

- It is now more dangerous to be a woman than a soldier in modern conflict.

Patrick Cammaert, former commander of the UN peace mission in Eastern Congo [1]

We strongly believe in progress. But modernization also has negative consequences. Looking at armed violence as it occurs since the onset of the 20th century, we find terrible destruction. This destruction - made possible by recent technological progress - suggests a deteriorating rather than progressive human society. In the First and Second World War respectively 25 and 50 million people were killed. Persecutions by Stalin killed at least another 30 million. The death counts of Mao Zedong's persecutions may run to 45 million. In the 18th and 19th centuries – the ages of Enlightenment and scientific progress – no one could have imagined these high death tolls.

Until recently, genocide was defined as the extermination of a group of people by killing its members, particularly men. Today's genocide encompasses the mass raping of women and girls to entirely disrupt their society. The consequences for the victims and survivors are indescribably traumatic. The charges of the International Criminal Court against the government of Sudan and the reports on Eastern Congo in 2006 until now contain shocking data on atrocities that are difficult to comprehend [2]. To call this beastly is an understatement, as most animals would not inflict this en masse upon the members of their own species.

This hideous violence is not limited to 'underdeveloped' nations. Not only did the large persecutions of the 20th century take place in Europe and Russia, Europeans also grossly mistreated non-Western peoples during the colonial period. In 1993 – 1995, at the closure of a century of technological progress, systematic mass murder occurred in Bosnia, Europe. After capturing the enclaves of Srebrenica and Zepa 7798 men and boys were murdered in cold blood [3]. In the 90's approximately 250,000 people were killed in the former Yugoslavia. During those years another 3 million died in the African Great Lakes area due to violence.

Whoever thought mass-executions were history after the end of the Second World War is mistaken. One has to be quite an optimist to expect the 21st century to be any less bloody.

The International Criminal Court has prosecuted these atrocities since it came into force in 2002. Although a great number of states signed its statute, in practice a lot of these states are not willing to comply. A number of important states have not signed the statute. In 2009 president al-Bashir of Sudan, charged with crimes against humanity, was provided protection by the Arab League and the African Union. Governments claim they want to prosecute these atrocities, but at the same time refuse to arrest and extradite the suspects to the Court. Thus, we should not cherish false hopes. Heads of states will only give each other away when it is in their interest. This is mainly dominated by domestic short term interests.

Political violence consists not only of war among states and civil war within states, armed rebellions against governments, and terrorism, but also a government's violent oppression of its own citizens. This type of violent oppression is often aimed to displace, marginalize or eradicate political opponents or groups distinguished by ethnic, religious or other characteristics. There are also gangs that are quick to abuse political violence by exploiting the absence of the rule of law to loot and will other people, steal energy and minerals, or indulge in criminal sexual drives [4].

In traditional wars male soldiers fight their opponents. Both sides to the battle are recognizable, often in uniform and under the authority of the government, tribal or other leaders, sometimes with religious authority. The victims are mostly young men who fall in battle. But in modern political violence many more civilians die than soldiers. Members of the military and semi-militaries such as militias, groups of ethnic combatants supported by police and government or revolutionary guards, fire at civilian targets, expel populations and commit genocide or politicide (the killing of political opponents).

In the last 100 years the biggest threat to people hasn't been war among states, but violence committed against people within states. Rummel, who researched the topic, has named this 'democide' (mass murder, genocide and politicide committed by governments). As becomes apparent from Rummel's death counts of violent ideologies such as Stalinism, Nazism and Maoism, democide is the greatest threat. Rummel published some staggering facts: between 1900 and 1999 about 262 million people were killed by their own governments. [5]

Besides democide within states by established regimes, civil war has become an increasing threat. Between 1900 and 1945 14 million people were killed in civil wars [6]. Between 1945 and 2000 this number more than doubled to 31.4 million. The latter number consists of the death counts of wars between nations, fights in the name of autonomy, separatism and independence (24.4 million killed), revolutions, coups d'état and politicide (3.9 million killed), wars for colonial independence (1.9 million killed), and ethnic cleansing outside of war (410,000) [7].

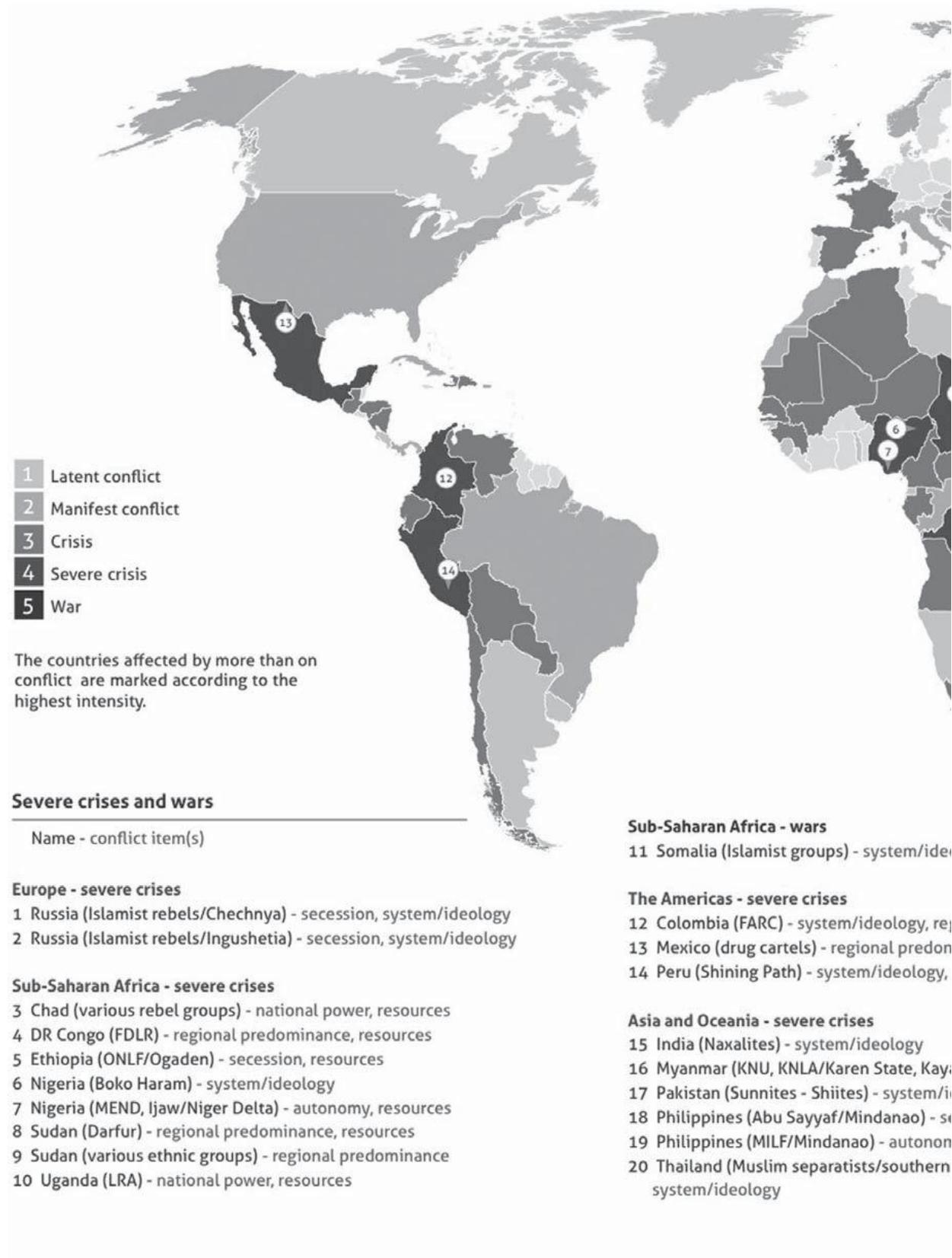
The total amount of people killed in wars and armed conflicts in the 20th century because of political decisions is approximately 231 million [8]. Add this to the democide deaths of 262 million.

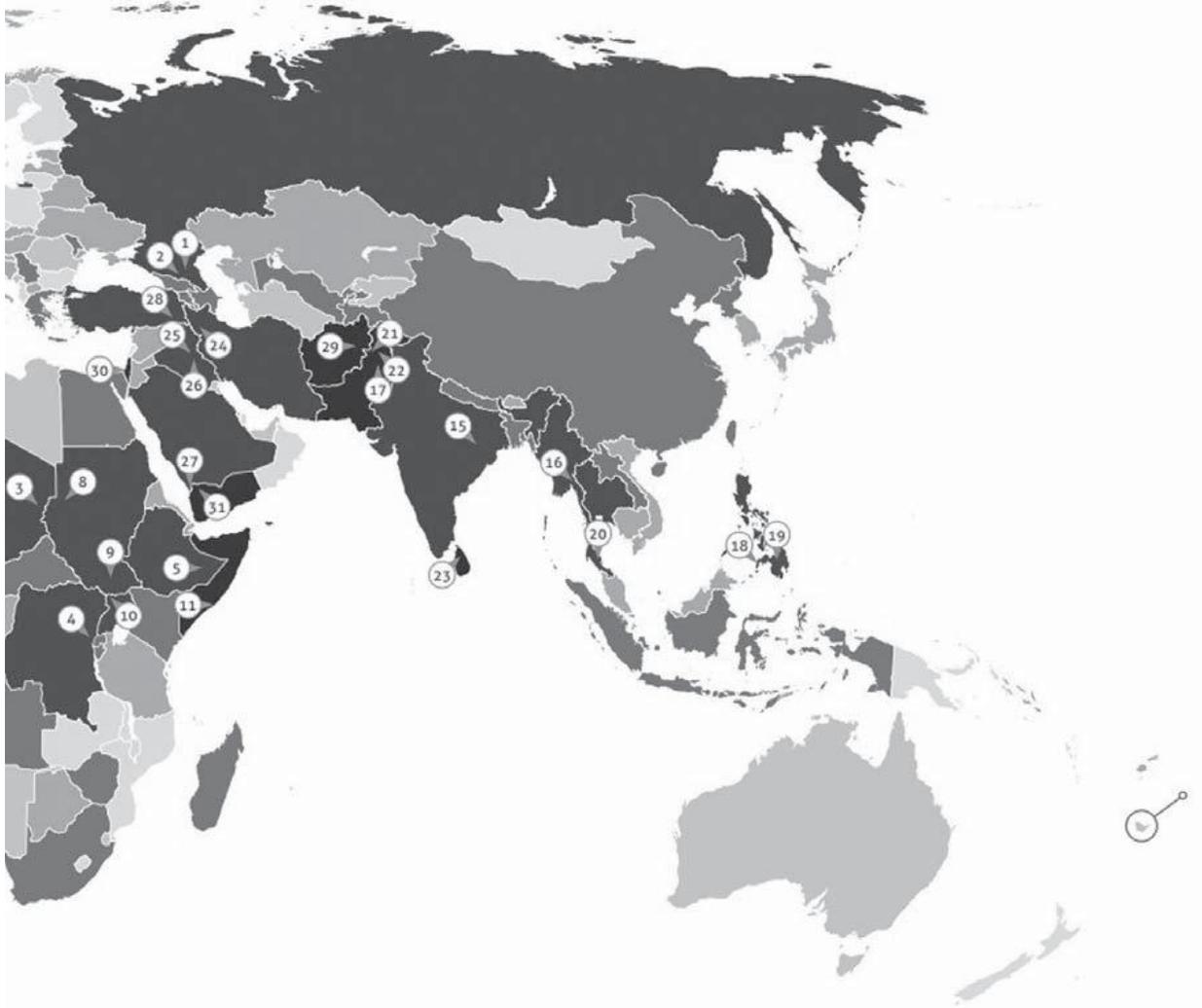
If this amount increases equally with the size of world population, we should expect more than 100 million people to be killed in wars and armed conflicts between 2010 and 2050. It seems unimaginable, but it might not be such an unrealistic estimation. What is more, it could be an underestimation when we take into account the greater destructive power of weapons, the increasing population density and disruption as a consequence of climate change. The latter may initiate large groups of refugees to seek a better future elsewhere [9].

By far the greatest number of people is killed by so-called small arms: small firearms, small anti-personnel mines, anti-tank weapons, mines and the like. Approximately 500,000 are killed by small arms each year [10]. The widespread proliferation of small arms throughout the world by trade and the black market has caused that small arms have the force of a weapon of mass destruction. They are cheap, sold by many countries, are freely available in many states and are a source of revenue for governments, manufacturers and traders. The victims do not fall within their sight. That is not what they are worried

about. The well-known argument goes that if they would not sell their wares, their customer would get them from somewhere else. This is simply business.

Figure 6.1: Conflicts in the world (2009) [11]





ology, national power

regional predominance, resources
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 regional predominance, resources

ah State) - secession
 ideology, regional predominance
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 ny, system/ideology, resources
 i border provinces) - secession,

Asia and Oceania - wars

- 21 Pakistan (Taliban - various tribes) - system/ideology, regional predominance
- 22 Pakistan (various Islamist militants) - system/ideology, national power
- 23 Sri Lanka (LTTE/northern and eastern Sri Lanka) - secession

The Middle East and Maghreb - severe crises

- 24 Iran (PJAK/Kurdish areas) - autonomy
- 25 Iraq (AQI) - system/ideology, national power
- 26 Iraq (insurgents) - system/ideology, national power
- 27 Saudi Arabia (al-Houthi rebels) - system/ideology, regional predominance
- 28 Turkey (PKK/KONGRA-GEL/Kurdish areas) - autonomy

The Middle East and Maghreb - wars

- 29 Afghanistan (Taliban) - system/ideology, national power
- 30 Israel (Hamas/Palestine) - secession, system/ideology
- 31 Yemen (al-Houthi rebels) - system/ideology, regional predominance

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Figure 6.2: Democides in the 20th century

Country	Form of government committing democide	Time period	Number killed
China	Chinese People's Republic/Communism	1949 – 1987	76,702,000*
Soviet Union	Communism	1917 – 1987	61,911,000
Various countries	Colonialism [12]	1900 – independence	50,816,000
Germany	National Socialism	1933 – 1945	20,946,000
China	Chinese People's Republic/Communism	1928 – 1949	10,075,000
Japan	Imperialism	1936 – 1945	5,964,000
China	Civil war/Communism	1923 – 1948	3,468,000
Cambodia	Khmer Rouge/Communism	1975 – 1979	2,035,000
Turkey	Various Turkish regimes/Nationalism	1909 – 1918	1,883,000
Vietnam	Communism	1945 – 1987	1,670,000
Poland	Communism	1945 – 1948	1,585,000
Pakistan	Autocracy	1958 – 1987	1,503,000
Yugoslavia	Tito/Communism	1944 – 1987	1,072,000
North Korea	Communism	1948 – 1987	1,663,000[13]
Mexico	Autocracy	1900 – 1920	1,417,000
Russia	Nationalism	1900 – 1917	1,065,000
China	Traditional warlords/feudalism [14]	1917 – 1949	910,000
Turkey	Atatürk/Nationalism	1919 – 1923	878,000
Portugal	Dictatorship (Fascism)	1926 – 1982	741,000
Indonesia	Suharto-regime/autocracy [15]	1965 – 1987	729,000
Other democides	Various	1900 – 2000	10,844,000
Total small scale democides	Various	1900 – 1987	2,792,000
Total recent democides	Various	1987 – 1999	1,331,000
Total democides in the 20 th century	Various	1900 – 1999	262,000,000

Source: Rummel, see endnotes.

* A recent estimate of 2011 is 45 million. Source: to be completed.

Currently governments spend a total of 1100 billion per year on their own armament [16]. In comparison, approximately 120 billion dollar a year is spent on international development [17], only a fraction of the previous amount. We could also compare it with other government expenditure like education, healthcare or holidays to name but a few. The point here is that in some rich and poor countries military expenditure per capita amounts to a large part of the domestic income per capita.

These amounts are not only explained by differences in threats to national security, but also by the cost for governments to protect their regime against their own population, as well as money spent on prestigious military projects. Military spending is also related to economic and technological considerations (employment, innovation) and the desire to shore up in the defense industry or defense related research.

The next table shows the defense related expenditures per country. These numbers, then, also include costs other than those made for weapons, such as defense related infrastructure, transportation, communication, personnel costs, training and research. Worldwide the defense expenditure amounts to approximately 2.6 percent of the world total income. This estimate is calculated by dividing the worldwide total defense expenditure (approximately 1100 billion euros) [18] by the world's gross income (approximately 42.2 billion euros) [19].

Figure 6.3: Top 15 countries with the highest military expenditures (2009) [20]

Ranking countries	Expenditure in billions of US dollars	Worldwide share (percentage)
1. United States	661	43
2. China	[100]	[6.6]
3. France	63.9	4.2
4. United Kingdom	58.3	3.8
5. Russia	[53.3]	[3.5]
Subtotal top 5 countries	937	
6. Japan	51	3.3
7. Germany	45.6	3
8. Saudi-Arabia	41.3	2.7
9. India	36.3	2.4
10. Italy	35.8	2.3
Subtotal top 10 countries	1147	
11. Brazil	26.1	1.7
12. South Korea	24.1	1.6
13. Canada	19.2	1.3
14. Australia	19	1.2
15. Spain	18.3	1.2
Subtotal top 15 countries	1254	
World total	1531	100

[]= estimation of the Stockholm International Peace Research Institute

The number of directly deployable forces is over 20 million soldiers. The most militarized state is North Korea, with over a million forces, about 50 soldiers per 100 inhabitants [21]. However, there are also about 20 states that do not own any armed forces, except for police [22]. An example is Costa Rica.

Recent research on human security finds a trend towards fewer conflicts and a lower number of victims [23]. But this seems optimistic. It may be based on too short a time span. Yearly fluctuations are poor measurements for predicting long term developments. Structural, permanent factors justify different expectations. There is no objective reason to expect the number of victims of political violence to drop

within the next few years. Structural long term factors indicate an increase in violence. Explosive population growth, especially in poorly developed and poorly governed states, will lead to larger numbers of victims. Lab experiments with animals have shown that aggression increases as numbers within a space increase. The human race appears to be no positive exception to this bio-psychological phenomenon. The increasing burden on nature and the environment, desertification, floods and deforestation may exacerbate the battle for existence, especially in combination with modern weapons. Competition for minerals and energy feeds violence in this world.

Opposed to these factors of violence are still relatively weak forces that can only slightly mute this violence. Ethics, law, governance and social science generally only have a limited peace making influence on large populations and their political leaders. Democracy and the rule of law, which should limit and ultimately end violence, do not spread easily: Instead, democracy seems to be in retreat in the last five years, as we will see in chapter 10.

Weapons of mass destruction

A lot of attention is drawn to weapons of mass destruction (nuclear, biological, chemical and radiological). It is expected that the threat coming from these weapons will increase in the next few decades [24]. The risk consists of more states successfully developing nuclear weapons and of terrorist organizations and criminal networks obtaining nuclear, biological or chemical weapons. The more states and organizations obtain these weapons, the higher the risk that large numbers of people are killed. Weapons of mass destruction may also serve terrorist organizations and criminals, as means for political and economic blackmail.

Nuclear weapons

The first nuclear weapons were developed in the 40s of the 20th century by the United States, the United Kingdom, Russia, France and China. During the Second World War the United States deployed nuclear weapons twice by dropping them on the Japanese cities of Hiroshima and Nagasaki to end the Second World War in the Pacific. This killed approximately 210,000 in 1945 [25].

In the Cold War East and West owned about 50,000 nuclear weapons, with the force to kill hundreds of millions. After a nuclear war, our world could have changed into a centuries-long Ice Age. Humanity has escaped this destruction. It is a miracle of rational decision making and luck that a nuclear war could be avoided. This has mainly been the result of 'mutual deterrence'. Today tens of thousands of these weapons have been dismantled or put off as outdated. But many thousands remain in storage.

Meanwhile, Pakistan and India have obtained nuclear weapons as well. Israel keeps silent at the subject, but is thought to have nuclear weapons. North Korea is developing nuclear weapons and openly conducts tests with these. There are indications that Iran might want to develop nuclear weapons, but Teheran denies this. In the next few decades more states may try to obtain nuclear weapons as well.

States will want them for their political power, technological prestige and security. Monitoring the export of goods required to manufacture nuclear weapons is becoming increasingly difficult. Some of these goods have dual use, meaning they might also be used for legal purposes, like nuclear energy or medical treatment.

If Iran obtains nuclear weapons it may exacerbate the arms race in the Middle East. States like Saudi Arabia or Egypt might want to follow. A similar situation exists for North Korea: an arms race in North Eastern Asia is not unlikely, should this country manage to successfully produce nuclear weapons. It could also cause a race in anti-missile defense.

Patricia Guerrero (Colombia)

Patricia Guerrero began her fight for women's rights in the 90's. Back then she was working with women in floriculture and prisons. She was the first female attorney to speak against rape in marriage and to try and legalize abortion, especially after sexual abuse.

In 1998 Patricia moved to Cartagena, a known tourist destination at the Colombian coast. There she saw thousands of refugees, mainly women and children. These arrived daily from the many areas in Colombia in which armed groups fought each other. They had fled without taking any personal belongings and couldn't go anywhere. The government claimed it did not have a responsibility to take care of these people.

Patricia decided to help the refugees regain their rights and dignity. Together with some other women she created the Liga De Mujeres Des Plazadas (Union of Displaced women). Its goal was to convince government of its responsibility to help the displaced. The Union supported women in finding decent and safe accommodation. The conditions in which the refugees in Cartagena lived were horrendous. There was no water or sanitation. Patricia and her friends started building a city for these people. It took them 5 years to gain the necessary funding and 1.5 years of negotiating with the owner of the land. They received support from a range of sources amongst which governments, the United Nations and private foundations. It wasn't easy: at one point, Patricia Guerrero was even accused of collecting the money for herself and critics claimed the project was doomed to fail.

The construction started in 2003 in Turbaco, 11 kilometers south of Cartagena. Because the funding wasn't sufficient for the construction of the city the women started their own construction company. They learned many building skills, such as roofing and plumbing. This also taught knowledge and experience they could use in a new career. Those who were unable to help build the city assisted by cooking and taking care of the children. Today 500 people are benefiting from 97 houses and a community center.

When the women arrived in Turbaco they had lost everything, including their pride and dignity. They had seen family members being murdered, tortured or captured. Many of the women were raped. The construction of a new city, stone by stone, served as a sort of therapy to regain hope and self-worth. Victims grew to be leaders and catalysts. They provide an example for other conflict areas, and started self-help projects in neighboring villages.

But soon even the new city would fall victim to violence. Women and men disappeared, or their bodies were found in nearby areas. After the gruesome murder of the husband of one of the women, who guarded the construction material, many women wanted to quit the project. Not long after, their community building, daycare center, kitchen and financial organization were burned to the ground. But they did not quit.

Members of the organization as well as their families were killed or threatened in Turbaco and Cartagena. Offices were plundered. According to Patricia there were multiple causes for this violence. These societies were seen as potential threats to the corrupt politicians and some of the refugees had been witness to crimes by paramilitaries who risked prosecution.

The government of Colombia wanted to send the military to protect the women's city, but the women declined. According to Patricia the security of women is not about having a policeman or soldier next to her, rather it is concerned with human rights, investigation of crimes, better policy for women, education for children, healthcare and the opportunity to live with dignity and without fear.

Patricia and her women repeatedly filed petitions with local, regional and national courts for investigations into the crimes against women. According to a United Nations researcher violence between armed groups occurs less often than violence by armed groups against civilians. They target civilians whom they suspect support the other party. Sexual violence is a tool of war used by all fighting parties in Colombia: the paramilitaries, rebels and even members of government forces.

In May 2008, after 10 years of court cases, the constitutional court in Colombia acknowledged the vulnerability of women to sexual violence in areas of conflict. After this, the government called to protect and support displaced women. Parliament passed a law that strengthened the application of laws for the protection of refugees – mainly of women – that had already been in force.

Women are not only vulnerable to sexual violence in conflict zones in Colombia, but across the world, as in Sudan (Darfur) and Eastern Congo. Increasingly sexual violence is seen as a war crime; recently the United Nations passed a resolution that counts sexual violence as a threat to international peace and security [26].

As more nuclear weapons are available, the possibility that states will deploy them in regional conflicts increases. Pakistan, India, Iran, Israel, North Korea and Syria are developing long-range missiles.

In light of these recent developments we cannot rule out preventive strikes in order to destroy nuclear facilities or international intervention in order to topple a regime that is obtaining, using or spreading nuclear weapons. This could lead to a high number of civilian casualties.

The treaty against proliferation of nuclear weapons (the non-proliferation treaty) aims to limit the total amount of nuclear weapons [27]. International support has decreased during the 90s. The treaty is outdated, but negotiations to update the treaty failed in 2005. An argument against the treaty, as it currently exists, is that while it should have led to disarmament of existing nuclear powers, instead these countries improved their weapons. Countries that did not sign the treaty and went on to develop nuclear weapons were barely reprimanded. For example, the recent nuclear treaty between India and the United States undermines the non-proliferation treaty. Other nuclear treaties were dropped completely: the United States withdrew from the existing anti-ballistic missile treaty in 2002. The Comprehensive Nuclear Test Ban Treaty of 1996 never came into force because the nuclear powers refused to ratify it [28].

We distinguish a new trend since Obama – who pleads for a nuclear weapon free world – came into power. In 2010 the United States and Russia agreed to a new treaty in which they agreed to reduce both the American and Russian strategic nuclear warheads to 1550 each. Both countries will also halve the number of missiles and planes that can transport nuclear warheads. The US designed a new strategy which limited the number of potential targets of a nuclear attack. According to this strategy the United States themselves will no longer develop new nuclear weapons, nor deploy nuclear weapons against members of the non-proliferation treaty. The United States was not willing to promise it will not use nuclear weapons against North Korea or Iran, if they develop nuclear weapons in secret.

There is a risk that nuclear weapons are obtained by non-state actors, such as terrorist organizations or criminals. Because of the complicated and costly production it is unlikely that these actors will be able to secretly develop nuclear weapons themselves. But it is possible they obtain them through theft, trade or secret donation by a rogue state. As more states – amongst which are unstable states such as Pakistan [29] – obtain nuclear weapons, this risk increases.

It is possible that terrorists will use 'dirty bombs', i.e. common explosives encased in nuclear substances (for instance radio-active waste) which would cause for panic in the media and population. Worldwide, there is a total of 2,100 tons of nuclear materials (stocks of enriched uranium and plutonium in military facilities, nuclear plants, research reactors and military labs). With this amount of material many nuclear weapons could be manufactured.

To prevent this material from falling into the hands of terrorists, 47 countries reached an agreement during a nuclear summit in Washington in 2010 to cooperate in combatting the illegal trade in nuclear material. The location of certain nuclear materials in the world will be mapped. Countries agreed to heavily secure this material within 4 years' time.

Victims of nuclear radiation may also be made by accidents with nuclear reactors. Nuclear reactors can be hit by natural disasters like earthquakes and tsunamis, as happened in March 2011 in Japan. These

disasters usually lead to much less radiation than the explosion of nuclear weapons. The risks of nuclear weapons are considerably greater than peacefully applied nuclear energy.

Biological, chemical and radiological weapons

Chemical weapons are prohibited. There is international oversight, but inspection is not watertight. Someone who can make pesticides or medication is also able to produce chemicals for weapons. Even more worrying is the threat of biological weapons. Although these have been banned since 1973, international monitoring on this ban is absent. Various countries have experimented with biological weapons. The United States takes into account the possibility of their use against American soldiers and therefore vaccinated a part of its own troops against anthrax. Because of the many types of anthrax, the question is whether vaccinations are useful.

In the future it is not unthinkable that a regime, blinded by hate or despair, will deploy biological weapons, via weapons or in the air, via drinking water or with other methods. The danger is that it will hit not only armed forces of the opposition, but large populations as well. Because these attacks concern new types of diseases this could easily get out of hand and cause mass casualties. In case such a threat is this serious and realistic, it could be ethically justified to preventively destroy stocks or production facilities. This could even be done without military intervention if necessary but instead by undercover actions like burning down the installation in order to destroy the pathogens.

The risk of further proliferation of these types of weapons of mass destruction is biggest in case of non-state actors, such as terrorist groups. Because these ingredients may also be used for other purposes they are easily obtainable. Fortunately, producing and effectively deploying this type of weapon is still more complicated than obtaining conventional weapons. These are relatively easy to obtain via criminal circuits and their use is usually more effective. The larger psychological consequences of an attack with biological and chemical weapons, however, may be a reason for terrorist organization to threaten with these weapons.

'Fragile' states

There are at least 30 seriously weak states that are characterized by a lot of internal violence. Such 'fragile' states are countries that fail to fulfill the basic responsibilities of a state and fail or deny essential services to their populations. They are also known as failing or failed states [30]. The word fragile here is a strange word, because many of these states have harsh and violent regimes. These are extremely problematic regimes that fail to build a rule of law and seriously neglect or abuse their populations. Many of these countries are unable to deal with an explosive population growth and the consequences of climate change.

'Fragile' states lack effective government. The police, justice, armed forces and secret services do not act in the interest and security of the people. People live in great insecurity because they are not protected

by the police or army, but are often abused. Basic health care is absent. If the government is able to levy taxes, most of the revenue disappears because of corruption.

Figure 6.4: The 20 most problematic states according to the Failed States Index 2010 [31]

1. Somalia	11. Haiti
2. Chad	12. Ivory Coast
3. Sudan	13. Kenya
4. Zimbabwe	14. Nigeria
5. Democratic Republic of the Congo	15. Yemen
6. Afghanistan	16. Burma
7. Iraq	17. Ethiopia
8. Central-African Republic	18. East-Timor
9. Guinea	19. North Korea
10. Pakistan	20. Nigeria

Local drugs lords or leaders of rebellions are able to take over parts of the country and govern it arbitrarily. Human rights violations are everyday occurrences.

The most fragile states are extremely poor and often fight amongst themselves and each other. Usually bad governance is the cause of both conflicts as well as extreme poverty. A small group has most power resources, income and possessions are disproportionally divided, the state of the environment decreases, and other countries intervene [32].

Fragile states are festering wounds in the world’s body politic. They do not only cause misery for their own populations but also for the countries around them. Their conflicts and refugees flood neighboring countries. Criminality reigns supreme. Here, terrorists are trained. Energy, minerals and metals are stolen. Often these countries are a paradise for violent drug gangs, pirates, human traffickers and smugglers of weapons. Common diseases spread quickly.

Somalia

Somalia hasn’t been able to institute effective government since 1991. The North West has declared itself an independent Somaliland, and Puntland in the North East also acts autonomously. Almost all other parts of the country are ruled by warlords, who are in armed conflicts with each other, religious factions and other tribes. A violent guerilla war is waged by Islamic militias that are conquering more and more parts of the country. It is suspected that the al-Shabaab movement in the south of Somalia maintains ties with the terrorist organization Al-Qaeda. All parties in the conflict are guilty of war crimes and attacks on civilians.

There is no national police. Local rulers have their own armed forces. There is no national rule of law. Sharia and traditional courts are unable to prosecute the large number of criminals. Because of this lack of rule of law, piracy in the seas around Somalia is increasing.

The population is highly dependent on international aid. In 2008 the number of refugees and displaced totaled over 1.1 million; every month 20,000 people flee the country. Two million inhabitants are dependent on food aid. Somalia is clearly one of the most dangerous and poorest places in the world [33].

Zimbabwe

In order to stay in power the government of Zimbabwe uses brute force against its population, causing famines, criminality and deaths due to illnesses.

Unemployment is estimated to be 80 percent. Inflation is estimated to be between 8 and 11 million percent. Since the 90s over 4 million inhabitants have fled Zimbabwe. About 900,000 displaced have remained. President Mugabe refuses to help them and forbids international humanitarian organizations to enter the country. Over 5 million inhabitants suffer from starvation. Many people suffer from AIDS and cholera.

In the first round of the 2008 elections the opposition – led by Morgan Tsvangirai – won the majority of the votes. In the second round the party had to withdraw because their supporters had fallen victim to the use of brute force of Mugabe’s party. The army and police promote violence against members of opposition. Judges are biased [34]. President Mugabe is old and is kept in power by a group of prominent leaders around him who profit from his rule.

Conflicts caused by scarcity of water and food [35]

We may expect a growing scarcity of primary necessities. Causes for this are amongst others population growth and consumption per person, higher energy costs and global warming. Two thirds of fresh water in the world is used in agriculture. A growing scarcity of water, in combination with other trends, could lead to tensions and armed conflicts.

There should be enough fresh water and land to feed the world’s population until at least 2030. There is scarcity because powerful people claim water to be their own. Power relations, uneven distribution of property and high prices are causing lack of water for the powerless and oppressed.

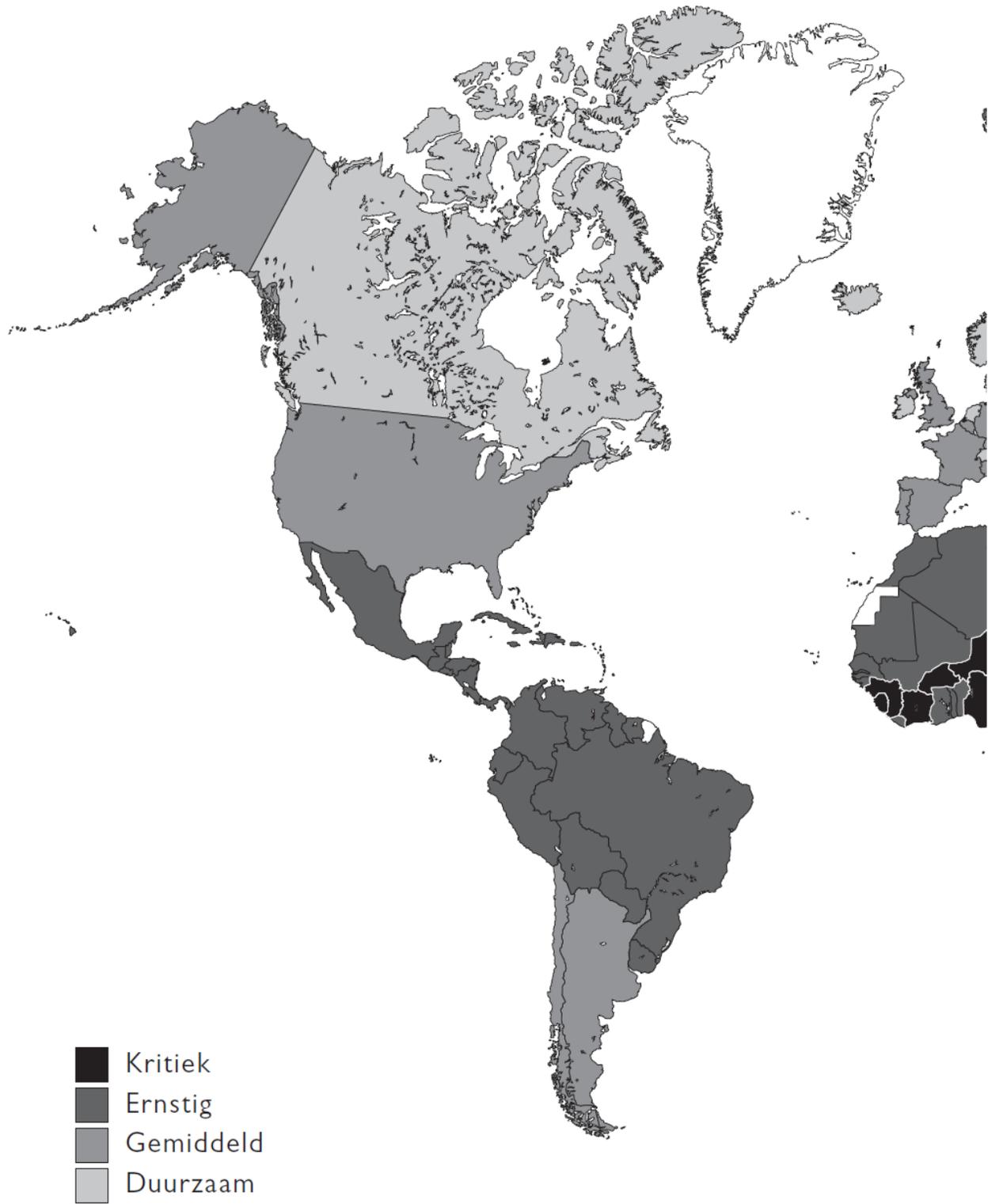
The demand for water for domestic use is also increasing. This demand in developing countries is expected to have doubled by 2025 since 1995. If we fail to initiate better policies, 47 percent of the world’s population is expected to live in conditions of severe water deficiency by 2030 [36].

Water scarcity

A total of 2.8 billion people, 40 percent of the world population, live in areas that suffer from water scarcity. 1.2 billion people suffer from physical water scarcity, a situation in which over 75 percent of the river water is taken from the river. This occurs in Northern Africa, Western Asia and areas within China and India. Within these areas there usually is a connection between water scarcity and environmental degradation. There are serious conflicts about sources of water.

1.6 billion people live in economic water scarcity. For these people, water is available but access is constricted by power relations and a lack of money, specifically in Southern Asia and Sub-Saharan Africa [37].

Figure 6.5: Failed States Index 2010 [38]





Expectations

Higher incomes in Asia lead to a greater demand for meat. Cattle breeding uses a lot of water. Because of poor irrigation in developing countries an average of 62 percent of available water is lost. Shifts in rainfall, temperatures and periods of drought will influence the distribution of fresh water. Glaciers contain about 75 percent of the world stock of fresh water. A number of glaciers are slowly shrinking, probably because of global warming. We will return to this in chapter 7. Agriculture could suffer losses because of the reduction in melt water.

Scarcity and conflict

The expected water and food scarcity is a threat to international security. Rivers shared by multiple countries may become a cause of conflict as we can expect access to riverbanks to become more important.

In the past, conflicts about rivers were often resolved in treaties. But new treaties on the division of water only progress slowly. The United Nations treaty of 1997 on international watercourses failed to obtain the 35 ratifications needed to come into force [39].

Because of poor distribution of water and the increasing price of water, poor populations will experience greater shortages. In weak states we see that political and economic elites keep sources for themselves. The population living off agriculture is marginalized. Uneven distribution of farmland exacerbates this. What follows is conflicts and migration.

Migration means a shift of problems. It exacerbates conflicts elsewhere. The explosive urbanization will put further pressure on the delivery of fresh water. As a consequence this will in turn put pressure on healthcare, increasing the risks for all kinds of diseases.

It seems realistic to expect that the damaging water supplies of enemies will become a weapon. Dams and water pipes are vulnerable. Destruction or poisoning will hit large populations. In Iraq, Saddam Hussein poisoned the waters of opposing Shiite people. The interruption of the fresh water supply to pressure a country or region could even be a reason for war in the future. In the Middle East there have been decades of fierce competition for fresh water, which has caused tensions between Israel and Palestine to escalate.

Mineral scarcity and conflict

The demand for minerals will double in the next 25 years, mainly because of population growth and higher incomes in China and India. The demand for metals in China has yearly increased by 17 percent in the last 5 years and constitutes 70 percent of world demand for various essential metals such as aluminum, copper, lead, zinc. These economies hunger for iron and steel, phosphates and potassium for

fertilizer, and precious metals for the electronics industry, like copper, gold and gallium. This is a hunger that cannot be stilled.

Perhaps there are more stocks of minerals in poorly explored areas, deep under the earth's crust, that might supply people for centuries to come. Some sources on the crust of the earth may be quickly exhausted because of economic exploitation. Based on current consumption, various essential minerals will only last for another few decades: lead 42 years, tin 40 years and indium only 13 years [40].

Extracting minerals from deeper layers in the earth costs a lot of energy. Because of higher prices of energy the price for minerals will increase sharply. Increasingly expensive phosphates and potassium will lead to more expensive agriculture, and therefore higher food prices, which will lead to hunger and political unrest. At the same time conflicts concerning mining rights could destabilize developing countries. Ultimately a conflict over future mineral scarcity will be dependent on technological innovation and international cooperation. Currently the possibilities of deep sea bed mining, or asteroid mining are being explored (extracting of minerals from space). Sea bed mining may be promising, but asteroid mining will cost great amounts of energy and fails to be a realistic solution. It is an indication of the despair with which we try to seek for solutions.

Energy scarcity and conflict

It is difficult to estimate when the world stock of fossil fuels will be completely exhausted. What is sure is that we will experience scarcity in the short and medium term. Because of this scarcity the price for energy will increase. A higher price of energy will cause destabilization in many places in the world. This has important consequences for the food supplies and economic security of countries and has large (geo) political consequences [41]. It will increase the price of food, water and minerals [42]. The energy sector is vulnerable to violence, like the targeting of energy infrastructures and the disruption and piracy of transportation. Iraq has seen over 450 attacks against oil installations, pipes and personnel since 2003. A French oil tanker came under attack in 2002 and in 2006 a failed attack occurred against the oil processing infrastructure in Abqaiq in Saudi Arabia.

Energy scarcity could lead to a race for unexploited sources of energy in contested areas and previously inaccessible areas such as the North Pole and the Spratly Isles. It is estimated that the North Pole contains about 90 billion barrels of oil [43], which is 7 percent of the proven worldwide oil reserves, and as much gas as might be found in Russia. Because of the melting of the North Pole by climate change, these sources will become more accessible. There are contradictory claims by Russia, the United States, Denmark, Norway and Canada. In the area of the Spratly and Paracel Islands an estimated 105 billion barrels of oil and 900 trillion cubic feet of gas await exploitation. There are contradictory claims by China, the Philippines, Taiwan, Malaysia, Vietnam and Brunei. Tensions will increase. Will these lead to violent conflicts?

The theft of oil is also part of violent conflicts. When energy prices are high or energy supplies are being interrupted people will provide for their own energy needs. Theft of energy is very attractive for

international criminals and rebel groups. The sale of stolen oil creates great revenues for illegal operations and is used for bribes. Incomes can be used to finance regional conflicts that are far removed from the regions in which the oil was extracted originally. In this way direct connections are created between various instable areas. The oil prices and the demand for oil are likely to stay high in the future. This form of criminality is likely to continue. Some estimate that Nigeria lost 1 billion dollars in 2003 to illegal oil extractions. This money should have gone to benefit the country and its population.

China has secured a part of its oil import by reaching an agreement with Sudan. The government of Sudan is one of the parties to violence in the region of Darfur since 2003. Because China does not want to jeopardize the oil deal, it blocked the voting for an effective peace mission for Darfur in the Security Council of the United Nations. In this way the need for energy and human rights clash. At the start of 2001 the extremely poor South-Sudan announced it wanted to separate from Northern Sudan. It did so in 2011. This could be a cause for war, specifically about who will exploit the oil fields and how the borders will run.

Energy deals are often supported by trade treaties, weapon deals and promises of political support.

Energy scarcity could also be the cause for a coup d'état. A group or country organizes a coup to gain access to energy sources from another country or from the ruling class, or uses the access to energy sources to topple the parties or elites currently in power in order to take over power themselves. The occupation of energy-rich Kuwait by Iraq in 1990 is an example. Energy sources could also cause the separation of one region from a state. The Kurdish aspiration for independence in the North of Iraq, includes the wish to control the oil reserves. Aggressive behavior following from energy scarcity could cause civil wars and wars between states.

Radicalization [44]

Ineffective, corrupt and oppressive governance often leads to radicalization of opponents. Radical movements offer an alternative bad governance, making claims of ideological purity. Opponents frame themselves as morally superior to the incumbent government. In countries without effective democracy and free speech opposition groups might become desperate and resort to violence.

Islamic radicalization is related to dissatisfaction about corrupt governments and unequal opportunities. Radicalization will threaten international security in the near future, mainly in Pakistan, India, Uzbekistan, Yemen, the Palestinian areas, Egypt, the remaining of Northern Africa and Nigeria.

Radicalized, weak parties resort to 'asymmetrical' acts of war: terrorism and guerrilla warfare. These are extraordinarily hard to counter. Governments can succumb to the violence of a relatively small but ruthlessly violent opponent. A country could become a failing state with areas in which government authority is absent and where warlords, organized crime, terrorists and pirates have free play.

Because radicalization is often a reaction to poor governance and the feeling of having to endure injustice, international cooperation to improve governance could be useful to limit radicalization.

Violent, radical groups and the governments they oppose usually refuse to talk to each other. This strongly increases the risk for escalation of the conflict. Remedying this escalation is only possible if, despite great contrasts, the possibility for communication remains an option [45]. Societal and religious movements as well as peace movements may play an enabling role here, encouraging communication between hated enemies [46].

Peace politics

We live in a world full of escalating tensions. Peaceful methods which help to de-escalate tensions are often weak. Ethical convictions, the rule of law, improvement of the living conditions of the poor, better distribution of income and possessions are often not enough to halt the threat of armed violence.

There are three levels of institutions that provide peaceful conflict resolution: local, national and global.

Democratic states rarely go to war with each other. This statement is argued in the essay *Zum ewigen Frieden* by the philosopher Immanuel Kant (1795) in which a constitutional republic is considered a condition for peace [47]. Until now this theory of *democratic peace* has been proven right: no war between fully democratic countries has ever occurred. States with democratic laws resolve their difference through negotiations. They avoid violence, as they are held responsible by their voters [48]. Therefore the trick is to build democratic states based on the rule of law. But that is a large order which takes a long time. Democracy is much more than elections.

Democratization is the first road to peace. A second road is the limitation of arms. In a fully developed (rule of law) state, citizens do not carry fire arms. Police and justice maintain the law and internal peace, if necessary with armed forces. The state then, has a monopoly on the legal use of fire arms. Otherwise civil war might ensue. But it is up to the state to maintain the law and not become a source of oppressive violence itself. In the US citizens have a constitutional right to possess small fire arms. However, most democratic rule-of-law states of law tightly regulate possession of fire arms. This should be applied internationally. Above we saw that the proliferation of small fire arms is a serious threat to peace. The world urgently needs treaties that restrict the production, trade and possession and limit these to the legal authorities.

Treaties that limit heavy weaponry and weapons of mass destruction require further improvement. The treaty against chemical weapons is a fairly good example of what kind of treaties are needed against biological and nuclear weapons. To achieve these we need stronger international organization. In chapter 11 we will discuss this further.

The third way to peace is associating countries through cooperation in international organizations. When states develop their markets together, take down trade barriers, cooperate financially, set a single agricultural policy and become connected in their interests with other areas, they will become mutually dependent. Their interest will be pragmatic conflict resolution through negotiation rather than military showdowns that could damage all parties. This functionalist approach appears to work well in Europe.

Because of European integration, centuries old conflicts that caused many wars – including two World Wars – have been replaced by peaceful cooperation. The European Union is a great success, even though this is not recognized anymore as such. This success deserves expansion in Europe, and should be followed up in other parts of the world.

More measures are required in order to achieve lasting peace. International law needs to be strengthened, especially its enforcement by international organizations and their member states. Democracy, limitation of weapons on all sides, rule of law and pragmatic cooperation within organizations are the most important roads to peace.

I will explore political possibilities to improve peace enforcement by international organizations in chapter 11.

Notes

1. Patrick Cammaert, 'Sexual violence and war', in *International Herald Tribune*, 12 February 2009.
2. Saskia Rademaker (2009), 'Seksueel geweld in Oost-Congo: het wilde westen in het oosten', in *Internationale Spectator*, vol. 63, no. 6, pp. 314-318.
3. NIOD Institute for War, Holocaust and Genocide Studies (2002), *Srebrenica*; International Commission on Missing Persons (ICMP)(2006), 'Burial of Srebrenica Victims Identified by ICMP', <http://www.ic-mp.org/press-releases/burial-of-srebrenica-victims-identified-by-icmp>
4. For example: The Arkan's Tigers, a group of Serbian criminals, pretended to be a nationalist militia, but repeatedly avoided combat with military opponents. Unarmed civilians were the main targets of their crimes.
5. Rummel, R.J. (1994), *Death by Government*. New Brunswick, n.j.: Transaction Publishers, see <http://www.hawaii.edu/powerkills/murder.htm>. More recently, Rummel updated his first estimation of 174 million deaths to 262 million, see <http://www.hawaii.edu/powerkills/20th.htm>. It must be noted that estimations of violent deaths are very complex; estimations might differ, depending on the criteria that are used. Some estimations of Rummel are considered to be fairly high.
6. Leitenberg, M. (2006), *Deaths in Wars and Conflicts in the 20th Century*, Cornell University– Peace Studies Program. Occasional Paper #29, 3rd edition.
7. Ibid. Numbers divided up into categories by the author.
8. This estimation is based on: the number of people that died during fights, civilian deaths, and deaths caused by bombing and starvation as a result of war. Only conflicts that led to at least 1000 deaths were included in the calculation. The victims of hunger and diseases as a result of war were also counted when data was available. This was not always the case, which means that estimations of conflicts with a high number of victims can vary greatly. Data were retrieved from the archives of Milton Leitenberg of the University of Maryland.
9. M.B. Burke et al. (2009), *Warming increases the risk of civil war in Africa*. Harvard University, Cambridge. PNAS December 9, 2009, vol. 106. no. 49.
10. Stephanie Ashford (2010), *NGOs as Norm Entrepreneurs in The Small Arms and Light Weapons Issue*, MA Thesis, Leiden University.
11. Heidelberg Institute for International Conflict Research (2009), *Political Conflicts in 2009*. www.hiik.de
12. Including 816 000 deaths during the democratic/anti-autocratic regime of the United Kingdom between 1900 and 1987.
13. This is probably a strong understatement, without taking note of the millions of deaths by famines caused by political decisions.
14. Waldron, A. (1991), 'The Warlord: Twentieth-Century Chinese Understandings of Violence, Militarism, and Imperialism', in *The American Historical Review*, vol. 96, no. 4, pp. 1073-1100. University of Chicago Press on behalf of the American Historical Association. <http://www.jstor.org/stable/2164996?seq=8>
15. Duva, A.M. (2010), *Indonesia: A Military Timeline*. PBS Frontline World. <http://www.pbs.org/frontlineworld/stories/indonesia605/timeline.html#>
16. International Institute for Strategic Studies (IISS) (2010), *The Military Balance 2010*, Londen: IISS.

17. Organisation for Economic Co-operation and Development, Development Co-operation Directorate (OECD-DCD-DAC), *Development Co-operation Report 2010*, April 2010, www.oecd.org
18. The most recent data available is from The Military Balance 2010 (military expenditure 2008), London: International Institute for Strategic Studies. This organization expects that the expenditure has increased in 2009.
19. The gross world product is 57,53 trillion U.S. dollars (2009 est.) converted in euros with the exchange rate of 2009 (0,7338). Central Intelligence Agency. *The World Factbook*, 3 March 2010.
20. Stockholm International Peace Research Institute (SIPRI) (2010), *Year-book 2010: Military expenditure data, 1999–2009*, Chapter 5. Military expenditure, Sam Perlo-Freeman, Olawale Ismail and Carina Solmirano: <http://www.sipri.org/yearbook/2010/05>
21. International Institute for Strategic Studies (IISS) (2010), *The Military Balance 2010*, Londen: IISS.
22. Wikipedia (2010), List of countries without forces. http://en.wikipedia.org/wiki/List_of_countries_without_armed_forces
23. Human Security Report Project (HSRP) (2011), *Human Security Report 2009/2010: The Causes of Peace and the Shrinking Costs of War*; HSRP (2005), *Human Security Report 2005: War and Peace in the 21st Century*. Oxford: Oxford University Press.
24. Eindrapport Defensieverkenningen (2010), *Houvast voor de krijgsmacht van de toekomst*. Deelverkenning ii Vraagzijde, 'Massavernietigingswapens', by Netherlands Institute for International Relations 'Clingendael' and Sico van der Meer. (English: Future Policy Survey of the Netherlands Ministry of Defence, summary: http://www.defensie.nl/english/organisation/ministry_of_defence/future_policy)
25. Patrice M. Sutton and Robert M. Gould (2007), 'Nuclear Weapons', in Barry S. Levy en Victor W. Sidel (eds.), *War and Public Health*. Oxford: Oxford University Press.
26. Neyman, P.F. (2008), Extraordinary People From Around the World. http://www.pats-eduent.net/xpeople_intro.htm; Liga de Mujeres Desplazadas, www.ligademujeresdesplazadas.org
27. The Non-Proliferation Treaty was established in 1968 and has been ratified by 190 countries. Nuclear powers China, United States, Russia, The United Kingdom and France would disarm, other states would not develop nuclear weapons, and each state would have access to nuclear energy. The International Atomic Energy Agency (IAEA) monitors the implementation of the treaty and promotes safe, secure and peaceful nuclear technologies. See <http://www.un.org/disarmament/wmd/Nuclear/npt.shtml>
28. Eindrapport Defensieverkenningen (2010), *Houvast voor de krijgsmacht van de toekomst*. Deelverkenning ii Vraagzijde, 'Massavernietigingswapens', by Netherlands Institute for International Relations 'Clingendael' and Sico van der Meer. (English: Future Policy Survey of the Netherlands Ministry of Defence, summary: http://www.defensie.nl/english/organisation/ministry_of_defence/future_policy)
29. Pakistan is increasing its nuclear capacity. Pakistan helped to spread nuclear knowledge to other countries in the 90s; it might continue to do so in the future. The power of fundamental political parties - that have connections with terrorist groups - is growing. Terrorist organisations are also supported by the intelligence agency in the conflict with India. The government is in close combat with armed groups that support Al-Qaeda. This is answered with internal terrorism. These developments increase the risk that non-state actors obtain nuclear material. Eindrapport Defensieverkenningen (2010), *Houvast voor de krijgsmacht van de toekomst*. Deelverkenning ii Vraagzijde, 'Risicolanden', by The Hague Center of Strategic Studie (HCSS). (English: Future Policy Survey of the Netherlands Ministry of Defence, summary: http://www.defensie.nl/english/organisation/ministry_of_defence/future_policy)
30. Eindrapport Defensieverkenningen (2010), *Houvast voor de krijgsmacht van de toekomst*. Deelverkenning ii Vraagzijde, 'Fragiele staten i, Future trends in Fragile States', by Nicole Ball and Louise Anten, Netherlands Institute for International Relations 'Clingendael'. (English: Future Policy Survey of the Netherlands Ministry of Defence, summary: http://www.defensie.nl/english/organisation/ministry_of_defence/future_policy)

31. The Fund for Peace and Foreign Policy (2010), 'Failed States Index Scores 2010':
http://www.fundforpeace.org/web/index.php?option=com_content&task=view&id=452&Itemid=900
32. See note 30.
33. The Fund for Peace and Foreign Policy (2009), *Failed States Index 2009: Country Profile Somalia*, www.fundforpeace.org
34. The Fund for Peace and Foreign Policy (2009), *Failed States Index 2009: Country Profile Zimbabwe*, www.fundforpeace.org
35. This section is based on Eindrapport Defensieverkenningen, *Houvast voor de krijgsmacht van de toekomst*, 29 maart 2010. Deelverkenning ii Vraagzijde, 'Schaarste ten aanzien van primaire levensbehoeften', by The Hague Center for Strategic Studies (HCSS). (English: Future Policy Survey of the Netherlands Ministry of Defence, summary:
http://www.defensie.nl/english/organisation/ministry_of_defence/future_policy)
36. Water stress: if in a certain territory the amount of water per head is less than 1700 m3 per year.
37. United Nations (2008), *The Millennium Development Goals Report 2008*.
38. See note 31.
39. Convention on the Law of the Non-navigational Uses of International Watercourses, New York, 21 May 1997.
http://untreaty.un.org/ilc/texts/instruments/english/conventions/8_3_1997.pdf
40. Eindrapport Defensieverkenningen (2010), *Houvast voor de krijgsmacht van de toekomst*. Deelverkenning ii Vraagzijde, 'Energie en schaarste - Annex Mineraalschaarste tot 2030', by: The Hague Center of Strategic Studies (HCSS) and the Clingendael International Energy Programme (CIEP). (English: Future Policy Survey of the Netherlands Ministry of Defence, summary: http://www.defensie.nl/english/organisation/ministry_of_defence/future_policy)
41. This section is based on Eindrapport Defensieverkenningen (2010), *Houvast voor de krijgsmacht van de toekomst*. Deelverkenning ii Vraagzijde, 'Energie en schaarste', by: The Hague Center of Strategic Studies (HCSS) and the Clingendael International Energy Programme (CIEP). (English: Future Policy Survey of the Netherlands Ministry of Defence, summary: http://www.defensie.nl/english/organisation/ministry_of_defence/future_policy)
42. The relations between food, water and mineral shortages and conflicts are explained at pp. 14-19 of this chapter.
43. Bird, Kenneth J., Charpentier, Ronald R., Gautier, Donald L., Houseknecht, David W., Klett, Timothy R., Pitman, Janet K., Moore, Thomas E., Schenk, Christopher J., Tennyson, Marilyn E. en Wandrey, Craig J., (2008), *Circum-Arctic resource appraisal; estimates of undiscovered oil and gas north of the Arctic Circle*, U.S. Geological Survey Fact Sheet 2008-3049,
<http://pubs.usgs.gov/fs/2008/3049>
44. This section is based on Eindrapport Defensieverkenningen (2010), *Houvast voor de krijgsmacht van de toekomst*. Deelverkenning ii Vraagzijde, 'Radicalisering en identiteitsvraagstukken', by The Hague Centre for Strategic Studies (HCSS). (English: Future Policy Survey of the Netherlands Ministry of Defence, summary:
http://www.defensie.nl/english/organisation/ministry_of_defence/future_policy)
45. Ibid.
46. The Global Partnership for the Prevention of Armed Conflict (GPPAC) connects dozens of such organisations from all continents to interact and act together. It is supported by the in The Hague based GPPAC Foundation, see: www.gppac.net and www.peaceportal.org
47. Immanuel Kant (1795), *Zum ewigen Frieden. Ein philosophischer Entwurf*.

48. Zeev Maoz and Bruce Russett (1993), 'Normative and Structural Causes of Democratic Peace, 1946-1986', in *The American Political Science Review*, vol. 87, no. 3, pp. 624-638.