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Strategic Outlook 2011

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Jerker Hellström, Mikael Eriksson and
Niklas Granholm (Eds.)

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Preface

Strategic Outlook 2011 discusses a range of security policy issues of relevance to decision makers in Sweden. The principal aim of the publication is to provide analysis of global strategic issues. Its content is based on current research by the Swedish Defence Research Agency (FOI).

The third edition of Strategic Outlook analyses a number of the challenges that Sweden faces. The articles seek to illuminate and explain the complex interconnections likely to influence the security policy agenda in the coming years. Policymakers and experts are continuously bombarded with data and run the risk of information overload. It is a constant challenge to distinguish long-term trends with a wider influence on the international system from transitory events. Issues that we regard as important today may not be seen as central from a longer term perspective.

Strategic Outlook 2011 raises issues of relevance to Swedish foreign, defence and security policy. Its authors have identified a number of challenges in different areas that will have to be addressed. Some of them have come to the fore in the past year, while others are the result of long-term trends. A general conclusion is that Sweden has a role to play in a number of areas, from climate change and issues related to natural resources, to addressing problems such as space debris, nuclear proliferation and organized crime. Sweden is also engaged in security policy development in, for example, Afghanistan and the Arab world. The need for such international engagement will continue, not least within the scope of Sweden's membership of the European Union. Swedish involvement in peace-support operations will increase pressure for the reform of its Armed Forces, in particular in terms of the supply of personnel. Finally, Sweden needs to closely monitor developments in Russia and the three Baltic states from a security policy perspective.

The articles in Strategic Outlook 2011, which are based on research currently being undertaken at FOI, shed light on developing patterns and trends that are likely to become increasingly important. The selection of themes was based on criteria such as the availability of empirical data, relevance to Sweden, our aspiration to take the widest possible approach and their significance for the future development of Swedish

policy. It is not possible for all of FOI's research areas to contribute to the publication, and the articles represent only a fraction of the research conducted by the agency's 800 analysts and researchers.

The editors wish to express their gratitude to all the contributors to the publication. The conclusions drawn in the report represent the views of the authors and do not necessarily reflect the opinions of FOI.

Stockholm, June 2011

Jerker Hellström
Project Manager and Editor

Mikael Eriksson
Editor

Niklas Granholm
Editor

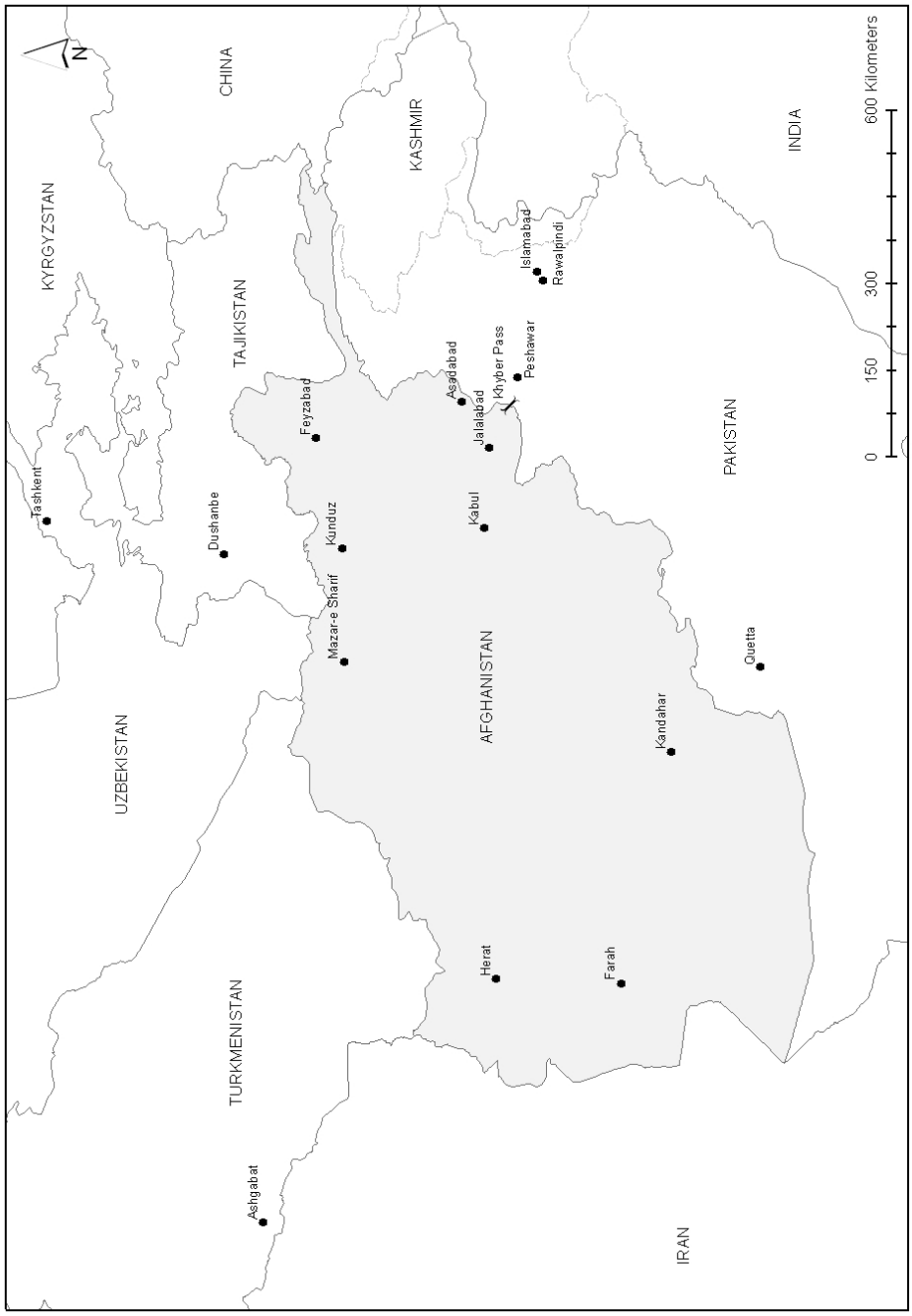

Figure 1. Afghanistan with neighbouring countries (source: FOI/Natural Earth, 2011).

1 Afghanistan after 2014

Stefan Olsson

What will happen to Afghanistan after 2014 when the NATO-led coalition begins to withdraw? The war in Afghanistan entered a new phase in 2010. The International Security Assistance Force (ISAF) was considerably increased in size and given a new strategy to follow. At the same time, the 48 countries participating in the coalition signed an agreement with the Afghan government which set out that 2014 should be the year in which Afghan national forces take on the main responsibility for security throughout the country. Sweden confirmed that it supports this approach in a decision of the Riksdag in December 2010. What will happen between now and 2014? Will Sweden have to keep its soldiers in Afghanistan after 2014?

Sweden and the other members of ISAF face a great deal of uncertainty about long-term policy. By 2010, many were perplexed about how the war could have gone so wrong. This led ISAF to launch its new strategy. The initiator and architect of the new strategy was the United States, which makes the largest contribution to ISAF – currently 90,000 of the total of 132,000 troops. The strategy was given its focus after a decision by President Barack Obama in the autumn of 2009. The plan calls for ISAF troop numbers to be increased substantially in the short term in order to halt the Taliban's momentum. Training of the Afghan National Army and the Afghan National Police is to be intensified. Thereafter, responsibility for security is to be handed over to the Afghan government, area by area, as and when the national security forces are ready. The Taliban and its allies should then realize that continued fighting is futile and therefore be willing to take part in peace negotiations.

Unlike earlier plans, most analysts agree that this one is more complete and has a sense of realism in its objectives. The war will be conducted in accordance with the political and military doctrine known as counterinsurgency (COIN). In the case of Afghanistan, this can briefly be described as putting the safety of civilians at the centre and building a stable Afghan government that can resist the Taliban's attempts at

infiltration and destabilization. The aim is to enable Afghans to take responsibility for their own situation and for the civilian population, the Afghan National Army and the Afghan National Police to have confidence in each other and work together. When this situation is reached the Taliban will no longer have a fertile breeding ground.

This strategy is well thought through on paper, and there are examples of successful COIN operations having been implemented in the past. It was through this method that the US finally managed to curb the widespread violence in Iraq. Its weakness, however, lies in the uncertainties. One of the main concerns is the corruption within the government in Kabul. It is a well documented fact that the regime that Afghanistan's President, Hamid Karzai, has built up with the support of the ISAF countries consists largely of former warlords. It may have been necessary to buy their loyalty at an earlier stage, but why they remain in their positions is unclear. Many ordinary Afghans question this. It is a central part of the ISAF strategy to increase the legitimacy of the new state apparatus, but the reality in many cases is that ISAF ends up supporting the legitimacy of corrupt warlords.

Karzai's government is fragile. It rests on the loyalties of other strong leaders, but such loyalty is not unconditional. It is only there as long as Karzai's coalition holds together. If the coalition breaks up the various regional leaders will probably need to take care of their own interests. There is evidence that these leaders are already preparing militarily to ensure their own survival in the event that the Kabul regime falls after the withdrawal of ISAF.

Another problem is the quality of the Afghan security forces. A mass training programme of soldiers and policemen is currently ongoing. The pace is fast, but the general level of education in Afghanistan is very low and many of those to be trained are illiterate. It has been particularly difficult to build a functioning police force. The training process lags behind, even though it is the lack of security that has been the root cause of the Taliban's success. The police training programme suffers from corruption and desertions. The Taliban also direct many of their actions against the police to prevent the government from gaining a foothold in the villages. There is a risk that by 2014 Afghanistan will have a large but weak and ineffective police force.

A third problem is Pakistan. The Taliban movement managed

to survive the US campaign in 2001 (Operation Enduring Freedom), which directly followed the attacks of 11 September 2001, by fleeing to Pakistan. The border between the two countries is impossible to control because of the terrain, and the Taliban and its allies have help from people on the Pakistan side of the border. It is likely that Pakistan's security service, the ISI, has helped the Taliban – as a result of old loyalties that date back to the war against the Soviet Union. For a guerrilla movement like the Taliban, a safe haven in northern Pakistan is a crucial base from which to organize and train new recruits.

Pakistan also has its own indigenous Taliban movement. It is not the same organization as the Afghan Taliban, but its religious and ideological orientation is the same. The Taliban movement as a whole, in both Afghanistan and Pakistan, is much more than just its guerrilla forces. It is a social movement that will not disappear even after a successful military campaign by ISAF.

Finally, the fourth problem to affect ISAF's chances of success is the ISAF countries themselves. Although Barack Obama's plan has been slightly changed, the US administration wants troop reductions to begin as early as possible. The year 2014 has been mentioned as a key date, which is good for domestic opinion because it gives a clear message that the military operation will end. The problem with setting dates, however, is that it places a serious burden on ISAF for success in Afghanistan.

As a guerrilla movement, the Taliban has probably never had a goal of trying to defeat ISAF militarily. It knows that this is not possible. Instead, it has tried with repeated pin pricks to make the giant tired and wanting to go home. It explains to Afghans that there is no point in working with Westerners who are already on their way home, while the Taliban will remain forever. It warns that anyone who has cooperated with the invaders will have a penalty to pay when the Taliban is back in power.

This argument is reinforced by the ISAF countries themselves, which have set clear dates for when the withdrawal will happen. The result is that the cooperation between civilians and the ISAF troops which the new strategy is supposed to establish is made more difficult or even impossible. With a perspective that only extends three or four years into the future, ISAF undermines its own credibility. Afghans who

have lived with war for over 30 years have a much longer planning horizon.

So where do things stand in 2011? Is the strategy being implemented successfully? During most of 2010, ISAF conducted an offensive in southern Afghanistan where the Taliban is strongest. An escalation in the conflict was the natural consequence, increasing insecurity even in the relatively calm northern regions. Reports say that the Taliban has been forced back, but it is unclear what impact this has had on the willingness of the civilian population to cooperate with the national security forces and ISAF.

The US is expected to begin bringing its troops back home as planned, but for strategic reasons has decided to be flexible about when the withdrawal might start. Military commanders have questioned the wisdom of having a fixed date.

The most pressing question for Sweden is what should be done in the long run. Even if everything goes according to plan, Sweden will almost certainly be asked to keep some troops in Afghanistan. The US has stated that its withdrawal will be similar to that which it carried out in Iraq. The US Army will keep a number of military bases in the country.

The US sees it as important to maintain a presence in the wider geographical region, which includes Afghanistan, China, Iran, Pakistan, Tajikistan, Turkmenistan and Uzbekistan. The area is unstable and it is unlikely that the US would leave the field open for either the jihadist movement or Iran – Afghanistan's neighbour to the west and a country with a poor relationship with the United States. Even with a defeated Taliban movement and a functioning Afghan state, it is in the interests of the US to prevent Afghanistan from fragmenting once again.

If the strategy were to fail, Sweden would be in an even more difficult dilemma. Right now, there is no back-up plan for how stability can be achieved in Afghanistan. One option being discussed in Washington, DC is for the withdrawal to be followed by a "counterterrorism strategy". This would mean the US keeping a small contingent of special forces in the country to hunt down al-Qaeda groups in the mountains between Afghanistan and Pakistan, while the rest of the country was left to itself. Jihadists would be prevented from planning new attacks, but no contribution would be made to nation-building.

The outcome of such a scenario is obviously very uncertain, but what we know about the current capabilities of the Afghan National Army and the Taliban is that neither side is strong enough to defeat the other completely. In addition, there are also a number of armed actors, private armies and criminal groups. In a situation where many domestic players are competing for power, and where everyone has access to weapons, a premature withdrawal of ISAF could significantly increase the risk of a civil war similar to the one which followed the withdrawal of the Soviet Union in the 1990s.

Is there a middle ground between these two scenarios? It is becoming increasingly clear that the Taliban must somehow be incorporated as a legitimate political force in the context of the Afghan state. The ISAF countries do not have the will and patience to wear down the Taliban movement completely, not least because this would take a long time and be costly. Yet this movement cannot be left to its own devices since it still is acting aggressively and has so far shown no signs of breaking its ties with al-Qaeda.

Nonetheless, the government in Kabul and the Taliban have held talks. Even US Secretary of State Hillary Clinton has discussed the possibility of talking directly with the Taliban. A political agreement between the Kabul government, the Taliban and the United States that gives the Taliban a role in Afghan domestic politics would be a possible way forward to provide security throughout Afghanistan.

The position of the Taliban on negotiations is vague. Its leader, Mullah Omar, lives in hiding and rarely speaks openly. The internal structure of the Taliban movement is difficult for the West to understand, but journalists who have reported on the internal situation in the movement indicate that there is probably some interest in talks.

What for simplicity's sake we call the Taliban is actually a coalition in which two warlords, Gulbuddin Hekmatyar and Jalaluddin Haqqani, lead their own separate groupings allied with Mullah Omar's movement. Hekmatyar, at least, has previously expressed an interest in talks with Karzai's government, but how strong this interest is and how united the insurgency is internally is not possible to say.

For Sweden, it is time that we too openly discuss the role we want to play in Afghanistan in the longer term. There is broad support in the Riksdag for Sweden to remain until 2014.

However, given that the expected results may come later than intended, and that Afghanistan will still need some form of military assistance after that date, discussion in Sweden ought to focus on what to do in the long run. Even with a positive outcome to the war, Sweden will probably be asked to continue support the Afghan military. Is it willing to do this? In what way? Planning for the period after 2014 needs to start as soon as possible.

2 The Arab Spring 2011

Mikael Eriksson

On 17 December 2010, an unemployed man set himself on fire in a small village in southern Tunisia. The motive was deep personal frustration and a desperate protest against decades of dictatorship and oppression by the Ben Ali regime. The incident, which sparked an unexpected political fire across North Africa and the wider Middle East, took many analysts by surprise. Why and how did this uprising come about? These questions are highly pertinent for all actors, not least Sweden and the European Union (EU), given their proximity to and dependence on this region. More specifically, officials now have to ask themselves what implications this political uprising will have for foreign and defence policy. It is likely that we are about to witness a long period of regional instability, but possibly also that more democratic processes are taking root.

Developments in North Africa and the Middle East since December 2010 have created new geopolitical dynamics in Europe's southern neighbourhood. No country in Europe or the region of concern has escaped the political impact of the so-called *Arab Spring*. Anyone claiming early in 2011 that within only a few months a number of Arab leaders would have been forced from power because of popular uprisings, and that the international community would be entrenched in a new war in a Muslim country, would have been met with disbelief. The latter scenario looked highly unlikely even in the week before the adoption of United Nations Security Council resolution 1973 (2011). This reminds us that the security policy parameters for understanding changing world conditions in times of great political ruptures are complex and constantly changing.

Although security structures can emerge over time and assert themselves as permanent, they can also emerge through temporary political cracks and rapid processes such as those which appeared recently in North Africa and the Middle East. The dramatic events that have been unfolding since early 2011 will have tremendous security implications for the region.

The presence of Arab leaders on the international scene...

It will be up to historians to identify the sequence of events that led up to the momentous events in North Africa and the Middle East. The causes are many and are not easily summarized in a single analysis. For instance, what role was played by the technological spread of the social media, most notably Facebook and Twitter? It is probable that they had a major impact, although further analysis is needed.

A number of more fundamental factors have evolved over the course of history, which could provide some help in trying to understand the situation unfolding in the region. These factors alone or in combination include: unfinished state building processes, partly because of colonial legacies; necessary but unimplemented land reforms in some countries; and inadequate political and economic reforms more generally. Structurally, however, the region has come late to the globalized era that now forms the basis for international relations. While Asia and Latin America adapted their political and economic systems in the 1980s and 1990s to the new world order that emerged after the Cold War, North Africa and the wider Middle East continued in their political slumber. Arab leaders in the 1960s and 1970s were characterized as revolutionary as well as nationalistic and proud. They played an important role on the international stage, not least in the context of the ideological rivalry between "East" and "West". Clearly, oil played an important role, given growing energy demands around the world.

Arab leaders have long played a critical role in security policy concerning the relationship between Israel and the Palestinian people. Western powers, which since the birth of the state of Israel in 1948 have, at least on the surface, promoted peaceful development in the Arab world, have had to balance their rhetoric and policies towards Arab leaders to protect their strategic interests. Yet, under the surface one can find several examples of political interference in the politics of different Arab countries. Over the years, international support helped to create a sense of being *needed* among many Arab leaders. Moreover, extreme political movements and the spread of international terrorism persuaded several states in the international community to handle Arab leaders with kid gloves. There was a fear that unless they did so, the region's leaders might mobilize their people and intelligence capabilities against their critics abroad. In the light of a number of concrete examples, such as Libya's Muammar

Gaddafi's support provided to various terrorist movements, this was considered a risk not worth taking.

Although Arab leaders were repeatedly politically shaken by interstate wars, popular uprisings and assassination attempts, for the most part they continued unchallenged and were consequently able to play an important role in the geopolitical environment in the region and beyond. For example, the oil crises of the 1970s played a decisive role in the international exercise of power by certain Arab countries, not least Saudi Arabia, where the world's largest oil reserves are located. As a result, leaders around the world have been queuing up to establish good relations with the region's Heads of State. The social and political impact that this had was particularly important in that both relatively poor Muslim conservatives and liberal, educated Arabs in the region felt pride and respect for their leaders. This interaction between the West's need for energy and stability, on the one hand, and the need by Western governments to come to terms with dictatorships, on the other, laid the basis for the West's problematic approach to the region.

... AND THEIR ABSENCE

During the 1980s and 1990s, the respect that Arab leaders had enjoyed among their citizens tended increasingly to turn to mistrust. The reason was often that the leaders had distanced themselves from the masses amid abuses of power, corruption and severe economic inequality. Moreover, Arab leaders made frequent calls for respect, tolerance and support from non-Arab governments around the world. This political hubris reinforced the gap between the national elite and the public.

While democratization and globalization took off in other parts of the world, Arab leaders became increasingly authoritarian and sought to protect their power by closely aligning and balancing military and political interests, although this was done very differently by the various actors in the region. However, when attempts were made at some form of liberalization or democratization, in for example Algeria and Egypt, these were quickly challenged by Islamic movements. These "Islamist" challenges were met with further repression in most Arab countries. This repression, however, made *extreme* Islamic movements more influential in the 1980s and 1990s as they had some legitimate grievances to build support around.[1] Meanwhile, in order to maintain power, Arab leaders were in many countries transformed into

[1] The development is evidently far more complex than laid out here. A number of other factors had an impact on the radicalisation taking place in the region. One such example was the political support provided by the US, Pakistan and Saudi Arabia to different Jihadist movements in order to disturb Soviets geopolitical interest in the region.

pure political dynasties, or family businesses, and further demands arose among the populations of these countries for greater influence.

In the early 1990s, in step with growing globalization, US hegemony strongly imposed itself. Ideas of liberalism, democracy, human rights and capitalism became important forces that served as the foundations on which relationships between states were built. In "Western principles" such as human rights and democracy, Arab nations often perceived double standards, in particular with regard to Israel's highly public treatment of the Palestinian people, the West's support for Arab dictators and the wars waged against Muslim countries, most notably Afghanistan and Iraq. Interestingly, indignation often existed as part of the Islamic *Umma*, that is, through shared outrage across the Arab world, and beyond that of state and nationhood.[2] This sense of outrage frequently fanned suspicion against the Arab leaders who received Western support and gained their legitimacy from the West.

[2] The *Umma* concept is historically based on the idea introduced by the Prophet Mohammed on a congregation of the Muslim as well as the Arabic People. The Umma concept has lived on to contemporary times, and has also been rejuvenated through interregional cable stations such as the Al-Jazeera net-work.

The survival strategy of Arab leaders

The attacks on the United States of 11 September 2001 dramatically changed the geopolitical dynamics across the world. Radicalized individuals within the Muslim diasporas were recruited to the fight against the West, and al-Qaeda inspired men and women to carry out suicide attacks in a number of locations around the world. It is interesting to note in this context that the radicals recruited often came from North Africa. Afghanistan, which had been an unstable state since the Soviet invasion in 1979, became the centre for state-sponsored Islamist terrorism, alongside countries such as Iraq, Libya and Yemen. Soon after, a US-led coalition planned its military response to the hostile rhetoric and acts of violence emerging from Afghanistan. At the time there was unusually high pressure from the US to fight terrorism wherever it appeared, which led to the so-called war on terror, a paradigm that came to dominate most of the security actions of the first decade of the 21st century. A milestone in this struggle was the death of al-Qaeda leader Osama bin Laden in May 2011.

From the perspective of Arab leaders, there was little option but to combat terrorism, as those who did not join this endeavour would be labelled as opposing US national interests. The then US President, George W. Bush, made this abundantly clear. Consequently, the war against international terrorism became in some ways a survival strategy for Arab

leaders. The conclusion was quickly drawn that they would be too weak to stand up to US policy alone, and therefore that there was no room for political objections. At the same time, the war against international terrorism became a perfect cover for Arab leaders to eliminate their own dissidents. At the time, the influence of the Arab League in the region was considered minimal. The creation of the Arab League in 1945 had been intended by Arab leaders to provide a platform to advance the Arab cause on the international stage, but the organization had lost its political influence over the years, in part because of a deep split in the political visions of its members. This further explains why the Arab states so quickly came to support the global anti-terrorism regime, as they had no collective forum to balance against the United States.

Arab populations continued to feel deep distrust towards their leaders. The sense of frustration was augmented by the fact that people generally lacked social and political mechanisms to express themselves in the midst of repression. A sense of distrust was also felt towards a number of Western countries, given that their liberal principles and political position provided opportunities to put pressure on Arab regimes but they failed to do so for various geopolitical reasons. The persecution of Muslims was perceived to be increasing internationally, especially in the wake of international and regional anti-terrorist operations, and the political and social gap between the people and their leaders continued to grow in most Arab countries.

Globalization and the advent of an incipient identity crisis

If the existing structural divisions in the Arab countries had continued in isolation, there is a strong possibility that the situation today would still be much as it was in late 2010. Interestingly, however, the forces of globalization had increasingly come to affect the traditional and conservative societies of North Africa and the Middle East. These forces led to a growing acceptance of the outside world, including the liberal paradigm associated with Western lifestyles – not least its construction of human rights and the desire for democracy. In most Arab countries, young people constitute the vast majority of the population and this young Arab population must be seen as a necessary precondition for liberal desires to take root. These young people were also often deeply affected by unemployment, poverty and powerlessness and therefore wanted a better material standard of living. It was after all

a young graduate in southern Tunisia without any hope of a better future for himself who triggered the revolt in the Arab world.

The advent of globalization in North Africa and the Middle East meant that traditional political thinking was confronted by the modernity of the West. Consequently, the old imagined *Orient* is no longer what it was. The social media is a force that came to play a crucial role in the events unfolding in the region. The Internet and telecommunications generally have increased their range of operation and served to reduce the importance of geographical distances, which has facilitated the exchange of views between people. Through the Internet, social media and international satellite television stations, young Arab men and women can now follow everything from Anglo-Saxon and Francophone soap operas to music, sports and cultural events. This appears to have significantly fragmented the traditional worldview in this corner of the world.

Technological advances have given the young Arab population an opportunity to follow events in their own region, as well as global developments, on their own and not through the filter of an authoritarian regime. It is no exaggeration to speak of an identity crisis in the Arab world. It is this identity crisis, between old and new values, that has helped to drive the revolt in various Arab countries. The current demonstrations are marked by secular and liberal values and not, as has previously been the case, by religious and anti-liberal slogans.

Towards a conceptual European security policy shift?

Developments in North Africa and the Middle East have been, and continue to be, revolutionary. These have shaped the geopolitical dynamics in the region, but they have also affected the Western world, particularly Europe, to a similar extent. From a future historical perspective, it is not unlikely that European defence and security cooperation will be shaped by what has occurred, and will occur, around the southern and eastern Mediterranean. An interesting question in this context, to which there has not been any definitive answer, is whether the changes in North Africa and the Middle East will be as important and influential as other changes seen in recent history, most notably the liberation of Eastern Europe, the break-up of the Soviet Union and the Balkan wars of the 1990s.

Another conclusion is that the EU has an enormous opportunity to spread so-called soft values in a way that could positively affect the politics of other countries. This strength could exceed anything which military force could ever achieve. Despite the developments in the Arab world so far, several uncertainties remain which could once again change the way we perceive the internal dynamics of the region. Examples of such potential uncertainties include: the potential impact of peak oil in Saudi Arabia, the new pattern of migration flows; an increased Chinese presence in the Mediterranean; Iranian and Israeli nuclear weapons and their mutual hostility; the impact on trade of any closure of the Suez Canal; and the recognition of a Palestinian state.

For Sweden as well as Europe, the most pressing policy opportunity opening up is the support of various rule-of-law initiatives and security sector reforms. It is not unthinkable that an item high up the policy agenda will be support for various democracy-building processes, including for building civil society, political parties and electoral assistance. In the first instance, Sweden, bilaterally or through the EU and the UN, will continue to channel humanitarian aid to the countries in the region affected by the uprising, for example to tackle refugee crises.

Measures such as these, in addition to ongoing crisis interventions and support for UN-led operations, will mean that Swedish politicians will be engaged in the region for years to come. The main challenge, however, is to find middle ways to unite the positions of different EU member states towards the region, as their political interests may not always be in step. On a more general level, this will raise important issues for Sweden and the EU in the near future, including how to engage with fledgling democracies in the security arena and how to formulate a new security policy towards the remaining authoritarian regimes.

In addition, it is likely that European security policy thinking might shift its current emphasis from the immediate eastern neighbourhood to the south. However, the biggest shift will be required at the conceptual level and concerns whether we will now be able to consider Arab democracies to be our equals. This shift is a challenge for Europe's leaders, who will not be able to continue to deal with the region in the same way as they have in the recent past.

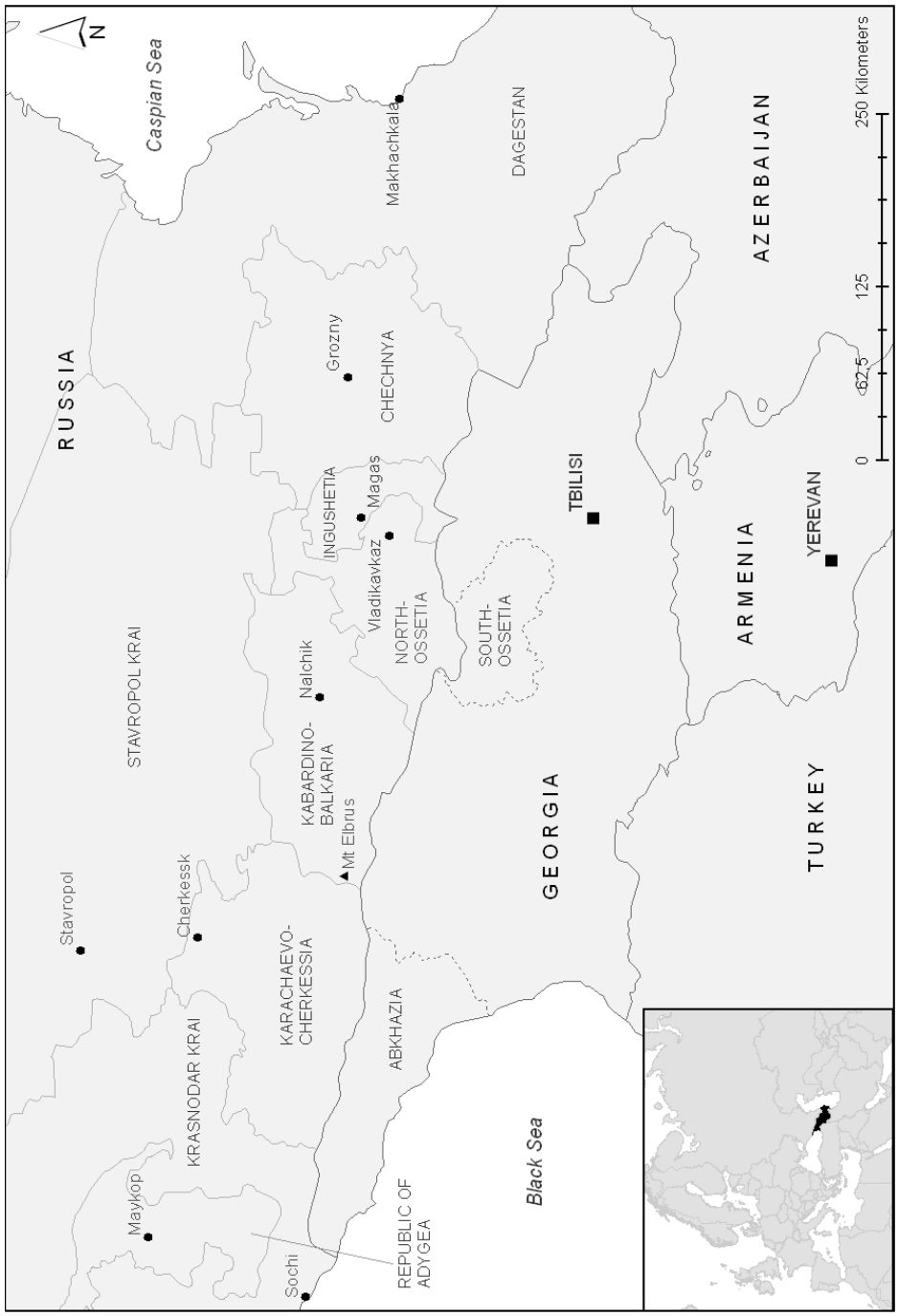

Figure 2. The Caucasus (source: FOI/Natural Earth, 2011).

3 Russian Worries over Terrorist Threats to the 2014 Winter Olympics

Jakob Hedenskog

In February 2014, Russia will host the Winter Olympics for the first time. The games in Sochi on the Black Sea coast will take place not far from Chechnya and the other troubled republics of the Russian North Caucasus. Problems of violence, terrorism and separatism in the North Caucasus show no signs of abating, but instead are spreading to parts of the region that had previously been relatively spared. There are concerns in Moscow that separatists will use the Olympics to promote their objectives. However, there is also hope that the situation can contribute to an increase in cooperation on counterterrorism between Russia and the North Atlantic Treaty Organization (NATO).

The terrorist attack on the international arrivals terminal at Domodedovo Airport in Moscow on 24 January 2011, which claimed 37 lives, is a reminder of the ever-present threat to the Russian capital. Immediately Russian law enforcement agencies tied the attack to the troubled North Caucasus. Soon they had identified 20-year old Magomed Yevloyev, a resident of the Republic of Ingushetia, as the suicide bomber who had triggered the bomb. Russia's special forces intensified their anti-terrorist activities in Ingushetia, in recent years one of the most violent republics of the North Caucasus.

The situation in the North Caucasus is characterized by poverty, corruption and ethnic conflict. Partly as a reaction to these abuses, particularly in Chechnya, Dagestan and Ingushetia, there is a significant Islamization process in society. This is reflected, among other things, by the building of huge new mosques and the fact that it has become common for women to cover their heads with a *hijab*, which is basically foreign to the traditional Caucasian interpretation of Islam. Chechnya has even introduced a law requiring women to wear headscarves, which is in violation of Russian law.

The cycle of violence in the region is expanding

Terrorist attacks or rebel violence occur in the North Caucasus on almost a daily basis. In the 1990s, separatist violence was mainly concentrated in Chechnya, which fought two bloody wars against central Russian power. Relatively quickly, however, the violence spilled over to the neighbouring republics of Dagestan and Ingushetia. Today, the situation in Chechnya is relatively calm. Federal investment in major reconstruction after the wars, combined with a repressive regime led by Ramzan Kadyrov, who was appointed by Moscow, mean that Russia has bought itself some seeming stability.

In 2007, Doku Umarov, the Chechen separatist leader, who claimed responsibility for the bomb attack on Domodedovo Airport, proclaimed the "Caucasus Emirate" an Islamic state with himself as leader. The emirate covers the entire North Caucasus and was declared both to combat the "Russian occupation" and to ensure that sharia law was applied in the "liberated areas". It is unclear how strong the organization really is, but in some sense it has united the eastern and western flanks of resistance in the North Caucasus in the fight against the Russian central government.

Terrorist acts in Moscow are given much attention in the West, but bomb attacks in the North Caucasus usually go unnoticed outside Russia. Statistics show that in February 2011 alone there were 22 terrorist attacks in the North Caucasus. During that month, 59 people were killed and 66 injured as a result of the insurgency-related violence in the region. Of those killed, 32 were accused by the authorities of being members of insurgent groups, 15 were police officers or other representatives of the law enforcement agencies in the region, 10 were civilians and two were officials. Of the 59 deaths, 22 were in Dagestan, 17 in Kabardino-Balkaria, nine in Chechnya and four in Ingushetia. Another six people were killed in an attack on the border between the Republic of Karachaevo-Cherkessia and Stavropol Krai, and a resident of the North Caucasus died in hospital as result of injuries he received in connection with the terrorist attack at Domodedovo Airport.[3] Normally, winter conditions make February usually one of the less violent months of the year.

[3] "Insurgency-Related Violence in North Caucasus Causes Over 50 Deaths last Month", *North Caucasus Weekly*, Volume 12, Issue 5, Jamestown Foundation.

The fact that the insurgent-related violence is spreading to the Western republics of Kabardino-Balkaria and Karachaevo-Cherkessia worries the Russian authorities for several reasons. The area contains Russia's and Europe's highest mountain, Mt

Elbrus, and several well-known ski resorts and the violence threatens the tourist industry, which is an important source of income for the local population. On 18 February 2011, Islamist insurgents shot three tourists from Moscow near Mt Elbrus, and the next day a cable car was bombed at a resort in the area. On the same day, a local leader was killed in a series of attacks in a suburb of Nalchik, the capital of Kabardino-Balkaria. Acts of terrorism are a serious blow to Russia's plans to develop ski tourism in the area and attract tourists from Western Europe, with the Winter Olympics in Sochi in 2014 as the main attraction.

The increased violence led President Medvedev to visit the North Ossetian capital of Vladikavkaz to consult with North Caucasian leaders about the deteriorating situation in the region. Medvedev promised harsh action against the rebels and, in response to the attacks, the Russian authorities conducted an anti-terrorist operation in parts of Kabardino-Balkaria. On 28 March 2011, Russian special forces conducted a major anti-terrorist operation in Ingushetia, which killed 17 insurgents, including Supyan Abdullaev, one of the most influential rebel leaders and Doku Umarov's presumed successor. This has been seen as a serious blow to the rebel movement.

Threats to the Winter Olympics in Sochi

Fears that Islamist insurgent movements could use foreign tourists as targets in order to damage Russia's reputation could be considered well-founded. The Kremlin is particularly concerned about the Winter Olympics, during which Russia could face security problems of a magnitude different from that of any previous Olympic Games in history.

There is no immediate solution in sight to the violence and separatism in the North Caucasus. Moscow has apparently lost its grip on the situation in Kabardino-Balkaria and rebel activity has increased to an extent that the situation there could be transformed into outright civil war. Russia is now forced to engaging more strongly in a low-intensity conflict with no end in sight in the same manner as was done in Chechnya, Dagestan and Ingushetia. Yet another problem is that the Winter Olympics could be seriously affected by the growing conflict in Kabardino-Balkaria; moreover, Russia may find it difficult to handle too many unstable regions in the North Caucasus at the same time.

Kabardino-Balkaria is strategically located in the North Caucasus region, exemplified by the fact that the main land links between the Russian mainland and North Ossetia go through its territory. If the current situation in Kabardino-Balkaria escalates, this would directly affect Russia's ability to control the North Caucasus region. In addition, Russia's influence over developments in South Ossetia (via North Ossetia), and thus Georgia and parts of the South Caucasus, would be indirectly affected by further destabilization in Kabardino-Balkaria.

Events in Kabardino-Balkaria also threaten to spread to Karachaevo-Cherkessia and the Republic of Adygea in the west, two regions with vibrant Circassian minorities. The Circassians are a north Caucasian people that are known by various names, primarily as Kabardins in Kabardino-Balkaria, as Adyghes in the Republic of Adygea and as Cherkess in Karachaevo-Cherkessia. The majority of the world's Circassians live in countries that made up the Ottoman Empire – Turkey, Syria and Jordan – to where they were deported in the mid-19th century as their land was conquered by Russia after a century of wars. Both Tsarist Russia and the Soviet authorities did their best to divide this community, and only in recent years have Circassians begun the process of recreating their national identity, which they had previously been denied.

Although the Circassian issue is not as explosive to the Russian authorities as rebel-related violence in the North Caucasus, it is nonetheless closely linked to the Winter Olympics in Sochi in several symbolic ways. It could therefore become problematic for Russia if it is not handled well. As if by a historical irony, the Winter Olympics in 2014 will coincide with the 150th anniversary of the deportations of Circassians. Sochi was the last capital of an independent Cherkessia and the location of the last battle against Tsarist Russia. It was from the port of Sochi that Circassians were deported to the Ottoman Empire. On 21 May 1864, after finally defeating the Circassians, Russian troops held a military parade in the mountain resort of Krasnaya Polyana, which will host the skiing events of the 2014 games. Today, that date is a national day of mourning among the Circassians, who are already using the upcoming Winter Olympics to publicize the Circassian cause.

Sochi was also a controversial location for the Winter Olympics because of its proximity to Abkhazia, one of the two Georgian breakaway regions which Russia recognized as

independent states after the war between Russia and Georgia in August 2008. The Olympic Park in Sochi is located only a few kilometres from the Abkhazian border. Russian organizers fear that Georgia might boycott the Games or take actions to reduce the public relations value of the event to Russia. Russian-Georgian relations have not improved since the war in 2008.

Sochi Olympic Games and anti-terrorist cooperation between Russia and NATO

The Russian hosts do their best not to exaggerate the risks associated with the Winter Olympics in 2014. The organizers claim that it is probably easier to take the 1360 km flight from Moscow than to travel by land from Chechnya to Sochi. Potential assassins are limited not only by distance but also by the fact that Sochi is separated from the rest of the North Caucasus region by high snow-capped mountains, and that the roads pass through several border checkpoints. This could, however, be seen as naive since Chechen rebels have managed before to carry out attacks far beyond their own territory on several occasions.

In some ways, however, the terrorist attacks in Russia and the upcoming Winter Olympics may have helped to spur cooperation on combating terrorism within the framework of the NATO-Russia Council (NRC). Russia and NATO are believed to be in the final phase of a secret project, Standex (Stand-off Explosive Detection), which aims to identify and remotely detect explosives such as those worn by suicide bombers. Standex was briefly mentioned in the final communiqué of the NRC meeting in Lisbon in November 2010. It is being developed in cooperation between France, Germany, the Netherlands, Russia and the US. The first tests of the system are expected to be carried out on the Paris Metro in 2012. If the tests are successful, the technology could be available before the games in 2014.[4] Even if Russia and NATO are still far apart in their views on future cooperation against terrorism, such as agreeing on a common definition of terrorism or of what constitute reasonable measures in the anti-terror operations, Standex may still be a small practical step in the right direction.

For Russia, the problem of the escalation of conflict in the North Caucasus remains, and the impression is that in the long run parts of the region will be lost to Moscow. The Caucasian knot cannot be resolved with a single pull,

[4] Solovyov, Vladimir (2011) "Russia and NATO prepare joint response to terror", *Russia Beyond the Headlines*, 14 March 2011.

and harsh measures from Moscow often lead only to more violence. It is also important that the European Union follows developments in the North Caucasus, primarily because of the precarious humanitarian situation in the region. Furthermore, an escalating conflict could lead to potential proliferation risks, both within Russia and in the South Caucasus, where Georgia, Armenia and Azerbaijan all are part of the EU's Eastern Partnership. A destabilization of the situation, would have further implications for migration flows – that could reach Europe – and affect vital energy infrastructure – both existing and planned – for the transportation of oil and gas from the Caspian Sea to Europe.

Republic	Capital	Population	Major Ethnic Groups	Religions
Dagestan	Makhachkala	2.5 million	Avars (30%); Dargins (16%); Kumyks (14%); Lezgins (13%); Laks (5%); Russians (4.7%); Azeris (4.3%); Tabasarans (4%); Chechens (3.4%); Nogais (1.5%); Rutuls (0.9%); Aguls (0.9%); and some 40 other groups	Almost all the ethnic groups in Dagestan are Muslim. The Russian minority is Christian Orthodox.
Chechnya	Grozny	1.2 million	Chechens (94%); Russians (3.7%); Kumyks (0.8%)	Muslim (Chechens and Kumyks); Christian Orthodox (Russians)
Ingushetia	Magas	467,000	Ingush (77%); Chechens (20%); Russians (1.2%)	Muslim (over 97%); Christian Orthodox
North Ossetia-Alania	Vladikavkaz	710,000	Ossetians (63%); Russians (23%); Ingush (3%); Armenians (2.4%)	Christian Orthodox (Ossetians, Russians, Armenians); Islam (Ingush and others)
Kabardino-Balkaria	Nalchik	900,000	Kabardins (55%); Russians (25%); Balkars (11.6%); Ossetians (1%)	Muslim (Kabardins, Balkars); Christian Orthodox (Russians, Ossetians)
Karachaevo-Cherkessia	Cherkessk	439,000	Karachays (38.5%); Russians (33.6%); Cherkess (11.3%); Abazins (7.4%); Nogais (3.4%)	Muslim (Karachays, Cherkess, Abazins, Nogais); Christian Orthodox (Russians)

Figure 3. Ethnic Republics in the North Caucasus Federal District. Population figures according to the 2002 census (source: http://www.perepis2002.ru).

Note: In addition to the republics in the table, the North Caucasus Federal District also includes Stavropol Krai. However, it does not include Krasnodar Krai, where Sochi is located, or the Republic of Adygea, which both geographically are usually regarded as parts of the North Caucasus. The Kremlin's Envoy to the North Caucasus Federal District is Aleksandr Chloponin.

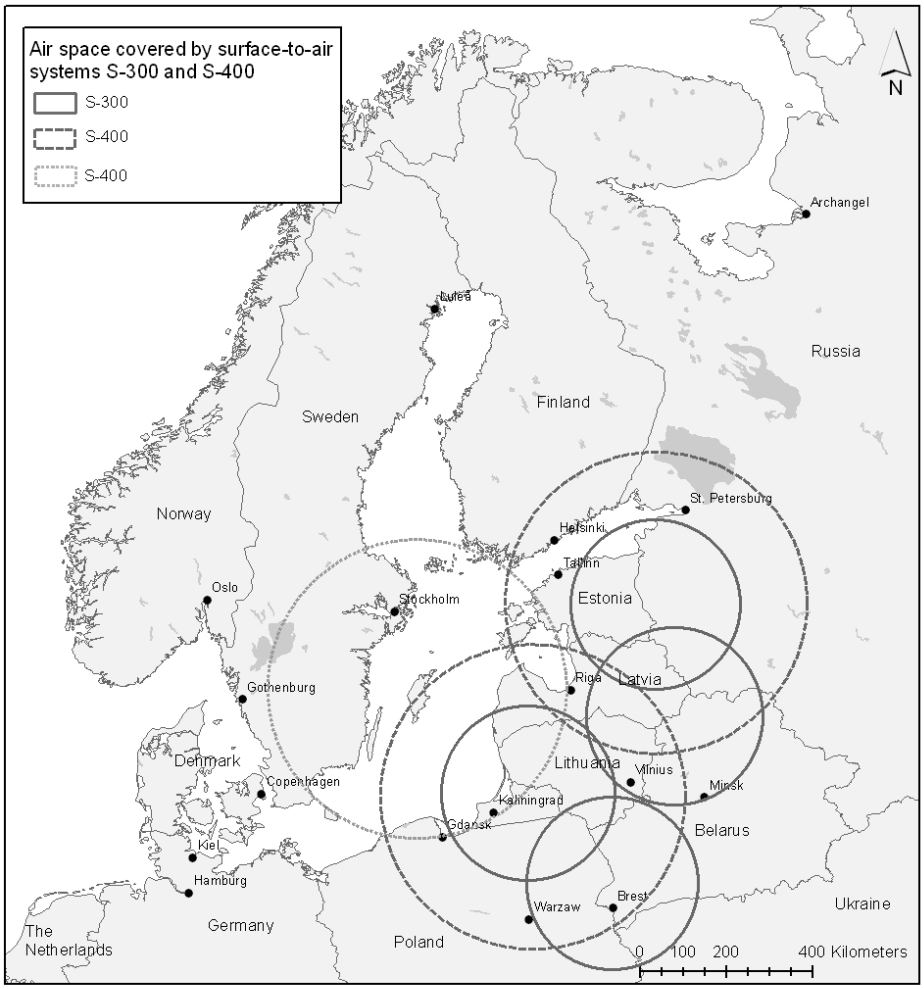

Figure 4. The Baltic Sea region including air-space covered by the most advanced Russian air defence systems (source: FOI/Natural Earth, 2011, see also note 5 and 6).

4 Can NATO Defend the Baltic States?

Karlis Neretnieks

The three Baltic States – Estonia, Latvia and Lithuania – have no realistic prospects, either separately or together, of developing military capabilities that might deter Russia from an attack – or even from applying military pressure in a tense situation. In the case of hard security, that is, military defence, the North Atlantic Treaty Organization (NATO) is the crucial component in the defence planning of the Baltic States. However, it is doubtful whether NATO will have a credible capability to defend their territory in the next decade. There is a risk that a crisis concerning any of the three Baltic States in which Russia plays a part will also affect Sweden. This means that the stability to which we have become accustomed in the Nordic-Baltic region cannot be taken for granted.

When the three Baltic States regained their independence in the early 1990s, membership of NATO and the European Union (EU) were set as goals of their foreign and security policies. These goals were met in 2004. The problem at that time was that their NATO membership could be seen more as a political statement by the United States and some other member states than actual or substantial increases in defence capabilities. At the beginning of the 2000s, it was considered highly unlikely in senior NATO circles that Russia would use military force outside its own borders. The three Baltic States were more or less compelled to adhere to the doctrine that NATO would primarily conduct "out of area" operations.

The territorial defence concepts under development in all three states at the time were dismantled. Their armed forces focused instead on expeditionary tasks. Although EU membership also contributed to national security through the economic and diplomatic influence of the Union, there was never a doubt in the Baltic capitals that NATO was the most important security policy instrument.

The war in Georgia in the summer of 2008 was the catalyst for a radical rethink, particularly in the Baltic States, but also

in the United States, the United Kingdom and Sweden. The US almost immediately began planning for the possibility of military crisis intervention in the region. NATO as a whole reacted more slowly, but by 2010 there was some quite advanced contingency planning by the Organization on how to intervene in support of the Baltic States, should the need arise.

The Baltic States´ own armed forces also have new priorities. From having been mainly focused on expeditionary tasks, there is today a clear tendency to strengthen the capabilities required for territorial defence. Estonia has the most ambitious plans. Its air defence capability is to be substantially increased, the existing infantry brigade will be partially mechanized and the territorial units will have more anti-armour weapons and will be given increased capacity to lead domestic as well as foreign forces. In Latvia, most of the development plans are currently on hold because of the severe economic crisis. The same applies in Lithuania, where it has been made clear that long-term plans to strengthen anti-aircraft and anti-tank capabilities will be implemented when the economic situation allows. New infrastructure has been built in all three states, including airfields, to receive NATO reinforcements. The question is whether the restructuring of the Baltic States' armed forces, and the planning begun by NATO, will be enough to calm the situation in case of a serious crisis in the Baltic Sea region. Will the threshold for a possible military action become so high that it could not be seen as a reasonable option for a Russian planner?

Of course, there are numerous factors beyond the military defence of Baltic territory that could help dissuade Russia from the use of force. There may be financial penalties or economic sanctions, the risk of NATO commencing operations in parts of Europe where NATO is better placed to act, or even – at the farthest end of the spectrum – the threat to use nuclear weapons.

It would be wrong to base security assessments on northern Europe on the assumption that the Baltic States will always be the primary objective, and to consider an attacker's cost-benefit calculations from that perspective alone. Possible Russian military action in our region could be linked to factors that have little to do with the Baltic States. A crisis in the Baltic region might be the result of a crisis elsewhere. Also an assessment of NATO's capability, or lack of it, affects Russian behaviour in our neighbourhood. The question of

NATO's ability to defend the Baltic States is therefore of great importance when assessing the stability of the region in a wide range of scenarios, and is thus an essential factor in Swedish defence planning.

Russian capabilities

The Russian armed forces are currently undergoing a radical restructuring and modernization process. After a 20-year period of retrenchment and turmoil, there is now an explicit goal – to create a professional and modern organization. Great efforts are being made to correct the deficiencies that became apparent in the operation in Georgia in 2008. Exercises with large units, that is, brigades or larger, have been resumed, illustrated by the exercises *Ladoga 2009* and *Zapad* (West) *2009*. Both exercises were conducted in and around the Baltic Sea region. An important component was to train the Russian and Belarusian integrated air defence system. Most of the Russian inventory today is of 1970s and 1980s standards. The aim of the ongoing defence reform, however, is that 70 per cent of Russia's military equipment will have been replaced with more modern versions by around 2020. Whether Russia succeeds in this endeavour, however, remains to be seen. In areas where Russia lacks the ability to develop or produce certain items, these will be purchased from abroad. This is illustrated by the 2010 agreement with France to buy four Mistral class amphibious assault ships. Unmanned aerial reconnaissance vehicles were purchased from Israel in 2009.

When assessing military capabilities, it is important to remember that they are relative. Even moderately modern equipment can go a long way, as long as the opponent is not better equipped. In the Baltic region, this means that the most modern equipment is indispensable for Russia only in the event that NATO (or rather the United States) has managed to bring reinforcements to the area. Probably the most important factor in preventing that from happening would be Russia's air defences, an area in which Russia has long been and still is prominent. One already operational Russian surface-to-air system, the S-300, will make air operations over or adjacent to the Baltic States highly risky for NATO.[5] In addition, a new and more potent system, the S-400, is becoming operational.[6] An approximate assessment of how much air-space will be covered by these two systems is illustrated in the map (Figure 4).

[5] GlobalSecurity.org, *S-300PMU2 Favorit SA-20 GARGOYLE*.

[6] Aviation Week (2011) *Russian Long-Range Air Defense Efforts Bloom*, 10 March 2011.

Attempting to fly in reinforcements with these systems still active would be extremely risky. The map also shows the implications of such systems being deployed on the island of Gotland. A better flank protection for a Russian military operation in the Baltic region is hard to imagine. Together with the systems already deployed on Russian and Belarusian territory, it would be very difficult to mount any NATO air operations in support of the Baltic States. It could be argued that the United States has demonstrated a sophisticated ability to neutralize different air defence systems, This, however, has usually required either large-scale resources or considerable time – and sometimes both. Nor has United States airpower been faced with anything as advanced as this integrated system. The situation regarding Russian land-based and airborne anti-ship missiles is quite similar. As long as the Kaliningrad exclave can be used for the deployment of such weapons, the movement of naval assets through the Baltic Sea will face very high risks.

The number of ground and air force units that Russia could deploy for an operation against the Baltic states depends entirely on the overall situation in Europe and globally. It will be a balance between risk taking and the time Russia thinks it may have for preparations before NATO starts to make any countermoves, such as bringing reinforcements to the Baltic States. The ground forces that Russia has in the region together with those that can be quickly moved there from nearby parts of Russia will be vastly superior to those of the Baltic States, in terms of both numbers and modernity.

It is even harder to assess the number and type of combat aircraft that Russia could have at its disposal. With their great mobility, they can be deployed from bases that are far away from the actual theatre. Russian potential can be illustrated by the fact that if 20 percent of the Russian Air Force's aircraft were involved in such an operation, it would involve more than 200 aircraft.

The military capabilities of the Baltic States

All three Baltic States each have an infantry brigade of moderate quality. The Estonian and Lithuanian troops are somewhat better equipped than those of Latvia. The degree of mechanization is low and combat vehicles, that is, advanced armoured vehicles and tanks, are lacking across the board. Anti-aircraft capability is limited to short-range anti-air missiles, such as the Swedish RBS-70. In all three states there

is a fairly extensive home guard organization that focuses on local tasks and supporting the reception of reinforcements from abroad (Host Nation Support). No country has any combat aircraft of its own. All the states' navies focus mainly on mine countermeasures.

All the Baltic States are integrated into NATO's air surveillance command and control system, NATINADS. It should be noted that the air policing operation over the Baltic States which is conducted continuously by other NATO states, using approximately four aircraft at a time on a rotational basis, is not an air defence operation. It is to manage incident handling. All the Baltic States have the ability to lead aircraft in combating ground targets.

The ability of the Baltic States to withstand a military attack is thus very limited. They would have to rely heavily on air support from NATO for both air defence and fighting an enemy advancing on the ground. Reinforcements on the ground would have to arrive within days if they were to have any impact on ground operations. It is from this perspective that one should see the discussion of a permanent presence of NATO forces, or pre-storage of equipment, in the Baltic States.

The resources that NATO could deploy for an operation in the Baltic area are very difficult to quantify. The ability of the United States to intervene, and to what extent the US will face time constraints, depend very much on its engagements in other parts of the world. To provide an indication of what might be possible to achieve at short notice, US assets in northern Europe are illustrative. There are three Brigade Combat Teams in Germany, but these are also used for other assignments so there is seldom more than one or two at hand. There are also three squadrons of combat aircraft in Germany and three squadrons with some support assets in the United Kingdom. Overall, this must be regarded as very little in relation to the tasks they might face in the event of a Russian threat or attack against the Baltic States. Reinforcements from other parts of the world would thus be needed within days.

An important NATO asset in a rapidly emerging crisis is the US Navy, with its aircraft carriers and Marine Corps units, although there may be questions about how soon these could begin to operate in the Nordic area. It has been decided to abolish the US Second Fleet (Atlantic Fleet). Although this does not mean that the US Navy will disappear from the Atlantic, it could nevertheless lead to a situation in which

there was no senior commander with staff that closely follows developments in northern Europe. This would probably mean that the time elapsed before US carrier-based aircraft could start flying sorties in the Baltic region will be longer than today.

The US also always has two (of ten) Air Expeditionary Forces (AEF) on standby, ready to deploy to a crisis area within a few days. An AEF consists of approximately 100 combat aircraft and the necessary support functions. Southern Sweden would be the best area to base an AEF in a crisis in the Baltic region. It has the infrastructure needed, several military airbases and a number of civilian airports, and it is near, but not dangerously near, the area of operations.

Light US ground forces, without heavy fighting vehicles, could begin to be flown into the Baltic region either from Germany or directly from the United States at a few days notice. It is uncertain what expeditionary capability the German, British and Polish armed forces will have in the future. Significant cuts are currently being considered in both the German and British forces. In the future, Germany might have only six reinforced infantry brigades and one light, partly helicopter-borne, rapid intervention force. The UK seems to be on its way to prematurely disbanding its primary system for ground-attack missions: the Tornado. Nor will the UK have any carrier-based fixed-wing aviation since the Harrier-system has been disbanded and will not be replaced by the F-35 for the next decade. The Polish Armed Forces are also in a process of restructuring. Common to all three states is that for economic reasons they will have problems modernizing their equipment in the foreseeable future. It is therefore not at all certain that NATO, with the possible exception of the United States, will be technically superior to most Russian units by the end of this decade.

One factor that is rarely commented on is that NATO's European member states almost completely lack the logistical capabilities required for large-scale operations in the Baltic region. Planning for a major ground operation emanating from Germany and Poland to defend the Baltic States is therefore scarcely credible.

Conclusions

Available resources in Russia are likely to be enough to neutralize the Baltic States' own armed forces in a relatively

short period of time. Early support from NATO is a must. An early (pre-crisis) presence of two to three brigades would probably create a situation in which an attack would be too great a risk from a Russian point of view. The opportunity to present NATO with a fait accompli would be drastically reduced. NATO has sufficient resources for such a pre-emptive deployment. The prerequisite is, however, that there is enough courage to carry out a major airlift operation in what is likely to be a very tense situation, which it probably has to be if NATO is to contemplate such a massive show of force.

The crucial factor is how Russia's air defence system, aircraft and surface to air missiles are assessed. It is doubtful whether the United States would risk a large number of transport aircraft, with soldiers on board, in an airlift to the Baltic States if it had to face a modern and integrated air defence system. However, the United States might be prepared to take the risk if it were a way to stop a crisis escalating into a war. In the case that Russia had already attacked the Baltic States, there would probably not be any transport aircraft heading for the Baltic States before the Russian air defence system had been sufficiently suppressed. Such an operation would take anything from days to weeks, if it were feasible at all.

Furthermore, it is likely that the Russian air defence system would reduce NATO's ability to provide air support to the Baltic States' own military forces. This is perhaps the greatest weakness when it comes to NATO's ability to defend the Baltic States, if required. Using air power is the fastest way to intervene. The aircraft can be based outside Baltic territory but could affect land operations in a decisive way if it were able to operate freely, but this would not be the case in a scenario in which there is a serious Russian threat against the Baltic States.

From a Swedish point of view there are three obvious challenges to analyse linked to a possible NATO operation in the Baltic Sea region. First, the best, and perhaps the only reasonably safe, route to approach the Baltic States by air in case of war would be through Swedish air space. This requires a very high level of coordination with Swedish command and control systems. Second, the island of Gotland in the middle of the Baltic, if not properly defended, risks becoming a primary target in the event of an operation directed against the Baltic states. In Russian hands, Gotland would function as a formidable flank guard protecting its operations on the eastern shores of the Baltic. Third, the question arises whether

Sweden could actively support NATO operations in support of the Baltic States in some way in case of a crisis. There are good operational reasons for Swedish involvement: Sweden is close and could act early, access to Swedish air and naval bases would greatly facilitate NATO operations and it has assets, such as heavy mechanized units, which NATO might find difficult to bring in at an early stage. This would also carry risks. A transfer of resources to the other side of the Baltic reduces the ability to defend Sweden proper if the operation in the Baltic States were not successful.

To summarize, NATO would face serious difficulties in a situation in which it needs to defend the Baltic States. It seems highly likely and probably inevitable that Swedish territory would be affected by such an operation. Parts of Swedish territory could even play a crucial role, determining whether NATO was to become successful. Regardless of the intentions that Russia may or may not have in an unknown future, Sweden can contribute to the stability in its region by making it credible that it can and intend to defend all parts of its territory, and by having a strong capability to cooperate with NATO should the need arise.

5 The EU and Crisis Management: A Symbolic Act?

Eva Hagström Frisell and Teresa Åhman

The European Union (EU) is often criticized for not being able to take action quickly enough or for not being able to act at all. This criticism was for example made in relation to the EU's handling of the crises in North Africa and the Middle East in early 2011. Developments in the past ten years prove that the EU is still dependent on the political will of its member states in order to be able to engage in civilian or military crisis management operations. At the same time, the EU has built a capacity to respond swiftly to large-scale disasters with civil protection assets and humanitarian assistance. The question remains how the EU will be able to meet the increasing need for crisis management and disaster response operations and how Sweden and other member states can relate to the development of the EU's role in this field.

In the past decade, the European Union has developed a capacity to manage crises both inside and outside the Union. This development has taken place in separate strands. First, the EU has developed cooperation on civil protection and humanitarian assistance to prevent and manage the consequences of acts of terrorism and natural and man-made disasters, such as chemical accidents. Second, the EU has developed a capability to contribute to civilian and military crisis management in order to promote peace and security. Third, it has developed several financial instruments to meet humanitarian needs and promote long-term development around the world.

At the same time, the EU has also taken action in response to several crises and disasters. In the aftermath of the devastating earthquake in Haiti in January 2010, the EU contributed to the disaster response with civil protection and humanitarian assistance as well as military capabilities, such as transportation. Off the Somali coast the EU is engaged in its first maritime operation to protect United Nations relief

shipments to Somalia and to manage the threat of pirates in the Indian Ocean. In relation to the crises in Northern Africa and the Middle East at the beginning of 2011, the EU was quickly involved in the evacuation of EU citizens from Libya as well as in contributing humanitarian assistance.

In the past ten years, the EU has strengthened its ability to contribute to rapid disaster response operations, and has gradually taken responsibility for larger operations in the field of civilian crisis management, for example, in Kosovo. However, on the military side the EU has mainly been engaged in limited operations with lower levels of risk. The EU's broad set of instruments has implied that, for example, in the Balkans, it has been able to manage the transition from military operation to civilian operation and subsequently to other forms of support from the European Commission.

EU cooperation in the field of crisis management and disaster response has mainly been driven by events. The trend is for the number of disasters to increase. According to the European Commission, the annual number of natural and man-made disasters has increased fivefold since 1975.[7] In addition, disasters tend to affect countries already suffering from conflicts. Therefore, the need to promote peace and security and to respond to humanitarian needs is likely to remain high in the future. The development of the EU as a crisis management actor will depend on the political will of its member states and their ability to contribute to crisis management operations. The economic crisis and impending reductions in defence budgets in several member states risk reducing the resources available for crisis management. In order to manage the complex crises of today, the EU needs to coordinate the use of its different instruments for crisis management, disaster response and humanitarian aid more effectively and more efficiently. Moreover, the EU is only one among many actors on the international scene and needs to coordinate its actions with other central actors in crisis management and disaster response, such as the UN, NATO and regional organizations.

[7] European Commission, "*Towards a Stronger European Disaster Response: The Role of Civil Protection and Humanitarian Assistance*", COM (2010) 600 Final.

The willingness and ability of member states to contribute

The EU is reliant on the political will of its member states to contribute to EU crisis management operations. It can only be the type of actor that its member states want it to be. The principle of unanimous decision-making can at times delay

common EU action or leave the EU unable to take action at all due to the differing security policy interests of the member states. However, in instances where divisions among member states do not run as deep, the EU has been able to agree and to take action rapidly. This was the case, for example, in Aceh and Georgia. In general, it has been easier for the member states to agree over limited operations at lower levels of risk.

In addition, the member states only have one set of resources, and these are available to other organizations such as the UN and NATO. EU member states have had problems generating sufficient resources for EU peace operations, and this has led to a lack of personnel in several civilian missions and narrowly defined military operations. The current financial crisis and the cuts to member states' defence budgets risk further reducing the willingness and ability of member states to contribute to international operations.

However, in response to the current economic crisis, several new initiatives on deepened defence cooperation have been launched in Europe. The resulting agreements have to a large extent been based on specific needs and involved only a small number of member states with more limited links to the EU institutions. One example is the Franco-British agreement on deepened cooperation in the field of security and defence. While these initiatives could increase the availability of resources for crisis management in the member states concerned, they could also jeopardize the legitimacy and unity created within the EU. In the long run this could reduce the willingness of other member states to contribute to EU crisis management operations.

At the same time, forces within the EU institutions and some member states are pushing for a strengthening of the EU's role in disaster response. The Lisbon Treaty reaffirms the political will of the member states to act in solidarity in response to disasters within the EU. There are also expectations among EU citizens that the EU should be able to act in response to disasters worldwide.[8] After the earthquake in Haiti, the European Commission put forward a number of proposals on how the EU should be able to respond to crises in a more effective, efficient, coherent and visible way by strengthening cooperation in the areas of civil protection and humanitarian aid. Within the EU, discussions are ongoing on, for example, the modalities of a voluntary pool of civil protection resources, to which member states can report capabilities that they can make available to the Union. Among the objectives are to

[8] European Commission, *Eurobarometer: Civil Protection, Full Report, November 2009;* European Commission, *Humanitarian Aid Report, July 2010.*

increase the predictability of member states' contributions and to increase the political commitment of the member states to contribute resources to EU disaster response. In addition, the discussion on common EU civil protection resources resumes after every disaster. The Commission has a positive view on common resources but most member states do not seem to be ready for such a step.

Coordination between different EU instruments

The Lisbon Treaty sets out new conditions for coordinating the EU's crisis management instruments, particularly the introduction of the High Representative of the Union for Foreign Affairs and Security Policy and the establishment of the European External Action Service (EEAS). However, responsibility for EU crisis management will still be divided between the Commission and the EEAS. The Commission has been given responsibility for cooperation in the area of civil protection, where the member states, among other things, coordinate their disaster response assistance to a stricken country inside or outside the EU. The Commission is also responsible for humanitarian aid as well as long-term development aid. The EEAS, in turn, is responsible for the foreign policy instruments, the strategic planning of development aid, civilian and military crisis management operations and the EU delegations in third countries.

Further coordination between these instruments is key in order to be prepared for complex crises and achieve results in the field. In the wake of the Lisbon Treaty, the EU will have to establish new ways of coordinating the different EU institutions with a role in crisis management and disaster response. It will be important that the EU, in the early phase of a crisis, can provide a smooth transition from disaster response to early recovery in order to promote a more coherent and long-term approach to its work. To achieve this, further coordination will be required between civil protection, humanitarian aid and the different financial instruments within the Commission and the EEAS. The EU must also better communicate its achievements in the field. It is often criticized for not being able to take action quickly enough, or for not being able to act at all, even though EU experts in civil protection and humanitarian assistance are often among the first to arrive in a disaster area.

When it comes to peace operations, it is key that the EU's military and civilian crisis management operations draw

on the work carried out in the same area by the EEAS and the Commission to promote long-term development. This requires more integrated structures for planning, and command and control within the EEAS of the EU's crisis management operations. In the field, the new EU delegations have been given an enhanced mandate to coordinate the EU's actions in third countries. The EU delegations will take over political coordination between EU member states and play a strengthened role in relation to the EU's civilian and military operations, which improves the conditions for achieving more coordinated and coherent EU action.

Coordination with other actors

The EU is only one of the actors on the international scene. There is an abundance of international actors in most crises and theatres of operations today. The EU must cooperate with the UN, NATO and regional organizations, such as the African Union, in order to contribute effectively to crisis management. The UN has unrivaled legitimacy and a UN mandate is often necessary for EU member states to be willing to contribute to a crisis management operation. The UN also has the overarching role in coordinating responses to disasters outside the EU. In the early phase of a crisis, the EU mainly acts in a supportive role to the UN by providing humanitarian assistance, such as civil protection and financial support. Views among EU member states, however, differ on the role of the EU in humanitarian assistance outside its borders. Many member states support the coordinating role of the UN, but France and Italy, for example, want to develop the EU's role and look favourably on the EU having more than a supporting role to the UN in responding to disasters.

NATO is the actor with the capacity to plan, manage and conduct large-scale military operations. At present, the EU lacks permanent military planning and conduct capabilities and has to rely on its member states or NATO resources. However, in several areas of operation where NATO is engaged in a military operation, the EU contributes civilian capabilities to crisis management. NATO's new strategic concept, which was approved in November 2010, sets out that the organization will seek to enhance its role in civilian crisis management and in relation to new threats to energy security and cyber security. These are areas that have been on the EU's agenda for a long time. NATO can also support humanitarian agencies with resources, for example, transportation, as was the case in relation to the earthquake in Haiti. Even though

NATO has access to resources that humanitarian agencies need, the use of military resources in humanitarian disasters is a sensitive issue. Humanitarian agencies often consider that NATO participation makes it difficult to abide by humanitarian principles, which makes it unlikely in the short term that NATO will play as prominent a role as the EU in humanitarian assistance or civilian crisis management.

In order to strengthen its cooperation with the UN and NATO, the predictability of EU action must be enhanced. This can be achieved by improving the planning of operations and proactively identifying resources. Today the EU only mobilizes resources after a crisis has occurred. This makes coordination with NATO and the UN more difficult. For example, the UN finds it difficult to cooperate with the EU since it never knows in advance what the EU can do or contribute.

The EU's future lies in the hands of its member states

In the end the member states' political determination will decide if and in what way the EU will be able to act in response to a crisis. In some cases political will has proved to be insufficient, and in these situations the EU has appeared to be an actor without the ability to intervene. In other cases, however, the EU has demonstrated a capacity to deal with upcoming crises. The EU does not have to develop new tools. It already has a relatively wide range of instruments. In order to avoid EU crisis management being seen as nothing more than a symbolic act, the EU must strengthen coordination between its instruments and better communicate what is being done, for example, in terms of civil protection and humanitarian aid in response to a disaster. Most crucial, however, is for member states to agree on the role they want the EU to play in crisis management and disaster response, and how the EU should relate to the UN and NATO.

Sweden's political goal is to belong to the core of European cooperation; and EU foreign policy is Sweden's stated policy.[9] Sweden ratified the Lisbon Treaty and therefore also supports the strategic direction of the further development of the EU as a crisis management actor. At the same time, Sweden is one of the EU member states that is sceptical about having civil protection assets on stand-by and at the disposal of the EU, developing EU assets or increasing the joint financing of crisis management operations. Thus far, Sweden has also been

[9] Government Offices of Sweden (2011) "Statement of Government Policy in the Parliamentary Debate on Foreign Affairs 2011".

hesitant about establishing a permanent military planning and conduct capability in the EU's military crisis management operations. Sweden wants to retain its freedom of action and flexibility to make assets available to the UN and NATO, or directly to the affected country.

In order to be able to influence policy-shaping and policymaking in the EU, the member states, including Sweden, need to develop a clear idea of the EU's role in crisis management and disaster response, and to closely consider the position taken in relation to different proposals on strengthening the EU's capacity. The question that needs to be answered is: what aspects of crisis management and disaster response are managed most effectively and efficiently through EU cooperation; and what aspects should be managed through other actors or through decentralized solutions? The member states can either fully support strengthened institutions and shared resources within the EU or continue to balance the EU's work with operations within the framework of the UN or NATO. Without a distinct and unified vision among its member states, the EU risks becoming a merely symbolic crisis management actor whose credibility is increasingly questioned.

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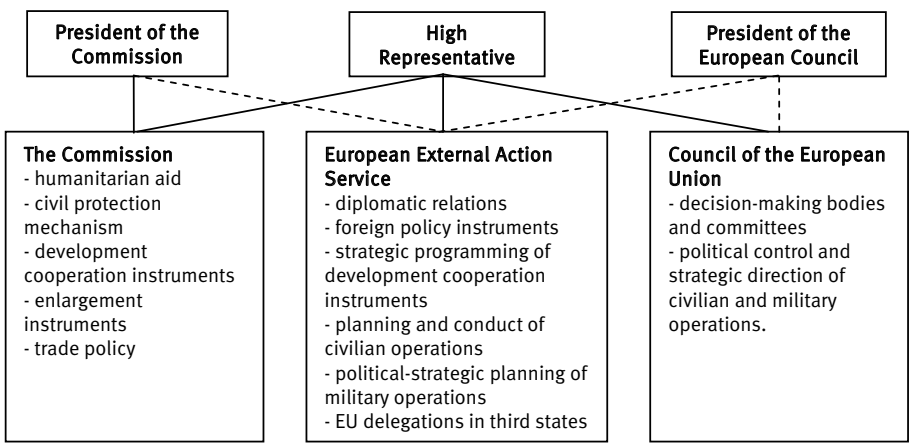

Figure 5. The EU's instruments for crisis management.

6 The Use of Force in Peace Support Operations: A Precondition for the Protection of Civilians?

David Harriman and Justin MacDermott

After Rwanda and Srebrenica world leaders vowed "never again", but gross acts of violence against civilians still occur in countries such as Afghanistan, the Democratic Republic of the Congo (DRC), Libya and Sudan. The need for more robust peace operations,[10] characterized by an increased readiness and capability to use force to protect civilians, therefore seems urgent. However, this would be associated with significant risks and could lead to further violence while at the same time impeding the execution of the peace operation itself. This raises questions about whether the use of force can be an effective method of protecting civilians. Since Sweden currently contributes to peace operations with mandates to protect civilians, and has a long tradition of participating in peace support operations, it is crucial that this issue is addressed in national defence and foreign policy debates.

[10] Robust in this case generally refers to political and operational aspects where the use of force is a last resort. However, the current article focuses solely on the use of force. The UN also distinguishes between robust peacekeeping operations and peace enforcement operations, but both types of operation are considered here.

After the failure to protect civilians in Rwanda and Srebrenica in the mid-1990s, demands on the international community to prevent violence and abuses against civilians intensified. This eventually led to a broad international consensus on the importance of being able to use force to protect populations in countries where governments have either lost or abused their legitimacy. In 1999, the United Nations Security Council adopted resolution 1265, which for the first time established the *protection of civilians* as an explicit task for peacekeeping operations. In 2005, the General Assembly of the United Nations adopted the principle of the *responsibility to protect* (R2P).[11] This principle establishes that the international community has a responsibility to intervene when a government is unable or unwilling to protect its population. It was a substantial breakthrough since it prioritized protection against ethnic cleansing, genocide, and so on, over state sovereignty. Responsibility to protect is thus about the justification for an intervention, whereas the protection of civilians is about the tasks of a peace operation.

[11] United Nations General Assembly (2005), A/RES/60/1.

The use of force to protect civilians is a last resort. This means that there is a risk that civilians will be harmed before peace operations embark on the use of force. The political implications of intervening too late or not at all are potentially very damaging, as was seen in the cases of Rwanda and Srebrenica. There is therefore scope to use force even before large-scale violence and abuses have taken place. The international intervention in Libya can partly be seen in this light.

In 1999, the United Nations Mission in Sierra Leone (UNAMSIL) was the first peacekeeping mission to be given a mandate to protect civilians. Since then, there has been a growing trend to give such mandates. As of 2011, ten UN peacekeeping missions have been given such mandates and approximately 90 per cent of UN peacekeeping troops are deployed in missions with such a mandate. The 14 ongoing UN missions vary from pure observation missions to multidimensional peacekeeping missions with military, police and civilian capacities.[12] Half of these have mandates to protect civilians, and Sweden's military personnel participate, or have participated, in five of these. From a Swedish perspective, it is therefore important to understand and be able to relate to the challenges and opportunities presented by operations with a mandate to protect civilians.

The UN has adopted a number of resolutions in order to enhance the protection mandate.[13] For example, the Security Council adopted resolution 1894 in 2009, which established that mandated protection tasks should be prioritised. In addition, the protection of civilians is often mandated under Chapter VII of the UN Charter, which implies that peace operations are allowed to use force both in self-defence and in defence of the mandate.

Despite these developments, protection has often faltered. One example of this occurred when the UN peacekeeping mission in Sudan, UNMIS, refrained from leaving its camp even though it knew that attacks against civilians were taking place in a nearby refugee camp. In the neighbouring mission in Darfur, UNAMID armed police units have sometimes chosen not to intervene when the national police force has committed abuses. Instead, it has monitored and reported the incidents, which, at most, would lead to demands to hold those responsible to account.

In the DRC, the task of the UN Mission, MONUSCO, to

[12] Beyond UN peacekeeping missions, there are currently a number of international peace support operations managed by other organizations or a coalition of international actors. These include both peacekeeping operations, where there is a peace agreement and consent from the parties to the conflict, and peace enforcement operations, where consent is lacking from some of the main parties to the conflict, such as in Afghanistan and Libya.

[13] See United Nations Security Council resolutions S/RES/1296 (2000), S/RES/1674 (2006), S/RES/1738 (2006) and S/RES/1894 (2009).

protect civilians is further complicated by the fact that the mandate also includes working alongside government security forces, which have been seen to commit abuses against the civilian population. Here again, the UN has resorted to monitoring and reporting abuses instead of intervening with force. More recently, however, it has made its support for the DRC Army conditional on the national authorities holding to account those responsible for abuses.

Shortcomings in protecting civilians can partly be explained by lagging conceptual development. The UN only managed to present a draft operational concept for the protection of civilians in 2010. There is still a great need for further clarification and concretisation in the field. This is particularly the case since the task makes great demands for efficient and coordinated action by military, police and civilian actors.

Often, however, shortcomings are a result of the magnitude of the task. In the DRC, which is approximately five times the size of Sweden, the protection of civilians is an extremely challenging task for a force of merely 19,000 troops. UN mission mandates take these challenges into account by establishing that the protection of civilians should be provided within a mission's capabilities and areas of deployment.

In addition, the mission mandates establish that the primary responsibility for protecting civilians lies with the host government, and this presents several challenges. The mandates stipulate that the protection of civilians should be carried out while "taking into account the responsibility of the Government". A dilemma arises in cases where it is the host government that is responsible for the abuse: when and how should intervention take place and what should be prioritised – the protection of civilians or the continued consent by the host government? In the above examples it would seem that the principles of sovereignty and host nation consent have been given priority over the protection of civilians, despite the fact that these peace operations have a mandate to use force under Chapter VII. This question comes to the fore in situations like Darfur, where the Sudanese government often backs those who commit crimes against the population.

Despite the fact that the international community, not least the UN, has been mustering efforts to protect civilians in conflict areas, violence and atrocities continue – often unchallenged and without the perpetrators being held accountable. The usefulness of the Security Council

continuing to issue this type of mandate if missions are not robust enough to carry out these tasks – in terms of both their capacity and readiness to use force – is open to question.

Intensified force is no guarantee

Even in cases where there is a readiness and the capacity to use force in a peace support operation, such robustness can present severe challenges and possibly have negative consequences. Increased use of force could jeopardize the host nation's consent for an operation, which is both politically and symbolically important since it is one of the doctrinal principles of UN peacekeeping missions.[14]

[14] UN DPKO (2008), *United Nations Peacekeeping Operations: Principles and Guidelines* (the "Capstone doctrine").

Loss of consent can also have practical implications for the ability to protect civilians. In extreme cases this can lead to demands to leave an area of operation, or to the direct targeting of peacekeeping troops by the parties to the conflict. If a mission withdraws from an area of operation, it loses any possibility of protecting civilians in that location. Similarly, if troops are exposed to targeted violence, their operational capacity to protect civilians will be restricted. In Sudan, there have been examples of government-instigated violence against the peacekeeping mission, which led to such limitations.[15] In another example, after the UN recognized Alassane Ouattara as the winning candidate in the presidential elections in Côte d'Ivoire in 2010, this led to demands from the losing candidate, Laurent Gbagbo, for the withdrawal of the UN Mission in Côte d'Ivoire (UNOCI) and to targeted violence against the mission.

[15] Gowan R. and Tortolani B, (2009) "Robust Peacekeeping and its limitations", in Centre on International Cooperation (2009) *Robust Peacekeeping: The politics of force*, p. 53.

Loss of host government support for a peacekeeping operation can also have consequences for the ability to protect civilians. In the case of Sudan, the government used bureaucratic restrictions to prevent UN attempts to bring in the personnel and materiel required to enhance the robustness of the mission. There were also government objections in the DRC to increasing troop capacities to the levels required for robust operations.[16] Both these cases have coincided with failures to protect civilians. Needless to say, bureaucratic and political means can be used to undermine any type of peace support operation but the fact that robust peacekeeping operations are more dependent on materiel resources (e.g. base facilities and high mobility vehicles) makes them easier to undermine. They are more sensitive to logistical disruptions because these reduce their capability to rapidly mobilise and intervene, which are decisive functions of such operations.

[16] Gowan R. and Tortolani B., p. 50.

As peace support operations have grown more complex, the risk of unintended consequences of the use of force has increased. Today, peace operations are not only a matter of monitoring ceasefires, but also aim to create a secure environment, contribute to reconstruction and simultaneously to protect civilians. These tasks contain inherent tensions, which come to the fore in situations like Afghanistan where efforts directed at combating insurgents have repeatedly led to civilian casualties.[17] In this sense, the operation itself has become a threat to sections of the Afghan population. This is a significant risk in operational contexts where it is difficult to distinguish between rebels or insurgents and the civilian population, which makes it difficult to decide when to use force to protect civilians. At the same time, stable and secure environments are preconditions for building peace and protecting civilians over time. Hence, the influence of armed groups that disrupt a peace process needs to be curtailed. This highlights the difficulty of protecting civilians from physical violence in the short term and building security in the long term.

[17] The protection of civilians is not an explicit task according to the mandate but was adopted as one of the instrumental functions of the International Security Assistance Force (ISAF) as a result of the changes made to the strategic direction of the operation in 2009 by the former ISAF Commander, General Stanley McChrystal.

The way ahead

Numerous examples, both past and present, demonstrate the need for robust peace support operations that are both ready to tackle and capable of addressing human suffering. At the same time, other examples demonstrate the unresolved challenges pertaining to legitimacy, consent and protection. The issue of legitimacy, in particular, is crucial since mission success is ultimately determined by the perception of the operation. There are inherent challenges involved in obtaining legitimacy at different levels, especially with the host government, on the one hand (in cases where it supports violence and abuses), and the civilian population, on the other. Thus, when scrutinized, the issue of the protection of civilians appears to be an intricate balancing act. Nevertheless, increased preparedness to use force appears to be a precondition for protecting civilians.

It is the need for protection among populations in war-affected countries that justifies the increased readiness to use force when it comes to the responsibility to protect and the mandate to protect civilians. It is therefore crucial to establish how the protection of civilians in accordance with UN Security Council resolution 1894 can be prioritized even in difficult environments such as the peace enforcement operation in Afghanistan.

There is also a need to explore how military interventions can be carried out without the peace operation itself becoming a source of violence against civilians, either indirectly as a result of an increased spiral of violence or directly as a result of the mission's operations. The debate on this issue in connection with the operation in Libya is therefore both timely and salient.

In view of Sweden's long history of participating in peace support operations, it needs to explore these issues and engage in the debate nationally as well as internationally. Regardless of under which organizational structure Swedish troops are deployed (the European Union, the UN or the North Atlantic Treaty Organization), they tend to operate under a UN Mandate. This implies that future Swedish contributions to peace support operations are likely to be covered by a mandate to protect civilians. It is therefore crucial that the question is given greater attention in Swedish defence and foreign policy debates.

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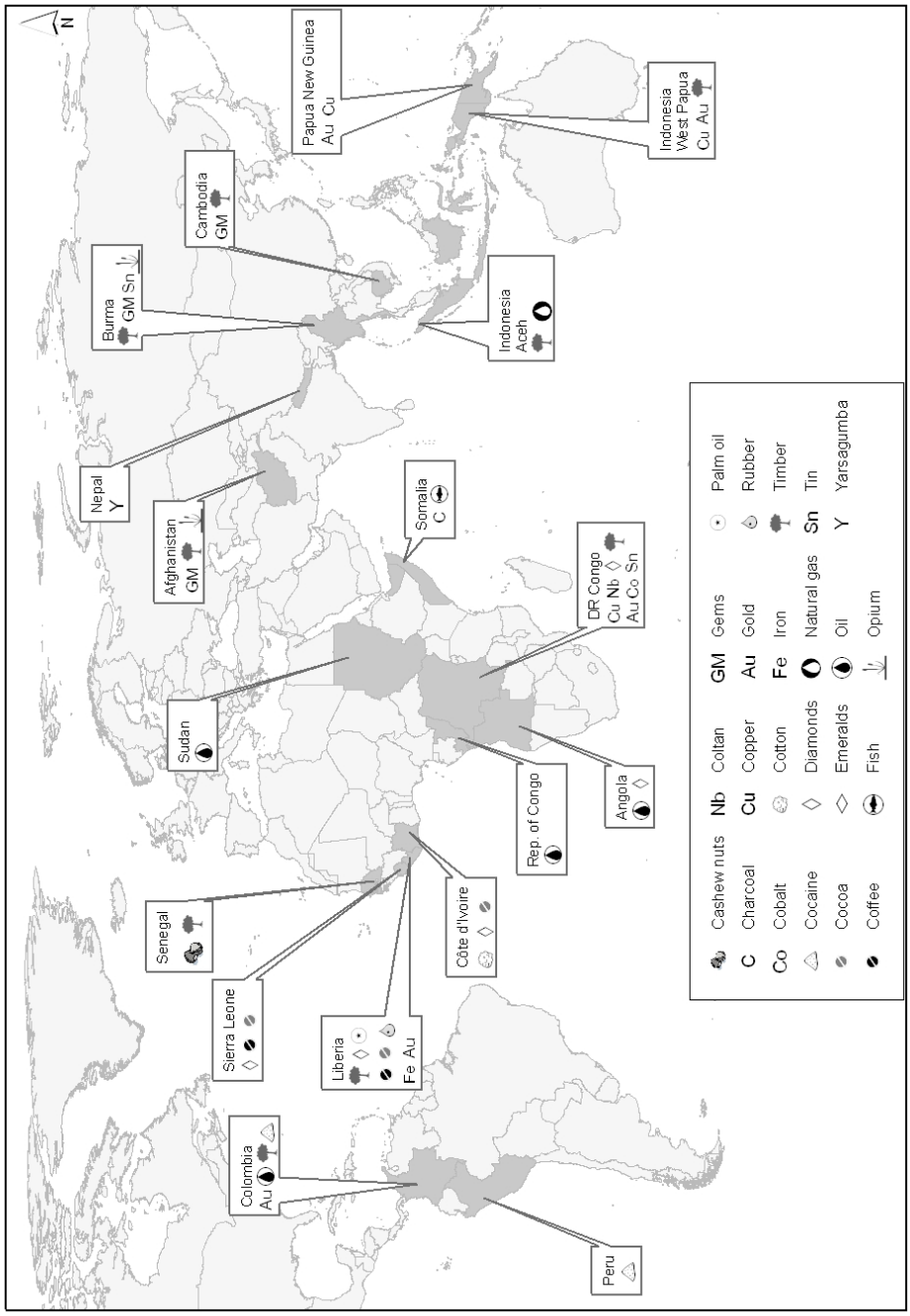

Figure 6. Civil war and internal unrest fuelled by natural resourses since the 1960s (source: FOI/Natural Earth, 2011 and United Nations Environment Programme, 2009).

7 Natural Resources and Conflict: The Gap between Policy and Practice

Annica Waleij and Magnus Normark

Peace-support and security-building operations are increasingly being undertaken in countries and regions where the environment is under severe stress or where natural resources have fuelled the conflict. The strategic aim of these operations is generally to contribute to fair and sustainable global development. However, environmental factors and natural resources are rarely addressed in conflict analysis or peace-building strategies. To be able to prevent and resolve natural resources-fuelled conflicts it is critical to address the role that natural resources play in conflict dynamics. Sweden could be more active in this arena.

In December 2006 the Hollywood film *Blood Diamond* premiered worldwide. The film depicts a diamond smuggler from Zimbabwe and a fisherman from Sierra Leone whose paths cross during the civil war in Sierra Leone, and their struggle to find a giant pink diamond. Although the movie is somewhat romanticized, it helped to raise awareness of how so-called blood diamonds can fuel conflicts.[18] The link between diamonds and the way we live our lives in Sweden may seem remote. Diamonds are rarely consumer products – but what about the components in our cell phones, the beverages we drink, the bananas we eat or the cotton in our clothes?

It is difficult to prove simple relationships between environmental factors and conflicts. Low-intensity conflicts at the local level over access to water, land or fish are rarely acknowledged by the international community, even though they are quite common.[19] It has been shown, however, that countries that depend on trade in natural resources are more likely to experience civil war than other nations. Since the late 1960s, at least 17 civil wars have been fuelled by natural resource rivalries. Nine of these conflicts were or are in Africa.

[18] The story behind the movie led to the Kimberly process, which is a certification scheme for rough diamonds. The aim of the Kimberly process is to prevent conflict diamonds from finding a market and to reassure consumers that they are not contributing to armed conflict and human rights abuses.

[19] The intensity at which internal unrest becomes a civil war is a matter of debate. Some political scientists define civil war as a minimum of 1,000 combat-related casualties. Others argue that there must be at least 100 casualties from each warring fraction.

It is worth mentioning, however, that the research community is split on the topic and that the empirical data are often insufficient to prove causal relationships. A trend in the debate however is for the focus to shift from a conflict dynamic over diamonds and timber to natural resources of more strategic value to the Western world, such as the strategically important metals contained in consumer electronics and defence materials.

The role of natural resources in driving and sustaining conflicts

Trade in natural resources is often an opportunistic business, where opportunity creates the perpetrator in societies where levels of law and order and institutional capacity are either low or totally lacking. In Sierra Leone, diamonds were sourced by the rebel movement, the Revolutionary United Front (RUF), as a vital part of its war-fighting capacity. This situation helps to prolong the violent conflict for many years. After the Lomé peace agreement, members of the RUF held cabinet positions and its leader was appointed chairman of the Committee for the Management of Strategic Resources, National Reconstruction and Development (CMRRD). This undermined the state's ability to counter illegal trade.

In the eastern areas of the Democratic Republic of the Congo (DRC) rebels and part of the Congolese army control areas where valuable minerals such as gold, cassiterite, wolframite and Columbite-tantalite are mined.[20] The revenues from the illegal trade in these minerals provide the financial base for the rebels to purchase small arms and other material needed to sustain the conflict in eastern DRC.

[20] Cassiterite is the principal ore in tin. Wolframite is the main source of the metal tungsten, used in armour-piercing ammunition, and the tantalum used in cell phones and laptop computers is extracted from Columbite-tantalite (coltan).

In addition to grave violations of human rights and conditions of forced labour in the mining areas, one of the world's poorest countries is deprived of its right to a legal trade in the natural resources that would facilitate its economic and social development. Corruption is widespread in the DRC and the local police and the army do not always receive the salaries they are entitled to. In such circumstances, illegal mining or trade in natural resources may be the only option available to make the ends meet.

A third example is Southern Somalia, where illegal trade occurs in charcoal – "Somalia's black gold". The absence of other means of survival, and increased demand for charcoal in the Arabian peninsula, mean that manufacturing of and trade

in charcoal have developed into one of the most important pillars of the informal Somalian economy. This trade, however, only benefits a small number of local businesses and clans, which are also often involved in the internal violence that blights the nation. The local population is affected not only by the fact that natural resources are fuelling the conflict, but also by the side effects such as deforestation, erosion and desertification. The illegal trade in Somalia's natural resources thus has highly negative effects on Somalia's ability to achieve fair and sustainable development.

Organized crime is thriving in the tracks of the trade in conflict resources.[21] Organized crime is becoming increasingly diverse and has become more global – reaching macro-economic proportions. Natural resources can be sourced in one continent, trafficked through another and sold in a third. According to the UN Office on Drugs and Crime (UNODC), illegal trade in natural resources is a widespread problem.[22] Terrorist activities financed by illegal trade in, for example, gorillas, tiger skins and rhino horn is a problem of increasing magnitude. The revenues from illegal trading in animals and animal parts is estimated by UNODC to be approximately 70 billon Swedish crowns annually.

[21] A definition of conflict resources has been proposed by Global Witness. See Global Witness (2006), "The Sinews of War" (Washington, DC: Global Witness Publishing).

[22] UNODC (2010), "The Globalization of Crime: A Transnational Organized Crime Threat Assessment" (Vienna: United Nations), pp. 275–276.

Towards an increased awareness of and capacity to deal with natural resources-fuelled conflicts

It is fairly safe to assume that the number of natural resources-fuelled conflicts will continue to increase. This holds equally true whether the conflicts are fought over scarce or valuable and abundant resources. One example of the former is the diminishing amount of arable land, predominantly in Africa. Local conflicts are ongoing in, for example, Southern Sudan, where international investors seek to purchase millions of hectares of land and where armed groups are taking land by force.

On of the prerequisites for sustainable peace in regions plagued by natural resources-fuelled conflicts is that peace support and peace-building operations support the legal sourcing and allocation of natural resources. In reality, however, environmental factors or natural resources are rarely included in conflict analysis, mission mandates or peace agreements. The UN stabilization mission in the DRC, MONUSCO, is one of the first missions in a natural resources-driven conflict to have as one of its tasks the monitoring of the illegal trade in natural resources. This is

supported by United Nations sanctions imposed to tackle the problem.[23]

[23] MONUSCO was established in 2009 out of the peacekeeping mission MONUC. The mandate of MONUC was broadened in 2008 by UNSC resolution 1856 to include monitoring the illegal trade in natural resources.

The role of natural resources in conflicts has been increasingly debated in the past decade. The UN High-level Panel on Threats, Challenges and Change, for instance, highlighted in 2004 that environmental stress, exacerbated by population growth and shortages of land and other natural resources, can contribute to civil violence. The panel also identified transnational organized crime in natural resources as a threat to security. The UN Security Council also acknowledged the problem of natural resources-fuelled conflict in a debate in the Security Council in 2007. In addition, the European Union's Security Strategy and the new North Atlantic Treaty Organization (NATO) strategic concept discuss environmental change and the role of natural resources in relation to future conflicts.

Sweden is active in peace-support and security-building operations. Such operations are intended to be complementary and collaborative aspects of our combined support to security and development in a specific region or country. Currently, operations are undertaken in areas where illegal sourcing of or trade in natural resources have been or are taking place. Some more recent examples are the Swedish contributions in support of the UN-led missions in Liberia (UNMIL, 2004–2006), the DRC (MONUC, 1993–1994) and the Horn of Africa (EUNAVFOR, 2010) as well as the ongoing NATO-led peace operation in Afghanistan (ISAF, 2004 to date). There are also a large number of Swedish military observers, police officers and seconded personnel in regions with natural resources-driven conflicts. It would be justified to pay more attention to the conflict dynamics surrounding natural resources than is the case today.

Sweden is also active in the defence environmental community in both NATO and the European Union. Sweden has contributed to UN peacekeeping by developing and carrying out environmental awareness training for UN field staff. With support from Sweden, the UN Training and Research Institute (UNITAR) has added a course in natural resources management in post-conflict environments to its portfolio of peacekeeping training courses. Sweden has also assisted the UN field missions in the DRC and Southern Sudan with tailored training campaigns that take the natural resources conflict nexus specifically into consideration. This type of training, however, is not something that Sweden has prioritized

thus far for its own field personnel. One complicating factor in the effort to mainstream such training efforts is that research in this area is in its infancy. A scientifically validated perspective on the causes and consequences of natural resources-fuelled conflicts is a prerequisite for any increase in understanding of or increase in tactical ability to deal with the problems associated with these issues.

The Swedish Armed Forces perform an environmental vulnerability assessment before any peace operation deployment. Part of these assessments is to examine whether there are aspects of the conflict in question that relate to natural resources rivalries. The Swedish government, however, lacks an understanding of the need to transform the results of such assessments into practical and applicable solutions. There are good reasons for doing this on a broad front at the strategic, operational and tactical levels as part of overseas operations. The activities that are currently performed are fragmented and poorly coordinated.

Swedish engagement in peace-support and security-building operations is ultimately intended to facilitate fair and sustainable global development. Having this as a starting point provides an opportunity to lead by example by reducing our own environmental footprint. This could be achieved, for instance, by minimizing the impact of our operations on the natural resource base of the receiving nation, and by avoiding becoming a part of the war economy itself. It could also mean increasing our knowledge sharing, which in practical terms could mean deploying experts in natural resources management to support peace-building processes.

Environmental and natural resources issues are rarely considered as standalone topics, but rather as cross-cutting issues to be dealt with within the framework of other issues. What this means in practice is that environmental issues often take a back seat or are not addressed at all. The only way to give these issues the attention they deserve is to seamlessly integrate them with other issues. Peace operations are regularly tasked with actions in support of three UN Security Council resolutions that are considered to be cross-cutting.[24] There are currently no Security Council resolutions dealing with environmental or natural resources issues, even though this is exactly what would be needed to increase awareness of the issues and allocate the resources required to achieve change. Human security and national security are intimately connected to the sustainable use of natural resources.

[24] UN Security Council Resolution 1325 (2000) on Women, Peace and Security; UN Security Council Resolution 1612 (2005) on Children and Armed Conflict; UN Security Council Resolution 1674 (2006) on the Protection of Civilians in Armed Conflict. Cross-cutting issues are issues that require action in several areas and therefore integration with other relevant areas as well into the corresponding political dialogue.

Therefore, a fair and just management of natural resources should be an intrinsic part of any nation's foreign and security policies as well those of the international community as a whole. Attempting to resolve a conflict without addressing its root causes has only a slim chance of success.

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8 Nuclear Weapons: New Roles and New Actors

Martin Goliath

Nuclear weapons are of even greater relevance today than they were in the time of the Cold War, albeit in new roles. The threat of global nuclear war is almost negligible, but new actors have heightened the risk of regional conflicts in which nuclear weapons might be employed. From a Swedish perspective, three politically relevant nuclear weapons themes are: our proximity to Russia; new states seeking to acquire nuclear weapons; and the ability of the international community to act against such states.

The likelihood that humanity will be wiped out in a nuclear war has diminished since the end of the Cold War, but the likelihood of the use of nuclear weapons has increased in the same period. This might seem paradoxical, but is mainly explained by the emergence of a number of new de facto nuclear weapons states, India, North Korea and Pakistan, in addition to the established nuclear weapons states. Israel should be added to this list, although it has never officially declared itself to be a nuclear weapons state.

All these states, and in this respect China should also be included, lack transparency in regard to their nuclear weapons, the associated security systems and how nuclear weapons are to be deployed. This increases uncertainty and the risk of miscalculations. It seems probable that the number of nuclear weapons states will grow rather than be reduced, and we can expect nuclear weapons to have a prominent place on the international agenda for many years to come.

The United States and Russia: nuances in the reliance on nuclear weapons

Much attention in recent years has been devoted to so-called risk countries and to the threat of terrorists acquiring nuclear weapons. The real nuclear threat in the sense of actual capability, however, is associated with a limited number of nuclear weapons states – recognized or de facto. As was the case during the Cold War, most nuclear weapons are located

in either the United States or Russia. It is therefore of great interest to follow developments concerning nuclear weapons in these countries, regarding both declarations of nuclear doctrines and the development of capabilities.

In 2010, both Russia and the United States published policy documents on their views of the role of nuclear weapons, and in the US case how it intends to develop its inventory in order to counter new threats. In the US Nuclear Posture Review (NPR) great attention is paid to non-proliferation issues and means to prevent terrorist groups from acquiring nuclear weapons. Strategic deterrence remains central, but nuclear weapons are given less operational significance. In contrast, the Russian military doctrine continues to give nuclear weapons an important role in Russia's ability to avoid regional and large-scale conflicts. In this context, it can be assumed that the primary, but not necessarily nuclear, threat for Russia is perceived to be from China rather than the West.

However, when it comes to the dimensioning threat for Russian planning, the gauge is still the North Atlantic Treaty Organization (NATO). Insufficient conventional capability can to some extent be compensated for by nuclear weapons. This indicates the difficulties that await possible future discussions on further reductions in strategic arsenals, where two important issues for Russia will probably be conventional capabilities and defensive systems, that is, ballistic missile defence.

In terms of Russia's development of its nuclear weapons capabilities, new strategic systems stand out, such as a new class of strategic submarine and its missiles, as well as extensions to early-warning systems. These development projects have been beset by problems, but will nonetheless constitute enhanced capabilities in the long run.

Increased capabilities of substrategic[25] nuclear systems can also be expected in the light of enhancements to conventional weapons systems. For instance, it seems plausible to assume that the short-range ballistic missile Iskander (SS-26) could be fitted with a nuclear payload. Given its significantly better precision compared to other current systems, this would make use against entirely new target types possible. In particular, it would mean improved capability against hardened targets, such as underground command-and-control structures. When combined with terminal guidance there would also be an enhanced capability to defeat moving targets.

[25] Substrategic nuclear weapons are nuclear weapons that do not have strategic missions. They are usually characterized by lower yields and shorter ranges.

These capability developments underline a contradiction that has been present throughout most of the nuclear era. On one hand, the notion that nuclear weapons cannot be used has been stated in various more or less politically motivated declarations, such as Mutually Assured Destruction. On the other hand, there has been continuous planning for how these weapons might be employed on the battlefield and how a nuclear war might possibly be won.

Developments in US conventional weapon systems, including improved precision and new concepts such as *Conventional Prompt Global Strike,*[26] have reduced the exceptional nature of nuclear weapons. The need for nuclear weapons for particular tasks, for instance, destroying hardened targets, can be assumed to have reduced. The same cannot yet be said in Russia, despite comprehensive developments in conventional weapons there. Hence, the *de-escalation* of smaller conflicts by the limited use of nuclear weapons has become a commonly held aspect of Russian nuclear thinking. In sum, for the foreseeable future we will have to live with a near neighbour that sees nuclear weapons as an answer to some of its security needs.

[26] The purpose of Conventional Prompt Global Strike is to arm intercontinental ballistic missiles with conventional warheads. This would enable strikes against global targets without having to resort to nuclear weapons.

Risk countries: who is next?

A nuclear threat of an entirely different character is to be found in nuclear weapons programmes that are currently under development. Two actors currently high on the international agenda are Iran and North Korea. In the latter case, nuclear tests conducted 2006 and 2009 have demonstrated that it has mastered the relevant processes needed to produce the necessary fissile material,[27] and that it is capable of manufacturing a nuclear device.

Doubts, based on their relatively low yields, have been voiced about whether the tests conducted by North Korea were really successful. However, it might be an error to assume that North Korea has been following the same development path as was relevant when nuclear weapons were invented more than 60 years ago. There is a large degree of uncertainty about whether North Korea currently has an operational nuclear weapon, or whether it has merely demonstrated its ability to manufacture a nuclear device. If a nuclear capability beyond exploding a device is being sought, it is possible that a more advanced device able to be integrated with existing ballistic missiles is being developed.

[27] So far North Korea has focused on plutonium, but new information suggests that it has begun a uranium enrichment programme, see, e.g., David Albright and Paul Brannan: "Taking Stock: North Korea's Uranium Enrichment Program", Institute for Science and International Security (2010), available at www.isis-online.org.

Using a ballistic missile to deliver a nuclear device places several constraints on the system as a whole. First, the device must be small enough in both weight and size. Second, it must be robust enough to withstand the acceleration and vibration it will be subjected to at launch. Third, the warhead must be designed to survive re-entry into the Earth's atmosphere. In addition, the missile must be equipped with guidance systems to enable some degree of precision, assuming that such precision is required.

The nuclear development programme in Iran has been an issue for the international community for a long time.[28] It is difficult to assess Iran's intentions since there are considerable similarities between a civilian nuclear programme and a military one. Iran has put substantial efforts into developing a uranium enrichment capability. The difference between providing a civilian, energy producing light-water reactor with low-enriched fuel, and producing high-enriched weapons-grade uranium is limited to repeating the enrichment process in order to obtain higher grade uranium. Since these final steps involve a relatively small amount of material, they constitute a relatively small part of the total enrichment work. A substantial part of the work is done in moving from natural to low-enriched uranium.

[28] This has resulted in a number of resolutions of the United Nations Security Council, most recently UNSCR 1929 (June 2010) which imposes further sanctions against Iran regarding nuclear and missile technology.

An enrichment facility is most effective if it is optimized for a particular grade of enrichment. Consequently, the design of an enrichment plant is an indicator of the intentions of the actor. However, there is nothing to prevent the production of low-enriched uranium in an openly declared facility while performing the final high-enrichment at a separate plant. The latter facility can be relatively small and easy to hide.

It is in this light that the disclosure of a hitherto undeclared smaller Iranian enrichment facility should be seen, noting that a larger plant for low enrichment has been operational for a number of years. Quite apart from suspicions of military connections to nuclear programmes, Iran's declaration of a civilian nuclear energy programme based on indigenous uranium ore sounds unconvincing given that its known uranium resources are far from sufficient to cover the projected needs of the programme.

In sum, it can be concluded that Iran, in spite of the efforts of the international community, is slowly but steadily expanding its capabilities in relation to nuclear technology. In addition, it seems plausible that the purpose is to develop nuclear weapons,

or at least have the opportunity to do so should the need arise. If that is the case, we have to concede that the instruments of the international community regarding the non-proliferation of nuclear weapons have been insufficient in this case.

Roads away from nuclear weapons?

The framework of rules regarding nuclear weapons that almost all states have accepted, and that an overwhelming majority strives to uphold, is the Nuclear Non-proliferation Treaty (NPT). This treaty identifies five *de jure* nuclear weapons states: The United States, Russia, China, the United Kingdom and France. No other states are allowed to develop or possess nuclear weapons.

The NPT rests on three fundamental pillars. First, the five nuclear weapons states are required to undertake complete nuclear disarmament, although no time frame for this is specified. Second, proliferation of nuclear weapons, and also the material, technology and knowledge associated with them, to non-nuclear states should be prevented. Third, all signatories are guaranteed access to nuclear technology for civilian purposes.

By renouncing nuclear weapons, non-nuclear-weapons states accept a security deficiency in relation to the nuclear weapons states, which in return bind themselves to eliminate their nuclear weapons. For this to be an attractive agreement, the latter part must be deemed credible. If not, the relevance of the NPT is at stake.

There are a number of control mechanisms to support the non-proliferation pillar of the NPT. First, there are safeguards arrangements aimed at verifying that activities performed in declared nuclear facilities really are the activities stated, and that nuclear materials are accounted for. These are administered by the International Atomic Energy Agency (IAEA). Second, states that manufacture equipment applicable to nuclear facilities enhance their ability to perform suitable export controls through collaboration in the Nuclear Suppliers Group (NSG).

A third example is the Comprehensive Nuclear-Test-Ban Treaty (CTBT). The treaty has not entered into force since some key states, including the United States and China, have yet to sign it, but it is heeded in practice by the nuclear weapons states through self-imposed moratoriums.

A comprehensive global monitoring system for the CTBT is already in operation. Among the initiatives being discussed is a treaty limiting the production of fissile material, a Fissile Material Cut-off Treaty. Work on such a treaty is currently being blocked by Pakistan, which is undertaking comprehensive development and extension of its nuclear arsenal.

The arrangements outlined above aim to prevent proliferation or to detect breaches of the non-proliferation clause of the NPT. Another route would be to remove the incentives for acquiring nuclear weapons. First and foremost, it must be assumed that states that choose to divert considerable resources to a nuclear weapons programme do so for rational, albeit sometimes subjective, reasons. There is a perceived threat to which nuclear weapons are seen as part of a viable solution. Actions aimed at improving the perceived security situation could thus be a way forward.

To advocate and actively devote oneself to regime change in states that are perceived to have an unrealistic view of the world, on the other hand, would seldom resolve a proliferation problem, since regime survival can be a major reason for acquiring nuclear weapons in the first place and the threat of external intervention would strengthen this factor. Nor is it necessarily the case that a new regime, for example, in Iran, would make a different assessment of the security situation and the need for nuclear weapons. On the contrary, there is apparently a broad acceptance in Iran of the need to pursue a nuclear programme, albeit mainly motivated by self-esteem and the need to present a picture of Iran as a progressive country.

Outlook

The above presents a somewhat pessimistic view for those looking forward to a nuclear weapons-free world in their lifetime. In the foreseeable future, the established nuclear weapons states will continue to rely on nuclear weapons to resolve their security problems. Although the United States and Russia have agreed significant reductions in their strategic arsenals, they still possess substantial nuclear weapons capabilities. At the same time, nuclear rearmament is ongoing in China, India and Pakistan.

The prospects for further reductions in strategic arsenals appear to be slim, since, given the current size of the US and

Russian arsenals, such discussions would probably have to involve the other nuclear weapons states. The situation is even more complicated with substrategic nuclear weapons, and there is a general lack of transparency as regards numbers.

A lot would be at stake if a new actor were to successfully challenge the international community by establishing itself as a de facto nuclear weapons state. First and foremost, there would be an obvious risk that other states would then actively strive for a nuclear capability, which would challenge the entire foundations of the NPT.

Some bright spots can be perceived, for instance, in the existing agreements and arrangements on non-proliferation, and in the consistent actions of many states. Here, Sweden has a part to play as a non-nuclear weapons state with both a high level of credibility and a high level of technical expertise on non-proliferation issues.

Figure 7. Illustration showing the amount of satellites and other objects in orbit around planet Earth (source: European Space Agency).

9 Space Debris: A Threat to Modern Society

Christer Andersson, Lisa Rosenqvist, Maths Persson and Eva Bernhardsdotter

Turn your attention to the starry sky on a clear night. While admiring the Milky Way, twinkling stars and maybe a romantic moon you will also be staring at the world's largest accumulation of debris, which encircles the globe. This debris is the result of more than half a century of space activity. It consists of everything from unusable satellites and rocket stages to tools lost by astronauts. And the debris moves at very high speed in orbit. The amount of space debris is growing at an alarming rate and it is just a matter of time before a piece of debris collides with and destroys another satellite. Space debris therefore threatens vital functions in our modern society – functions that we are becoming increasingly dependent on. For example, international telecommunications and global observation networks are using more and more satellites. Contamination of space has generated an international debate about how to achieve a more secure space environment. This debate has been almost non-existent in Sweden, despite our major commitment to the environment and our extensive technical expertise in space, which could help to resolve this new challenge.

The area of space closest to the Earth is a common and unique resource that no nation owns, but more nations are becoming increasingly dependent on. Space services based on satellites in Earth orbit save lives, boost the global economy and improve the quality of life for all. Moreover, the military capacities based on space capabilities are becoming increasingly important. Many practical examples illustrate that if the satellite systems that currently exist in space were to be wiped out, vital parts of modern society would fail.

Global communications and advanced information services based on satellite systems are an integral part of our everyday lives. It is not always obvious that space is being used. We keep in touch with friends and family using communications systems, even as we travel around the globe. We find pleasant holiday resorts in foreign countries by means of global mapping systems. We are smoothly guided in our cars to places

we have never visited with the help of space-based systems. Our ATM cards provide us with cash on demand even in remote and exotic locations. In addition, we expect that these services will provide a quick connection, be easy to use and, above all, work around the clock.

Similarly, industry and banking use space-based services to increase the efficiency of their operations. For example, Swedish forestry is conducted in a more productive and environmentally sound way by using global positioning services to control logging at the correct location at a given time. The impact of ongoing climate change indicates that agriculture will become even more dependent on information from global meteorological satellites. The streamlined logistics of the engineering industry and transport chains would be virtually impossible if positioning services did not exist. Precise timings from the same space-based systems are also crucial to cross-border financial trading.

In Sweden, satellite-based services also help to provide policymakers and authorities with up-to-date information to improve environmental monitoring or deal with international crises. For example, satellite images of the effects of the earthquake in Haiti helped aid workers to survey the damage to roads, houses and other buildings so that rescue operations could be planned more effectively.

Space: A threatened resource

The exploitation of space grows every year. The ability of space systems to provide us with global and high-value services, together with the growing dependence on these services, make any threat to satellites a burning international issue – not least because these satellites can be used for both civilian and military purposes, and thus affect the core security interests of many countries.

The biggest threat to the free use of space today is the large amount of space debris. The extent of space debris in orbit has increased in an uncontrolled fashion in the past decade. In principle, each satellite launch and all other activities in space generate some kind of new space debris. Today, there are hundreds of thousands of items of debris larger than a thumbnail in orbit around the Earth. Depending on the orbit altitude and form of the debris, it can remain in orbit for hundreds or even thousands of years before finally burning up in the Earth's atmosphere. Due to its high speed, even the

smallest of these items could destroy or seriously damage a satellite in the event of a collision. For example, a small piece of paint from a destroyed object almost cracked a window on a US space shuttle.

The space environment and how it is exploited is undergoing drastic changes at the moment. More and more countries and non-state actors are operating in space, and the increasing number of space applications leads to the production of even more space debris. New space-faring nations, such as Algeria, Chile, Indonesia, Malaysia, Nigeria, Singapore and South Africa, will for example send up about 50 imaging satellites in the period 2007–2016 – five times as many as they did in the period 1997–2006. These new space-faring nations might soon contribute the same degree of pollution as the old space nations. The increasing amount of debris along with the rise of new space actors mean that the part of space where active satellites operate is becoming increasingly congested. This in turn leads to an increased risk of collision between satellites or between satellites and larger items of debris – collisions that could have disastrous consequences for the space environment by producing thousands of new items of debris disseminated in new and uncontrolled orbits.

The unexpected collision in 2009 between an old, inactive Russian satellite and an active satellite from the telecommunications company Iridium is one example of such an event. On top of the financial loss to Iridium, which lost a fully functional satellite, the collision contributed to the formation of a large amount of debris, which in turn increases the risk of further collisions. As recently as the summer of 2010, the Swedish satellite Prisma was forced to perform hasty evasive action to avoid the risk of a collision with debris residues from the Iridium collision. The warning to Sweden that there was an imminent risk of a crash came from the US military Joint Space Operations Center (JSpOC). Without the help of JSpOC and the sensor networks for space surveillance which the United States has built up, Prisma might have been lost.

Unfortunately, some activities and operations performed in space, either intentionally or unintentionally, lead to the formation of even more debris. Such activities threaten the space infrastructure of all nations. China's anti-satellite (ASAT) test in 2007 is an example of how massive amounts of new debris can be created in an instant. The test consisted of a modified ballistic missile with a homing kinetic warhead

which blew up one of China's own non-operational weather satellites in Earth orbit. The test left a cascade of debris orbiting at very high speeds, which slowly spread to form a cloud of debris that is now encircling the entire globe. The fall out from China's ASAT test will be in orbit for hundreds of years, and will obstruct access to key orbital positions preventing all nations, including China, from using space freely. Hopefully, the international reaction to China's test has led to a limitation or at least an alteration of such types of destructive behaviour in space.

Space: A resource worth protecting

The current situation in space could in some respects be compared to the Wild West. There is, in principle, no regulation or supervision of the "traffic situation" in space. A large number of new satellites are under the supervision of less experienced operators. This will provide major challenges for future space activities. International regulations on how satellite operators should act in space are weak and non-binding. In addition, there is no globally accepted control mechanism to detect and prosecute dangerous activities. United Nations regulations on how to limit space debris can only be regarded as good advice and guidance. Few operators follow these guidelines in full since they limit the owner's room for manoeuvre and demand more complex and therefore more expensive satellites. For small satellites, which lack a manoeuvring capability, these guidelines in reality mean that only low-altitude orbits can be used. Low-altitude orbits lead automatically to an atmospheric re-entry after a short time and thus generate no new space debris.

Today, only JSpOC has the technical ability and the necessary capacity for fully global space surveillance of satellites and the orbits of space debris. However, as a US military organization, JSpOC has no mandate to act as the "space traffic police" and the consequences of misconduct in space are likely to be limited to diplomatic moves.

The accelerating pace of the space debris problem has developed into a major challenge for the international community. This challenge will perhaps determine future opportunities to use space as a common resource. The worst case scenario is that the use of satellite orbits close to the Earth – a free and irreplaceable resource that all countries can gain advantage from – could be lost. The challenge now is to move from the current situation to some kind of internationally accepted and regulated space traffic

regime that can manage and perhaps even reduce the problem of space debris. Such a control mechanism could consist of two separate parts: an international framework and a global system for space surveillance. The discussion of how to design these two elements, in technical as well as organizational terms, currently takes place in forums such as the United Nations and its various agencies, as well as within the European Union (EU) and the European Space Agency (ESA). It is mainly the United States and EU member states that are actively participating in this debate and contributing to technological developments which are the first tentative steps towards creating a safer space environment.

The security and defence policy implications of an issue that is so strongly linked to the military aspirations of the major nations cannot be underestimated. An international space traffic regime would necessarily have to monitor all satellites, including satellites that are used for intelligence reconnaissance and early warning of nuclear attacks. At the same time, however, it is the larger countries and major space-faring nations that are most affected by the problem of space debris.

Space: A Swedish interest?

It may seem natural that Sweden, as a high-tech country with several of its own satellites in orbit and with a well developed space industry, would engage in the quest to resolve the space debris problem. However, Swedish interest has so far been limited. Sweden is one of the few European countries to have chosen to stay outside the ESA's preparatory development programme for space surveillance. The reason for this apparent lack of interest from the Swedish authorities may be either limited recourses or that the growing strategic importance of space has not yet been recognized.

Sweden could contribute to resolving the scientific and technological challenges of the space debris problem through participation in ESA programmes. Swedish scientists and engineers, together with organizations across Europe, could start to build the foundations for a future space traffic regime. In this way, Sweden would demonstrate a political commitment and a will to influence the development of an important future environmental issue. The sustainable use of a limited resource, in this case the near-Earth space, requires intergovernmental cooperation as well as negotiating skills of a type that Sweden has successfully demonstrated in the past. Sweden already participates in similar negotiations to tackle

global climate change and on aviation traffic control. Given this background, it seems reasonable that Sweden should also become more involved in the process of developing a common space traffic regime to protect a unique resource on which our society is becoming increasingly dependent.

Further reading

NASA Orbital Debris Quarterly News, URL: http://orbitaldebris.jsc.nasa.gov/newsletter/newsletter.html

10 Intelligent Surveillance: Towards More Efficient Crime Prevention While Still Considering Aspects of Privacy

Jörgen Ahlberg

It is easy to get the impression that systems of closed-circuit television (CCTV) surveillance are highly efficient and contribute strongly to reducing crime rates. This is only partly true – current systems have limitations but the technology is developing fast. New technologies, such as automated behaviour analysis, make it possible to detect certain types of criminal activity. In addition to civilian applications, new intelligent surveillance technology provides important functionalities for military purposes, especially for peacekeeping operations. At the same time, there are parallel developments which can protect privacy.

In recent years large sums have been invested in closed-circuit television surveillance systems. The United Kingdom is regarded as the country where CCTV surveillance is most prevalent, but CCTV cameras are found in Sweden, for example, in shops, train stations and airports. This investment has primarily been made to meet the demand for increased security, but also, for example, to reduce the amount of shoplifting. Criticism of CCTV surveillance has been mainly linked to its extent and lack of efficiency as well as its intrusion into our privacy.

It is common to associate CCTV with a surveillance centre in which a number of operators monitor everything that is going on in a defined area, which may be a railway station or even an entire city. In crime dramas, such operators track the villain (or the hero) along the streets of London and have immediate access to any camera they want. Lists of CCTV surveillance permits in a modern city centre show that most addresses are covered, and it is thus easy to get the impression that everyone is monitored everywhere they go. In reality, the situation is somewhat different. Most CCTV systems have only one

or a few cameras, and they are not connected to a central surveillance team.

Systems can be divided into the *active*, the *passive* and the *switched off*. Active systems are characterized by a central surveillance point with personnel viewing the imagery. These are most commonly found at critical infrastructure, such as power plants and mass transport systems, or in sports arenas and other large venues. Passive systems, where there is a camera but no one looks at the imagery unless there is an incident, are more numerous and are typically found in banks and on streets. Some systems are turned off, that is, there are cameras, but no one looks at the imagery and nor is it being recorded. Typically, their use has been discontinued but no one has bothered to remove or disconnect the cameras.

Active systems suffer from difficulties which operators have in keeping focused beyond a certain length of time. In the surveillance business, half an hour is often spoken of as the maximum period for which an operator can maintain the ability to detect incidents.[29] This may seem like quite a short time – most films last around two hours – but the operator is supposed to watch 10–20 screens, each of which switches between two or more cameras, when nothing interesting is happening for most of the time. In practice, surveillance becomes reactive and event-driven, that is, something else catches the attention of the operator. This could be an intrusion alarm, a motion detector, a smoke detector or a guard who saw something. Incidents not detected in these ways are thus easily missed.

[29] See, for example, "How Good are CCTV Cameras at Preventing Crime?", ABC Science, 15 April 2009.

Trends in technology development

Automated methods of analysing CCTV imagery and notifying the operator of specific events have been available for some time. Usually, the available functionalities are quite simple, such as sounding an alarm when something is moving in a specified area, within view of the camera, in which no one is supposed to be. Considerably more advanced functionalities are under development. In research and development laboratories around the world, a large number of activities are being carried out in order, for example, to automatically track people and their movements and analyse what is going on in a particular scenario. It should be noted that many of these activities do not have CCTV surveillance as their purpose. Games, traffic analysis, care of the elderly, user interfaces, driver assistance and sports are some of the target applications.

Recent examples include the game accessory Kinect,[30] and pedestrian detection in cars.

[30] Kinect is an accessory to the game console Xbox, which analyses the movements of the gamers.

Technological development is ongoing at three levels. The first level is to *detect* persons within view of a camera. Here, the degree of difficulty depends on the environment. It is much easier to automatically detect people in an indoor environment with known levels of illumination and a static background than it is outdoors with unknown and variable levels of illumination and a dynamic background. People detection is of course useful for operators monitoring places in which very few people are expected to be, such as in perimeter protection, but it is also a first step in more advanced analyses.

The next level is to *track* people. Tracking refers in this context to associating one detection with a previous detection, and thus finding out where the object detected, that is, the person, was earlier. Such technology can be used to support an operator by keeping track of where a suspect is going, where that person has been and what other people he or she has met. Certain automated functions are often required, such as analyses of people or vehicle flows, or operator notification when someone is loitering or running.

Tracking in CCTV imagery has the potential to be used to track people over the longer term. The most prominent example is in the aftermath of the London bombings on 7 July 2005, when the bombers' movements were tracked back in time from the deed itself. This tracking was not executed from a central surveillance point from which all the imagery could be accessed using online cameras, but through massive police efforts. Vast amounts of imagery on video tape, hard disc and DVD were collected and analysed. Even where there are automated methods for tracking persons in camera view, and maybe even across cameras in a camera network, cross-network tracking is harder to automate.

The third level is to *recognize activities*. Routine examples include acts of physical violence or someone falling downstairs, but current research programmes aim to pick up more subtle activities, particularly the detection of early indicators that something is about to happen. It is preferable that a fight, a robbery or a terrorist attack is detected *before* it starts or even prevented. Of course, this is a very difficult problem. A fight often has some early indicators in the form of aggressive behaviour, such as quarrelling, shouting or pushing. A thief or a terrorist is typically much more discreet and does

his best to hide in the crowd without revealing his intentions. Studies on early indicators and how to detect them are ongoing in Europe and the US.[31]

[31] See, for example, Burghouts, G., "Computer to Predict Hostile Intent", TNO magazine, February 2009. The US Department of Homeland Security has funded several projects, including Future Attribute Screening Technology (FAST).

One obvious indicator is the "left luggage problem" – when someone puts down a bag and leaves the area. To be able to automatically detect abandoned luggage is therefore a popular research topic. However, most people who leave their luggage are not terrorists. Even if automatic detection could be achieved, bomb squads cannot rush to the location every time a piece of abandoned luggage is detected. In the London underground, there can be close to 100 forgotten bags in one day. A usable system must be able to detect a number of minor indicators in combination as they are observed, in a way that is analogous to the signs of a quarrel mentioned above indicating that a fight might start.

An alternative solution is to look not for specific, predefined behaviour, but for anomalous behaviour that deviates from the normal picture.[32] Such a system could support an operator to detect behaviour that stands out in an unpredictable way. The technology could be used, for example, to identify violent people in an otherwise peaceful demonstration or the planting of a bomb.

[32] An Internet search on "abnormal behavior detection" gives numerous examples of ongoing research.

Military uses

So far, mostly civilian applications have been mentioned, although in many cases these are similar to corresponding military ones. From a technological point of view, monitoring for violence or other illegal behaviour in a demonstration or at a football stadium in Sweden is not very different from doing the same thing in a peacekeeping operation abroad. The major technological difference is that infrastructure is available and static systems are already in place at home. Military surveillance systems place higher demands on deployability, that is, the ability to deploy the system in the field, preferably quickly and easily. These differences are diminishing, however, as civilian developments also move in this direction.[33]

[33] See, for example, the EU project Integrated Mobile Security Kit, www.imsk.eu.

When deploying a perimeter protection system around a camp during a peacekeeping operation, the important functionalities are the ability to detect humans without detecting a plethora of animals, and an all-weather and night capacity. However, if humans are often present in the area legitimately, the system cannot set off an alarm for each detection. This is where tracking and behaviour analysis can be useful – those who are

just passing will not trigger an alarm, but the operator should be notified if someone stops and attempts to manipulate the fence. To predict what is normal and what should trigger such a notification is difficult, and systems that can *learn* normality and detect anomalies would have strong potential in unknown environments. Such systems could also be used for larger areas, such as a village or town during a peacekeeping operation. This would require the sensors to be deployed and left undisturbed in a number of key locations.

Different technological problems are presented when the system is mobile, for example, being used to protect moving vehicles. Mobile perimeter monitoring using unmanned vehicles (airborne or on the ground) is already in use, especially by the US. One problem is that monitoring a moving sensor on a moving platform, combined with the tasks of maintaining an overview and studying certain moving objects in detail, puts extremely high demands on the skills of the operator. The operator must be able to switch focus between objects by zooming out, finding the next object and zooming in, while the platform and the objects are moving independently – a bit like looking through binoculars while driving.

The technologies mentioned above, to detect and track people and analyse behaviour, combined with technology for steerable sensors and re-finding previously seen objects, are expected to improve situational awareness but still put reasonable demands on the operator. For example, the operator could be provided with a visualization of areas that have not been monitored recently, or of the likely positions of previously detected objects. The latter is especially useful in scenarios where several objects are being tracked simultaneously. Similarly, the system could be used to do some of the operator's tasks, acting semi-autonomously.

Improved sensors can also facilitate the task of the operator. In 2010, the US Defense Advanced Research Projects Agency (DARPA) and BAE Systems developed a camera system with a resolution of 1.8 gigapixels, the equivalent of several hundred consumer cameras. Such a sensor would provide a high enough resolution to track and identify objects in a very large field of view. The system can deliver a resolution of 1.5 dm per pixel over 40 square kilometres, which is much more data that can be transmitted at a useful image rate. Instead, the operator can select smaller areas of interest and receive video streams from these areas. Since the camera system covers

all these areas simultaneously, the camera does not need to pan or zoom to switch between them. Thus, several operators can simultaneously monitor different areas and perform different tasks within a reconnaissance or surveillance mission.

Technically, such systems could also be used for civilian purposes, for example, for traffic monitoring in a town. However, for economic and practical reasons this is unlikely to happen in the near future.

Privacy aspects

The technology developments described above might raise some worries about their impact on privacy. Such technological advances come with certain risks, including *association*, *function creep* and *social sorting*. *Association* refers to the fact that seemingly harmless information about a person can lead to intrusions of privacy if it is associated with, in itself harmless, information from another system. In practice, this can be the case when an identity is revealed or is associated with an action. *Function creep* is when a system with a specific purpose gradually becomes used for another purpose, which might not have been permitted originally. *Social sorting* is the process of, intentionally or unintentionally, dividing people into groups, where certain groups are seen as more suspect than others. That a certain behaviour is regarded as anomalous might simply be an effect of a person or a group having an unusual, in the context, ethnic or cultural background. Obviously, this can be a problem either with or without new technology, but automatic analyses of surveillance data could make the problem more serious.

However, there are good reasons to believe that the technology can be used to increase safety, security and convenience without intrusions into privacy. Ongoing technological developments have the specific aim of protecting the privacy of people when under CCTV surveillance. An increasingly common example is various forms of masking techniques, where persons in the image are blurred or masked so they cannot be identified. For the operator, the interesting fact is often *that*, *where* or *how* a person is moving in front of the cameras, while the identity of the person is of no interest. To avoid intrusion of privacy when introducing new technology, it is important to plan in advance. *Privacy-by-design* is a key term, which means that privacy issues must be considered while designing the system. It is often difficult, expensive or even impossible to modify a system afterwards.

Unfortunately, it is also very difficult to predict what impacts on privacy a new system or technology might have, particularly because specialists in technology, law and ethics are rarely specialists in more than one of these fields. Currently, the European Commission is funding interdisciplinary forums in which technology, ethics and law are brought together, for example, the DETECTER[34] and ADABTS projects.[35] The latter has published a study on the needs of surveillance operators for automated functionalities, the privacy aspects of such functionalities and current legislation in several EU member states.

[34] Detection Technologies, Terrorism, Ethics, and Human Rights, www.detecter.eu.

[35] Automatic Detection of Abnormal Behaviour and Threats in Crowded Spaces, www.adabts.fp7.eu.

11 Climate Change and Security: New Conditions for Swedish Crisis Management

Malin Mobjörk and Henrik Carlsen

Climate change is one of the greatest challenges of our time. It will reduce access to freshwater and food, and lead to more frequent and intense extreme weather events. These effects will hit hardest those who are already vulnerable, but will also challenge Swedish security and mechanisms for crisis management. Sweden will have to enhance its ability to cope with more severe climate change, but it will also face prioritization issues with regard to national and international demands for crisis management. In addition, analyses of defence and security policy need to be developed and extended to ensure that Sweden is better prepared for the challenges of climate change.

Climate change is about long-term features of the weather, such as alterations in temperature or patterns of precipitation. Dry areas will become drier and wet areas wetter, and more frequent and intense extreme weather events and a rise in sea levels are predicted. Climate change may also lead to permanent changes in global ecosystems, for instance, in the Amazon rain forest and the coral reefs. It will affect freshwater resources, food production and human health, but in what way are these changes linked to security and crisis management?

First, it is useful to consider what is meant by security. A broad view of security is often taken as a starting point when discussing the security implications of climate change. This view includes everything from the security of the individual to regional, national and international security. The security concept used is vital to which questions are focused on and to shaping the conclusions that can be drawn. One example concerns a decline in food production. Such a decline would affect most those people who are directly dependent on that food, but it also affects that nation's economic development, particularly if agriculture is pivotal to the country's economy.

The security concept used, for instance, an individual- or a state-based concept, therefore shapes the analysis and its findings. Using different perspectives can provide different analyses that complement and enrich each other. Together, they can give a better understanding of the different challenges that a society faces.

Second, climate change and security are connected through two different types of linkages. The first connects climate change to security through actual, physical alterations. It concerns both gradual alterations in natural resources, such as a decline in fresh water supplies and an increased frequency of extreme weather events. The second emphasizes threat perceptions and how actors choose to portray the risks posed and opportunities presented by climate change, as well as how actors act and react.

Third, climate change and security are linked through indirect relations. In other words, climate change reinforces factors that are of importance for security, for instance, resource scarcities such as limited access to water and food. Research on conflicts has shown that scarcities are important factors in the outbreak of conflicts. However, scarcity on its own is not sufficient. Instead, it interacts with different factors, such as poverty, weak institutional capacity and a history of conflicts. Furthermore, the quality and quantity of water and food are affected not only by climate change, but also by other factors such as land use, environmental pollution and social transformations, for instance, urbanization and demographic change. Thus, what is caused by climate change can in most cases not be distinguished from other transformation processes.

This interplay between different types of processes implies that one particular effect can result in substantially different kinds of consequences for both individuals and societies. The effects of flooding are dependent on not only the magnitude of the flood, but also the condition of the land affected, the existing infrastructure and the warning systems that are in place. Therefore, different societies and individuals have various types of vulnerabilities and of capacities to deal with stresses. Economic strength and strong institutions are factors that increase a society's capacity to deal with extreme events. Moreover, the consequences of an event are also dependent on how people react in a pressing situation.

Climate change is a transformation process that interacts

with other types of transformation processes. Increased knowledge of these different processes and their dependences is key in order to increase a society's capacity to meet future challenges. It is important to consider how fast these different transformation processes occur as well the extent to which they reinforce or mitigate the effects of climate change. Furthermore, the complexity that encompasses these processes circumscribes the capacity to predict the consequences of climate change. Here, the time factor is of great importance since climate change concerns long-term perspectives. This has been demonstrated not least in research linking climate change with conflicts. For instance, some researchers argue that climate change increases the risk of armed conflict while other researchers argue the opposite.[36] These contradictory judgements are partly grounded in how conflict and security are defined as well as how history and the future are analyzed.

[36] Burke, M. et al. (2009), "Warming Increases the Risk of Civil War in Africa", *Proceedings of the National Academy of Sciences of the United States of America*, 106, 20670–20674; Buhaug, H. (2010), "Climate not to Blame for African Civil Wars", *Proceedings of the National Academy of Sciences of the United States of America*, 107, 16477–16482.

Consequences from a global perspective

Climate change will affect countries all over the world. However, the transformation will not have the same character or magnitude everywhere. For instance, the North and South Poles will be affected by a greater degree of temperature change than the equator, and the consequences of rising sea-levels will vary greatly from region to region. The effects on societies from these alterations are partly dependent on the magnitude of the change, but also on the existence of local vulnerabilities. An analysis of the expected impacts of climate change must therefore include both different climate scenarios and different development paths for each particular society.

Globally, there are a number of effects of climate change that will have security implications. Coastal regions will face great challenges due to more intense and frequent storms, rises in sea levels, salt-water intrusion in groundwater and cropland, and increased risk for flooding. Since harbours, agriculture, industrial regions, power plants and many cities are located in coastal areas many sectors will be affected, such as food production, freshwater resources, infrastructure, manufacturing and trade. Coastal areas will also face more humanitarian crises and catastrophes since the number of extreme weather events is expected to increase.

Accessible freshwater resources will decline substantially in some regions, caused partly by the salt-water intrusion in groundwater mentioned above, but also by the melting of glaciers. The glaciers of Himalaya, for example, provide

millions of people with drinking water and water for agriculture.

Conditions for food production will change. Even though in some regions, among them northern Europe, the conditions for agriculture will improve, the overall effect worldwide will be a deterioration. Drought together with transformed patterns of precipitation will negatively affect conditions for food production in southern Europe, Africa and Asia. Research has shown, for instance, that the production of corn in southern Africa could decline by 30 per cent in 20 years. Moreover, climate change could lead to a large-scale redistribution of the global fish catch. It is estimated that by 2050 there could be a decline in the fish catch of 40 per cent on the Equator and an increase of 30–70 per cent at the Poles.[37] As the sea warms, fish move towards colder water in the north. This shift implies that those regions that face large deteriorations in food production on land will have to cope with additional negative effects at sea.

[37] Cheung, W. et al. (2010), "Large-scale Redistribution of Maximum Fisheries Catch Potential in the Global Ocean Under Climate Change", *Global Change Biology* 16, pp. 24–35.

Natural resources will become accessible in some regions due to climate change. The Arctic is one example. Oil and gas extraction in the Arctic, in addition to the increased fish stocks, will lead to greater geopolitical interest in the region.

The above transformation processes involve great challenges in themselves, but also affect overall processes such as migration flows and patterns of disease diffusion. Some of these processes will have global or regional political consequences, for instance, concerning the Arctic, but first and foremost they will be a matter of humanitarian crises and catastrophes. These crises are particularly grounded in reduced access to freshwater and food, and in extreme weather events. Hence, in order to meet the future risks of humanitarian catastrophes, the security of the individual is an important starting point.

Since the capacity to meet challenges is to a great extent connected to economic wealth and strong institutions, it is above all the already vulnerable individuals, regions and states that will face the most negative consequences of climate change. An important aspect of prevention and of disaster and risk management is therefore to emphasize increasing adaptation capacities of the vulnerable. At the same time it is crucial to recognize that climate change is a long-term transformation process that will mean that states considered strong today might also face great challenges in the future. In the United States, Hurricane Katrina, which hit New Orleans

in 2005, had far-reaching consequences both locally and at the highest political level in Washington, DC. Another example is the heat wave that paralysed large parts of Europe in 2003, during which roughly 70,000 people died as a direct consequence of the heat.[38] These examples demonstrate that climate change will affect states that today are considered to be strong and stable. Such risks will be amplified if climate change is greater than the target which, for instance, Sweden and EU have as their goal – that global warming remains below 2 degrees.

[38] Robine J.M. et al. (2008). "Death Toll Exceeded 70,000 in Europe During the Summer of 2003", *Comptes Rendus Biologies* 331, pp. 171-178.

Consequences for Swedish security and crisis management

The effects of climate change on natural resources, sea-level rises and extreme weather events suggest that climate change is important in all long-term planning. Abrupt and unexpected effects are of particular relevance from a security and crisis management perspective. From the perspective of the security consequences of climate change, challenges connected to crisis management stand out. At least three challenges can be identified.

Sweden will have to develop a readiness to react to more extreme climate change both nationally and internationally, in relation to the consequences of extreme weather events as well as indirect effects on, for example, migration and the supply of energy and food.

Sweden will potentially face increased international demand to participate in acute emergency operations. This implies that Sweden might have to prioritize its resources set aside for disaster management, but also that we have to face new issues of prioritization between national and international needs.

Finally, existing analyses of defence and security policy need to be developed because the effects of climate change will span a long period of time, concern complex relationships and have security consequences in various sectors and at different levels of society.

The fact that climate change is playing an increased role in defence and security politics can be seen in many international organizations, such as the North Atlantic Treaty Organization, the European Union and the United Nations. A core pillar in all this is the broadening of security analysis to include a wider understanding of the different security

consequences that might follow from climate change as well as increased knowledge of those who face the consequences. In this respect Sweden stands at a crossroads concerning the role it wants to play when it comes to striving to alter course. This requires long-term cooperation that cross-cuts various sectors in society, for instance, between defence and security policy, development and aid, and climate change and environmental issues.

Further reading

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Mobjörk, Malin; Eriksson, Martin and Carlsen, Henrik (2010) *On Connecting Climate Change with Security and Armed Conflict: Investigating knowledge from the scientific community*, FOI--3021--SE, Stockholm.

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12 Sweden's Shift to Voluntary Recruitment: Manning and Personnel Challenges in the Armed Forces

Peter Nordlund and Ulf Jonsson

A shift from mandatory conscription to a defence force based on voluntary employment has taken place in many countries. Since the end of the Cold War there has been a significant reduction in the size of the armed forces in many countries. This has enabled countries to abandon general conscription. The Netherlands and Belgium were the first to do so, in the mid-1990s. They were followed by France and Spain, and then by a range of countries including Sweden. Today, countries with conscription are a clear minority among the member states of the European Union and the North Atlantic Treaty Organization. What challenges can countries such as Sweden and Germany – which is considering a transition from a mixed system to an all-voluntary system – expect to encounter as they continue down the voluntary route?

In recent decades, mandatory conscription has been abandoned in country after country. Sweden has recently joined this group. Squad leaders, soldiers and sailors will now be employed. Some will serve continuously but the majority will do so only periodically in a form of reserves, and members of the Swedish Armed Forces will be expected to have a parallel contract with another employer. Sweden has also abandoned its internationally unique system of a single line of command for a system of officers and non-commissioned officers. In this respect, the Swedish personnel structure and mix of personnel categories is approaching the practices of other countries. This should facilitate cooperation and coordination with other countries in international peace support operations.

It is planned that the changes will be implemented by 2019. These include increasing the number of volunteer soldiers and sailors, restructuring the officer corps, in a move towards

having the majority made up of specialized officers, and reducing the number of civilian staff. The personnel supply system aims to attract and recruit the appropriate number of people, to train them and deploy them in specific tasks for a period of time, and then ultimately to phase out their employment at the appropriate time.

Will things work out as planned?

In Sweden, the planning of recruitment needs and costs is based on uncertain assumptions. This is common in other countries, where transitions from conscription to voluntary recruitment have been characterized by continual adjustments. Methods for and assumptions on the supply of personnel, recruitment, costs, salaries, benefits and the use of personnel have been adjusted as outcomes have been observed.

A return to conscription is not a viable option under the current Swedish defence strategy, which aims to have an operational defence force which is available and ready to act in the "here and now". It would also provide a bad match with the defence forces engaged in international operations. However, the shift to a voluntary system implies both operational and economic risks.

Sensitivity analysis indicates that recruitment needs could turn out to be significantly greater than planned – by approximately 4,000 people per year, which is at the top end of what would be possible on a voluntary basis with the current level of expenditure. A figure of 4,000 people accounts for 3.5 to 4 per cent of a defined age-cohort of men and women. In international terms, this is a high figure – and many countries would find it hard to achieve even a lower figure, especially during periods of economic prosperity when competition for labour is strong. In order to establish appropriate international comparisons, it is necessary to relate recruitment to similar age groups. The primary age group for recruitment differs somewhat between countries and the Swedish Armed Forces primarily target individuals of between 20- and 30-years old.

The defence sectors of most countries have laws and agreements which differ from other sectors. In some countries, such as the United States and the United Kingdom, the defence sector has its own judicial system, which has jurisdiction over issues pertaining to labour law. The collective agreements that have been reached in Sweden between employers' organizations and trade unions allow for longer periods of fixed-term

employment, as this is necessary in order to establish a system based on voluntary recruitment and employment while maintaining reasonable cost efficiency. A fundamental precondition for achieving cost efficiency is that the period of employment is long enough to justify the initial investment in training. This implies that recruitment needs and costs are significantly affected by the average length of employment and by the turnover of personnel. If the number of people resigning from the Swedish Armed Forces turns out to be higher than planned and the average length of employment decreases, recruitment needs could increase rapidly. Under unfavourable conditions, this need could approach 5–6 per cent of an age cohort. International comparisons show that this would represent a very high figure, which, in turn, would have a significant effect on costs and could jeopardize the overall functioning of the system.

Internationally, it is not unusual for recruits to drop out during the initial period of training. The Swedish Armed Forces have assumed a resignation rate of up to 15 per cent. However, international comparisons show that resignation rates tend to be higher – sometimes over 30 per cent.

International experience also shows that the resignation rate tends to decrease after the initial period of training, down to 2–3 per cent per year over the contract period. However, these low rates are based on "lock-in effects", including incentives such as remuneration, civilian training and qualifications, and other benefits. These lock-in effects can also provide disincentives, such as repayment requirements or unfavourable references, which make it difficult not to complete the period of service in accordance with the contract. Swedish planning assumes that net resignations will be on a par with international levels. In the light of international experience, it would be reasonable for the government and the armed forces to use incentives like those used in other countries. This is the case not least for part-time personnel, who would develop loyalties towards their civilian employer.

Swedish contract periods for soldiers and sailors are in line with international comparisons. Some countries have differentiated contract and employment periods. Personnel remain in the navy and the air force for a relatively longer period than soldiers in the ground forces, who are often engaged in international operations.

In terms of salary levels relative to average national salaries

across the whole labour force, the basic salary for soldiers and sailors is on a par with comparable countries internationally. The benefits provided during training and operations mean that the salary in real terms is significantly higher than the basic salary.

The operational tempo, that is, the frequency of international and other operations, is also comparable with other countries. Countries with relatively high operational tempos have observed signs of exhaustion in their deployed personnel. In most countries, demand is so great for certain categories of personnel with specialist expertise or experience that their operational tempo reaches levels that are too high. This, in turn, increases the rate of resignations.

Conscripts are cheaper than employed soldiers and sailors from a defence-economics perspective. Internationally, reductions in numbers have partially financed the increased interoperability, increases in salaries, and educational and training costs of employed soldiers and sailors. In Sweden, however, the annual number of recruits increased compared to successive reductions in the number of conscripts in the 1990s and 2000s. This implies that costs will increase compared to the system of conscription. Recruitment education and employment costs could also turn out to be significantly higher than those projected in current plans, which are supposed to have taken such changes in numbers into consideration. A cost increase of 1 to 1.5 billion Swedish crowns per year is not implausible. These cost increases could be exacerbated by a higher rate of resignations, shorter contract periods, higher salaries, higher costs for education and training or an absence of improvements in efficiency.[39]

[39] Jonsson, U. and Nordlund, P. (2010), *Frivilliga soldater istället för plikt: internationella erfarenheter och ekonomiska konsekvenser* [Transformation from Conscription to an All Voluntary Force: International Experiences and Economic Consequenses]. FOI-R--3053--SE. Stockholm: Swedish Defence Research Agency.

Recruitment levels dependent on the performance of the economy

Recruitment is dependent on the performance of the economy as demand in the labour market has a large impact on the ability to recruit soldiers. Economic prosperity brings about more challenging recruitment conditions and increased resignations. An increase in resignations, in turn, further increases the pressure on recruitment. On occasion, physical or knowledge-based requirements are relaxed during such periods. This happened in the United States, for example, after the US invasion of Iraq in 2003, until the financial crisis influenced economic performance and the labour market. A recession generally means fewer resignations among employees

and increased recruitment. Paradoxically, the high level of youth unemployment in Sweden relative to international levels could be a positive for the recruitment capacity of the Swedish Armed Forces.

Current conditions for recruitment should be favourable. In a transition phase, there are a number of soldiers who have been trained during conscription who could form a potential recruitment pool. In addition, since no opportunities have previously existed to serve as an employed soldier or sailor, other than for a very limited period of time, considerable untapped interest should exist for such a profession. Unemployment rates are falling, both generally and among youth, but remain high. This would favour rapidly expanding the number of soldiers while these conditions remain in place.

Economic prosperity can require increased resources for both recruitment and retaining those already trained. These increases can be achieved through either reallocating within existing budgets or expanding those budgets. After a period of reduced defence budgets, many countries increased their defence allocations in the latter part of the 2000s. The financial crisis and the subsequent recession which hit the world in 2008 resulted in large budget deficits for many countries linked to structural shortfalls or crisis management measures. Military defence is a sector that is now being hit by budget cuts in a number of countries as they adopt austerity measures to balance their budgets. It is not unlikely that the coming period of economic prosperity will be used to balance the budgets further and reduce the ratio of debt to gross domestic product (GDP). An increase in GDP alone will not be enough to address the debt burdens. Instead, budgets will have to run with significant enough surpluses to allow for paying off the debt. This could imply that when economic growth resumes and recruitment becomes more challenging, the necessary resources will not be made available for higher salaries and other means of promoting recruitment, leading to protracted vacancies. Sweden does not have the same difficult financial situation as other comparable countries. If these countries cut down on their international operations due to budgetary constraints, there could be an increased demand for Swedish troop contributions to compensate for such reductions.

A significant part of the new personnel supply system is built on the notion of soldiers working in the civil labour market but, from time to time, serving in training, mission training,

and international and other operations. In other countries, such soldiers fall under the category reserves. Under normal conditions, personnel in reserves only take on tasks related to national defence and as such only constitute a recruitment base for voluntary participation in international operations. However, in the Swedish solution, international operations are part of a planned assignment for periodically serving soldiers. Since they are cheaper than continuously serving soldiers, this provides significant economic benefits. Denmark tried such a solution, in which reserves formed part of the Danish International Brigade (DIB), but the country has now settled for other solutions. The experience showed that personnel did not enrol according to planned levels, were in bad physical condition or showed signs of lacking competency for their designated tasks.

In the US and the UK, reserves can be called in for international operations but only after extraordinary parliamentary or presidential decisions. This happened in the US in connection with the Iraq and Afghanistan conflicts. The Swedish model therefore appears to be somewhat unique with regard to systematically relying on reserves for planned operations. The Danish experience of the DIB highlights the uncertainties of the Swedish solution of mixing periodically and continuously serving soldiers.

It will therefore be interesting for the many countries burdened by the debt- and budget-related challenges that followed the financial crisis to monitor Sweden's move to the recruitment of part-time and full-time career soldiers. Positive results in Sweden could tempt other countries to attempt to reduce government expenditure by reducing defence budgets in this manner.

The need for a "Plan B"

The uncertainties in the assumptions pertaining to the supply of soldiers, and the risks associated with unplanned increases in costs mean that a contingency plan should be in place for the defence sector. Such an alternative would presumably mean different things for different countries. For example, its content would be dependent on whether that country was experiencing a period of economic growth or its economy was characterized by continued austerity measures, and whether increased expenditure in the defence sector was economically feasible. In the case of Sweden, a plan B might include: increased room for manoeuvre economically through an increase in

defence expenditure; a transfer of resources from materiel, fixed equipment and the support agencies of the Swedish Armed Forces to personnel or other priorities, which have been affected by the Swedish government's *Defence Structure Review*;[40] a reduction in the number of operational companies and reduced numbers of personnel; reduced preparedness requirements and related reductions in training costs; a restructuring of the supply of squad leaders, soldiers and sailors; reduced international ambitions; closing regiments or naval bases; or a combination of a number of these measures.

It is still too soon to establish whether Sweden's transition from conscription has been successful. Above all, the new system for supplying troops will not establish an equilibrium once and for all, but will be much more dependent than the old system on continuous monitoring and active measures.

[40] "Försvarsstrukturutredningen: Forskning och utveckling samt försvarslogistik - i det reformerade försvaret" SOU 2011:36 [Swedish Government Official Report 2011:36].

Notes on Authors

Jörgen Ahlberg, PhD, is Deputy Research Director for Sensor Informatics at FOI. His research concerns automated image analysis and he has led and participated in several projects on future surveillance and reconnaissance systems, for military as well as civilian applications. He is a Visiting Senior Lecturer in Information Coding at Linköping University.

Christer Andersson is a Senior Scientist from the FOI Space Group, which analyses international security trends and policy issues in space. Christer is also working on various development projects with the Swedish Armed Forces to strengthen Swedish military capability and capacity using space services. He has extensive international experience in both civilian and military space activities, and has worked as an adviser to organizations such as the International Atomic Energy Agency, the European Space Agency (ESA) and the European Commission.

Eva Bernhardsdotter, PhD, is a scientist at FOI with a main focus on arms control in space and space security. Eva acts as an expert adviser to the Swedish Ministry for Foreign Affairs on international space law and agreements, and has an extensive background in space research. She previously worked at NASA and at the Swedish Space Corporation in the fields of astrobiology and satellite design.

Henrik Carlsen, PhD, is a Deputy Research Director at FOI. Henrik conducts research into climate change, focusing on how society could adapt to a changing climate and on possible interconnections between climate change and conflict. In addition to climate change research, he studies the long-term societal effects of emerging technologies.

Mikael Eriksson holds a PhD in Political Science from the European University Institute in Florence, Italy. His main field of research is critical theory as part of International Relations theory, with a particular focus on security, and international and regional organizations. Prior to commencing his work at FOI, Mikael worked for several years at Uppsala University.

Martin Goliath is head of the Department of Nuclear Weapons-related Issues at FOI. The department is the repository for Swedish national expertise on nuclear weapons-related issues from a technical-scientific point of view, and is a resource for the Swedish Government, the Armed Forces and other governmental agencies. Martin holds a PhD in theoretical physics, and has conducted research in the areas of cosmology and astrophysics.

Niklas Granholm is a Deputy Research Director at FOI and has wide experience of security policy analysis, including Nordic security policy, international crisis management, conventional arms control, naval affairs and scenario construction. In recent years he has been studying strategic change in the Arctic. He is a member of the Royal Swedish Academy of War Sciences, a Corresponding Fellow of the Royal Swedish Society of Naval Sciences and an Associate Fellow of the Royal United Services Institute (RUSI) in London.

Eva Hagström Frisell is a Senior Analyst focusing on the European Union and the Common Security and Defence Policy. Eva is Deputy Programme Manager for the FOI programme on trans-Atlantic security and European crisis management. During 2011, Eva is on secondment to the Swedish Ministry of Defence to provide analytical support concerning Sweden's participation in international peace support operations.

David Harriman is an analyst at FOI. His primary research focus is peace support operations, including issues regarding monitoring and evaluation of the NATO-led intervention in Afghanistan. David holds an MSc in political science and a BSc in peace and conflict studies from Lund University. His previous research involved issues of energy security and environmental risk in peace support operations.

Jakob Hedenskog is a Deputy Research Director at FOI's Russia Studies Project. He has a Masters degree in Slavonic Languages and Political Science from Uppsala University. He primarily studies Russian foreign policy, Ukraine, Belarus, Moldova and the Caucasus. In 2009–2010 he was a Visiting Fellow at the University of Toronto, Canada.

Jerker Hellström is an analyst in the Asia Security Studies Project at FOI, with a focus on East Asian security, primarily issues involving China and the Korean peninsula. His research at FOI has revolved around China's foreign, security and defence policy; EU-China relations; and China's role in Africa. Before joining FOI, Jerker worked as a correspondent for Reuters in Shanghai and Stockholm. Jerker lived in Beijing for several years, where he studied journalism and Mandarin Chinese.

Ulf Jonsson is an analyst in economics and business administration at FOI. His research is centred around issues of efficiency and effectiveness in defence materiel acquisition and logistics as well as manning and personnel.

Justin MacDermott manages the Africa Project at FOI, which explores the African peace and security architecture, as well as security developments on the continent. Justin also carries out research on peace support operations with a focus on the protection of civilians and on civil-military coordination. He has an MSc in Development Studies from London School of Economics and Political Science and has previously worked within the United Nations system on development issues and humanitarian operations.

Malin Mobjörk works as a researcher and Project Manager at FOI within the climate change and security nexus. Her research focuses on possible connections between climate change, security and conflict. In her research she also strives to assess the challenges posed by environmental and climate change on society's crisis management, and how society can meet such challenges. Malin has a PhD in Water and Environmental Studies from Linköping University.

Karlis Neretnieks, Major General (ret.), has worked at FOI since 2005 on issues related to security in the Baltic Sea area. During his military career he, among other positions, served as President of the Swedish National Defence College, Chief of Operations at the Central Joint Command and Commander of the 18th Mechanized Brigade.

Peter Nordlund, Engineering Director at FOI, manages several projects in the fields of business management and defence economics, with the Ministry of Defence and the Armed Forces as primary clients. Peter graduated from the Stockholm School of Economics in the late 1970s. He has worked in different management positions in the private sector for 17 years, mainly in the banking and finance sectors.

Magnus Normark is a Senior Analyst at FOI, where he is a Project Manager on research in the field of chemical, biological, radiological and nuclear (CBRN) threat assessment and non-/counter-proliferation. He has published several studies on countries of concern in the Middle East, arms control and international counter- and non-proliferation initiatives and mechanisms. Magnus has experience of UN missions, including UNPROFOR in Macedonia and UNSCOM in Iraq. Before joining FOI in 2002, Magnus worked in the Swedish intelligence community for 12 years. He is also employed at the Centre for Asymmetric Threat Studies (CATS) at the Swedish National Defence College, where he mainly conducts research on terrorism.

Stefan Olsson holds a PhD in political science and is Project Manager of the FOI research programme Atlantic Security and European Crisis Management. In addition, he is part of the Asia Security Studies Project at FOI. Stefan has studied civilian crisis management in the EU, and issues related to the rule of law in crisis decision-making.

Maths Persson is a scientist at the department of Nuclear Weapons-related Issues at FOI. He was previously Head of Section at the Division for Research Policy in the Swedish Ministry of Education and Research, Head of Office in Brussels for the Swedish Governmental Agency for Innovation Systems (VINNOVA) and Science and Technology Counsellor at the Swedish Embassy in Paris. He has an MSc in Applied Physics and Electrical Engineering and a PhD in Space Physics.

Lisa Rosenqvist is a scientist at FOI's department of Underwater Research. Her main research area is modelling, analyses and measurements of electromagnetic wave propagation in water, but she also conducts analyses of space-related issues in the Space Group at FOI. She has an MSc and a PhD in space and plasma physics and has previously worked for the ESA in the Netherlands.

Annica Waleij is a Senior Analyst and Project Manager at the FOI Division of CBRN Defence and Security. Her field of research includes environmental and health risks in support of Sweden's peace-support and security-building operations as well as Swedish Armed Forces medical intelligence. She also works in policy and doctrine development within NATO and represents Sweden in the NATO Science for Peace and Security Programme. She provides expert support to the United Nations Department of Field Support (UNDFS) and has conducted environmental awareness training for the UN peacekeeping field missions in the Democratic Republic of Congo and Southern Sudan.

Teresa Åhman is an analyst focusing on European security and crisis management. Teresa manages FOI's current research project on the EU and international civilian crisis management. Between 2009 and 2011 Teresa was seconded to the Swedish Ministry of Defence, where she contributed to in-house analysis on matters related to disaster response in the EU, the UN and NATO/the Partnership for Peace.