioritise the economic calculations (the change they believe they can afford) over the scientific ones (the change that science determines to be necessary)⁹⁷. The UNEP and LCEI estimate that if the pledges are implemented, their sum will result in a 3°C warmer future.⁹⁸

When it comes to the implementation of pledges though, the outcomes since 2010 demonstrate the continuing lack of success of key economic nations to meet them, even if already inadequate to achieve a 2°C scenario.⁹⁹

⁹⁶ For comparison of these numbers see for example: Global Carbon Project Website, available at <http://www.globalcarbonproject.org/carbonbudget/14/hl-full.htm#regionalFF> (consulted 25.05.2015).

⁹⁷ For more information see: UNEP, *Emissions Gap Report*, 2010.

⁹⁸ PricewaterhouseCoopers, 2014, pp.9-10.

⁹⁹ Ibid, p.9.

To sum up the world's leaders are talking about a global warming of 2°C, promising reduction targets to meet 3°C and heading for 4°C with incomplete implementation.¹⁰⁰ To make things worse, military emissions are largely not taken into account in these calculations and the real situation could be even more critical.¹⁰¹

2.4.2 Betting on Paris

The next Climate Conference in Paris in December 2015 (COP21)¹⁰² is expected to produce a new binding global climate mitigation agreement that will be due to be implemented by 2020. It is projected to be forged by a series of national emissions targets and financial pledges, whose content is still quite uncertain and it remains to be seen if the proposed measures by each country are collectively enough to keep global warming within the 2°C limit by the year 2100.¹⁰³

Following the discussion above, the challenges looming in Paris at the end of the year are twofold: missing intent and limping implementation.¹⁰⁴ A binding agreement has to be reached, since voluntary commitments have proven insufficient so far, letting states prioritise more immediate concerns over the changing climate.¹⁰⁵ I will come back to this issue in Chapter 3.4.1.

After discussing the background science and context of information we can now continue to address the impacts of militarism on climate change.

¹⁰⁰ PricewaterhouseCoopers Website, *Low Carbon Economy Index 2014 | 2 degrees of separation: ambition and reality*, available at: <http://www.pwc.co.uk/sustainability-climate-change/publications/low-carbon-economy-index-2014-heading.jhtml> (consulted 16.05.2015).

¹⁰¹ The LCEI is based on the carbon budget estimated by the IPCC for 2°C. Unfortunately the IPCC's reporting on military emissions is at best incomplete and uncertain. See Lorincz, 2014, p.24.

¹⁰² COP21 stands for the 21st session of the Conference of the Parties to the UNFCCC and will be held from 30th November until 11th December 2015. See: International Institute for Sustainable Development Website, available at: <http://climate-l.iisd.org/events/unfccc-cop-21/> (consulted 20.06.2015).

¹⁰³ PricewaterhouseCoopers, 2014, p.14.

¹⁰⁴ Ibid, p.10.

¹⁰⁵ Lorincz, 2014, pp. 16-17; PricewaterhouseCoopers, 2014, p.14.

3 Militarism

*The belief or desire of a government or people that a country should maintain a strong military capability and be prepared to use it aggressively to defend or promote national interests.*¹⁰⁶

- Definition, The Oxford Dictionaries

Militarism is a complex social and cultural phenomenon rooted in the tradition of the use of violence for the 'resolution' of conflicts. It is important to differentiate between militarism and conflict, the latter being an ever present necessity in human societies, while the former stands for the upkeep of military forces, trained to use extreme violence and destruction. In armed conflicts the targets of this extreme violence are generally unknown, which adds a cold-bloodedness or inhumanity to this type of direct violence. This is in stark contrast to the widely established notions connected to militarism: bravery and camaraderie. Militarism is planted and embedded in our everyday lives, in war and in peacetime. It is entrenched in cultural beliefs, language and notions like patriotism, identity and morality, in hidden power structures that make us accept militarism as well as in open practises like weapon toys, camouflage clothing or media and entertainment.¹⁰⁷ The topic of militarism is a global one since the vast majority of sovereign states maintain regular armed forces.¹⁰⁸

Militarism is accompanied by many forms of violence, like ecological violence (which refers to particular damage of ecosystems from armed conflict), predatory industries, cultural violence (which is aimed at dehumanising opponents) and structural violence (which is directed at weakening economic systems to erode adversaries' bases of existence).¹⁰⁹ All of these aspects collude to the detriment of our natural environment.

¹⁰⁶ The Oxford Dictionaries Website, Militarism, available at <http://www.oxforddictionaries.com/definition/english/militarism> (consulted 25.05.2015).

¹⁰⁷ Branagan, 2013, pp. 6-7. See also for examples the close up video compilation at YouTube, *Virtuous War: Mapping the Military-Industrial-Media-Entertainment Network*, available at <https://www.youtube.com/watch?v=XLUI6sM8nQ> (consulted 25.05.2015).

¹⁰⁸ Majeed, 2004, p.2.

¹⁰⁹ Galtung, 1990, pp.292-294.

3.1 The Military-Industrial Media and Entertainment Complex

Interestingly already in 1961 the president of the USA at the time and himself a former general in the army, Dwight Eisenhower, said in his farewell speech: “(...) we must guard against the acquisition of unwarranted influence (...) by the military-industrial complex. The potential for the disastrous rise of misplaced power exists and will persist. We must never let the weight of this combination endanger our liberties or democratic processes. We should take nothing for granted. Only an alert and knowledgeable citizenry can compel the proper meshing of the huge industrial and military machinery of defence with our peaceful methods and goals (...).”¹¹⁰ Eisenhower really hit the spot with this comment which directly links industry with militarism and comprises the important connected aspects of human rights, democratisation and education which will also be discussed below.

The military-industrial complex is a politico-economic entity and a physical manifestation of militarism. It includes ground forces, navies, air forces, military intelligence and the industries that supply all of these troops with weapons, ammunition, vehicles, fuel, infrastructure, accommodation, foodstuffs and all the other goods and services that armed forces need. The complex profits from militarism and consequently has vested interests in its continuation as well as the promotion of ‘defence’ spending. It is closely linked with politics¹¹¹, business and industry, especially the arms and polluting industry of oil, vehicles and nuclear energy.¹¹²

Today, international weapons trade is the second largest trade sector in the world (after the energy sector).¹¹³ It is a fact that the global arms industry is one of the most corrupt businesses in the world and is taking advantage of major loopholes that exist in arms regulations.¹¹⁴

The biggest arms suppliers worldwide are the USA (40%), Russia (18%), France (8%), the UK (7%), Germany (5%) and Italy (3%) amounting to 85% of military equipment sold between 2004 and 2011. 75% of these sales were to developing countries. It is important to note that the five biggest arms suppliers are at the same time the five permanent members of the UN Security

¹¹⁰ It must be noted here that Eisenhower thought that the military-industrial complex was necessary and that a vital element for keeping peace was the massive US military establishment that should inspire fear in an possible attacker. See: President Eisenhower's Farewell Address (1961), available at <http://www.ourdocuments.gov/doc.php?flash=true&doc=90> (consulted 13.05.2015).

¹¹¹ In some cases, like Egypt or Burma the military actually runs big parts of the economy and state.

¹¹² Andreas, 2004, pp.37-38.

¹¹³ Branagan, 2013, pp.7-8.

¹¹⁴ Cairns et al, 2006, pp.2-5. Hopefully the Arms Trade Treaty that finally entered into force in December 2014 will improve this situation. For more information see: Control Arms Website: available at <http://controlarms.org/> (consulted 29.06.2015).

Council.¹¹⁵ One might wonder how this relationship came to be and what implications it has for militarism and global arms trade.

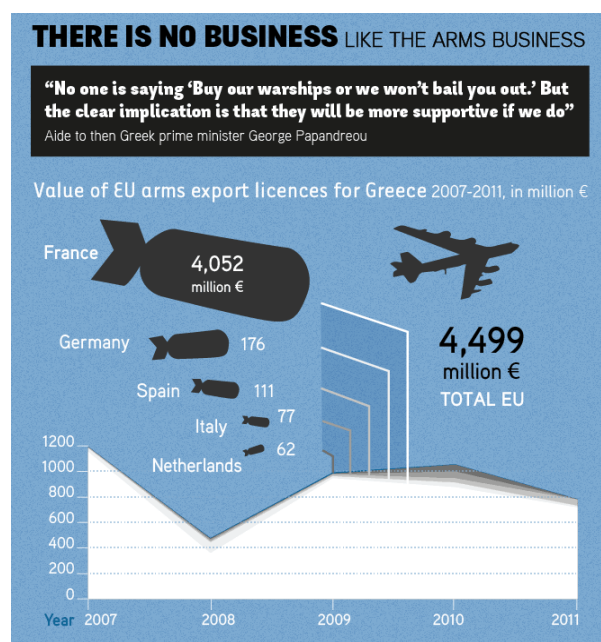
The economic power that MIMEC wields becomes even more obvious when we analyse its ties to the World Bank¹¹⁶ and IMF. These organisations have a history of paradoxically promoting military spending through austerity measures.¹¹⁷ A practical tool for these ambiguous proceedings is Article X of the General Agreement on Tariffs and Trade (GATT) which offers a carte blanche for deals made in the ‘interest of national security’.¹¹⁸ A recent example for contradictory austerity measures was the dictate of the IMF and European financial elites for Greece to spend huge amounts of its scarce budget on armament, making it one of the world’s biggest weapons importers in the world, while undermining democratic processes.¹¹⁹ (Also see Chapter 5.1.1.3)

Figure 10 – European Arms Exports to Greece

An infographic that accompanies the report Guns, Debt and Corruption, illustrating the role of arms exports for Greece in causing and perpetuating the economic crisis.

Source: Slijper, 2013, available at

<http://www.tni.org/article/military-spending-and-eu-crisis-infographic-0> (consulted 28.05.2015).



¹¹⁵ Branagan, 2013, p.25; Shah (a),2013, available at <http://www.globalissues.org/issue/73/arms-trade-a-major-cause-of-suffering> (consulted 28.5.2015).

¹¹⁶ Interestingly the president of the World Bank recently published an interesting article advocating for Climate Change action. See: Kim, 2015, available at http://www.huffingtonpost.com/jim-yong-kim/tackling-climate-change-f_b_6957686.html (consulted 29.05.2015).

¹¹⁷ High levels of military spending have played a key role in the economic crisis in Europe and continue to undermine efforts to resolve it. For more information see: Slijper, 2013, available at http://www.tni.org/sites/www.tni.org/files/download/eu_milspending_crisis.pdf (consulted 28.05.2015).

¹¹⁸ Staples, 2000, p.19.

¹¹⁹ Wolf et al, 2010, available at <http://www.friedenskooperative.de/ff/ff10/4-56.htm> (consulted 28.05.2015); Kopp Redaktion, 2012.

There are even voices calling the IMF and World Bank part of global capitalism, only created as part of US militarism.¹²⁰

Competition in military markets is usually low because of the technological complexity of modern weapons and the preference of most states to buy from domestic suppliers. This lack of competition and a high politicisation of the financing often make military equipment purchased by national governments exceedingly expensive and of questionable value to national security.¹²¹

Between the year 2001 and 2011 global military spending surged by an estimated 92%.^{122 123}

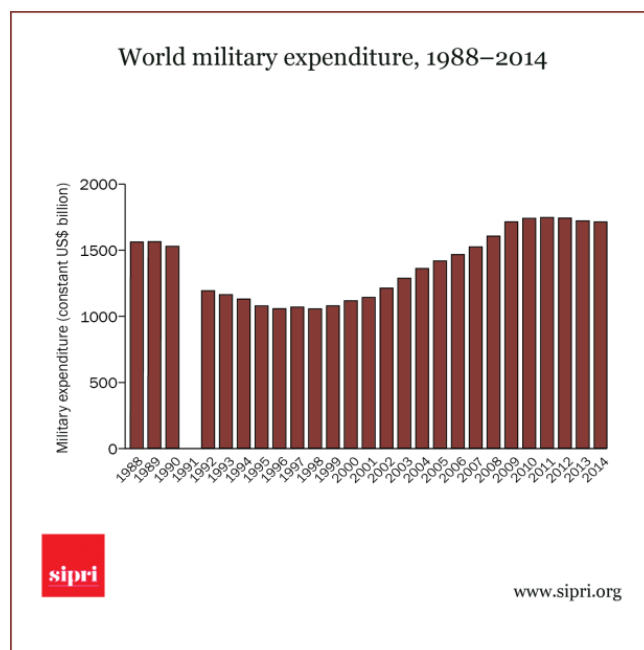
It is estimated that between 2011 and 2012 global military expenditures reached a new record since the Second World War with \$1.756 trillion USD.¹²⁴

Figure 11 – World Military Expenditures

The totals are based on the data on 172 states in the SIPRI Military Expenditure Database, (<http://www.sipri.org/databases/milex/>).

The absence of data for the Soviet Union in 1991 means that no total can be calculated for that year.

Source: Stockholm International Peace Research Institute (SIPRI) Website, available at <http://www.sipri.org/research/armaments/milex/milex-graphs-for-data-launch-2015/World%20military%20expenditure%201988-2014.png> (consulted 25.06.2015).



¹²⁰ Karim, 2007, available at <http://www.voicebd.org/node/93> (consulted 28.05.2015).

¹²¹ Weber, Encyclopedia Britannica, available at <http://www.britannica.com/EBchecked/topic/382349/military-industrial-complex> (consulted 27.05.2015).

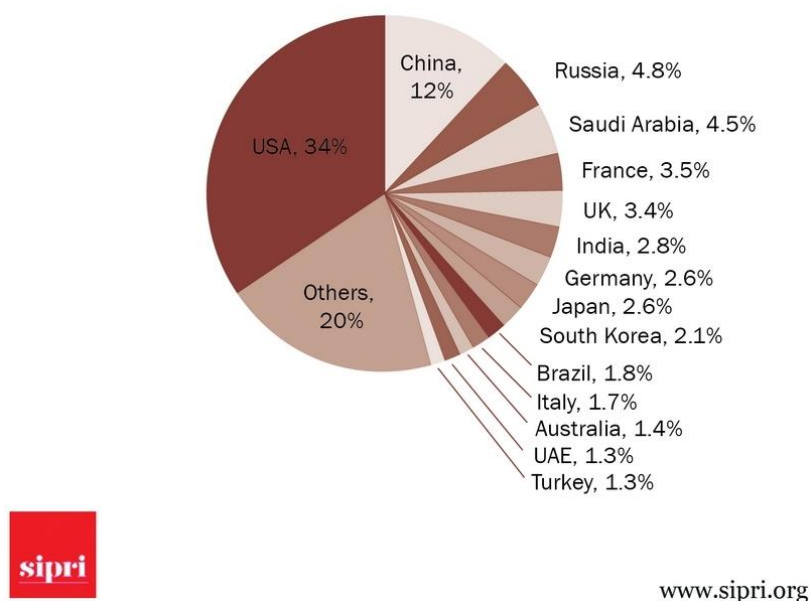
¹²² Perlo-Freeman & Solmirano, SIPRI, 2014, p.1.

¹²³ It is interesting to note here that already the Brundtland Report stated in 1987: "Four of the most urgent global environmental requirements - relating to tropical forests, water, desertification, and population - could be funded with the equivalent of less than one month's global military spending." To achieve all commitments of its Sustainable Energy for All initiative the UN estimates the annual costs between 500 and 1200 billion USD. See: Lorincz, 2014, p.17.

¹²⁴ Shah (b), 2013, available at <http://www.globalissues.org/article/75/world-military-spending> (consulted 28.5.2015); for very similar 2013 data see: Perlo-Freeman & Solmirano, SIPRI, 2014, p.8.

It is striking that the 15 states with highest military spending have a share of almost 80% of global expenditures.

Figure 12 - Share of Global Military Expenditures of the 15 States with the Highest Spending in 2014



Source: Stockholm International Peace Research Institute (SIPRI) Website, available at <http://www.sipri.org/research/armaments/milex/milex-graphs-for-data-launch-2015/World%20military%20expenditure%201988-2014.png> (consulted 25.06.2015).

For comparison, at the Copenhagen Climate Conference in 2009, developed countries committed to pay 100 billion USD annually by 2020 in the Green Climate Fund for climate adaptation in developing countries. Compared to global annual military spending this is but a few per cent.¹²⁵ Why is military spending prioritised over funding initiatives for the environment, climate mitigation and adaption? Political action and funding in the last decades have been totally inadequate to reverse the negative environmental trends.¹²⁶

Unless every state significantly reduces its military spending the next big fight over the fate of the planet will be lost by all, even without actual hostilities.¹²⁷

¹²⁵ Collins, 2014, available at <http://www.truth-out.org/opinion/item/26505-war-and-climate-change-time-to-connect-the-dots> (consulted 16.05.2015); Lorincz, 2014, p.6.

¹²⁶ Lorincz, 2014, p.15.

¹²⁷ Schwartz Greco & Feffer, 2014, available at <http://truth-out.org/opinion/item/23322-paying-for-the-climate-change-pivot> (consulted 25.06.2015).

Pursuant to recent developments the term 'military-industrial complex' was merged with media and entertainment. The term 'military-industrial media and entertainment complex' (MIMEC) takes account of militarism's newly evolved tentacles in the media and entertainment industry. This relationship is not wholly new, but what is qualitatively new is the fusion of creation, presentation and execution of violent conflict within MIMEC. In the last decades there has been a convergence of the reality and virtuality of war and it becomes increasingly difficult to map its consequences for human imitational abilities and inclinations.¹²⁸

This trend was started with the Gulf War (1990-1991) where the media was used as an immensely important tool for the US army. The philosopher Paul Virilio called the Gulf War a 'world war in the media'. For the first time it was a worldwide live armed conflict with the censorship and processing of information by the pentagon and the army. It took place on screens more than in reality. We can say that real time prevailed over real space.¹²⁹

This militarisation in the mass media is conducted in more secretive ways, mostly through selective presentation of information. Beginning after the Second World War, the press, radio networks and television industry became more and more integrated within MIMEC¹³⁰, allowing it to advertise all kinds of military activities as unavoidable or even desirable.¹³¹ After the Gulf War the Bush Administration openly declared that television was its "chief tool" in creating domestic and international support and that they wanted to show "something that is very black and white (...) that can be explained very quickly".¹³² The war coverage was 24 hours live, sponsored by Exxon and General Electric. The huge power of MIMEC over the mass media is expressed in a quote of the former president of PBS and NBC News: "The job of the President is to set the agenda and the job of the press is to follow the agenda that the leadership sets."¹³³

¹²⁸ Der Derian, 2000, pp.786-787.

¹²⁹ Virilio, 2013, Minute 09:10 (movie, interview). See also Virilio, Paul, in an interview with Der Derian, James, *Future War: A Discussion with Paul Virilio*, available at <http://www.infopeace.org/vy2k/futurewar.cfm> (consulted 25.05.2015).

¹³⁰ Andreas, 2004, p.58.

¹³¹ Branagan, 2013, p.26.

¹³² Haass, 1991, available at <http://www.nytimes.com/1991/11/05/movies/critic-s-notebook-how-bad-is-war-it-depends-on-the-tv-pictures.html> (consulted 27.05.2015).

¹³³ Grossman, Lawrence cited in Andreas, 2004, p.57.

All of this raises the question if it is the people represented by their governments who determine military policy and spending or if it is actually MIMEC corporations that are supposedly providing defence equipment.¹³⁴

3.1.1 The US Military's Addiction to Oil

Within MIMEC the US Department of Defense (DoD) is the largest polluter and waster.¹³⁵ Although data is generally hard to come by, it reportedly burns at least a startling 365,000 barrels of oil daily (other estimations amount to 500,000 barrels)¹³⁶. Per year this is a usage of unimaginable 20 billion litres (5.46 billion gallons)¹³⁷. To make matters worse, this number might include neither fuel consumed by contractors or in leased and privatised facilities nor the excessive energy and resources used to produce and maintain weapons and equipment.¹³⁸ It has been calculated that about one third of the total US military spending just accounts for securing energy supplies worldwide.¹³⁹ To top it all, the efficiency of fuel use is far from improving, admitted the pentagon, with soldiers in the Iraq and Afghanistan Wars consuming 16 times more fuel¹⁴⁰ than in the Second World War.¹⁴¹ Bearing in mind that the data from the pentagon are possibly even undervalued, it is clear that the USA is a hopeless oil addict¹⁴², making the US military “the world’s largest institutional source of greenhouse gases.”¹⁴³ The DoD is alone responsible for about 40% of global military expenditures.¹⁴⁴ Including the costs of bygone wars¹⁴⁵, the USA is spending 40% (almost 1 trillion USD¹⁴⁶) of its annual budget

¹³⁴ Branagan, 2013, p.26.

¹³⁵ Feldman, 2003, p.24; Sanders, 2007, available at http://www.huffingtonpost.com/barry-sanders/the-green-zone-the-military_70285.html (consulted 28.05.2015); Barthel et al, 2010, available at <http://www.projectcensored.org/2-us-department-of-defense-is-the-worst-polluter-on-the-planet/> (consulted 29.05.2015).

¹³⁶ Fossil fuels account for at least 87% of the energy use by the Department of Defence. See: Karbuz, 2013, available at <http://www.dailyenergyreport.com/how-much-energy-does-the-u-s-military-consume-an-update/> (consulted 29.05.2015).

¹³⁷ This generates not only extreme amounts of GHG emissions but also produces 500.000 tons of toxic waste annually. See: Jorgenson et al, 2012, p.326.

¹³⁸ Flounders, 2009, available at <https://canadianclimateaction.wordpress.com/the-role-of-militarism/> (consulted 28.05.2015).

¹³⁹ Dancs et al, 2008, p.35.

¹⁴⁰ Shockingly, the biggest fuel guzzlers by far are transport vehicles that transport fuel and supplies. See: Jorgenson et al, 2012, p.328.

¹⁴¹ Bender, 2007, available at http://www.boston.com/news/nation/articles/2007/05/01/pentagon_study_says_oil_reliance_strains_military/?page=full (consulted 28.05.2015).

¹⁴² Turse, 2008, available at http://fpif.org/the_military-petroleum_complex/ (consulted 28.05.2015).

¹⁴³ Climate SOS Website, available at <http://www.climatesos.org/2010/12/militarism-as-cause-and-consequence-of-climate-change/> (consulted 29.05.2015).

¹⁴⁴ Perlo-Freeman & Solmirano, SIPRI, 2014, p.8.

on militarisation. This imbalanced spending has dire consequences for programs addressing climate change, education, healthcare, culture, preventing war or reducing income inequality.¹⁴⁷ It is troubling that the US Government Accountability Office (GAO) has not been able to audit the DoD for the last 20 years and deems it to be of high risk for waste, fraud and abuse.¹⁴⁸

Figure 13 - US Federal Government Expenditures 2014.



Friends Committee on National Legislation calculations based on estimated Fiscal Year 2015 expenditures reported by the White House Office of Management and Budget in Fiscal Year 2016 budget documents, released February 2, 2015. This analysis covers the \$2,742,767,000,000 “federal fund” budget, which is the spending supported by income taxes, estate taxes and other general revenues. Not included are trust funds, such as Social Security, Medicare and highway trust funds, which are supported by dedicated revenues.

Source: Friends Committee on National Legislation Website, *Where do our 2014 income tax dollars go?*, available at http://fcnl.org/assets/flyer/FCNL_Taxes13_final.pdf (consulted 28.05.2015).

¹⁴⁵ These costs are the share of interest on the public debt that is due to past war spending (7%), veterans’ benefits and other costs of past wars (6%). See: Friends Committee on National Legislation Website, available at http://fcnl.org/assets/flyer/FCNL_Taxes13_final.pdf (consulted 28.05.2015).

¹⁴⁶ Excluding past wars’ interest rates the USA spends about 800 billion USD on defence in the fiscal year 2015. See: Chantrell, US Government Spending Website, available at http://www.usgovernmentspending.com/year_spending_2015USbn_16bs2n_3033#usgs302 (consulted 29.05.2015).

¹⁴⁷ Friends Committee on National Legislation Website, available at http://fcnl.org/assets/flyer/FCNL_Taxes13_final.pdf (consulted 28.05.2015). For more data and for impressions on what else could be achieved with the money spent on US ‘defence’ visit: National Priorities Project Website, *Costs of National Security*, available at <https://www.nationalpriorities.org/cost-of/> (consulted 29.05.2015).

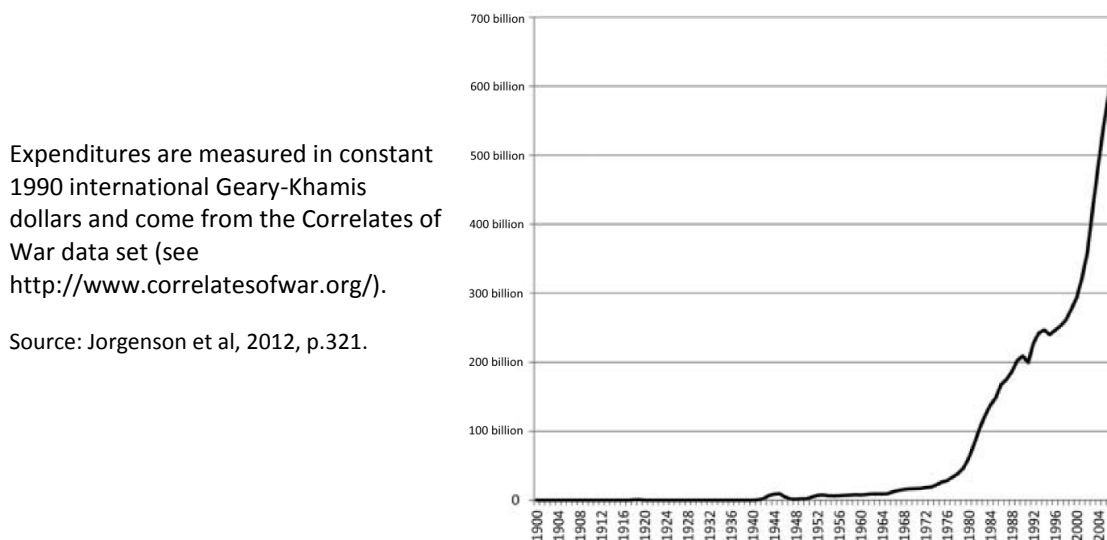
¹⁴⁸ GAO, 2013, p.134; Lorincz, 2014, pp.28-29.

This serious diversion from better use is obvious and weighs even heavier when one compares the annual subsidies to fossil fuel industries (37,5 billion USD)¹⁴⁹ to (only non-binding) pledges for long-term climate finance (1,5 billion USD)^{150 151}.

Interestingly, already in 1992 the UN Secretariat estimated the annual costs for effectively preserving the environment (and securing development) to be 1000 billion USD, back then the almost exact amount the world spent per year for military defence. Today the ratios surely have changed (and probably for the worse, since delayed climate investments have to be far bigger), but it is unthinkable to curb climate change without a fundamental redirection of the financial and material resources that are being wasted on the illusion of military security. An illusion because modern weapons are a main threat to all life forms and life-supporting systems.¹⁵²

Comparing the graphs of rising GHG emissions and the US military expenditures (Figure 14), one can find similarities. The rise of GHG emissions and military spending reflects an undeniable connection between MIMEC and global warming.¹⁵³

Figure 14 – US Military Expenditures 1900 - 2007



¹⁴⁹ Oil Change International Website, available at <http://priceofoil.org/fossil-fuel-subsidies/> (consulted 29.05.2015).

¹⁵⁰ Brangan, 2013, p.16.

¹⁵¹ The USA objected fiercely to binding pledges for the Green Climate Fund. Oxfam Website, available at <https://www.oxfam.org/sites/www.oxfam.org/files/tb-unfccc-work-programme-climate-finance-14082012-en.pdf> (consulted 29.05.2015).

¹⁵² Heffermehl, 1999, available at <https://www.globalpolicy.org/social-and-economic-policy/the-environment/the-rio-process/45454.html> (consulted 28.05.2015).

¹⁵³ Lorincz, 2014, p.9.

The USA was so bold to demand the inclusion of a provision exempting its military activities from measurement and reductions worldwide before signing the Kyoto Protocol in 1997. But even after seizing this concession the Bush Administration refused to sign the protocol. Furthermore, the US Congress adopted a provision guaranteeing the US military forces immunity from any measurement or energy consumption limits. The executive order from President Obama for federal agencies to reduce their GHG emissions (only by 2020) does not apply to the US military and leaves it free from any climate responsibility^{154 155}.

The US military industry is of course a blatant example of how militarism threatens the achievement of climate goals, but many of its conditions are also true, in varying degrees, for other militaries.¹⁵⁶ Europe, as a major conglomerate of military forces and an ally of the US in many wars requires a quick inspection as well.

3.1.2 Europe in the Grasp of Militarisation

We are witnessing militarism growing in Europe in ways that remind of Cold War mentalities. While nations commemorate the anniversary of the start of World War One, massive armament under NATO and US leadership is building up military aggression. The European Union and most of its member states have a reputation to strive for peaceful settlements of conflicts at the UN, but supposedly peace-loving countries like Norway or Sweden, are now among the most important US/NATO military assets.¹⁵⁷

The European Union is becoming more and more a threat to neutrality, as members are being pushed to join NATO, provoking a choice between 'West and East'. NATO wants its 28 member states to commit at least 2% of their GDP for military forces¹⁵⁸, to establish new bases in Eastern Europe and to create a high readiness force with the alleged purpose of countering a

¹⁵⁴ There might be good news though as well: The US federal government's energy use is decreasing. See: Badore, 2015, available at <http://www.treehugger.com/environmental-policy/us-federal-government-energy-use-hits-record-low-1975.html> (consulted 29.05.2015).

¹⁵⁵ Barthel et al, 2010.

¹⁵⁶ Branagan, 2013, p.9.

¹⁵⁷ Maguire (b), 2014, available at <http://www.ipsnews.net/2014/09/opinion-say-no-to-war-and-media-propaganda/> (consulted 30.05.2015).

¹⁵⁸ Cocco, 2014, available at <http://www.mirror.co.uk/news/ampp3d/nato-summit-members-not-pulling-4156751> (consulted 30.05.2015); BBC News, 2015, available at <http://www.bbc.com/news/uk-politics-31857044> (consulted 30.05.2015).

supposed Russian threat.¹⁵⁹ One might be reminded of the war propaganda and half-truths to soften the public for the illegitimate Iraq war¹⁶⁰, carried out by NATO allied forces.¹⁶¹

Several states have been involved in violations of international law through NATO wars (promoted for example by the USA and UK) in Afghanistan, Iraq or Libya. Germany, for instance, is complicit with NATO in supporting US bases from which drones carry out extrajudicial killings ordered by the US president, in countries such as Afghanistan and Pakistan.¹⁶²

The peace activist Mairead Maguire responds to this situation with the words : “We need to abolish NATO and increase our task of dismantling the military-industrial complex, through non-violent and civil resistance.”¹⁶³ I will argue in Chapter 5.2 that indeed, nonviolent civil resistance is the key for opposing the grave consequences that militarism has for the welfare of our natural environment.

3.2 Militarism’s Impact on the Environment

*“Militarization [is] the single most ecologically destructive human endeavour.”*¹⁶⁴

- Kenneth Gould

It is obvious that during active combat fighter jets, destroyers, tanks and whole arsenals of other weapon systems are extremely carbon-intensive¹⁶⁵ and often discharge other highly

¹⁵⁹ Take for example the tragic crash of the Malaysia Airlines MH17 Boeing 777. Just one hour after the crash Ukrainian and US officials (like Hillary Clinton) proclaimed to have evidence that a rocket from the Ukrainian rebels shot down the airplane. The Western media quickly followed this pass. However, by now the OSCE was able to analyse the wreckage and identified no evidence of a rocket hit. It is rather possible that Ukrainian fighter jets shot the plane down, making the “West” responsible instead of ‘Russian rebels’. Chossudovsky, 2014; RT documentary (YouTube Video), *MH-17: The Untold Story*, available at <https://www.youtube.com/watch?v=iuolw3jBV4g> (consulted 30.05.2015).

¹⁶⁰ Kamalipour & Snow, 2004, pp.25-32.

¹⁶¹ Maguire (b), 2014.

¹⁶² Scahill, 2015, available at <https://firstlook.org/theintercept/2015/04/17/ramstein/> (consulted 30.05.2015); Maguire (b), 2014.

¹⁶³ Maguire (b), 2014.

¹⁶⁴ Gould, 2007, p. 331.

¹⁶⁵ For instance, one hour of operation of a nonnuclear aircraft carrier consumes about 21.000 litres of fuel, a F-16 fighter jet consumes around 6.000 litres or incredible 54.000 litres using its afterburner. See: Jorgenson et al, 2012, pp.327-328.

toxic emissions, not to mention the emissions that are released by oil fires.¹⁶⁶ This causes catastrophic devastation at all levels of the biosphere¹⁶⁷. However, the active hostilities are only responsible for a fraction of the actual damage to the environment.¹⁶⁸

As if the relation between the natural environment and humanity was not complex enough, the developments that this relationship is going through in times of crisis and conflict are adding further complications in blurring the borders of war and peace. Environmental harm is not confined only to combat, claims the environmental historian Tait Keller when he analyses this relation and expands his focus beyond actual hostilities. He argues that the environmental damage that was created by the First World War lies not so much in the destruction of actual battlegrounds but rather in the change of human behaviour and drastically increased industrial production. This new behaviour is essentially different in regards to consumerism and energy consumption with connections to fossil fuels, deforestation, toxic waste and general pollution.¹⁶⁹ What actually destroyed our natural environment and is still active in its destruction is “the spread of industrial methods and mentalities of production that hindered natural processes, upset local ecological balances, and increased human exploitation the world over.”¹⁷⁰

In fact, the environmental (and human) sufferings created by militarism “are so far-reaching that a full examination of them would produce countless volumes”.¹⁷¹

The International Peace Bureau lists a number of direct ways in which military activity affects our physical environment¹⁷²:

- Pollution of the air, land and water in peacetime
- Immediate and long-term effects of armed conflict (explosions, landmines, unexploded remnants, chemical weapons, burning oil wells and oil spills, etc.)

¹⁶⁶ Collins, 2014.

¹⁶⁷ For instance, military forces are responsible for the release of more than two thirds of CFC-113, representing a major destroyer of the ozone layer. See: International Peace Bureau, 2002, p.3.

¹⁶⁸ It should be noted here that this thesis is focusing on the environmental impacts, but that the atrocious costs of warfare are not forgotten. Information on the human sufferings of recent wars can be found e.g. at the Costs of War Project, available at <http://costsofwar.org/> (consulted 23.06.2015).

¹⁶⁹ Keller, 2014, p.4.

¹⁷⁰ Ibid, p.13.

¹⁷¹ Wareham, 2009, p.33.

¹⁷² International Peace Bureau, 2002, p.3.

- Land use (vast areas of land and water occupied by military bases, target ranges, weapon stores, training grounds; pollution and degradation from storage, deforestation, scorched earth tactics, etc.)
- Weapons development and production (design, development, manufacturing, tests, storage, transport, disposal, etc.)
- Militarisation of outer space (rocket launches, missile systems and satellites, space littering)

Additionally, indirect effects through the diversion of resources have to be taken into account.¹⁷³

This list is by no means exhaustive and one could find hundreds of disastrous examples, like reduction of biodiversity from the extinction of 47 plant species and 19 classes of trees in the Nagorno-Karabakh war¹⁷⁴, or the 91,000 litre oil spill in Micronesia from an US tanker that sunk in 1944¹⁷⁵, or the 50 nuclear warheads and 11 nuclear reactors littering the ocean floor from naval accidents in the Cold War¹⁷⁶, or the brain drain and waste of young lives by the military sector, or the depletion of ecosystems for food and energy supply after conflicts, etcetera. Literally “all aspects of military activity defile our environment in some way.”¹⁷⁷

Special attention has to be paid to the huge and permanent costs of maintaining military equipment and personnel, who require housing, infrastructure, heating, air conditioning, transport, nourishment and many other goods and services. The production of military equipment consumes enormous amounts of materials, like metal, rubber, plastics and rare earths. Also there is massive energy usage involved, mostly from unsustainable resources. Nuclear weapons are particular heavyweights in production and maintenance, not to speak of their dismantling.¹⁷⁸

When there is no actual combat, 70% of soldiers’ activities are military exercises and training, consuming vast amounts of ammunition and fuel, disrupting local ecosystems or killing

¹⁷³ Ibid, p.3.

¹⁷⁴ Huseynov, 2011, p.17.

¹⁷⁵ Branagan, 2013, p.11.

¹⁷⁶ Swanson, 2011.

¹⁷⁷ Singer, 1999, p.326.

¹⁷⁸ Branagan, 2013, pp.12-13; Jorgenson et al, 2012, pp.314-315; York, 2008, pp. 370-390.

animals¹⁷⁹.¹⁸⁰ Also, military material and technology is by no means faultless and accidents occur regularly.¹⁸¹

Several authors regard MIMEC as the largest polluter on the planet.¹⁸² When all the facts above are taken into account it seems quite possible that militarism is the biggest contributor to climate change with its massive GHG emissions, destruction of ecosystems and biodiversity, massive waste of energy supplies, huge impacts on social, cultural and economic behaviour, destabilisation of international politics and obstruction of climate policies. Consequently, there can be no successful overcoming the climate crisis without peace and dismantling MIMEC.¹⁸³

There are further complications that are linked to these impacts reflected in the Treadmill of Destruction theory.

3.2.1 The Treadmill of Destruction

*Militarism is an aberration and a system of dysfunction. Militarism should be outdated and disappear - like hanging and flogging.*¹⁸⁴

- Mairead Maguire

The treadmill of destruction is a descendant of the treadmill of production, a theory that argues that environmental degradation is an inherent part of economic development and that the capitalistic growth imperative creates a perpetual conflict between human societies and the environment. An important aspect of the theory is that producers strive for externalisation of environmental costs to increase their profits.¹⁸⁵ The treadmill of destruction (military) is closely intertwined with the treadmill of production (economy) but generates distinct

¹⁷⁹ For instance, NATO naval exercises close to the Canary Islands in 2002 with low-frequency sonars caused the death of 15 beaked whales.

¹⁸⁰ Huseynov, 2011, p.9.

¹⁸¹ For example a recent military air plane crash in Spain. See: BBC News, 09.05.2015, published online: <http://www.bbc.com/news/world-europe-32673713> (consulted 29.06.2015).

¹⁸² See for example: Renner, 1991, p.132; Branagan, 2013, p.13, Saeger, 1995, p.xi; Ostling & Miller, 1992, available at <http://207.112.105.217/PEN/1992-05/review3.html> (consulted 28.05.2015); Singer & Keating, 1999, p.338; Canadians on Emergency Action on Climate Change Website, 2011, available at <http://climatescanada.org/blog/2011/02/15/rejecting-militarism/> (consulted 28.05.2015); Jorgenson et al, 2012, p.315.

¹⁸³ Collins, 2014.

¹⁸⁴ Maguire (a), 2014, available at <http://www.ipsnews.net/2014/08/militarism-should-be-suppressed-like-hanging-and-flogging/> (consulted 30.05.2015).

¹⁸⁵ Jorgenson et al, 2012, pp.316-317.

tendencies of growth, requiring humongous amounts of capital, energy and raw materials,¹⁸⁶ thus creating a path dependency.¹⁸⁷

In recent times, militarism's aspect of defence has been increasingly invoked in relation to neo-colonialism and acquiring resources like oil.¹⁸⁸ Nations with larger and advanced militaries regularly use their coercive power to obtain disproportionate access to natural resources, predominantly in the global South.¹⁸⁹ Geopolitical competition between states often drives arms races, which in turn boost technological developments, which in consequence enhance the damaging capabilities of military forces. Since the Second World War the military was promoted into the political and economic elites, rooting the treadmill of destruction in national and international politics.¹⁹⁰ This is particularly true for the situation of the USA where military production averted economic stagnation and supported the entire economic structure.¹⁹¹ Military spending is perfectly suited for the capitalist growth system, pumping capital into private production, distributing income upward and always finding a market¹⁹², if not producing its own. Militarism influences the willingness and timing of states to ratify environmental treaties¹⁹³, as was obvious from the USA's behaviour in the Kyoto negotiations. Access to oil has become a fundamental motive for wars, in which massive amounts of oil are burned, aggravating climate change.¹⁹⁴ The huge reliance of militaries on fossil fuels and their enormous contributions to burn it quickly conclude "a self-perpetuating cycle of destruction."¹⁹⁵

¹⁸⁶ Ibid, p.323.

¹⁸⁷ Ibid, p.329.

¹⁸⁸ Branagan, 2013, pp. 6-7. See also the close up video compilation at YouTube, *Virtuous War: Mapping the Military-Industrial-Media-Entertainment Network*, 2009, available at <https://www.youtube.com/watch?v=XLUI6sM8nQ> (consulted 25.05.2015).

¹⁸⁹ Jorgenson et al, 2012, p.330.

¹⁹⁰ Jorgenson et al, 2012, pp.317-320.

¹⁹¹ Foster, 2006, p.110.

¹⁹² Anderson, 1976, pp.76-77.

¹⁹³ Givens, 2012.

¹⁹⁴ Canadians on Emergency Action on Climate Change Website, 2011.

¹⁹⁵ Wareham 2009, p.39.

3.2.2 Security Risks exacerbate Climate Change

It looks like a new type of political adaptation to the climate crisis is already under way: ‘the armed lifeboat’. “This adaptation responds to climate change by arming, excluding, forgetting, repressing, policing and killing.”¹⁹⁶

There is an ever growing debate on how climate change will have dangerous effects for the national security of states. This is reflected for example in a common publication of the Organization for Security and Co-operation in Europe (OSCE) and the European Environmental Agency (EEA) stating a “need to address environment and security”.¹⁹⁷ The report raises concerns about conflict over scarce resources and migration pressures and argues that environmental issues play a major role in security policy. The upcoming hope, when it is pointed out that the issues of climate change and security policy are “inextricably linked”, is soon belied because unfortunately, this statement goes only one way in the view of the OSCE and EEA¹⁹⁸. Their conclusion is that national security has to be upgraded and intensified. The potential harm to the environment from so called “security action” is totally neglected.¹⁹⁹

It seems at the moment as if the EU was considering sinking smuggling boats and carrying out military operations in Libya to tackle human trafficking.²⁰⁰ This approach is doing nothing to help refugees, much rather it is aggravating the terrible human rights violations that are already happening for years (keyword: Lampedusa).²⁰¹ Libya was not officially informed of these plans and is condemning them, speaking of “colonial mentality” and calling the behaviour of the EU “completely unacceptable in the modern world”. Also there is talk of defence in the case of foreign forces entering Libya.²⁰²

Evidence for the US Department of Defense possibly sharing this misguided ‘bunker’ perspective came in the form of a Pentagon report forecasting the creation of ‘defensive

¹⁹⁶ Parenti, 2013.

¹⁹⁷ European Environment Agency, *Using scenarios to improve understanding of environment and security issues*, Copenhagen: Rosendahls-Schultz Grafisk, 2012, p.5.

¹⁹⁸ Ibid.

¹⁹⁹ Also see: Hooks & Smith, 2012, p.76.

²⁰⁰ Sengupta, 2015 available at <http://www.independent.co.uk/news/world/africa/mediterranean-migrant-crisis-libya-will-repel-any-military-action-from-the-eu-to-stop-people-smugglers-claims-tripoli-pm-khalifa-alghawi-10282880.html> (consulted 29.05.2015); WikiLeaks, 25.05.2015, available at <https://wikileaks.org/eu-military-refugees/press.html> (consulted 29.05.2015).

²⁰¹ Stern, 2015, available at http://axisoflogic.com/artman/publish/Article_70492.shtml (consulted 29.05.2015).

²⁰² Sengupta, 2015.

fortresses' around the USA and Australia. The lack of concern for human rights and the suffering victims of climate change impacts was expressed in the consideration of the proposed effects of the world's decreased carrying capacity, which lead to conflicts over food, water and energy: "Deaths from war as well as starvation and disease will decrease population size, which overtime, will re-balance with carrying capacity."²⁰³ The report concludes with the recommendation to establish new forms of security agreements and draws a picture of the future with large numbers of refugees washing up on shores while the world has to fight serious crises over food and water. "Disruption and conflict will be endemic features of life."²⁰⁴ Another example of this apocalyptic defence mentality are the preparations by India to keep out Bangladeshi refugees. (See Chapter 4.1.2)

These extremely cold blooded approaches are dangerous and lead to the militarist view of human death as 'collateral damage'. The Brundtland Report (1987) already held: "There are, of course, no military solutions to 'environmental insecurity'."²⁰⁵ The perspective of armament for climate change impacts is perpetuating the treadmill of destruction making militarism both the cause and consequence of climate change.²⁰⁶ This 'bunker mentality' can be no answer to refugee flows and will only continue to benefit MIMEC and aggravate the climate crisis.²⁰⁷

3.2.2.1 Catastrophic Convergence

When the ugliest side of militarism, war, comes out it does not seldom happen in areas that are negatively affected by environmental change. The prime example for this 'catastrophic convergence' is the situation in Syria. A terrible drought coupled with austerity measures by the Assad regime and a lack of support to deal with the accelerating environmental issues was oil in the fire which was lighted by the violent spark of a flood of weapons in the region.²⁰⁸

²⁰³ Schwartz& Randall, 2003, available at <http://www.greenpeace.org/international/Global/international/planet-2/report/2006/3/an-abrupt-climate-change-scena.pdf> (consulted 29.05.2015).

²⁰⁴ Ibid.

²⁰⁵ Report of the World Commission on Environment and Development: *Our Common Future*, Chapter III.1, paragraph 38.

²⁰⁶ Zhou, Maggie, Video Interview at the COP16 conference in Cancun, December 2010, available at <http://climatechange-tv.rtcc.org/2010/12/10/maggie-zhou-december-2010/> (consulted 29.05.2015).

²⁰⁷ Branagan, 2013, p.19.

²⁰⁸ Parenti, 2015, available at <http://www.truth-out.org/news/item/30666-christian-parenti-on-climate-change-militarism-neoliberalism-and-the-state> (consulted 13.05.2015).

Friedman calls the drought “one of the key drivers of the Syrian war”.²⁰⁹ UNICEF reported that since the Syrian war started, safe water supply has fallen by two-thirds and that the ongoing drought also threatens neighbouring states, Iraq, Lebanon and Jordan, continuing the vicious circle.²¹⁰ Other current examples are the conflicts in Yemen and Nigeria where fluctuating precipitation patterns, likely linked to global warming, created water crises joined by corrupt neoliberalism, capitalism and brutality.²¹¹

It has to be noted here that the widespread notion of climate change leading to conflict is built on little evidence as well as questionable sources and tends to breed needless anxiety and fear. There are serious cases of catastrophic convergence but the links between the causes of conflicts have often been simplified.²¹²

The just discussed notions and misconceptions (further misconceptions of militarism are discussed in Chapter 5.2.1) are unfortunately largely neglected or ignored. Awareness of them will be vital for finding a genuine response to climate change.

3.3 The Lack of Awareness for Militarism’s Impacts on the Climate

There is lots of political discussion and concern about armed conflicts’ repercussions on human society and economy, but quite little about the burdens on our natural environment. The same goes for civil society. Even though there are some exceptions, neither environmental, nor peace movements have made the case that the climate crisis and warfare are siblings.²¹³ The issue is similarly neglected in human rights advocacy and scholarship.²¹⁴ Also in the natural and social sciences the impacts of militarism are mostly overlooked.²¹⁵ This might be due to the secretiveness and concealment of military operations, bases and other facilities which are often exempt from environmental laws as well as from the accountability and transparency

²⁰⁹ Friedman, 2013, available at http://www.nytimes.com/2013/05/19/opinion/sunday/friedman-without-water-revolution.html?pagewanted=all&_r=1 (consulted 16.05.2015).

²¹⁰ UNICEF, 2014, available at <http://childrenofsyria.info/2014/06/06/lowest-rainfall-in-over-50-years-is-latest-threat-to-children-in-syria-and-region/> (consulted 29.06.2015).

²¹¹ Parenti, 2015.

²¹² Schoch, 2012, p.14. Also see: Hooks & Smith, 2012, pp.75-78.

²¹³ Collins, 2014; Jorgenson, 2012, p.331.

²¹⁴ The Report of the Office of the United Nations High Commissioner for Human Rights on the relationship between climate change and human rights (A/HRC/10/61, 15.01.2009) does not mention militarism with one word. The topic is new ground even for most renowned human rights defenders as I had to realise during my research.

²¹⁵ Jorgenson et al, 2012, p.315.

that are used for other governmental actors, in the name of national security.²¹⁶ Concerning the mass media, the huge influence of MIMEC might partly explain its neglect of the impacts of militarism on climate change.²¹⁷

3.3.1 How high are the Impacts of Militarism on the International Agenda?

The United Nations Conference on the Human Environment (Stockholm Conference) in 1972 was the first major international event with a focus on environmental degradation and ‘transboundary pollution’. The only mention of military impacts can be found in principle 26²¹⁸ of its Declaration that called for the elimination of all weapons of mass destruction.²¹⁹ Building on this conference the United Nations World Charter for Nature was adopted 10 years later, without any mention of militarism or connected issues.

The Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD, 1976) prohibits using the environment as a weapon in conflicts.²²⁰

The Brundtland report from 1987 acknowledged that vast resources are diverted into arms production that could rather be used for sustainable development.²²¹

The Rio Declaration (1992) contained two very general principles that are linked to militarism: Warfare is inherently destructive to sustainable development and peace; development and environmental protection are interdependent and indivisible.²²² After that, the Commission on Sustainable Development (Earth Summit +5) was established for follow-up on the Rio Declaration. A coalition of more than one hundred international organisations (Peace Caucus) criticised the exclusion of military pollution and back then, the president of the General

²¹⁶ Singer & Keating, 1999, p.327; Collins, 2014; Jorgenson et al, 2012, p.316; Gould, 2007, p. 331.

²¹⁷ Branagan, 2013, p.26.

²¹⁸ UNEP Website, *Declaration of the United Nations Conference on the Human Environment*, 16.06.1972, available at <http://www.unep.org/Documents.Multilingual/Default.asp?documentid=97&articleid=1503> (consulted 26.06.2015).

²¹⁹ International Peace Bureau, 2002, p.9.

²²⁰ Ibid, p.11.

²²¹ Report of the World Commission on Environment and Development, 1987, available at <http://www.un-documents.net/our-common-future.pdf> (consulted 17.05.2015).

²²² Report of the UN Conference on Environment and Development, 1992, available at <http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm> (consulted 30.05.2015).

Assembly promised to promote the topic in UN negotiations.²²³ Nothing significant happened in this regard²²⁴, until today.

In 2012, the UN established the Sustainable Development Solutions Network (SDSN) with the aim to find practical solutions to sustainability challenges and particularly climate change. The Deep Decarbonization Pathways Project (DDPP) was launched in partnership with the Institute for Sustainable Development and International Relations (IDDRI) to support states in finding zero CO₂ emission pathways by the year 2050. Unfortunately, the developed decarbonisation strategies, do not mention peace and peace-building, do not include any restrictions on the military sector and do not take in consideration the highly militarised nature of economies like in the USA, Russia, China or UK. All of this is missing even though the proclaimed goal of a profound transformation of energy systems through steep declines in carbon intensity in all sectors of the economy is inherently comprising the military industry.²²⁵

As mentioned before, military emissions were decidedly excluded from calculations and reporting in the Kyoto Protocol, mostly because of the intense lobbying by the United States. Since then, the world's armed forces carbon 'footprint' has been ignored by the international community. Consequently there is no mention of the military sector's pollution in the latest IPCC report (5th, 2014), let alone of all the other destructive effects of militarism.²²⁶ According to the UNFCCC reporting guidelines, the biggest part of the military's fuel consumption and emissions are not included in national greenhouse gas inventories.²²⁷ "Without complete and transparent information about the emissions and impacts in the military sector, it will not be possible to develop and implement the mitigation and adaptation strategies needed to stabilize the climate."²²⁸

The UN has not yet connected the dots.²²⁹ It is most disappointing that, like in all the climate summits before, the enormous role of militarism is not on the agenda of the Paris Climate

²²³ Deen, 1997, available at <http://www.ipsnews.net/1997/04/united-nations-environment-un-shuts-out-militarism-groups-say/> (consulted 30.05.2015).

²²⁴ International Peace Bureau, 2002, p.10.

²²⁵ Lorincz, 2014, p.18.

²²⁶ Branagan, 2013, p.18.

²²⁷ While domestic fuel use might be reported, fuel consumption and storage (bunker fuels) as well as GHG emissions outside national borders are excluded in states' totals. See: Lorincz, 2014, p.7.

²²⁸ Ibid.

²²⁹ It has to be noted though that the UNEP has acknowledged that there has been insufficient international and national oversight and research of the military's impacts on the natural environment and climate change. See: UNEP Website, *Preventing Military Impacts on Environments*, available at <http://www.unep.org/delc/MilitaryActivities/tabid/78544/Default.aspx> (consulted 25.06.2015).

Conference (COP21).²³⁰ This poses a dire outlook, as without the demilitarisation of the world's economies, deep decarbonisation will be impossible to achieve.²³¹

"The contribution of military activities to the unprecedented series of environmental crises facing the world today has been largely overlooked and, to an extent, wilfully ignored."²³²

3.3.2 Civil Society Declarations

Just like the Peace Caucus, several coalitions of NGOs were more active than the international community. After the Stockholm Conference (1972) NGOs began drafting an *Earth Charter* which contained a section ('promote a culture of tolerance, nonviolence, and peace') that addresses military, environment, and development issues.²³³ It was finalised in 2000 and adopted by UNESCO, but not the General Assembly.²³⁴

In 1991, the World's Women Congress particularly addressed military impacts on the natural environment and concluded that the world's armed forces are the single largest polluters on Earth,²³⁵ constituting the first noticeable, comprehensive declaration addressing militarism's impact on climate change.

The *NGO Treaty on Militarism, Environment and Development* was drafted during the 1992 Rio Conference, which calls for a new definition of security, boycotts of producers of environmentally damaging military equipment and the dissemination of information on the environmental impacts of military activity.²³⁶

In 2010 the *People's Agreement* was concluded by 30.000 civil society representatives and government officials from 100 states at the World People's Conference on Climate Change

²³⁰ Email from Ulrike Lunacek, Vice-President of the European Parliament, EU, 11 May 2015; Email from Megumi Endo, Observer Organizations Liaison Officer, UNFCCC, 15 June 2015. See Annex 1.

²³¹ Lorincz, 2014, pp.8-9.

²³² Majeed, 2004, p.2.

²³³ International Peace Bureau, 2002, p.12; Earth Charter International Website, *The Earth Charter*, available at <http://www.earthcharterinaction.org/content/pages/Read-the-Charter.html> (consulted 30.05.2015).

²³⁴ Lorincz, 2014, p.34.

²³⁵ International Institute for Sustainable Development Website, *Women's Action Agenda 21*, available at <https://www.iisd.org/women/action21.htm> (consulted 31.05.2015). Also see *A Global Women's Treaty For NGOs Seeking A Just And Healthy Planet*, available at <http://www.iisd.org/women/altwom.htm> (consulted 31.05.2015).

²³⁶ International Peace Bureau, 2002, p13.

and the Rights of Mother Earth which builds on human rights, harmony, collective well-being as well as peace and highlights the combined problems of capitalism, imperialism and militarism.²³⁷

Another major and comprehensive declaration also came in 2010 from a coalition of over 70 environmental, peace and social justice organisations manifested at the 62nd International Human Rights Day in Cancun. Calling for the recognition of '*the elephant in the living room*', the declaration opposes militarism as the prime obstacle to the realisation of human rights and efforts to address climate change.²³⁸ It was delivered to delegates at the UN Climate Conference in Cancun in 2010 (COP16), as well as to the media and the White House.²³⁹

Climate Space is a civil society coalition mobilising in its declaration to *Stop and Prevent Planet Fever* taking into account the war industry and infrastructure with respect to climate change. It counts more than 300 initiating organisations and started at the World Social Forum 2013 in Tunisia.²⁴⁰

Probably the most recent example of a civil society declaration connecting militarism and climate change is the *Stop the Wars, Stop the Warming Appeal*. It was released in preparation for the People's Climate March and aims at bringing peace and environmental movements together by emphasising the dangerous feedback loop of the exorbitant use of oil for fighting wars and the purpose of wars to secure oil resources.²⁴¹

To sum up this chapter, it is neither equitable, nor just or fair for the militaries of the world to consume fuel without scrutiny, discharge tremendous amounts of greenhouse and highly toxic emissions without regulation, divert financial resources needed for climate mitigation as well as adaption and to continue unchecked on a path toward catastrophic climate change.²⁴²

In the next section the consequences of climate change for human rights will be explored.

²³⁷ Lorincz, 2014, p.34.

²³⁸ Branagan, 2013, p.18; Militarism/War: Elephant in the Living Room - Declaration, Civil Society coalition movement, 2010, available at http://www.climatesos.org/wp-content/uploads/2010/12/Military_Climate_resolution_Dec10_2010_delivery.pdf (consulted 29.05.2015).

²³⁹ Climate SOS Website, *US Imperial Militarism*, 2010, available at <http://www.climatesos.org/2010/11/us-imperial-militarism-climate-change-and-extinction/> (consulted 29.06.2015).

²⁴⁰ Climate Space Website, About, available at <https://climatespace2013.wordpress.com/about/> (consulted 01.07.2015).

²⁴¹ Lorincz, 2014, p.35.

²⁴² Ibid, p.13.

4 Impacts of Climate Change on Human Rights

“Climate change is a silent human crisis. Yet it is the greatest emerging humanitarian challenge of our time. Already today, it causes suffering to hundreds of millions of people most of whom are not even aware that they are victims of climate change.”²⁴³

- Kofi Annan

At first glance, the connection between human rights and climate change might not be apparent to everybody, which is why these terms have to be brought in context.

People unfamiliar with the notion of climate change often have the naïve perception that global warming might worry people living in hot places like in Africa or India but might please populations living in cold areas like Siberia or Scandinavia. This impression totally neglects the complexity of climate change and can dangerously conceal its true implications. Changes in atmospheric temperature can cause other changes, create instability including abnormal cooling as well as warming and disrupt the balance of our ecological environment which is the basis for human (and other) life on Earth.²⁴⁴ The main observed and anticipated shifts in the wake of climate change with adverse effects on human rights are the contraction of snow-covered areas and shrinking of sea ice, sea level rise and higher water temperatures, increased frequency of hot extremes and heat waves, heavy precipitation events and drought as well as increased intensity of tropical cyclones (typhoons and hurricanes).²⁴⁵

This disruption has consequences: poverty, food shortages, water stress, increased incidence of infectious diseases (like HIV, Ebola or Malaria), loss of inhabitable terrain, high levels of toxic ground-level ozone as well as direct deaths and vast economic damage. These troubles increase as the climate crisis worsens, creating ideal conditions for social and political instability.²⁴⁶

²⁴³ Kofi Annan, former United Nations Secretary-General, Speech at the Global Humanitarian Forum 2009. Press Release May 29th, 2009.

²⁴⁴ IPCC Synthesis Report, 2015, p.16.

²⁴⁵ Report of the Office of the United Nations High Commissioner for Human Rights, 2009, p.5.

²⁴⁶ Friends of the Earth International Website, *How climate change may lead to an increase in violence against women*, available at <http://www.foei.org/news/how-climate-change-may-lead-to-an-increase-in-violence-against-women> (consulted 01.06.2015).

A ruined environment surely does not facilitate the full exercise of human rights, especially economic, social and cultural rights.²⁴⁷ A few examples of adverse climate change effects are illustrated in Figure 15.

Figure 15 - Examples of the Impacts of Climate Change on Human Rights

Climate Impact	Human Impact	Rights Implicated
Sea Level Rise <ul style="list-style-type: none"> • Flooding • Sea Surges • Erosion • Salination of land and water 	<ul style="list-style-type: none"> • Loss of land • Drowning, injury • Lack of clean water, disease • Damage to coastal infrastructure, homes, and property • Loss of agricultural lands • Threat to tourism, lost beaches 	<ul style="list-style-type: none"> • Self-determination [ICCPR;ICESCR,1] • Life [ICCPR, 6] • Health [ICESCR, 12] • Water [CEDAW,14; ICRC 24] • Means of subsistence [ICESCR,1] • Standard of living [ICESCR, 12] • Adequate housing [ICESCR,12] • Culture [ICCPR, 27] • Property [UDHR,17]
Temperature Increase <ul style="list-style-type: none"> • Change in disease vectors • Coral bleaching • Impact on Fisheries 	<ul style="list-style-type: none"> • Spread of disease • Changes in traditional fishing livelihood and commercial fishing • Threat to tourism, lost coral and fish diversity 	<ul style="list-style-type: none"> • Life [ICCPR, 6] • Health [ICESCR, 12] • Means of subsistence [ICESCR, 1] • Adequate standard of living [ICESCR, 12]
Extreme Weather Events <ul style="list-style-type: none"> • Higher intensity storms • Sea Surges 	<ul style="list-style-type: none"> • Dislocation of populations • Contamination of water supply • Damage to infrastructure: delays in medical treatment, food crisis • Psychological distress • Increased transmission of disease • Damage to agricultural lands • Disruption of educational services • Damage to tourism sector • Massive property damage 	<ul style="list-style-type: none"> • Life [ICCPR,6] • Health [ICESCR,12] • Water [CEDAW,14; ICRC 24] • Means of subsistence [ICESCR,1] • Adequate standard of living [ICESCR, 12] • Adequate and secure housing [ICESCR,12] • Education [ICESCR,13] • Property [UDHR,17]
Changes in Precipitation <ul style="list-style-type: none"> • Change in disease vectors • Erosion 	<ul style="list-style-type: none"> • Outbreak of disease • Depletion of agricultural soils 	<ul style="list-style-type: none"> • Life [ICCPR,6] • Health [ICESCR,12] • Means of subsistence [ICESCR,1]

Source: Jodoin & Lofts, 2013, p.5.

In fact, it is hard to imagine a human right that is not seriously affected by climate change and potentially all human rights are at risk.²⁴⁸ At the same time a world incapable of respecting, protecting and fulfilling human rights also harms the natural environment, not least by diminishing the potential for positive action that lies in the individual and civil society.²⁴⁹ “Today, the human rights cause has also become the environmental cause and vice versa.”²⁵⁰

²⁴⁷ Jodoin & Lofts, 2013, pp.5-6.

²⁴⁸ Report of the Office of the United Nations High Commissioner for Human Rights, 2009, p.8.

²⁴⁹ In this light it is almost a scandal that neither the UNFCCC nor the Kyoto Protocol include references to international human rights law. See: Jodoin & Lofts, 2013, p.7.

²⁵⁰ Postiglione, 2010, p.524.

There are lots of facts, statements and numbers which altogether draw a dire picture and make clear that climate change should be high up on the human rights agenda: Estimates of the World Health Organization (WHO) state that about 150,000 deaths result worldwide every year in low-income countries, primarily due to the adverse effects of climate change (crop failure and malnutrition, floods, diarrhoeal diseases and malaria).²⁵¹

The Human Impact Report states that worldwide 300,000 deaths per year can be attributed to the impacts of climate change, while 325 million people are seriously affected and the global economic losses amount to \$125 billion USD.²⁵²

The report by the Climate Vulnerable Forum goes so far as to estimate that from the year 2010 “climate change causes 400,000 deaths on average each year today, mainly due to hunger and communicable diseases that affect above all children in developing countries.” It goes on concluding that “[o]ur present carbon-intensive energy system and related activities cause an estimated 4.5 million deaths each year linked to air pollution, hazardous occupations and cancer.”²⁵³

²⁵¹ Kumaresan & Sathiakumar, 2010, available at <http://www.who.int/bulletin/volumes/88/3/10-076034/en/> (consulted 25.052015).

²⁵² Human Impact Report, 2009, p.1.

²⁵³ DARA and the Climate Vulnerable Forum, 2012, p.17.

Figure 16 – Deaths and Economic Costs attributed to Climate Change



Estimated Deaths (skull) and Economic Cost (in billion PPP USD) due to climate change effects.

Source: DARA and the Climate Vulnerable Forum, 2012, p.48.

The distribution of these human (and economic) losses reveals extreme injustice as developing countries bear more than 90% of the climate change burden, while they contribute but a one-digit percentage to global GHG emissions.²⁵⁴

The former chief World Bank economist Nicolas Stern even goes as far as to predict an “extended world war” if climate change is not dealt with.²⁵⁵

The necessary urgent attention is clear. The world is feeling the human cost of climate change in the form of spreading diseases, mass displacement and ever rising death rates, right now.²⁵⁶

The IPCC states that the risks are unevenly distributed and larger for disadvantaged people and

²⁵⁴ Human Impact Report, 2009, p.3.

²⁵⁵ Hanley, 2009, available at http://www.huffingtonpost.com/2009/02/21/lord-nicholas-stern-paint_n_168865.html (consulted 29.06.2015).

²⁵⁶ Human Impact Report, 2009, p.2.

communities irrespective of the region.²⁵⁷ Consequently the most vulnerable groups will be addressed below.

4.1 The most Vulnerable Groups

There are several groups who are especially endangered by the adverse impacts of climate change on the enjoyment of their rights. Of course these groups are not clearly separable but deeply intertwined as for example poor people are often women, refugees and young people at the same time. It is also obvious that the negative effects of warfare and the culture of militarism are often responsible for the fate of these groups.

4.1.1 The Poor

“Ours is the first generation with the potential to end poverty – and the last to act to avoid worst effects of climate change.”²⁵⁸

- Ban Ki Moon

Some argue that we should think of climate change as a characteristic of an unequal society rather than an environmental issue.²⁵⁹ This perspective proves to have a strong standing when we look at the situation of the poor: People who have contributed the least to climate change and benefited the least from the use of fossil fuels are the first people to feel the effects. People in the poorest parts of the world suffer enormously already and will suffer more as the century moves on. They are likely to get hit first and worst, and because of their low income, social standing or lack of political connection cannot get out of harm's way.²⁶⁰

The climate crisis is also a social justice issue or as Giddens put it: “The rich world has an obligation to help.”²⁶¹ Indeed it makes sense for the more affluent states to fight extreme poverty because its destabilising effects are severe and can be felt throughout world society. Climate change can amplify drivers of violent conflicts such as poverty and economic shocks.²⁶²

²⁵⁷ IPCC Synthesis Report, 2015, p.13.

²⁵⁸ Ki-moon, 2015, available at <http://www.un.org/sg/statements/index.asp?nid=8374> (consulted 23.06.2015).

²⁵⁹ Ebbitt, 2015, available at <https://www.globalcitizen.org/de/content/how-is-climate-change-linked-to-poverty/> (consulted 29.05.2015).

²⁶⁰ IPCC Synthesis Report, 2015, p.16; McKibben, *Disruption* (movie), minute: 29:50.

²⁶¹ Giddens, 2009, p.13.

²⁶² IPCC Synthesis Report, 2015, p.16.

There is a dire potential for civil war in the societies where the so called 'bottom billion' lives: Over 70% have been or are still caught up in civil war. As if oil and gas were not entangled already enough in the possible demise of the human population, countries with an economy dominated by these resources are host to 30% of the world's poor. Usually, only a small elite is profiting from these economies while investment in other industries is discouraged and the instability of the oil and gas prices is imported. Extreme poverty is also a main factor in population growth, thus boosting itself and closing the vicious cycle.²⁶³ The world's poorest 1 - 2 billion have to get access to education, electricity, basic health services and family planning to stop major population growth together with the horror of poverty.²⁶⁴

As the IPCC found, not only the poor in developing countries are vulnerable to climate change but the impoverished in states "at all levels of development" are affected.²⁶⁵ This has to be taken into account as the ongoing neoliberal austerity measures related to the so called debt crisis are creating poverty. Caritas Europa's Crisis Monitoring Report 2015 finds that 123 million European citizens are living in poverty (almost every 4th person).²⁶⁶

If there is no swift action to provide the world's poor with the resources needed to adapt to climate change and build resilience, climate mitigation and peace will be jeopardised.²⁶⁷

4.1.2 Refugees

Estimations state that by 2050 hundreds of millions of people²⁶⁸ will have been forced to leave their homes and migrate as a consequence of climate change's effects: submersion of islands and sinking of coastal zones, desertification, weather disasters like floods, droughts and hurricanes as well as social upheaval and violence.²⁶⁹ The climate crisis is thus projected to extremely increase displacement and is linked to refugee flows worldwide with a tendency to

²⁶³ Giddens, 2009, pp.213-214.

²⁶⁴ Rosling (Blog), 2011, available at http://www.ted.com/conversations/39/why_do_so_many_think_that_popu.html (consulted 22.06.2015).

²⁶⁵ IPCC Synthesis Report, 2015, p.13.

²⁶⁶ Hopkins, 2014, p.29, Caritas Europa Website, 2015, available at <http://www.caritas.eu/news/poverty-and-inequalities-on-the-rise-people-need-fair-solutions> (consulted 01.06.2015). For more information see: Oxfam Case Study, *The True Costs of Austerity and Inequality*, 2013, available at <https://www.oxfam.org/sites/www.oxfam.org/files/cs-true-cost-austerity-inequality-uk-120913-en.pdf> (consulted 01.06.2015); Darvas & Tschekassin, 2015; Fischer-Lescano, 2014.

²⁶⁷ Collins, 2014.

²⁶⁸ Stern, 2006, p.vi.

²⁶⁹ Paci, 2011, p.4; Report of the Office of the United Nations High Commissioner for Human Rights, 2009, p.19.

go from South to North. It is no secret that environmental dangers, often in connection with violence and conflict, drive people off their land and force them to migrate. For instance, many regions in Central America have experienced severe droughts interrupted by serious floods diminishing crop yields; effects that are associated with climate change.²⁷⁰ Another case with sinister potential is Bangladesh where sea level rise could lead to up to 15 million refugees, more climate change induced migration than anywhere else in the world. India has already put up more than 3000 kilometres of high-tech fencing in preparation for 'illegal' migration.²⁷¹ Also it should not come as a surprise that this phenomenon is intensified by neoliberal economic policies like opening markets and removing state supports, attributable to stakeholders situated in the global North, like the USA, EU, IMF or World Bank, which have crushed rural economies and peasant livelihoods, all over the world.²⁷² The terrible fate of many refugees is widely known now thanks to initiatives like Amnesty International's S.O.S. Europe campaign.²⁷³ Nonetheless the EU accepts massive human casualties while continuing to militarise its borders and detention processes (See Chapter 3.1.2).²⁷⁴

4.1.3 Women

Climate variability impacts, such as droughts, floods, extreme weathers and the ensuing food and water insecurity affect men and women differently. Remembering one of the most vulnerable groups being the poor, the fact that 70% of the world's poor are women draws a clear conclusion.²⁷⁵

Women are specifically subjected to climate change-related risks because of gender discrimination, inequality and inhibiting gender roles. The female death rate is significantly higher than that of men during natural disasters (often linked to very practical reasons: women are more likely to be looking after children, to be wearing clothes which inhibit movement and

²⁷⁰ Biello, 2010, available at: <http://www.scientificamerican.com/article/climate-change-may-mean-more-mexican-immigration/> (consulted 14.05.2015).

²⁷¹ Friedman, 2009, available at <http://www.nytimes.com/cwire/2009/03/23/23climatewire-a-global-national-security-issue-lurks-at-ba-10247.html?pagewanted=all> (consulted 14.05.2015).

²⁷² Parenti, 2015.

²⁷³ More information on the Amnesty International SOS Europe Campaign website: <http://www.sos-europe-amnesty.eu/> (consulted 14.05.2015).

²⁷⁴ Sift & Zeiske, 2015, available at <https://www.boell.de/de/2015/01/09/bis-die-zaeune-bewaffnet> (consulted 14.05.2015); Kasperek, 2008, pp.1-7.

²⁷⁵ Friends of the Earth International Website, 2014, available at <http://www.foei.org/news/how-climate-change-may-lead-to-an-increase-in-violence-against-women> (consulted 18.05.2015).

are less likely to be able to swim). This is especially true in societies in which the socio-economic status of women is low.²⁷⁶

Furthermore, women have a crucial role in climate change adaptation and mitigation. In a global perspective primarily women are tending to the sick, taking care of food production, household water and energy supply, exercising leadership in fighting the destruction of nature and highlight the impacts of the climate crisis in their communities.²⁷⁷ These tasks are bound to become more difficult when the effects of climate change grow. Furthermore, women are generally disadvantaged when it comes to the accessibility of financial resources and technologies. This constitutes not only an obstacle for women's empowerment in general but also to their role as important climate actors. They are also widely underrepresented or even excluded in decision-making processes at all levels. All of this acutely limits women's ability to apply their expertise and contribute to the struggle against negative climate impacts. Women's practical understanding of innovation and their adaption skills to changing environmental realities are still a largely unexplored resource.²⁷⁸

It should also be noted that female environmental rights defenders are more in danger than their male colleagues. In her 2010 report on the situation of human rights defenders the Special Rapporteur on this topic held that Women Human Rights Defenders (WHRDs) are particularly at risk, including exposure to prejudice, exclusion, repudiation, sexual harassment, violence and rape.²⁷⁹ The 2012 Assessment Report of the Mesoamerican Initiative of WHRDs found that a staggering 43% of WHRDs working in the area of environmental rights were threatened, detained or attacked in 2012, also including most heinous incidents like assassinations.²⁸⁰ These atrocities are happening all over the world, from Honduras, over Romania to Sri Lanka.²⁸¹ Coupled with this is the 'war on terror' (see Chapter 5.3.1) which is more fittingly phrased as the war on human rights defenders and the rights of nature.²⁸²

Having said this, it appears essential to fight for gender equality and empowerment of women, especially in the face of climate change. Or as Friends of the Earth puts it: "Indeed, the causes

²⁷⁶ Report of the Office of the United Nations High Commissioner for Human Rights, 2009, p.15.

²⁷⁷ Friends of the Earth International Website, 2014.

²⁷⁸ UNFCCC website, *Gender and Climate Change*, available at http://unfccc.int/gender_and_climate_change/items/7516.php (consulted 18.05.2015).

²⁷⁹ Sekaggya, 2010, p.6.

²⁸⁰ Ortiz et al, 2014, pp. 21-22.

²⁸¹ Friends of the Earth International Website, 2014.

²⁸² Ortiz et al, 2014, p.22.

of violence against women and violence against nature are the same - both come from a system based on domination, exploitation and hierarchy. The time has come to change this system.”²⁸³

4.1.4 Youth

Another severely affected group that has to be mentioned is possibly the biggest one of all: youth. Young people feature prominently in all of the other vulnerable groups and their entire future life is endangered by the effects of global warming.²⁸⁴

Climate impacts will intensify existing health risks and undermine protective support structures for children.²⁸⁵ Yet again, the prime health burden will be borne by children in the developing world.²⁸⁶ Extreme weather events and water stress are already the leading causes of malnutrition and child mortality and morbidity. Similarly, stress on livelihoods will impede children from attending school and girls will be especially affected as traditional household activities require bigger efforts when supplies are scarce.²⁸⁷

It is the young people of today who will shape the world of tomorrow. They are central stakeholders in promoting awareness and behaviour change which are so essential to mitigate global climate change.²⁸⁸

4.1.5 Other Particularly Affected Groups

The report of the High Commissioner for Human Rights on the relationship between climate change and human rights quotes the groups discussed above and further mentions minorities, the elderly and persons with disabilities as particularly vulnerable.²⁸⁹

Indigenous populations often live in and depend upon fragile ecosystems and marginal territories that are specifically sensitive to climatic shifts (the Polar regions, the jungle or low-lying islands for example). These populations are reportedly restricted in their right to self-

²⁸³ Friends of the Earth International Website, 2014.

²⁸⁴ Lorincz, 2014, p.16.

²⁸⁵ UNICEF UK, 2008, pp.14-18.

²⁸⁶ World Bank, 2008, p.211.

²⁸⁷ Report of the Office of the United Nations High Commissioner for Human Rights, 2009, p.16.

²⁸⁸ Ibid, p.17.

²⁸⁹ Ibid, p.15.

determination and rights related to culture²⁹⁰.²⁹¹ Interestingly, indigenous knowledge can be a valuable source for cost-effective, participatory and sustainable climate adaption strategies.²⁹²

4.2 Overarching Climate Impacts

As the climate impacts will vary from state to state some countries may be lucky and encounter less physical impacts than others. However, in our highly globalised world, no state is likely to be exempted as the effects of climate change ripple around the globe with drastic economic consequences for interdependent supply chains, flows of people and investment.²⁹³ Even if industrialised countries are probably least affected locally, unrestrained climate change will bring severe impediments to their prosperity as they have highly developed networks and ties to the rest of the world. Essentially there is no country with low climate vulnerability and everybody will be affected by the combined effects of global climate change and our 'carbon economy'. Inaction by any country harms all, just as all are set to gain from mitigation and adaption action.²⁹⁴

4.2.1 Unequal Burdens

Industrialised countries as the major polluters and at the same time the biggest military powers have prime responsibility in mitigating the detrimental effects of their past and present behaviour on our climate. The global South bears little responsibility for causing the climate crisis, yet it is facing extraordinarily high human casualties and economic costs.²⁹⁵ This so called 'climate injustice' is extreme.²⁹⁶ We cannot expect the developing world to reduce its ecological impact by sacrificing its 'survival emissions' while the countries in the developed world are vastly pumping their 'luxury emissions' into the atmosphere.²⁹⁷ High-income countries can only sustain their living standards because they are exploiting the biocapacity of poorer countries in ways that abuse human rights.²⁹⁸ Asymmetrical power relations enable rich nations to outsource environmental risks to least powerful peoples and places.²⁹⁹

²⁹⁰ See the provisions on cultural rights in Article 27 ICCPR and Article 15 ICESCR.

²⁹¹ Report of the Office of the United Nations High Commissioner for Human Rights, 2009, p.18.

²⁹² IPCC Synthesis Report, 2015, p.19; Waters, 2014, pp.9-13.

²⁹³ PricewaterhouseCoopers, 2014 p. 3.

²⁹⁴ DARA and the Climate Vulnerable Forum, 2012, pp.26-27.

²⁹⁵ Report of the Office of the United Nations High Commissioner for Human Rights, 2009, p.5.

²⁹⁶ DARA and the Climate Vulnerable Forum, 2012, p.25.

²⁹⁷ Giddens & Sutton, 2013, p.160.

²⁹⁸ WWF, 2015, p.13.

²⁹⁹ Hooks & Smith, 2012, p.60.

The poorest and most vulnerable nations have no leverage within the political process of climate negotiations.³⁰⁰ These unequal power relationships determine the adverse effects of climate change on human rights.³⁰¹ Moreover, it is not only unrealistic and impractical but also ethically wrong to expect the poorest to take up the same responsibilities as the most affluent countries. Therefore people in the developed world have to take the lead in the social reforms and emission reductions³⁰², because if we do not, nobody else will.

The chapters above were concerned mostly with the problems our world is facing. The following chapters have a more solution-oriented focus.

4.3 The Human Right to the Environment

As established above, military forces are ruining the natural basis of life on the planet with their destructive activities and pollution. Often these activities will violate established human rights such as the right to life, adequate food, water, health, housing or self-determination³⁰³, but sometimes the threshold of these rights will not be reached and then there is a vacuum of human rights remedies. New international laws are necessary to prevent avoidable environmental impacts.³⁰⁴ To make human rights which are violated in the wake of military activities and climate change more readily enforceable, a human right to a safe and healthy environment would definitely be useful.

The UN World Charter for Nature concluded in Stockholm in 1972 was the first international declaration that acknowledged the relation between environmental protection and human rights. It was approved 10 years later by the UN General Assembly (UNGA) with the statement that “mankind is a part of nature and life depends on the uninterrupted functioning of natural systems which ensure the supply of energy and nutrients.”^{305 306}

³⁰⁰ Tollefson, 2015, nature magazine, available at <http://www.nature.com/news/global-warming-limit-of-2-c-hangs-in-the-balance-1.17202> (consulted 24.05.2015).

³⁰¹ Report of the Office of the United Nations High Commissioner for Human Rights, 2009, p.30.

³⁰² This notion is reflected in Article 3 UNFCCC (“the equity article”) which stipulates ‘the principle of common but differentiated responsibilities and respective capabilities’.

³⁰³ Report of the Office of the United Nations High Commissioner for Human Right, 2009, pp.8-15.

³⁰⁴ UNEP Website, *Preventing Military Impacts on Environments*, available at <http://www.unep.org/delc/MilitaryActivities/tabid/78544/Default.aspx> (consulted 25.06.2015).

³⁰⁵ UN General Assembly, *The World Charter for Nature*, 1982.

³⁰⁶ Postiglione, 2010, p.529.

Principle 1 of the Stockholm Declaration does not directly recognise a right to the environment, but rather amounts to an indirect recognition by creating a link between established human rights, like the right to life or the right to freedom and the quality of the natural environment. The environment is seen as a condition for an adequate quality of life building on the terminology of the UN International Covenant on Economic, Social and Cultural Rights (ICESCR)³⁰⁷ from 1966. None of the universal human rights treaties refers to a specific right to a safe and healthy environment³⁰⁸, although all UN treaty bodies recognise the intrinsic link between the environment and the realisation of a range of human rights.³⁰⁹ Despite several international initiatives and the UNGA repeatedly expressing its approval, little progress towards international legal recognition was made since the Stockholm conference and the right to environment was never adopted as a binding rule.³¹⁰

Substantial binding norms can be found in two regional instruments. The African Charter of Human and People's Rights certifies 'the right to a general satisfactory environment' in its Article 24. This provision can be described as rather 'weak' though as it stands for a collective right instead of an individual right and can be interpreted widely due to its ambiguous formulation. The Additional Protocol to the American Convention on Human Rights is more straightforward in its phrasing by stipulating 'the right to a healthy environment' in its Article 11, creating an individual right.³¹¹

Despite its general reputation for effective human rights protection the European Convention on Human Rights (ECHR) with its additional protocols does not include environmental provisions. Anyway, a human right to environment is indirectly protected by progressive jurisprudence in a fair number of decisions.³¹²

³⁰⁷ Especially Articles 11 (continuous improvement of living conditions) and 12 (enjoyment of the highest attainable standard of physical and mental health) ICESCR.

³⁰⁸ The Convention on the Rights of the Child (CRC), Article 24, paragraph 2 (c) mentions 'risks of environmental pollution'.

³⁰⁹ Report of the Office of the United Nations High Commissioner for Human Rights, 2009, p.7.

³¹⁰ Déjeant-Pons & Pallemarts, 2002, pp.11-15.

³¹¹ Ibid, p.15.

³¹² For example, the European Court of Human Rights (ECtHR) never expressly recognised a right to environment, but came very close in cases like *Tătar v. Romania* (2009) when it invoked the "right to enjoy a healthy and protected environment". The court has appropriately maintained that the ECHR is a "living instrument" that has to be construed in the light of present conditions. Accordingly a right to environment was primarily subsumed under Article 8 and the concept of respect for private life, but also under Article 2 (right to life), Article 6 (right to a fair trial and to have access to a court, Article 10 (right to receive and impart information and ideas), Article 13 (right to an effective remedy) and

An inclusion of the impacts of militarism into the environmental legal discussions came at the UN Conference on Environment and Development in Rio (Earth Summit, 1992) where states recognised different types of environmental destruction by military activities. Accompanying the summit declaration, Chapter 20 of Agenda 21³¹³ focuses on this specific issue. Agenda 21 represents the beginning of legal efforts to regulate and monitor the environmental impacts of military activities, but unfortunately, it is only voluntary, non-binding and there have been little new accomplishments up to date.³¹⁴

It seems feasible to claim that there is already an established right to the environment, even if still complicated to access, comprising many uncertainties and only voluntary non-binding pledges to include militarism in the calculations.³¹⁵ While the procedural elements are quite clear and important (information, participation and access), it is difficult to define the substantive content such as the quality of air, rivers, lakes, coastal and marine waters, food and drinking water, protection against noise, contamination of soil, soil erosion and desertification, preservation of habitats, flora and fauna, landscape and other elements of the natural heritage³¹⁶.³¹⁷ In a strict legal sense it seems virtually impossible to disentangle the complex causal relationships of historical GHG emissions of a particular actor to a climate change related effect.³¹⁸ However, there are first precedents in case-law that light a beacon of

Article 1 of Protocol No. 1 (right to the peaceful enjoyment of one's possessions). See: Council of Europe, 2012, p.8; Right To Environment Website, available at <http://www.righttoenvironment.org/default.asp?pid=91> (consulted 22.06.2015).

³¹³ UNEP Website, *Chapter 20 of Agenda 21*, available at <http://www.unep.org/Documents/Multilingual/Default.Print.asp?DocumentID=54&ArticleID=1127&l=en> (consulted 26.06.2015).

³¹⁴ UNEP Website, *Preventing Military Impacts on Environments*, available at <http://www.unep.org/delc/MilitaryActivities/tabid/78544/Default.aspx> (consulted 25.06.2015).

³¹⁵ To the question if the right to the environment is an individual or collective right Postiglione responds: "[T]here is no contrast between the individualistic and community based view if we accept that the environment is a priority value for every culture, also superordinate to socio-economic development with respect to the living ecosystem of the planet. (...) The right to the environment is not only a right not to suffer restrictions of one's individual rights, but a right-duty to positively intervene to protect assets that are essential for the community, in the spirit of social solidarity." See: Postiglione, 2010, p.529.

³¹⁶ "Environmental health criteria" established by the World Health Organisation (WHO) for instance can help in determining the material content of the general notion of a healthy environment, even if imperfect and with uncertainty involved in the scientific basis. See: Déjeant-Pons, & Pallemarts, 2002, p.20.

³¹⁷ Ibid, p.256.

³¹⁸ Report of the Office of the United Nations High Commissioner for Human Rights, 2009, p.23.

hope.³¹⁹ The right to the environment establishes a legal duty highlighting the responsibility of states in the climate debate. It appears that greater emphasis on ‘duties’ and international cooperation³²⁰ is necessary to make this right more concrete and effective, especially in the light of unequal burdens posed by climate change. The human right to the environment is absolute, meaning it is valid erga omnes, but it is not unlimited and a proper equilibrium with other public interests has to be found. Furthermore, it is necessary to give an economic value to environmental services and internalise costs, making those benefiting from the economy (and its mass consumption) pay the costs that are currently unloaded on natural resources and the quality of life of human beings.³²¹

It will need further measures to make the human right to the environment truly enforceable, like an update of the Universal Declaration of Human Rights, the creation of new instruments for protecting human rights in general and for protecting the environment as a human right.³²² Also taking militarism into the calculations, making binding commitments against MIMEC’s impacts on the environment would pose a significant advantage for human rights advocates. As already outlined above, climate change poses serious direct and indirect threats to human rights and conversely human rights violations make the degrading of our environment possible.³²³ It is therefore essential to recognise the connection between the two disciplines and address them through a concerted approach.

Individuals, human rights defenders, communities and civil society as a whole have an important role to play in the promotion and protection of the enjoyment of a safe, clean, healthy and sustainable environment.³²⁴

³¹⁹ The ECtHR ruled that the failure to take measures against foreseeable risks can amount to a human rights violation. See: *Budayeva and Others v. Russia* (29.09.2008), European Court of Human Rights, No. 15339/02.

³²⁰ Human Rights Council Resolution 25/21, 2014, paragraph 11.

³²¹ Postiglione, 2010, pp.530-533.

³²² *Ibid*, p.537.

³²³ *Ibid*, p.524; Report of the Office of the United Nations High Commissioner for Human Rights, 2009, p.30.

³²⁴ Human Rights Council Resolution 25/21, 2014, paragraph 9.

5 The Importance of Civil Society Approaches

5.1 Different performances of Human Rights Advocates

In this section the actors of human rights advocacy in relation to climate change are discussed. With the notion in mind that every individual and every organ of society shall thrive for the promotion of human rights, as stated in the preamble of the Universal Declaration of Human Rights (UDHR)³²⁵, the international community, governments, businesses and civil society are the chosen actors of this inquiry. This chapter starts with examining the impediments for change, highlighting the conceivable unsuccessful performance of governments, the international community and businesses in curbing climate change in the disciplines of politics, law and economics. Then, obstacles for public awareness are reviewed before going deeper into the discussion of a civil society approach as a feasible alternative for militarisms with many of its various facets.

5.1.1 Impediments for Sustainable Change: Failing Politics, Law and Economy

The many issues of the climate crisis, particularly climate change, are politically very contentious because the actions needed to address them are connected with very high costs.³²⁶ Our history is witness to governments striving for development of their own states in a way that openly disregards sustainability as the highest imperative for life on Earth. Apparently, without strong rules targeting production and consumption models, the global economy has contributed to the environmental crisis. At the same time international law has so far not been able to effectively govern climate change policy worldwide or guarantee the sustainability of development. And still, the UN did not yet manage to form a clear and legally binding human right to the environment.³²⁷

How did it come so far? I will illuminate some constitutive causes for this troublesome situation.

³²⁵ UN Website, *The Universal Declaration of Human Rights*, available at <http://www.un.org/en/documents/udhr/> (consulted 28.06.2015).

³²⁶ Kump et al, 2010, p.2.

³²⁷ Postiglione, 2010, pp.528-529.

5.1.1.1 Difficulties in long-term Politics

Climate change politics surely are encountering a big amount of complications. Powerful interests stand in the way of many necessary changes to achieve sustainability. Just take breaking the dependency on oil, gas and coal for example. Responding to climate change is also often seen as a political right-left controversy while it should be an issue transcending party politics. Without a durable overarching framework of agreement that endures when governments change, long-term approaches, that are so vital in this topic, are bound to fail. Adding to this, the climate crisis falls into a category that today needs radical policy-making to have an impact and make sense. But being radical is seldom seen as a good trait of any given government. The political centre where parties converge should not be seen as the contrary of radicalism.³²⁸

It often happens politicians do not act according to scientific reason but rather follow their personal or party-alignment, focusing on short time periods like until the next election, instead of making wise choices for the future.³²⁹ A vivid example of total neglect for the impacts of military force on climate change is an interview with US President Obama at the 2014 Climate Summit where he claimed to recognise the role of the USA in creating climate change. “We embrace our responsibility to combat it.” Just a few hours afterwards he ordered airstrikes in Syria.³³⁰

5.1.1.2 Disappointment by International Climate Conferences

Like many of its predecessors³³¹ the last Climate Conference in December 2014 in Lima attracted much criticism. A broad range of civil society movements claim that it has been ‘hijacked’ by multinationals and the influence of wealthy elites and nations, resulting in a failure to bring about the necessary urgent action. Apparently, representatives from fossil fuel corporations were meeting privately with various national delegations³³², including closed

³²⁸ Giddens, 2009, p.71; Maxwell, 2011, p.8.

³²⁹ See for example: PricewaterhouseCoopers, 2014, pp.9-10.

³³⁰ PBS Newshour, 2014, available at <http://www.pbs.org/newshour/bb/nobody-gets-pass-climate-change-says-obama-u-n-summit/> (consulted 18.05.2015).

³³¹ See for example Von Weizsäcker, who proclaims the climate summit of 2009 a failure by government representatives: Von Weizsäcker, 2010, p.11.

³³² Lazare, 2014, available at <http://www.commondreams.org/news/2014/12/09/peoples-summit-lima-envisions-bottom-movement-global-climate-justice> (consulted 22.05.2015).

stakeholder sessions between the Canadian delegation and Chevron as well as TransCanada.³³³ The conference was opposed by a simultaneous "People's Summit on Climate Change", a huge gathering of grassroots organisations. It was highlighted by the interference by activists together with indigenous communities of a specific panel discussion organised by Shell and the World Coal Association with the title (that was changed later): "Why Divest from Fossil Fuels When a Future with Low Emission Fossil Energy Use is Already a Reality?"³³⁴ The outcome of the Lima conference was marked by disappointment. While acknowledging that there were some good arrangements, *350.org* criticised that the Lima agreement "does not reflect the urgency of the climate crisis" and that all agreed measures are voluntary. Similar criticism came from the *WWF* with the comment: "[P]olitical expediency won over scientific urgency". Least developed countries already suffering heavily under the impacts of climate change were frustrated by the disappearance of loss and damage pledges from the final text which were planned and promised for years.³³⁵ The goal to establish a solid foundation for a binding agreement in Paris was not reached.³³⁶ Apart from this, the UNDP admitted that the conference itself had a terrible carbon footprint.³³⁷ For this year's negotiations in Paris *SumOfUs* warns in a current campaign about the dangerous influence of big corporations which are deemed to sponsor 20% of the conference's budget.³³⁸ There must be a huge community of concerned citizens and international civil society in Paris to demand significant reductions of MIMEC, military emissions and expenditures to enable the stabilisation of our climate and make sustainable development possible.³³⁹

³³³ Yona & Arguedas Ortiz, 2014, available at <http://www.commondreams.org/news/2014/12/09/divestment-campaign-aims-bleed-dry-fossil-fuel-industry> (consulted 22.05.2015).

³³⁴ Lazare, 2014.

³³⁵ Shah, 2015, available at <http://www.globalissues.org/article/805/cop20-lima-climate-conference> (consulted 22.05.2015).

³³⁶ Mary Robinson Foundation - Climate Justice Website, *COP timeline*, available at <http://www.mrfcj.org/our-work/unfccc/cop-timeline.html> (consulted 22.05.2015).

³³⁷ The Guardian Website, 2014, available at <http://www.theguardian.com/environment/2014/dec/10/lima-climate-talks-on-track-for-record-carbon-footprint> (consulted 22.05.2015).

³³⁸ SumOfUs Website, *Kick Big Polluters out of Climate Policy*, available at <http://action.sumofus.org/a/big-polluters-out-of-cop/?akid=10832.8168006.8e1nlx&rd=1&sub=fwd&t=1> (consulted 24.05.2015).

³³⁹ Lorincz, 2014, pp.8-9.

For decades now, the fossil fuel industry with its many connections and the wealthy countries that represent and benefit from industry interests, have blocked progress on international climate negotiations.

5.1.1.3 The Setting of our (Post-)Political and Economic System

World politics have been criticised for their pessimism and populism with regard to climate change. The past few decades displayed a de-politicisation intertwined with neoliberalism according to political scientist Erik Swyngedouw.³⁴⁰ He argues that the so called ‘post-political’ framework “is structured around a perceived inevitability of capitalism and a market economy as the basic organisational structure of the social and economic order, for which there is no alternative.”³⁴¹ The tool utilised to support this framework is fear evoked by apocalyptic illustrations of the future, especially in connection with climate change.³⁴² Swyngedouw goes so far as to claim that “sustaining and nurturing apocalyptic imaginaries is an integral and vital part of the new cultural politics of capitalism (...).”³⁴³ These apocalyptic illustrations are decidedly populist, spreading the notion of ‘necessary radical change’, but only within the existing system so that nothing really has to change.³⁴⁴ CO₂ is made a substitute for the totality of climate change hardships and seemingly it suffices to reverse carbon emissions to a negotiated glorified point. Populism comes in as a key support structure for the political status quo with the blaming of CO₂ emission as an ‘outsider’, making problems not a result of a flaw in the current system, networks of influence and control or unevenly distributed power and injustices. This populism just moves the problems elsewhere, instead of solving them. A vivid example for such an imaginary alternative is the argument over nuclear power. It is illustrated as a possible option to combat CO₂ emissions and peak oil while seemingly being sustainable.³⁴⁵

³⁴⁰ Swyngedouw, 2010, pp.213–232.

³⁴¹ Ibid, p. 215. See also: Krusewitz, 2008, pp.281-288.

³⁴² Katz, 1995, pp. 276-282.

³⁴³ Swyngedouw, 2010, p. 219.

³⁴⁴ An example for this was the landmark Copenhagen Climate Conference in December 2009, where the priorities of the most fuel-dependent nations were clear: carbon emissions should be cut and fossil fuel dependency reduced, but only if doing so did not threaten economic growth. See: Hopkins, 2014, p.53.

³⁴⁵ This is totally unrealistic: For every step of the nuclear power cycle the expenditure of energy derived from fossil fuels is involved. The carbon emissions produced in the full life-cycle of an atomic plant are between one half and the same amount of an equivalent sized gas-fired power station. “Thus it is untrue to say that nuclear energy is greenhouse friendly.” Also there is an inherent link to nuclear weapons. Kimble, 2006, available at <http://www.resilience.org/stories/2006-05-11/does-nuclear-power-produce->

Current politics connected to scientific technocracy claim that there is a pathological syndrome which has to be cured from within by mobilising the dynamics and logic of the system itself, like for instance market exchange via carbon-offset trading. The elites are called to take action, instead of replacing them or transforming the existing order. Their biggest goal is to stay in power, hold on to the current system and hinder change to a new one where their supremacy could be in danger. The current elites are trying to convince the world that capitalism can not only solve the climate crisis but also create 'a new climate' by unmaking the one it has co-produced.³⁴⁶

Our political and economic system is the cause of climate change, argues Naomi Klein and takes up the same line. The obsession of steady growth by all means necessary has made regulations for corporations a taboo.³⁴⁷ Already in 2000 a study on the biggest economies found that 51 of the 100 largest economies are corporations (49 are states) and held that the "growing private power has enormous economic consequences (...). However, the greatest impact may be political, as corporations transform economic clout into political power. As a result, democracy is undermined".³⁴⁸ The involvement of MIMEC was already iterated above (Chapter 3.1).

Marty Branagan joins the criticism of neoliberalism and our supposedly free market when he questions the 'trickle-down' effect: There is little left to trickle down after multinational corporations' (MNCs) departments of accountants made sure that only the minimum tax is paid (if it is not hidden in some tax haven). MNCs are of course interlinked with each other, media corporations, politics and international institutions like the World Bank or the IMF. Governments resist these corporations, which are sometimes bigger economies than themselves, at their peril.³⁴⁹ It is clear that MNCs are in a dominant position in our society and often secretly work together with governments to the detriment of the general public and the environment.³⁵⁰ The Transatlantic Trade and Investment Partnership (TTIP) poses a

[no-co2](#) (consulted 18.05.2015), Lorincz, 2014, p.40. For more information: Storm van Leeuwen & Smith, 2008, available at <http://www.stormsmith.nl/np-ebalance.html> (consulted 18.05.2015).

³⁴⁶ Swyngedouw, 2010, pp. 215-227.

³⁴⁷ Klein, 2015, pp.64-67.

³⁴⁸ Anderson & Cavanagh, 2000, p.7.

³⁴⁹ Branagan, 2013, pp.5-6.

³⁵⁰ Ellwood, 2010, pp.111-134.

contemporary capitalist and neoliberal hazard.³⁵¹ A recent *Friends of the Earth* report warns of the ever rising power of transnational corporations, particularly with regards to extractive and energy projects. These businesses have “contributed to the weakening of democratic institutions and increased militarisation, intensifying violence and dismantling possibilities for justice and redress in situations of rights violations.”³⁵²

The situation was described fittingly elsewhere: “[I]t is easier to imagine the end of the world than to imagine the end of capitalism.”³⁵³

In this situation politics are reduced to mere institutionalised management where difficulties are dealt with by administrative and technocratic means and the state is decreased to a police agent servicing the needs of market forces.³⁵⁴ This lack of democracy requires establishing different socio-environmental prospects as well as recognising difference and struggle over deciding the trajectories of these futures. If an environmentally sustainable future is to be accomplished we have to shake of the institutionalised mantle of a populist discourse and have to strive for a legitimised democratic order.³⁵⁵

Civil society is a key player in democratisation, empowering people so that they can associate with each other and promote good governance, social innovation and finally, system change.³⁵⁶ But there are some obstacles for public awareness to be overcome to get people to act.

³⁵¹ See for example: attac Website, *Vorsicht Falle*, available at <http://www.attac.de/ttip> (consulted 25.05.2015); Stopp TTIP Website, *Selbstorganisierte Europäische Bürgerinitiative gegen TTIP und CETA*, available at <https://stop-ttip.org/de/> (consulted 25.05.2015).

³⁵² Ortiz et al, 2014, p.22.

³⁵³ Jameson, F., *Future City*, New Left Review Vol.21, May-June, 2003, p.76.

³⁵⁴ A contemporary scene for this phenomenon is illustrated by the persistent endeavour by European elites and creditors to topple the democratically elected Greek government to retain neoliberal market forces in power and to be able to carry on with inhuman austerity measures. See: Mittendrein, 2015, available at <http://mosaik-blog.at/griechenland-eurogruppe-putsch/> (consulted 25.06.2015), Stiglitz, 2015, available at http://www.socialeurope.eu/2015/06/europes-attack-on-greek-democracy/?utm_source=dlvr.it&utm_medium=facebook (consulted 01.07.2015).

³⁵⁵ Swyngedouw, 2010, pp. 220-229.

³⁵⁶ Bergman et al, 2010, available at <http://www.eci.ox.ac.uk/research/energy/downloads/Bergman%20et%20al%20Social%20Innovation%20OWP.pdf> (consulted 22.06.2015).

5.1.2 Obstacles for Public Awareness

To be able to mitigate global warming and its effects it is necessary that members of the public are on board. Sadly, most are not.³⁵⁷ Climate change is intensifying and becoming a serious danger because it is “not perceived as such in the consciousness of the majority of people nor perceived adequately in order to give a collective response.”³⁵⁸

5.1.2.1 Giddens Paradox and Cognitive Pitfalls

It seems that most people choose not to take the mental leap from the familiar pursuit of everyday life to the abstract and inconvenient thought of climate change and related crises. But almost everyone across the globe must have come into contact with climate change or one of its synonyms and understand at least its basic implications. Nevertheless, the very large majority is doing very little or is not acting at all to change their usual behaviour even though most of us know that this behaviour is the source of the dangers that loom ahead. The tricky thing is that the dangers seem remote and unreal to many, no matter how devastating they prove to be. While some struggle to cope with the idea or even want to take action, there is a life to be lived, with all of its pleasures and pressures and in the meantime the abstract hazards trickle away from our minds.³⁵⁹

It seems like we have a ‘finite pool of worry’ in which our immediate troubles that feel urgent outweigh future predicaments like the climate crisis.³⁶⁰ The British sociologist Anthony Giddens calls this phenomenon the *Giddens’ Paradox*. “It states that, since the dangers posed by global warming aren’t tangible, immediate or visible in the course of ‘western’ day-to-day life, however awesome they appear, many will sit on their hands and do nothing of concrete nature about them.”³⁶¹ Yet, waiting for these dangers to realise themselves to be induced to take concrete action will already be past the threshold of feasibility. Giddens’ paradox explains why the majority of people do not take the issue as a priority and are not willing to change their behaviour in a notable way.

³⁵⁷ Giddens, 2009, p.7.

³⁵⁸ Postiglione, 2010, p.528.

³⁵⁹ Giddens, 2009, pp.1-2.

³⁶⁰ Cullen, Heidi, Interview in the movie *Disruption*, minute: 36:40, available at <https://www.youtube.com/watch?v=ktgEzXZDtmc> (consulted 15.05.2015).

³⁶¹ Giddens, 2009, p.2.

This problem is reflected in what is called *Temporal Discounting* which leads to cognitive pitfalls due to The Autonomous Set of Systems (TASS) functioning in the human brain which is not under high cognitive control, but involves fast, simple and implicit mechanisms.³⁶² This has to do with intuition and leads people to take irrational decisions: Positive outcomes in the future are outweighed by immediate positive outcomes and delays are seen as some sort of cost. When the uncertainty of outcomes becomes “expensive”, this leads to a preference of immediate rewards. The effect also applies to risks (like climate change); just take smoking for example: At least part of the reason that many people smoke is that they cannot or do not want to imagine the future where the dangers of their behaviours are looming.³⁶³ A specific pattern of temporal discounting is *intra- and intergenerational discounting*. This phenomenon addresses the difficulty of avoiding future hazards from climate change that stems from tensions between group and self-interest. It applies to the climate crisis’ intergenerational nature³⁶⁴: The present generation has to bear the costs of mutual efforts and collaboration, while future generations receive the benefits if the present efforts succeed (or have to suffer when present cooperation fails). Even though these phenomena are not fully understood yet, a recent experiment concluded that intragenerational discounting, but even more so intergenerational discounting, lead to a considerable decrease in cooperation between people.^{365 366}

5.1.2.2 *Lack of Sustainable Education*

These cognitive pitfalls can be circumvented by knowledge of our cognitive processes and being aware of them through self-reflective behaviour. That is why education and learning about complexity has to be a major part of the mitigation efforts for climate change and should be reflected in civil society movements concerned with this issue.

³⁶² Stanovich, 2013, p.440.

³⁶³ Giddens, 2009, p.3.

³⁶⁴ Schelling, 1995, pp.395–401.

³⁶⁵ “Our results experimentally confirm that international negotiations to mitigate climate change are unlikely to succeed if individual countries’ short-term gains can arise only from defection.” See: Jacquet et al, 2013, pp. 1025–1028.

³⁶⁶ Just to add: TASS is also connected to some other crucial problems within the context of climate change, like for example the phenomenon of mass consumerism luring with ads like “get one for free” consciously triggering our brain’s weaknesses or the *Sunk-Cost Fallacy* a decision-making bias that lets people stick with a method and increase their effort instead of changing their strategy. See: Kahneman, 2003, pp. 697-720; Strough, et al, 2008, pp.650-652.

However education is as complex a topic as climate change is and much of our education might not prepare us for a sustainable future. Sterling argues that “most mainstream education sustains unsustainability”. In short this is due to the uncritical reproduction of norms, the rewarding of dependency and conformity, the restraints to exploring alternatives, the fragmentation of understanding, the division in winners and losers, the recognition of only a narrow part of the spectrum of human ability and need, altogether serving the consumerist machine.³⁶⁷ Instead of accomplishing potential we are drilled on production and instead of learning about social capacity we are trained for competitiveness. One actually should be educated on understanding the environment and that we are deeply entangled in its status and prospects. Sterling argues that western education is overshadowed by an utilitarian market philosophy and cannot assist us much in realising sustainable lifestyles.³⁶⁸

A similar opinion was held by the famous cyberneticist Frederic Vester when he identified the dilemma of our education being the tendency to draw simple logical conclusions while we learn little in school about interconnected networks in open systems that often behave acausal. This results in a concentration on matters of detail and leads to typical errors made when dealing with complex systems: Simple cause-effect relations do not exist in reality, where effects are indirect, delayed and interconnected.³⁶⁹

“Realizing sustainable education is a huge but immensely important challenge, but the smallest change can be a step in the right direction, and may affect the whole.”³⁷⁰ Education on environmental matters is crucial for the establishment of a sustainable future, especially for youth.³⁷¹ It is also the basis for a knowledgeable and critical population that can overcome the current culture of violence.

³⁶⁷ Sterling, 2001, pp.14-15.

³⁶⁸ Ibid, pp.17-20.

³⁶⁹ Vester, 2012, p.1.

³⁷⁰ Sterling, 2001, p.20.

³⁷¹ Report of the Office of the United Nations High Commissioner for Human Rights, 2009, p.17.

5.2 A Nonviolent Civil Society Approach as an Alternative to Militarism

*Peace cannot be kept by force, it can only be achieved by understanding.*³⁷²

- Albert Einstein

Promoting war separates society, creating fear, tension and enmity while working towards a sustainable society brings people together, builds community and peers.³⁷³

After acknowledging the massive impacts that militarism has on our natural environment it becomes apparent that reducing or even eradicating it is imperative for climate mitigation and should be one of the key priorities in the climate debate.

5.2.1 Popular Misconceptions of Militarism

In fact, militarism and violence are neither imperative nor needed.³⁷⁴

A prominent objection to this notion is the argument of 'defence and security': How should states defend themselves without substantive military power? Also one might ask how dictators and oppressive regimes can be opposed without armed and violent force? But if you ask those questions you also have to ask: How much 'defence' and violent 'overthrowing' is actually happening?³⁷⁵

Despite what the mass media would have us believe³⁷⁶, when we take a closer look we can observe that there are very few real threats that would make a military defence worthwhile in our globalised and interdependent world.³⁷⁷

³⁷² From a speech to the New History Society (14 December 1930), Found in Calaprice, 2005, p. 158.

³⁷³ Collins, 2014.

³⁷⁴ Branagan, 2013, p.xiii.

³⁷⁵ Ibid, p.37.

³⁷⁶ There is an overwhelming flood of alarmist messages. See for example: Kaylan, *The Russia-China axis and its threat to West*, Fox News, available at <http://www.foxnews.com/opinion/2014/09/10/russia-china-axis-and-its-threat-to-west.html> (consulted 20.05.2015); LaBorde, *KCEN Military Expert Explains Threat Level Increase*, KCEN.TV., available at <http://www.kcentv.com/story/29018277/kcen-military-expert-explains-threat-level-increase> (consulted 20.05.2015).

³⁷⁷ Branagan, 2013, p.37.

The Australian Defence Department for example declared that there are no conceivable threats until at least the year 2030 but also admitted that its military spending amounts to over \$70 million per day and consumes 45% of the overall government energy expenditures. Clearly these are extreme numbers for a department that has not exercised its main function in over 70 years.³⁷⁸

Countries are afraid of terrorist attacks but often most of their defence budget is not dedicated to counter-terrorism.³⁷⁹ One might argue that military force is seldom successful in combating terrorism but can actually be the cause of terrorist activity in the first place. The invasion of Iraq and its consequences are a vivid example of how much instability armed conflict entails.³⁸⁰ There is evidence that “overwhelmingly suicide-terrorist attacks are not driven by religion as much as they are by a clear strategic objective: to compel modern democracies to withdraw military forces from the territory that the terrorists view as their homeland.”³⁸¹ A study from 2007 even claims that the Iraq war has increased terrorist activity sevenfold worldwide and labels this ‘the Iraq Effect’.³⁸²

This conflict was seen by many as primarily about securing oil and trade interests in the region as well as providing MIMEC with a long lasting and very lucrative war economy.³⁸³

Former President Bush’s ‘War on Terror’ is an extreme example of how democracy is sacrificed for the profit of MIMEC: “The War on Terror is formulated as a potentially endless struggle against an infinitely extended enemy, that permeates all borders, and that may inhibit any sphere. The new situation is essentially militarised, the sovereignty of individual states less

³⁷⁸ Ibid, p.37.

³⁷⁹ Ibid 2013, p.37. See for example: Bloomberg.com Website, *Canada to Boost Defense Spending by C\$11.8 Billion From 2017*, available at <http://www.bloomberg.com/news/articles/2015-04-21/canada-to-boost-defense-spending-by-c-11-8-billion-from-2017> (consulted 20.05.2015).

³⁸⁰ It has been argued that the Iraq war has built the basis for or even created ISIS. See: Creamer, 2014, available at <http://www.huffingtonpost.com/robert-creamer/bushcheney-created-conditions-for-isis-5820916.html> (consulted 20.05.2015); Porter, 2014, available at <http://www.ibtimes.co.uk/iraq-war-created-isis-concedes-david-miliband-1460557> (consulted 20.05.2015).

³⁸¹ Pape, 2005, available at <http://www.theamericanconservative.com/articles/the-logic-of-suicide-terrorism/> (consulted 21.05.2015).

³⁸² Bergen & Cruickshank, 2007, available at <http://www.motherjones.com/politics/2007/03/iraq-101-iraq-effect-war-iraq-and-its-impact-war-terrorism-pg-1> (consulted 20.05.2015).

³⁸³ Klare, 2009, available at http://www.tomdispatch.com/post/175095/michael_klare_peak_oil_and_the_remaking_of_iraq (consulted 20.05.2015).

important than a coordinated and integrated system of 'security'.³⁸⁴ We are living in an era of 'permanent war' which takes place at home and abroad.³⁸⁵

The promise to bring democracy through violent invasions in Afghanistan and Iraq in the beginning of the millennium does not only sound unreasonable but actually backfired.³⁸⁶ The two countries continue to list extremely low in global rankings of political freedom, with warlords still in power in Afghanistan and Iraqi communities awfully divided today by gender and ethnicity as a result of the war.³⁸⁷ Furthermore, it is a fact that the use of counter-terrorism policies and similar tactics is seriously restricting the space for civil society action.³⁸⁸ The Copenhagen Consensus Centre, which is dedicated to analyse the world's biggest challenges and identifying cost-effective solutions, claims that military counter-terrorist measures are extreme costly and can backfire, resulting in even more terrorism.³⁸⁹

It is a fact that peacetime military operations pose a constant and major threat to the inhabitants of militarised countries. However, governments refuse to conduct serious assessments comparing the highly propagated external threats with those posed by their own armed forces.³⁹⁰

Still, there is a widespread conjecture that so called defence spending is really for the defence of one's country.³⁹¹ Interesting in this regard is the idea from peace activist and journalist Jonathan Schell: A peaceful conflict resolution is taught to us from an early age at home and in schools and guides our daily lives. This education clashes with the extreme violence that governments show off to impress us, constantly prepared to strike with massive machinery and manpower.³⁹²

³⁸⁴ Ross, 2004, p.2.

³⁸⁵ Feldman, 2003, p.24.

³⁸⁶ It is interesting to note here that the USA were the only state that voted against the promotion of the right to peace in the last Human Rights Council resolution on this topic, while the Western block abstained. See: Human Rights Council Resolution, *Promotion of the right to peace*, A/HRC/RES/20/15, 17.07.2012.

³⁸⁷ The Cost of War Project Website, *Over 350,000 Killed by Violence, \$4.4 Trillion Spent and Obligated*, available at <http://costsofwar.org/> (consulted 23.06.2015).

³⁸⁸ Ortiz et al, 2014, p.22.

³⁸⁹ Lomborg, Bjorn, 2008, available at http://www.nato.int/docu/review/2008/04/AP_COST/DE/index.htm (consulted 20.05.2015).

³⁹⁰ Majeed, 2004, p.2.

³⁹¹ Branagan, 2013, p.39.

³⁹² Cited in Branagan, 2013, p.41.

Taking all of these circumstances into account it becomes clear that militarism is the problem, (not the solution) to the climate crisis.³⁹³ In any case, we need to shake of the 'more arms mean more safety' attitude, recognise that this fighting fire with fire is a major reason why our planet is warming so quickly³⁹⁴ and that it is necessary to make war and violence unacceptable. For that we need a feasible alternative to military force: the much more effective practice of nonviolence.

5.2.2 Nonviolence

*"Just as 'wars begin in the minds of men', peace also begins in our minds. The same species who invented war is capable of inventing peace. The responsibility lies with each of us."*³⁹⁵

- The Seville Statement, 1987

Humans are neither inherently violent, nor genetically programmed to be aggressive, nor wage war because of instinct or any single motivation, nor did we inherit violent behaviour from our animal ancestors. These facts were concluded in the *Seville Statement* in the course of a UNESCO conference in 1986 by many leading scientists of various backgrounds. More importantly they also found that status is achieved primarily by the ability to co-operate and to fulfil social functions in a community.³⁹⁶ Vivid examples of violence being entirely unnecessary and avoidable are displayed by a variety of societies that have been described by sociologists and anthropologists as utterly peaceful as well as devaluing aggressiveness and violence.³⁹⁷

Perhaps the most prominent definition of nonviolent action was established by Gene Sharp: "[A] technique of socio-political action for applying power in a conflict. Nonviolent action consists of many specific methods of psychological, social, economic, and political action without the use of physical violence."³⁹⁸ It seeks to transform unjust acts and structures, instead of targeting any specific person.³⁹⁹

³⁹³ Lorincz, 2014, p.7.

³⁹⁴ Branagan, 2013, p.54.

³⁹⁵ The Seville Statement, UNESCO, Resolution 25C/Res.7.1, 16.05.1987.

³⁹⁶ Ibid.

³⁹⁷ For more information see: Peaceful Societies Website, *Alternatives to Violence and War*, available at <http://www.peacefulsocieties.org/> (consulted 25.05.2015).

³⁹⁸ Sharp, 1999, p.567.

³⁹⁹ Harth, 2013, p.19.

The term resistance in civil society action highlights their non-institutional and usually confrontational nature. In Civil Resistance, tactics are applied that are sidestepping conventional political processes like voting, lobbying or the organisation of interest groups and therefore take place outside the limits of institutional political means.⁴⁰⁰ In more general terms, nonviolence is a complex and well-defined philosophy of fundamental social change.⁴⁰¹

The idea that militarism and war are prime obstacles for mitigating climate change challenges us to find other ways than violence to 'fight', which is why we need to promote the science of peace at every level of society. It is obvious that there are forces at work which are determined to continue the militarist agendas of our societies and that there are governments', corporations' and media attempts to make violence acceptable. "[W]e need to use means consistent with the end"⁴⁰² to convert opponents and third parties to take up the sustainable cause.

5.2.2.1 Misconceptions of Nonviolence

There are many misconceptions about the concept of nonviolence: It has been wrongly labelled as 'passive resistance' and deemed to contain only principled nonviolence or simple pleas to the conscience of adversaries. It is often considered a nice idea but ineffective and unthreatening with images of people holding hands being swept away by violent oppressors. Another conventional wisdom might be that nonviolence is an out-dated philosophy from past heroes like Gandhi or Martin Luther King.⁴⁰³

Again, US President Obama provided for perpetuation of misconceptions when he paradoxically dismissed any alternative to war in his acceptance speech of the Nobel Peace Prize in 2009: "A nonviolent movement could not have halted Hitler's armies. (...) To say that force may sometimes be necessary (...) is a recognition of history; the imperfections of man and the limits of reason."⁴⁰⁴

⁴⁰⁰ Schock, 2003, p.705. Also see: Chenoweth & Stephan, 2011, p.12.

⁴⁰¹ Branagan, 2005, p.2.

⁴⁰² Maguire (a), 2014.

⁴⁰³ Chenoweth & Stephan, 2011, p.10.; Branagan, 2013, p.111.

⁴⁰⁴ Stoner, 2009, available at http://fpif.org/a_lesson_on_nonviolence_for_the_president/ (consulted 21.05.2015). It seems like Obama has contrary believes to the conclusions of the Seville Statement (mentioned above). I also want to mention here that there was nonviolent resistance against the Nazi regime from within and from all over the world which was critical for its demise. What is more, a major finding after the Second World War was that the Nazis were most baffled and unprepared for nonviolent forms of resistance. See for example: Branagan, 2014.

Obama's objection mirrors the common objection to nonviolence in the face of extreme violence. Unarmed and not retaliating protesters and activists will be wounded or even killed when an armed force is lashing out at them. This is serious and tragic but violence will not naturally reduce this danger. On the contrary, an armed mob will get attacked much earlier and with much greater brutality than a peaceful action. (Cultural, artistic and humoristic activities can considerably support civil resistance activities and significantly reduce opponents' brutality. See Chapter 5.3.5) Using force on violent groups is at the same time easy to justify as a requirement by 'law and order'. If no side backs down a vicious circle might be created with violence causing retribution causing more violence.⁴⁰⁵

Crack-downs on peaceful protesters can lead to public outrage and significant backfire against an oppressor when exposed. On the one hand more people might feel the injustice involved and join the resistance movement while on the other hand legitimacy of the attacker wears away.⁴⁰⁶

When the general public, civil society or the international community loses sympathy for an oppressor, regime, company or other institution that is exerting violence, they begin to sever their links, withdraw funding and demand change^{407 408}.

A study by Chenoweth and Stephan shows by analysing 323 violent and nonviolent resistance campaigns between the years 1900 and 2006 that nonviolent resistance has a better chance to succeed relative to its violent counterpart. The study states that over time nonviolent campaigns have increased in number as well as in achievements. Strikingly, it found that non-violence was almost twice as effective as violent campaigns.⁴⁰⁹

Another study by Freedom House came to similar conclusions by analysing transitions from authoritarian regimes between 1972 and 2005. It revealed that more than 70% of these transitions were led by civic resistance campaigns, which much bigger chances of democratic

⁴⁰⁵ Branagan, 2013, p.59.

⁴⁰⁶ Martin, 2007, pp.205-207.

⁴⁰⁷ A good example for the power of economic pressure is the toppling of the Mubarak regime (Egypt). Its core industries were disrupted by a massive civil society movement that worked for years to topple the tyrant. See: Schwartz, 2001, available at <http://peacemagazine.org/archive/v27n2p06.htm> (consulted 30.05.2015).

⁴⁰⁸ Branagan, 2013, p.61.

⁴⁰⁹ Chenoweth & Stephan, 2011, p.7.

outcomes. In comparison top-down transitions by elites were far less likely to produce sustainable freedom and democratisation.⁴¹⁰

Unlike violent conflicts and wars, nonviolent resistance is not commonly cited in history books since it is rarely given credit for its exceptional achievements.⁴¹¹ Nonetheless our world has a rich history in nonviolent civil society movements. Just take for instance the nonviolent civic resistance in Ukraine in the end of 2004; revolutions in Georgia in 2003; Serbia and Peru in 2000; South Africa in 1994; the Baltic States in 1991; Hungary, East Germany, and Czechoslovakia in 1989; Chile and Poland in 1988 and Philippines in 1986.⁴¹² There is strong support for the point of view that it was not the NATO bombing campaign in Kosovo that brought Milosevic down, but mainly the civil movement *Otpor* with its nonviolent means. *Otpor* was especially versed in cultural and humoristic methods which made it so popular in the population.⁴¹³

The crackdown on the protest in Hongkong in 2014, an utterly peaceful and disciplined act of civil disobedience under the name 'Occupy Central with Love and Peace',⁴¹⁴ is a recent example of how concerned regimes can be about nonviolent resistance. The government fears the systematic persuasion of the masses of its lack of legitimacy which erodes its authority. But responding with violence will likely produce a backlash, since "[t]he more the regime revels in misuse of power and abuse of the law, the more it will fuel civil disobedience."⁴¹⁵

Only few citizens are aware of the full range of possibilities of nonviolent action. With good strategy, knowledge of the dynamics of nonviolent struggle and a smart selection of methods and tools the chances of success are greatly elevated.⁴¹⁶ The practise of nonviolence is constantly evolving and exploits a range of different methods (political, economic, social, psychological) with various tools like strikes, protests, interventions, persuasions, boycotts, declarations, withdrawals and many other acts of non-cooperation to oppose or support,

⁴¹⁰ Karatnycky & Ackerman, 2005, available at http://www.icnl.org/research/journal/vol7iss3/special_3.htm (consulted 20.05.2015).

⁴¹¹ Branagan, 2013, p.43.

⁴¹² Karatnycky & Ackerman, 2005.

⁴¹³ Branagan, 2013, p.44.

⁴¹⁴ Occupy with Love and Peace Website, available at <http://oclp.hk/index.php?route=occupy/eng> (consulted 22.05.2015).

⁴¹⁵ Cheung, 2014, available at <http://www.uhrsn.org/2014/10/hong-kongs-human-rights-violations/> (consulted 22.05.2015).

⁴¹⁶ Albert Einstein Institution Website, *198 Methods of Nonviolent Action*, available at: <http://www.aeinstein.org/wp-content/uploads/2014/12/198-Methods.pdf> (consulted 21.05.2015).

delegitimise adversaries and undermine sources of power. Sharp has catalogued 198 methods and historical examples in three categories (nonviolent protest and persuasion, non-cooperation, nonviolent intervention; see Appendix 2).⁴¹⁷ Sharp herself claims that this list is by no means exhaustive and there is a constant evolution of nonviolent resistance.

5.3 Why Civil Resistance Works

*“Power and Violence are opposites; where the one rules absolutely the other is absent. Violence appears where power is in jeopardy, but left to its own course it ends in power’s disappearance. Violence can destroy power; it is utterly incapable of creating it.”*⁴¹⁸

- Hannah Arendt

5.3.1 The Advantages of Nonviolent Resistance

There are some characteristics of nonviolent conflict transformation that give it an advantage over violent conflict. Since the “moral, physical, informational and commitment barriers to participation are much lower for nonviolent resistance”⁴¹⁹ much more people are willing to help and attend activities. The higher level of participation increases resilience, costs of the adversary to maintain its status, probabilities of tactical innovation and loyalty shifts of opponent supporters. To the outside world nonviolent resistance is much more agreeable and increases the chances for concessions. Moreover, when nonviolent struggles are successful, they create more durable, peaceful and democratic outcomes.⁴²⁰ Nonviolence avoids the often ferocious backlashes of intergenerational hatred built up by past violent acts, which can last for centuries.⁴²¹ An example for extraordinarily long animosities is the situation in the Republic of Kosovo. With roots going as far back as the Polje Battle in 1389 the hostilities can still be observed today.⁴²²

The example of the Otpor movement in Kosovo showed that nonviolence is not only a middle-class option, like often propagated, but that it is highly inclusive. The arguably poorest people

⁴¹⁷ Sharp, 2003, pp.40-48.

⁴¹⁸ Arendt, 1972, p.155.

⁴¹⁹ Chenoweth & Stephan, 2011, p.10.

⁴²⁰ Ibid.

⁴²¹ Branagan, 2013, p.57.

⁴²² Bieber & Daskalovski, 2003, p.13; Judah, 2008, pp.20-28.

in Europe accomplished what the brutal military force of the rich West did not manage to achieve.⁴²³

5.3.2 The Potential of Bottom-Up Approaches

“Never doubt that a small group of thoughtful, committed citizens can change the world.”⁴²⁴

- Margaret Mead

As we have seen, climate change politics and international efforts in the global warming debate have been in a deadlock for some time now and even though they have a vital role to play, it does not seem advisable just to wait for them to take action and save the world. Rather, we have to get up ourselves and act not only as individuals⁴²⁵, but in our neighbourhood, city or state and as a community in the many ways nonviolence offers to civil society.

A bottom-up approach is generated by civil society (individual citizens and community groups) rather than governments or businesses and thus relates to the origin or ‘locus’ of the approach.⁴²⁶ A bottom-up approach is central to resolving some of the challenges of the climate crisis, argues Hopkins, one of the founders of the Transition Movement.⁴²⁷

Often the argument is made that the actions of any individual are inherently insignificant and simply incapable of bringing about the huge societal change that is necessary to curb climate change. But the crucial point is less about the emissions or other environmental harm of an individual, although still relevant, but more about the function as a role model. People around the activist are given the opportunity to see that everybody can make a change. If a whole community is successful in changing its behaviour substantially, this sets a strong example of what can be achieved by just a group of individuals. As the transition spreads and representatives begin to recognise its benefits or influence, it points policy makers in the direction for implementing policies that would further facilitate these changes. Significant behavioural change has to be a collective effort with implementation at all levels and there is

⁴²³ Branagan, 2013, p.44.

⁴²⁴ Mead, The Institute for Intercultural Studies Website, available at <http://www.interculturalstudies.org/faq.html> (consulted 21.06.2015).

⁴²⁵ Resistance can start at the individual level: Everybody, although in differing degrees, has the power to boycott. This can be done for instance by refusing a product by Nestlé or plastic bags at the supermarket. If many people boycott the effects become powerful. See: Branagan, 2013, p.56.

⁴²⁶ Bergman et al, 2010, p.5.

⁴²⁷ Hopkins, 2014, p. 14.

definite capacity for partnership between bottom-up approaches, community strategies (including the business community) and top-down procedures. Broad and deep social change will most likely derive from a caring, cooperating and optimistic society, of which the government is a part. Each of us has the “responsibility to try and bring these changes about in our own lives and our immediate environments (...). What we do ourselves is absolutely central to bringing about substantive change.”⁴²⁸

It is a fact that the people worst threatened and affected by climate change are mostly excluded from the debate. For example the voices of indigenous and remote communities are seldom heard.⁴²⁹ This is tragic not only because they are left out, but also because their valuable perspectives, traditional knowledge and experience, especially in respect to most important parts of our natural environment like the Arctic or rainforests, are not taken into account.⁴³⁰ A bottom-up approach would include these unheard groups and make good use of their contributions. It is also contrasting militaristic systems which tend to be exclusive, patriarchal, secretive and even coercive.⁴³¹

A bottom-up vision of the world dramatically expands the range of players that can take up the challenges of climate change beyond governments or international organisations. Especially in this context where proactive steps are frequently impeded by controversy and blame-shifting, “there is something powerful about a framework that supports a diversity of actions and focuses on building momentum by saying “yes and” to initiatives rather than “yes but”.”⁴³²

⁴²⁸ Anderson, 2012. Further voices in support of a bottom-up approach in the climate debate for example: Bergman et al, 2010; Lutsey & Sperling, 2008, p.683; Esty, 2014, available at <http://www.nytimes.com/2014/09/22/opinion/bottom-up-climate-fix.html?ref=world> (consulted 22.05.2015); Leal-Arcas, Research Gate Website, available at http://www.researchgate.net/publication/228228180_Top-Down_Versus_Bottom-Up_Approaches_for_Climate_Change_Negotiations_An_Analysis (consulted 22.05.2015).

⁴²⁹ Transparency International Website, *Climate Change*, available at http://www.transparency.org/topic/detail/climate_change (consulted 28.05.2015).

⁴³⁰ Waters, 2014, pp.9-13.

⁴³¹ Branagan, 2005, p.2.

⁴³² Chambers, 2014, available at <http://blogs.bsg.ox.ac.uk/2014/03/25/7238/> (consulted 26.05.2015).

5.3.3 The Necessity for Civil Society Approaches

"We have modified our environment so radically, that now we have to modify ourselves to be able to live in it".⁴³³

- Norbert Wiener

In conclusion civic nonviolent resistance is ethically superior to violent conflict and generally much more effective, even though it does not enjoy the media support and glorification that militarism has. It creates space for dialogue and democratisation. Action should come from within the established political system where it makes sense as well as from the outside to be able to tackle the flaws inherent in the current system. Major military force is actually often not much employed for defence purposes and can even inflame terrorism when crossing borders. Therefore what we need is a significant downscaling of militarism with possible replacement by nonviolent means.

It is not sufficient to ask just for improvements and reforms; it is necessary to create an alternative to the aberration of militarism, because our dysfunctional system goes completely against the true spirit of humans and their rights, which is to solve our problems through dialogue, cooperation and nonviolence.⁴³⁴

But how can this be achieved? Comprehensive climate change policies and the efforts of the international community and individual states are vital for solving our environmental problems and challenge their complexity. There has to be cooperation on all levels to muster the strength necessary to overcome all the obstacles on the way to sustainability and a decent human life on Earth. But what will bring the most fruitful initiatives and dramatic changes are the bottom-up activities of far-sighted individuals and civil society movements.⁴³⁵

Right now it seems rather unlikely that the major military powers will downscale by themselves. This is where civil society comes in, with the seemingly utopian challenge of opposing MIMEC, integrating nonviolence and sustainability in states' policies as well as in the public's conscience.

⁴³³ Wiener, 1954, p.46.

⁴³⁴ Maguire (c), 2014, available at <http://www.ipsnews.net/2014/06/a-common-vision-the-abolition-of-militarism/> (consulted 30.05.2015).

⁴³⁵ Giddens, 2009, p.5; International Peace Bureau, 2002, p.14.

This is a systematic approach⁴³⁶ and a comprehensive task that includes many aspects of life, like education, culture, technology, infrastructure, law, agriculture, patterns of consumption, diets, philosophy and customs, reaching out for deep societal changes; a transformation of the everyday human behaviour including efficiency as well as sufficiency, inclusiveness and transparency, equality and solidarity, worldwide.⁴³⁷

Therefore, there is an urgent need for different narratives and paradigms that can be mobilised for the change of the current unsustainable system.⁴³⁸

Climate change is a syndrome of our society and it requires systematic social change to mitigate it.⁴³⁹ We need to address the current lack of democracy and stop the abuse of politics around climate change. We need space for expressing conflict, for nurturing critical debate and disagreement, remembering that healthy criticism is always advisable and useful, particularly when a topic is so far reaching and interrelated. Democratisation is and will be a key factor in challenging the problems connected to the big complexity of climate change.⁴⁴⁰

We need a political and economic transition based on stronger communities, a fair economy with more regulation.⁴⁴¹ We require commitments most politicians as representatives of their states, especially on the level of global governance, still seem to lack. Hence the urgent need for initiatives beyond one place and moment in time and the requirement for a mind change with the implementation of ensuing new models.⁴⁴²

Civil society and grassroots approaches are inherently diversified, interdisciplinary and generally have the advantage not to be interlocked with the current system, but have the ability to change it and work within different frameworks. Civil society approaches thrive in choice and freedom. We need social movements that are distinct from the system, because, taking a hegemony theoretical view, these movements are vital for the re-balancing of societal power.⁴⁴³ Addressing climate change through the persuasive rhetoric of a human rights

⁴³⁶ This systematic approach is also appropriate to tackle the so called 'rebound effect', which refers to rising consumption in the wake of efficiency savings.

⁴³⁷ Von Weizsäcker, 2010, pp.12-14.

⁴³⁸ Brand et al, 2009, p.59; Branagan, 2013, p.55.

⁴³⁹ Kromp-Kolp & Kromp, 2008, p.113.

⁴⁴⁰ Swyngedouw, 2010, pp. 228-229; Postiglione, 2010, p.538.

⁴⁴¹ Klein, 2015, p.66.

⁴⁴² Henning et al, 2009, p.7.

⁴⁴³ Kuppe, 2012, available at

https://www.academia.edu/1934438/Postpolitik_Ideologie_und_gesellschaftliche_Transformation_im_Kapitalismus (consulted 18.05.2015).

approach serves to raise awareness in and empower individuals and groups, “who should be perceived as active agents of change and not as passive victims.”⁴⁴⁴

5.3.4 The Importance of Staying Positive

As outlined above, cognitive pitfalls due to TASS have important implications for the methods of awareness-raising on climate change and gaining support for civil society movements. While being helpful for getting attention, working with fear and highlighting the threats and uncertainties of global warming will have an opposing effect rather than encourage a healthy debate. If there is no ‘positive flavour’, no invitation for finding constructive solutions attached to incitements, people have a tendency to give up their efforts. Also, there is a potential for negative stimulation to backfire, for instance by making people lose hope and consume more. Alarmist messages alone are thus not helpful for solutions and should be used with care.⁴⁴⁵

Consequently it appears to be impossible to successfully mobilise against climate change with a pessimistic perspective, like simply on the basis of banning certain behaviours.⁴⁴⁶ Because of Giddens’ Paradox an approach that is based mainly on deprivation is bound to fail. There has to be a positive model for a sustainable future that is connected with everyday life in the present. We absolutely need positive goals to aim for. There will be some aspects involved that sound utopian, but that is a characteristic of ideals to strive for. A certain amount of idealism is required. Widespread and deep lifestyle changes to lower emissions and protect the environment are difficult to achieve but can have enormous direct effects and economic implications. Energetic leadership from NGOs and citizens will be needed to pursue such goals with a development of new forms of mutual action and collaboration, making good use of the modern communication networks.⁴⁴⁷

The greatest menace for our freedoms being eroded by militarist elites “is a fearful, apathetic, civil community, refusing to take a stand for human rights and real democracy, and against violence and war.”⁴⁴⁸

Our world is governed with so much fear; there is so much pessimism and disempowerment that desperately need to be countered by positive concepts and methods.⁴⁴⁹ Here, everybody

⁴⁴⁴ Report of the Office of the United Nations High Commissioner for Human Rights, 2009, p.30.

⁴⁴⁵ Amelung & Funke, 2015, pp.533-595.

⁴⁴⁶ Giddens, 2009 ,p.71.

⁴⁴⁷ Ibid, p.11.

⁴⁴⁸ Maguire (a), 2014.

is addressed. We need to oppose the current environmental, social, political, economic (and other) crises with remedies of education, cultural and artistic awareness-raising, playful and humoristic approaches and, more than all, nonviolence. Consequently, I am giving preference to examples of civil society approaches that are proactive, inspiring, idealistic, inclusive and convey positive tidings.

5.3.5 The Power of Arts, Humour and Creativity

There is little analysis, even by academics, of the many aspects of artistic, creative and playful ways that form an integral part of nonviolent civil action today. Music, street theatre, dance, circus skills, poetry, banners, film-making, computer graphics, social media and many more art forms make messages appealing and spread them widely while they help building inclusive, cohesive mass movements and prevent violence. In fact, arts are an integral part of human culture and play a key role in developing the consciousness of individuals and the paradigms of societies.⁴⁵⁰

The arts embody a range of tactical and educative implications of nonviolence. An artistic culture of peaceful protest is memorable to participants as well as engaging to audiences and the media. A humorous or creative approach averts hostility and usually generates positive media attention in contrast to violent protests. With the vocabulary of art it is possible to transcend language barriers, reaching international audiences as well as different age groups and classes. Adding the ingredients of art and fun makes people want to join the action.

For the participants, humour is an important motivation tool that also dispels fear, tension and burnout in the face of civil disobedience for example.⁴⁵¹ Through artistic creativity the whole range of human expression can be utilised while serious criticism or civil disobedience can be balanced with positive elements.⁴⁵²

⁴⁴⁹ Branagan, 2013, p.xii.

⁴⁵⁰ Branagan, 2005, pp.1-2; Barnett, 2015, available at <https://www.transitionnetwork.org/blogs/rob-hopkins/2015-04/mandy-barnett-make-be-dance-pedal-shape-future> (consulted 02.07.2015).

⁴⁵¹ Popovic (Vimeo Video), 2013, available at <http://www.everydayrebellion.net/humor/> (consulted 03.07.2015).

⁴⁵² Branagan, 2005, pp.4-6.

Many of these features, which are essential to catch people's attention, are not available to governments, international organisations or businesses, whose professional conduct is generally detached from emotional life.⁴⁵³

It is difficult to measure the influence of arts, humour and creativity in building, maintaining and spreading a movement and even harder to calculate their effects on creating social change by influencing people's philosophies. Perhaps the most revealing sign of their power is the effort that goes into their censorship.⁴⁵⁴ The creativity of citizens and their willingness to bring about change "is one of the most underutilised resources we have today."⁴⁵⁵

Concluding this paper, I am featuring a few selected examples of alternative means of art, culture and humour that provide an insight on the creative possibilities for action available to civil society, giving the reader the opportunity to get an idea of their impacts.

5.3.5.1 *Selected Examples*

A vibrant example for a continuous grassroots movement with a model of inclusiveness that brings many people together in many regions throughout the world is the *Transition* movement. The Transition movement, often just called Transition, has many faces and one can find many different descriptions of what it is about. While deriving from the objective of building resilience in response to climate change, peak oil and economic instability, the Transition movement is basically a promoter for creative ideas and often involves artistic and enjoyable activities.⁴⁵⁶ A Transition initiative starts in a local community, often so called Transition-Towns, with the question: What can we do to make our community flourish and sustainable while increasing its energy and economic independence and reducing its GHG footprint. The core of the transition idea is self-organisation, or what one of the transition founders Rob Hopkins calls the "*The Power of Just Doing Stuff*". He argues that the solution for

⁴⁵³ Of course the arts have been exploited by governments, businesses and advertisers to influence emotions, opinions and consumerism, but often in populist, propagandistic ways. The same institutions often dismiss protectors' arguments as being 'emotional', not accepting that being emotional is not conflicting with having valid arguments. See: Branagan, 2005, p.3.

⁴⁵⁴ Ibid, p.8.

⁴⁵⁵ Joubert, 2012, available at <http://europeandcis.undp.org/blog/2012/06/15/tread-softly-ecovillages-for-sustainable-development/> (consulted 05.07.2015).

⁴⁵⁶ Hopkins, 2014, p. 72.

a healthy and sustainable future has the people at its heart that decide that change starts with them. Hopkins describes transition projects as pioneer plants that dig their way through the asphalt of the business-as-usual. They carry the seed of a new decentralised economy, in which wealth and chances are distributed more equally and that can respond more appropriately to challenges in being more resilient.⁴⁵⁷

One of Transition's key concepts is re-localisation as a response to issues of wasteful globalised capitalism. This concept can be expanded to reduce the massive scale of MIMEC, the influence of oil companies on energy policy and provides a nonviolent community-centred approach.⁴⁵⁸ Transition is already a global phenomenon and has achieved big celebrity both in numbers of people involved and its appearance in the popular press.⁴⁵⁹

The Yes Men are a group that uses humour, truth and artistic absurdity to bring public attention to the crimes of the biggest and most heinous corporations against people and the environment. They impersonated for example Exxon, Dow Chemical or the Bush Administration and agreed their way into the positions of spokespersons to smuggle out undercover stories or put moral pressure on their unwilling employers. Their stories focus on the mechanisms that keep unsustainable and destructive organisations in power and are both shocking and hilarious at the same time.⁴⁶⁰ Possibly the Yes Men's most noteworthy stunt involved the devastating chemical spill in Bhopal (India) with thousands of deaths and the apparent promise of Dow Chemical to conduct environmental remediation and a thorough clean-up of the spill. This hoax led to Dow being forced to admit that its real executives had no intention of cleaning up their mess, only after it lost 2 billion USD in market value in just 23 minutes after the broadcast.⁴⁶¹

The *Action Switchboard*, created by the Yes Men, and *Everyday Rebellion*, with the same-titled movie by the Riahi brothers, represent remarkably helpful internet platforms for nonviolent protesters. The Action Switchboard helps activists to find each other, develop direct action

⁴⁵⁷ Hopkins, 2014, p.171.

⁴⁵⁸ Krasnauskas, 2013, available at: <http://transitionvoice.com/2013/08/for-the-sake-of-the-climate-just-let-go/> (consulted 16.05.2015).

⁴⁵⁹ Hickma, 2009, available at <http://www.theguardian.com/environment/ethicallivingblog/2009/may/28/what-next-transition-towns> (consulted 03.07.2015).

⁴⁶⁰ The Yes Men Website, FAQ, available at <http://theyesmen.org/faq> (consulted 03.07.2015).

⁴⁶¹ Aronoff, 2015, available at <http://wagingnonviolence.org/2015/04/yes-men-action-switchboard-crowdfund/> (consulted 03.07.2015); The Yes Men Fix The World (Movie), Minute 44:45, 09.12.2010, available at <https://www.youtube.com/watch?v=OazUhOYm8rc> (consulted 03.07.2015).

ideas, and get the resources they need to pull them of.⁴⁶² Everyday Rebellion serves as a huge knowledge base for protest tips, methods and inspiration from nonviolent veterans all over the globe.⁴⁶³ Both platforms are fully inclusive, accepting creative and innovative contributions from everybody.

A playful and educational approach to the intricacy of our climate system as well as political issues is embodied in the boardgame *Ecopolicy*. In giving the players the chance to dive into the discipline of cybernetics and govern hypothetical states, the game creates awareness and understanding of complexity from an early age but is intended for students, managers, strategists and politicians alike. The players have to take into account important areas of the human environment, like politics, production, environmental pollution, renovation, education, population development and their cross-linkage because every decision in one of these areas has profound effects on the others. The goal is to stabilise the coexistence of people within the state and maximise the quality of life through navigating monetary investment, influence, ideas and laws. The concept of ecopolicy, in German Ökopoly, was already created in 1976 in the course of an UNESCO study by Professor Frederic Vester and further developed into several different board and computer games which have been used for educational purposes in several countries around the globe. It is available in English, German, Spanish and Chinese. Using the game, a competition in “cross-linked thinking” was established for schools mainly in Austria and Germany called “ecopolicyade” reaching more than 175.000 pupils between 2009 and 2012.⁴⁶⁴ This game represents an interactive tool for understanding the complex systems of human ecological, economic and social interaction and their effect on our climate system. It cannot be reiterated enough how important it is to educate the public on the interrelations of our environment, raise awareness of the effects of current human behaviour and provide tools for comprehending the complexity of the topic.

⁴⁶² Action Switchboard Website, available at <https://actionswitchboard.net/about-action-switchboard> (consulted 03.07.2015).

⁴⁶³ Everyday Rebellion Website, available at <http://www.everydayrebellion.net/> (consulted 03.07.2015).

⁴⁶⁴ Ecopolicyade Website, available at <http://www.ecopolicyade.info/at/> (consulted 03.07.2015).

6 Conclusion

Climate change, is not just a future threat, as so often proclaimed, but a current reality. It is already determining how, where and if we live. The IPCC is a major stakeholder in acknowledging climate science and proposing pathways for humanity's future. We need to be aware though that the Earth system is utterly complex and that our current knowledge of climate change is not written in stone or free from criticism. There are possible underestimated dangers and planetary boundaries that will potentially have far reaching and interrelated consequences for the Earth system. We are in fact in one big climate crisis of which climate change is only a part. However, stopping greenhouse gas emissions is arguably the most acute challenge since our current GHG trajectory is daunting and every day of business as usual leads us further down the crash course.

Probably the biggest contributor to GHG emissions and ecological degradation is militarism in the form of MIMEC. Militarism is a complex social phenomenon building on violence which is deeply rooted in our culture. Every day we are subjected to its glorification and propaganda, be it in the mass media, the entertainment sector, patriotic traditions, everyday language or hidden power structures. There are many popular misconceptions about militarism and violence, like it being inherent to human nature, necessary for states' protection or more effective than nonviolent means. In fact there is ample proof that militarism and violence themselves are among the causes for war, terrorism and even climate change.

Virtually all aspects of military activity defile our natural environment in some way. Regardless of whether it is during war or peacetime, the world's armed forces consume enormous amounts of fossil fuels, produce immense quantities of toxic waste and have exceedingly high demands for all kinds of resources to support their systems and infrastructures. According to the treadmill of destruction theory geopolitical competition drives highly militarised industrial states of the global North to arms races and warfare for securing resources in the global South. The consumption of the same carbon intensive fuels that are fought over to secure more of these fuels establishes a self-perpetuating cycle of destruction.

This trend is amplified by the perception of climate change nowadays as the major future security threat, thereby constituting a main driver of the world's rising militarisation. We are witnessing a clear imbalance: global military spending is at an unprecedented high since the

Second World War while pledges for funding climate mitigation and adaption initiatives look petty in comparison. Furthermore, the world's militaries are largely exempted from emission measurement and reductions as well as any other environmental restrictions or transparency standards in national and international law.

The responsible actor for these dire circumstances can be seen in MIMEC with its vested interests in the continuation of militarism, warfare, capitalism, big oil and predatory industries as well as enormous but largely hidden power structures within governments and the international community. The US Department of Defense and NATO are playing a big part in MIMEC, make their allies complicit in their destructive behaviour and deserve particular attention.

Unfortunately the severe impacts of militarism on climate change are hugely neglected, if not wilfully ignored, by all stakeholders in the climate debate, with the exception of a few commendable actors in civil society. No matter which way we look at it: militarism is a main cause and consequence of climate change and has to stop.

Potentially all human rights are affected by climate change even though many people are not aware of this so called 'silent crisis'. In fact the impacts of climate change are not silent at all comprising poverty, food shortages, water stress, increased incidence of infectious diseases loss of inhabitable terrain, high levels of toxic ground-level ozone as well horrific numbers of deaths and vast economic damage. The reason why these horrors are too rarely attributed to climate change lies in inadequate perception and lack of sustainable education. While climate impacts are encompassing the whole planet and every single human being is affected by climate change in one way or another, the risks are unevenly distributed and incomparably larger for particularly vulnerable groups. These are essentially the poor, refugees, women and youth which are of course not clearly separable but often merged. It is clear that the poorest nations, particularly in the global South, are suffering the most from the burdens of the climate crisis but are responsible only for a tiny fraction of global ecological damage. Therefore it is the prime obligation of industrial countries to mitigate the detrimental consequences of their past behaviour and the responsibility of people in the developed world to cut their 'luxury emissions'.

The human right to the environment is not yet legally binding or directly enforceable and will need further measures to become truly utile. However, there have been minor

accomplishments in case law while a human rights approach is empowering civil society in the climate debate. A truly enforceable human right to a safe, healthy and sustainable environment would pose a significant advantage for human rights and environmental advocates and support a concerted approach.

There are several actors for human rights advocacy in relation to climate change, namely the international community, states, businesses and civil society, and it will take collective efforts from all these actors to curb climate change. Yet, there have been significant differences in their performance so far. Climate change can be regarded as a syndrome of our current (post-) politics which have not been able to effectively govern climate change policies, our current legal systems which do not adequately protect our natural environment, and the global economy which has hugely contributed to the climate crisis without sufficient regulation on production and consumption. Moreover, these three stakeholders are closely connected to MIMEC which keeps them from straying too far from their capitalistic, neoliberal and populist course.

To change our current system into a sustainable one it is necessary that the general public is on board. Unfortunately there are serious obstacles for public awareness posed by certain cognitive pitfalls and Giddens' paradox that hinder rational decisions about future risks and cooperation between people and generations. To make things worse, we are suffering from a drastic lack of sustainable education which is the major remedy to overcome these cognitive pitfalls while our current education serves the consumerist machine.

All stakeholders have to act together on all levels to muster the strength necessary to overcome militarism and climate change, but civil society is likely to come up with the most powerful initiatives.

To provide a remedy for failing politics, law and economics I am proposing a civil society approach comprising certain supportive characteristics. Nonviolence represents the core of this approach as an alternative to militarism and violence and as a means consistent with the end. Contrary to popular misconceptions about nonviolent resistance, it is proven to be much more effective than violent resistance, has much bigger chances of democratic outcomes, avoids gruesome side effects of violent struggle and is ethically superior. Even though rather unfamiliar to many, there is a wide range of possibilities and methods of nonviolent action (see Appendix 2). Another important characteristic is an inclusive bottom-up approach enabling

individuals to act in a community and have multiplied impacts as opposed to militaristic systems that are exclusive, patriarchal, secretive and coercive. It is also necessary to give the most vulnerable groups who are generally excluded from the debate a voice and make good use of their often invaluable contributions. To overcome cognitive pitfalls, inspire the public to make a difference and bring about system change a positive model is needed that is connected with everyday life in the present. It is immensely important to stay positive, even in the face of seemingly insurmountable obstacles, because the greatest menace for our freedoms being eroded by militarist elites is a fearful, indifferent community, refusing to fight for human rights and democracy and against violence and war. Essential tools for staying positive are the arts, humour and creativity with their manifold ways, methods and expressions as can be seen in the selected examples of the Transition movement, the Yes Men, the Action Switchboard and Everyday Rebellion or the game Ecopolity.

The climate crisis has reached a point where all present and future life on Earth is threatened. We cannot continue to ignore the possibly largest polluter on the planet any more, fight wars over access to fossil fuels and continue to feed the treadmill of destruction. We have to stop the vicious circle of militarism, climate change and erosion of human rights and we need to change ourselves to keep our climate from changing (too much).

- Epilogue -

We have come to the end of this thesis, but it is actually a start: I hope I was able to interest the reader for the issues presented in this paper that are vital for our life and to motivate her or him for action. We cannot wait for the change that is needed to bring about a decent human life for everybody on the planet, to come to us. We ourselves have to be the change.

Stopping militarism and climate change would not be the first time that humans averted a global environmental catastrophe through combined efforts. Take the depletion of the ozone layer for example: If there had not been an enormous civil society uproar and the adoption of the Montreal Protocol banning CFCs, who knows if we could still go out on a sunny day without being seriously burned by UVA rays because of a vanishing ozone layer.

Although the challenge of climate change is greater, due to the massive influence of MIMEC and other circumstances like many discussed in this paper, it is not insurmountable. There is another future waiting for us, if we find the right path, where not only serious impacts of climate change have been held at bay but also where militarism and fossil fuels have lost its power over world politics.

Many movements have already achieved much and have shown that it is possible to make a difference, to establish peace without violence, to take things in our own hands instead of waiting for others to act and lead our present society, as well as future generations, into a sustainable form of life and equality. The generations before us missed their chance for incremental change and the window of opportunity to act on climate change is rapidly closing. Now it is time for radical change.

Revolutions are usually thought to be impossible until they actually occur. Afterwards they are often said to have been inevitable or as Nelson Mandela said: It always seems impossible until it's done.

Nobody can do everything, but everybody can do something.

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7.1 List of Acronyms

COP	Conference of the Parties
CRC	Convention on the Rights of the Child
DoD	Department of Defense (USA)
ECHR	European Convention on Human Rights
ECtHR	European Court of Human Rights
EEA	European Environmental Agency
ENMOD	Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques
GATT	General Agreement on Tariffs and Trade
GHG	Greenhouse Gas
GWP	Global Warming Potential
HRC	Human Rights Co
ICESCR	International Covenant on Economic, Social and Cultural Rights
IMF	International Monetary Fund
IPCC	Intergovernmental Panel on Climate Change
LCEI	PricewaterhouseCooper's Low Carbon Economy Index
MIMEC	Military-Industrial-Media and Entertainment Complex
MNCs	Multinational Corporations
NATO	North Atlantic Treaty Organization
OSCE	Organization for Security and Co-operation in Europe
SDSN	Sustainable Development Solutions Network
TASS	The Autonomous Set of Systems
UDHR	Universal Declaration of Human Rights
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNGA	United Nations General Assembly
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations International Children's Emergency Fund
USD	US Dollar
WHRD	Women Human Rights Defenders
WMO	World Meteorological Organization

7.2 APPENDIX 1

Email consultations

Email from the Vice-President of the European Parliament Ulrike Lunacek (ulrike.lunacek@gruene.at), 11.05.2015:

Sehr geehrter Herr Polsterer,

danke für Ihre Anfrage zu Militarismus und Klimaschutz. Natürlich haben Kriege und Klimawandel einen Zusammenhang, das ist offensichtlich. Insofern haben Sie ein interessantes Thema gewählt. Auf der Agenda zur Klimakonferenz wird dieser spezielle Zusammenhang allerdings nicht thematisiert.

(...)

Ich wünsche Ihnen viel Erfolg bei Ihrer Arbeit

und verbleibe mit freundlichen Grüßen

Ulrike Lunacek

Ulrike Lunacek, MEP

Vize-Präsidentin des Europäischen Parlaments

Die Grünen/EFA, Österreich

Vorsitzende der LGBT Intergroup des EP

Delegationsleiterin der Grünen Österreich

Europäisches Parlament, ASP 05F358

Rue Wiertz 60, B-1047 Bruxelles

Email from the UNFCCC Observer Organizations Liaison Officer Megumi Endo (cool@unfccc.int), 15.06.2015:

< No clearance for quoting >

General content: The topic of militarism does not appear in the negotiating text and is not specifically targeted at all.

Megumi Endo

Observer Organizations Liaison Officer

Platz der Vereinten Nationen 1, 53113 Bonn

7.3 APPENDIX 2

198 Methods of Nonviolent Action.

"Practitioners of nonviolent struggle have an entire arsenal of "nonviolent weapons" at their disposal. Listed below are 198 of them, classified into three broad categories: nonviolent protest and persuasion, noncooperation (social, economic, and political), and nonviolent intervention. A description and historical examples of each can be found in volume two of *The Politics of Nonviolent Action* by Gene Sharp."

The Methods of Nonviolent Protest and Persuasion

Formal Statements

1. Public Speeches
2. Letters of opposition or support
3. Declarations by organizations and institutions
4. Signed public statements
5. Declarations of indictment and intention
6. Group or mass petitions

Communications with a Wider Audience

7. Slogans, caricatures, and symbols
8. Banners, posters, and displayed communications
9. Leaflets, pamphlets, and books
10. Newspapers and journals
11. Records, radio, and television
12. Skywriting and earthwriting

Group Representations

13. Deputations
14. Mock awards
15. Group lobbying
16. Picketing
17. Mock elections

Symbolic Public Acts

18. Displays of flags and symbolic colors
19. Wearing of symbols
20. Prayer and worship
21. Delivering symbolic objects
22. Protest disrobing
23. Destruction of own property
24. Symbolic lights
25. Displays of portraits
26. Paint as protest
27. New signs and names
28. Symbolic sounds
29. Symbolic reclamations
30. Rude gestures

Pressures on Individuals

31. "Haunting" officials
32. Taunting officials
33. Fraternization
34. Vigils

Drama and Music

35. Humorous skits and pranks
36. Performances of plays and music
37. Singing

Processions

38. Marches
39. Parades
40. Religious processions
41. Pilgrimages
42. Motorcades

Honoring the Dead

43. Political mourning
44. Mock funerals
45. Demonstrative funerals
46. Homage at burial places

Public Assemblies

47. Assemblies of protest or support
48. Protest meetings
49. Camouflaged meetings of protest
50. Teach-ins

Withdrawal and Renunciation

51. Walk-outs
52. Silence
53. Renouncing honors
54. Turning one's back

The Methods of Social Noncooperation

Ostracism of Persons

55. Social boycott
56. Selective social boycott
57. Lysistratic nonaction
58. Excommunication
59. Interdict

Noncooperation with Social Events, Customs, and Institutions

60. Suspension of social and sports activities
61. Boycott of social affairs
62. Student strike
63. Social disobedience
64. Withdrawal from social institutions

Withdrawal from the Social System

65. Stay-at-home
 66. Total personal noncooperation
 67. "Flight" of workers
 68. Sanctuary
 69. Collective disappearance
 70. Protest emigration (hijrat)
- ##### The Methods of Economic Noncooperation: Economic Boycotts

Actions by Consumers

71. Consumers' boycott
72. Nonconsumption of boycotted goods
73. Policy of austerity
74. Rent withholding
75. Refusal to rent
76. National consumers' boycott
77. International consumers' boycott

Action by Workers and Producers

78. Workmen's boycott
79. Producers' boycott

Action by Middlemen

80. Suppliers' and handlers' boycott

Action by Owners and Management

81. Traders' boycott
82. Refusal to let or sell property
83. Lockout
84. Refusal of industrial assistance
85. Merchants' "general strike"

Action by Holders of Financial Resources

86. Withdrawal of bank deposits
87. Refusal to pay fees, dues, and assessments
88. Refusal to pay debts or interest
89. Severance of funds and credit
90. Revenue refusal
91. Refusal of a government's money

Action by Governments

92. Domestic embargo

93. Blacklisting of traders
 94. International sellers' embargo
 95. International buyers' embargo
 96. International trade embargo
 The Methods of Economic
 Noncooperation: The Strike

Symbolic Strikes
 97. Protest strike
 98. Quickie walkout (lightning strike)

Agricultural Strikes
 99. Peasant strike
 100. Farm Workers' strike

Strikes by Special Groups
 101. Refusal of impressed labor
 102. Prisoners' strike
 103. Craft strike
 104. Professional strike

Ordinary Industrial Strikes
 105. Establishment strike
 106. Industry strike
 107. Sympathetic strike

Restricted Strikes
 108. Detailed strike
 109. Bumper strike
 110. Slowdown strike
 111. Working-to-rule strike
 112. Reporting "sick" (sick-in)
 113. Strike by resignation
 114. Limited strike
 115. Selective strike

Multi-Industry Strikes
 116. Generalized strike
 117. General strike

Combination of Strikes and Economic
 Closures
 118. Hartal
 119. Economic shutdown
 The Methods of Political
 Noncooperation

Rejection of Authority
 120. Withholding or withdrawal of
 allegiance
 121. Refusal of public support
 122. Literature and speeches advocating
 resistance

Citizens' Noncooperation with
 Government
 123. Boycott of legislative bodies
 124. Boycott of elections
 125. Boycott of government
 employment and positions
 126. Boycott of government
 departments, agencies, and other
 bodies
 127. Withdrawal from government
 educational institutions

128. Boycott of government-supported
 organizations
 129. Refusal of assistance to
 enforcement agents
 130. Removal of own signs and
 placemarks
 131. Refusal to accept appointed
 officials
 132. Refusal to dissolve existing
 institutions

Citizens' Alternatives to Obedience
 133. Reluctant and slow compliance
 134. Nonobedience in absence of direct
 supervision
 135. Popular nonobedience
 136. Disguised disobedience
 137. Refusal of an assemblage or
 meeting to disperse
 138. Sitdown
 139. Noncooperation with conscription
 and deportation
 140. Hiding, escape, and false identities
 141. Civil disobedience of "illegitimate"
 laws

Action by Government Personnel
 142. Selective refusal of assistance by
 government aides
 143. Blocking of lines of command and
 information
 144. Stalling and obstruction
 145. General administrative
 noncooperation
 146. Judicial noncooperation
 147. Deliberate inefficiency and
 selective noncooperation by
 enforcement agents
 148. Mutiny

Domestic Governmental Action
 149. Quasi-legal evasions and delays
 150. Noncooperation by constituent
 governmental units

International Governmental Action
 151. Changes in diplomatic and other
 representations
 152. Delay and cancellation of
 diplomatic events
 153. Withholding of diplomatic
 recognition
 154. Severance of diplomatic relations
 155. Withdrawal from international
 organizations
 156. Refusal of membership in
 international bodies
 157. Expulsion from international
 organizations
 The Methods of Nonviolent
 Intervention

Psychological Intervention
 158. Self-exposure to the elements

159. The fast
 a) Fast of moral pressure
 b) Hunger strike
 c) Satyagrahic fast
 160. Reverse trial
 161. Nonviolent harassment
 162. Sit-in
 163. Stand-in
 164. Ride-in
 165. Wade-in

Physical Intervention
 166. Mill-in
 167. Pray-in
 168. Nonviolent raids
 169. Nonviolent air raids
 170. Nonviolent invasion
 171. Nonviolent interjection
 172. Nonviolent obstruction
 173. Nonviolent occupation

Social Intervention
 174. Establishing new social patterns
 175. Overloading of facilities
 176. Stall-in
 177. Speak-in
 178. Guerrilla theater
 179. Alternative social institutions
 180. Alternative communication system

Economic Intervention
 181. Reverse strike
 182. Stay-in strike
 183. Nonviolent land seizure
 184. Defiance of blockades
 185. Politically motivated counterfeiting
 186. Preclusive purchasing
 187. Seizure of assets
 188. Dumping
 189. Selective patronage
 190. Alternative markets
 191. Alternative transportation systems
 192. Alternative economic institutions

Political Intervention
 193. Overloading of administrative
 systems
 194. Disclosing identities of secret
 agents
 195. Seeking imprisonment
 196. Civil disobedience of "neutral"
 laws
 197. Work-on without collaboration
 198. Dual sovereignty and parallel
 government

Source: Sharp, Gene, *The Politics of
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2015

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<https://doi.org/20.500.11825/325>

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