

A WORLD WITHOUT NUCLEAR WEAPONS?
**PROSPECTS FOR NON-PROLIFERATION, REDUCTION
AND ELIMINATION**

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Nuclear weapons may be called a ‘hot’ topic nowadays, while the media are reporting almost daily about subjects like the nuclear weapon programmes of the so-called ‘rogue states’ Iran and North Korea, the modernization plans for American, Russian and British nuclear weapons, and the required strengthening of the Non-Proliferation Treaty (NPT). Instead of focussing upon specific states or incidents, this paper will offer a general overview of the global proliferation of nuclear weapons, with a focus on the possibilities of global non-proliferation, reduction and elimination of these weapons.

The paper will start with an overview of states that are currently possessing nuclear weapon arsenals or are having ambitions to acquire them. After that, the pros and cons of nuclear weapons will be shortly examined. Why are these weapons attractive to states, and if they are attractive, why do most states not pursue them? Finally, the question will be answered whether non-proliferation, reduction and elimination of nuclear weapons are realistic options.

It should be noted that this paper will only deal with states as owners or pursuers of nuclear weapons. Non-state actors, how important they might become in the near future, are outside the scope of this paper. Not only because the nuclear aims of non-state actors are in general different from state actors, but also because not any non-state actor is known to possess nuclear weapons at this moment. Moreover, the production of nuclear weapons is that complicated, that non-state actors will presumably always depend on state actors to obtain these weapons – be it by buying or by stealing (parts of) them.

I – NUCLEAR WEAPON ARSENALS: AN OVERVIEW

To be able to discuss the possibility of non-proliferation, reduction and elimination of nuclear weapons, it is necessary to know

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where these weapons are and in what amounts. This paragraph will provide an overview of three groups of states: nuclear-weapons states, both 'recognized' and 'unrecognized' by the Non-Proliferation Treaty, states that are pursuing nuclear weapons, and states that gave up nuclear weapons or ambitions in that direction.

First of all, there are the well known five 'official' nuclear weapon states. The United States, Russia, China, Great Britain and France are the only states of which the nuclear weapon arsenals are more or less 'recognized' by the Non-Proliferation Treaty. These five states can also be described as the 'classic' nuclear powers, because all of them developed their nuclear weapons against the background of the Cold War. Their first nuclear tests took place in the 1940s (United States and Russia), 1950s (Great Britain) and 1960s (France and China).

Next to these 'recognized' nuclear arsenals, India and Pakistan also possess nuclear weapons. Although these arsenals are not 'recognized' by the Non-Proliferation Treaty, that both countries did not sign, their weapons have been openly tested and official statements make no secret of the nuclear weapon capabilities of both countries either. Israel, that did not sign the Non-Proliferation Treaty either, is also commonly considered to have a nuclear weapon arsenal, although this country tends to behave far more mysterious about its nuclear capacity compared to India and Pakistan. Officially, the government of Israel has never confirmed or denied possessing any nuclear weapon¹. The difference between India, Pakistan and Israel and the five 'official' nuclear powers is not only their 'unrecognized' status considering the Non-Proliferation Treaty, but also the circumstances in which they developed their nuclear weapons. Not so much the Cold War pushed them towards developing their nuclear weapon programmes, but rather regional security issues: India and Pakistan because of their strained relations with each other, Israel because of its insecure position in the hostile Middle East. The three countries were also later in developing their first nuclear weapons compared to the 'classic five': their first bombs were produced in the 1960s (estimated for Israel, no test known), 1970s (India) and 1980s (Pakistan, first test in the 1990s). Reliable figures about the amount of nuclear weapons that these states possess are hard to retrieve. Because of the secretive nature of the nuclear weapon arsenals, only estimates are available. Counting nuclear warheads only, not the materials to produce them, the estimated amounts are as follows²:

¹ G. BAHGAT, "Nuclear proliferation in the Middle East: Iran and Israel", *Contemporary Security Policy*, April 2005, vol. 26, n° 1, pp. 25-43.

² B. G. BLAIR, "Nuclear Weapons: Primed and Ready", *Bulletin of the Atomic Scientists*, January/February 2007, vol. 63, n° 1, pp. 33-37.

	Warheads
United States	10,100
Russia	16,000
China	200
Great Britain	200
France	350
India	40 to 50
Pakistan	25 to 50
Israel	75 to 200

According to these estimated amounts, there are between 26,990 and 27,150 nuclear warheads in the world. It should be noted, however, that even far more material to construct these warheads is available; especially India and Pakistan are suspected of having storages of separated parts of nuclear weapons, so that more of these weapons can be produced in short time whenever that could be desirable. It is also interesting to see the differences in amounts per country. The nuclear weapon arsenals of the United States and Russia consist of 97 percent of all nuclear weapons worldwide. The arsenals of states like Great Britain (0,7 percent) or Pakistan (less than 0,1 percent) are relatively small compared to the United States and Russia. This does not mean that Great Britain or Pakistan are less important when discussing the subject of nuclear weapons, but it shows the enormous differences in arsenals between the nuclear weapon states.

It should also be noted that not all nuclear weapons are to be found within the borders of the eight states mentioned above. Especially the United States partly based their nuclear weapons abroad, mostly in fellow NATO states. Although no official information about these foreign based weapons exists, and although it appears that after the end of the Cold War quite some foreign nuclear bases have been dismantled, non-official information indicates that US nuclear weapons are still stationed in Great Britain and in the non-nuclear-weapon states Germany, Italy, the Netherlands, Belgium, and Turkey³. Moreover, most nuclear-weapons states also have ships and submarines to transport and

³ R. S. NORRIS, H. M. KRISTENSEN, "Where the bombs are, 2006", *Bulletin of the Atomic Scientists*, November/December 2006, vol. 62, n° 6, pp. 57-58.

launch nuclear weapons, thus even more spreading their arsenals over the globe.

It seems that the amount of nuclear weapon states will increase in the near future. In the short term, at least two countries are more or less openly trying to produce their own nuclear weapons: North Korea and Iran. In the long term, there may be other states interested in acquiring this kind of weapons too. The state closest to possessing nuclear weapons seems to be North Korea. The regime of this totalitarian state makes no secret of its efforts to produce nuclear weapons, even while facing severe political and economical sanctions of the international community. In October 2006, North Korea stated that it had tested a nuclear weapon. Despite doubts about the nature and the strength of the device tested, it is at least widely acknowledged that North Korea might be able to possess usable nuclear weapons very soon⁴.

Contrary to North Korea, the Iranian government officially denies that it is developing nuclear weapons. It is widely believed, however, that the country's so-called 'peaceful' nuclear programme is in fact meant to produce these weapons. Although Iran is quite secretive about its nuclear capabilities nowadays, it is estimated that the earliest moment that the country will be able to have enough highly enriched uranium to produce a nuclear weapon could be 2009, as was stated in May 2007 by the head of the International Atomic Energy Agency (IAEA), Mohammed El Baradei⁵.

In the longer term, more states might be interested to resist international pressure and to start acquiring nuclear weapons. Not only 'rogue states' like Syria are sometimes mentioned in this respect, but also states that feel threatened by the nuclear weapon programmes of Iran and North Korea might change their minds in favour of a nuclear weapon arsenal. States in this category that have been mentioned by observers are South Korea and Japan, because they are both fearing a nuclear attack by North Korea. Saudi Arabia, Egypt and Turkey could also reconsider their non-nuclear defence policies when Iran will succeed in obtaining nuclear weapons⁶. Last but not least, Taiwan is also believed

⁴ D. STOUT, J. O'NEIL, "North Korea's claim is met with doubt and anger", *New York Times*, October 9, 2006.

⁵ "IAEA chief believes Iran is 3 to 8 years from nuclear weapon", *International Herald Tribune*, May 24, 2007; See also D. ALBRIGHT, "When could Iran get the bomb? What we know and what we don't know about Iran's nuclear program", *Bulletin of the Atomic Scientists*, July/August 2006, vol. 62, n° 4, pp. 26-33.

⁶ For example: P. R. LAVOY, "Nuclear proliferation over the next decade. Causes, warning signs, and policy responses", *Nonproliferation Review*, November 2006, vol. 13, n° 3, pp. 433-454, especially p. 443; P. CLAWSON, "Proliferation in the Middle East: Who is next after Iran?", in H. SOKOLSKI (ed.), *Taming the next set of*

to be a state that might try to acquire nuclear weapons in the future, because of tensions with China⁷.

Some positive exemptions have to be mentioned too: states that did eliminate their nuclear weapon arsenals. Ukraine, Belarus and Kazakhstan inherited nuclear weapons following the collapse of the Soviet Union in 1991, but all weapons were handed over to Russia after their independence. Because Russia took over their nuclear weapons, however, one could say that although three states eliminated their nuclear weapon arsenal, the total amount of nuclear weapons in the world did not decrease. Moreover, the circumstances under which these states relinquished from their inherited nuclear weapon arsenal were so specific that it can hardly function as an example for any successful nuclear weapon elimination policy.

More hopeful, however, are examples of states that gave up nuclear ambitions. As far as is known, these are South Africa, Libya, Syria, Iraq, Egypt, South Korea, Taiwan, Brazil, and Argentina. Especially South Africa was very close to having nuclear weapons in the 1980s; the country is said to have had seven nuclear warheads in 1987 already, but the bomb had not been tested in reality yet. In 1989 the South African government decided to end the nuclear programme and to dismantle the weapons that were already produced. The main reason for this change was that deterrence seemed no longer necessary, because the communist threat in southern Africa, which was the reason for starting the nuclear weapon programme, vanished. Without potential nuclear enemies (the threat of the Soviet Union supporting neighbouring states disappeared), nuclear weapons had no strategic use anymore, but were now only attracting international pressure and sanctions⁸. Libya, Syria, Iraq, Egypt, Brazil and Argentina all have had nuclear weapon programmes somewhere in the past decades, but it seems that they have all ended them without ever having reached something that could be called a nuclear device. Some of them, like Libya, Syria and Iraq, gave up their nuclear ambitions because of strong international pressure and sanctions⁹. Egypt, South Korea, Taiwan, Brazil and Argentina did end

strategic weapon threats, Carlisle, Strategic Studies Institute, U.S. Army War College, 2006, pp. 27-39.

⁷ R. K. C. HERSMAN, R. PETERS, "Nuclear U-turns. Learning from South Korean and Taiwanese Rollback", *Nonproliferation Review*, vol. 13, n° 3, November 2006, pp. 539-553.

⁸ R. E. HORTON, *Out of (South) Africa: Pretoria's nuclear weapons experience*, USAF Institute for National Security Studies, August 1999, Occasional Paper n° 27.

⁹ For example: W. Q. BOWEN, *Libya and nuclear proliferation. Stepping back from the brink*, London, International Institute for Strategic Studies, 2006, *Adelphi Paper* n° 380; R. J. EINHORN, "Identifying nuclear aspirants and their pathways to the bomb", *Nonproliferation Review*, vol. 13, n° 3, November 2006, pp. 491-499.

their nuclear ambitions because of internal political decisions, combined with fear for international sanctions as well as lack of real (nuclear) enemies¹⁰.

These states that gave up nuclear ambitions are examples of successful non-proliferation, but these experiences have little to do with reduction or elimination of nuclear weapons. Only in the South African case, where seven (not yet tested) nuclear warheads have been dismantled, one could speak of elimination of nuclear weapons. In all other cases, the stage of possessing nuclear weapons was not yet reached. What these states would have done when they had reached that stage is a question that can not easily be answered. Giving up a complicated, expensive and, above all, unfinished nuclear weapon programme is not the same as giving up a nuclear weapon arsenal itself.

II – WHY NUCLEAR WEAPONS ARE ATTRACTIVE TO STATES

Few people will deny that nuclear weapons are one of the most horrible weapons that can be imagined. Likewise, the idea that a world without nuclear weapons will be a better world, is commonly accepted. Nevertheless, several states possess these weapons, and quite some states are trying to obtain them. Why are these weapons attractive to states? Roughly said, states obtain and maintain nuclear weapons for two reasons: security and symbolism.

The classic perspective on the attractiveness of nuclear weapons is that states use them to offset international security threats. In this perspective, nuclear weapons are mainly – if not only – used for deterrence. When a state has nuclear weapons, it can be rather sure that no other state will attack, because a devastating nuclear counter-attack could be the result¹¹. Indeed, all nuclear weapon states started developing their bombs during periods of insecurity: the United States, Russia, China, France and Great Britain during the Cold War, India and Pakistan because of their own constraint relationship, and Israel because of its hostile neighbourhood in the Middle East. It is difficult to think of states pursuing nuclear weapons when these states do not experience any security threat. Nevertheless, there are some examples of rather unclear

¹⁰ For example: M. ROST RUBLEE, "Egypt's nuclear weapons program. Lessons learned", *Nonproliferation Review*, vol. 13, n° 3, November 2006, pp. 555-567; R. K. C. HERSMAN, R. PETERS, "Nuclear U-turns...", *op. cit.*; L. PALMER, G. MILHOLLIN, "Brazil's nuclear puzzle", *Science*, October 22, 2004, p. 617; R. J. EINHORN, "Identifying nuclear aspirants...", *op. cit.*

¹¹ A classic example: K. WALTZ, *The spread of nuclear weapons: more may be better*, London, International Institute for Strategic Studies, *Adelphi Paper* n° 171, 1981.

security reasons. France and Great Britain, for example, did fall under the 'nuclear umbrella' of their ally the United States during the Cold War, but still decided to obtain nuclear weapons themselves. For some states, pursuing nuclear weapon arsenals is even increasing their insecurity. Iran and North Korea did have less chance of being militarily attacked before they started their nuclear programmes, because these programmes attract the risk of 'pre-emptive strikes' from other states. For the Iraqi regime of Saddam Hussein, the attempts to obtain nuclear (as well as biological and chemical) weapons eventually led to the American-British invasion in 2003.

A more modern perspective of the attractiveness of nuclear weapons is that of psychological or symbolic reasons. Nuclear weapons are associated with power, importance, respect and sovereignty. They are not only a warning towards potential enemies, but also a symbol to domestic and international audiences in general. In the case of Pakistan and Iran, it is even said that their nuclear weapon programmes are also intended to increase the global respect for the Islam¹². These symbolic reasons for pursuing or maintaining nuclear weapons can also be labelled as "nuclear mythmaking"¹³. The main goal of state leaders could be to increase the status of their country on the international stage – and in the meantime, their own status as statesmen. Having a nuclear weapon arsenal will make a state more influential in international politics, not so much by using them, but by the ability to use them¹⁴. The fact alone that a state possesses nuclear weapons, could give it more influence during diplomatic negotiations. Even in a state like Great Britain, it is thought that "being a nuclear power itself makes Britain's voice to some extent more credible in Washington"¹⁵.

It is, however, difficult to imagine any state pursuing nuclear weapons solely for symbolic reasons. A sense of insecurity will always play a role. Insecurity, for example because of tensions with neighbouring states, and the feeling that more international respect has to be gained, are often coming together. A nuclear weapon programme offers a possibility to solve these two problems at the same time.

¹² For example: T. SAYYED, 'The Islamic Bomb', *Pakistan Today*, December 26, 2003.

¹³ P. R. LAVOY, "Nuclear proliferation...", *op. cit.*, pp. 434-438.

¹⁴ *Ibid.*, p. 435.

¹⁵ J. STOCKER, *The United Kingdom and Nuclear Deterrence*, London, International Institute for Strategic Studies, 2007, *Adelphi Paper* n° 386, p. 83.

III – WHY NUCLEAR WEAPONS ARE UNATTRACTIVE TO STATES

Although there are some reasons why it is attractive to states to have nuclear weapons, the majority of states do not possess them. Next to the attractiveness of these weapons, there are also some important reasons why states do not easily pursue them. Except for ethical reasons, which are considered clear here, two more or less practical reasons can be mentioned: financial implications and foreign reactions.

First of all, producing nuclear weapons is a complicated and expensive process. A lot of scientific knowledge, rare materials and industrial high-tech laboratories and machines are needed to produce a nuclear device. Most states do not have the knowledge, materials and industries needed for a nuclear weapon programme. Of course, this could all be acquired in other countries, if that was not illegal due to the international regime of the Non-Proliferation Treaty. Only as long as nuclear knowledge and materials are used for peaceful means, like nuclear energy production, international trade is legal. Iran's nuclear programme, for example, is assisted by Russia, but both states maintain that this programme only serves nuclear energy goals¹⁶. Although in the past illegal networks existed that sold nuclear knowledge – especially the network of the Pakistani scientist Abdul Qadeer Khan is well known – it remains very difficult and expensive to come to the stage that a real, useable nuclear weapon is constructed. Libya is an example of the difficulty of this process: the regime of Moammar Al Gadhafi was pursuing nuclear weapons for decades, but never succeeded. Libya tried to buy assistance from several countries, and even managed to obtain important materials needed for a nuclear weapon, but never succeeded in having the complete combination of knowledge, materials and producing facilities. In 2003, Libya decided to end its nuclear aspirations, forced so by the ongoing and growing expenses and severe international pressure and sanctions¹⁷.

It is not only the development and production of nuclear weapons that is complicated and costly. Maintenance of nuclear weapon arsenals is expensive too, not only because of technical reasons, but also because of safety. Guarding the nuclear weapons must prevent accidents and attacks as well as decrease the risk that one of them falls into the hands of criminals, terrorists or other non-authorized persons. Except for maintenance, sometimes modernization might become necessary to

¹⁶ R. O. FREEDMAN, *Russia, Iran and the nuclear question: the Putin record*, Carlisle, Strategic Studies Institute, US Army War College, 2006, 54 p.

¹⁷ W. Q. BOWEN, *Libya and nuclear proliferation...*, *op. cit.*, pp. 63-69.

prevent getting outdated. Both the nuclear warheads as their missiles may need modernization. The recent decision of Great Britain to modernize its Trident nuclear weapon system, for example, will cost the British government between 15 to 30 billion Pounds (30 to 60 US Dollars)¹⁸.

The second 'practical' argument for states not to pursue nuclear weapons is international pressure. A state trying to acquire nuclear weapons will face broad international condemnation, eventually culminating in political and economical sanctions imposed by individual countries, regional organisations or even the United Nations (UN). Especially since the framing of the Non-Proliferation Treaty in 1968, although not signed by all states of the world, there is an almost global conviction that the proliferation of nuclear weapons should end. States that are suspected of pursuing nuclear weapons can be sanctioned, not only by individual states, but also by the United Nations. Especially UN sanctions can have a serious impact on the economy of states, as Iraq and Libya witnessed in the 1990s. Instead of earning more respect on the international stage, pursuing nuclear weapons may lead to some sort of international pariah status. It is even possible that a nuclear weapon programme results in less instead of more security, in the sense of attracting so-called pre-emptive strikes. Iraq is an example: in 1981 Israel, feeling threatened by Iraq's nuclear programme, attacked nuclear facilities in that country. In 2003, the supposed production of nuclear, biological and chemical weapons by the regime of Saddam Hussein was the main reason for the United States and Great Britain to invade Iraq and to install a new government. Iran, which supposedly is even further in its attempts to produce nuclear weapons than Iraq ever has been, may be risking the same¹⁹. The closer a state is to having nuclear weapons, the more insecure it will be, because (potential) enemies may decide to stop its nuclear programme by violence just in time. On the other hand, when a state successfully reaches the status of nuclear weapon state, its security immediately raises. The threshold to attack a nuclear weapon state will be higher than that to attack a non-nuclear weapon state.

It should be mentioned, however, that pursuing a nuclear weapon arsenal will not automatically lead to international pressure. Israel, India and Pakistan did not experience very severe international sanctions because of their nuclear programmes, let alone that they seem to have risked a military attack to prevent them from acquiring the weapons. This may, among more, be related to their ability to keep their

¹⁸ J. STOCKER, *The United Kingdom...*, *op. cit.*, p. 82.

¹⁹ G. BAHGAT, "Nuclear proliferation in the Middle East...", *op. cit.*, p. 38.

nuclear aspirations quite secret, compared to states like Iraq and North Korea.

IV – PROSPECTS FOR NON-PROLIFERATION, REDUCTION AND ELIMINATION

Looking into the global amount of nuclear weapons at this moment, somewhere around 27,000 warheads, and seeing that further proliferation is slowly going on, one might be pessimistic while considering the prospects of non-proliferation, reduction and elimination of nuclear weapons. Are these options therefore to be deemed ‘unrealistic’?

Especially with a ‘classic’ view about the use of nuclear weapons – deterrence as main objective – it seems rather unrealistic indeed that somewhere in the future the nuclear weapon states will come to an agreement to dismantle all their nuclear weapons – and trust each other so much that no one will secretly keep some in storage. The risk that some potential enemy might have a nuclear weapon could be enough reason for each of these states to always retain some of these weapons. As long as there is even a slight possibility that someone, be it a state or a non-state actor, might be able to acquire a nuclear weapon in the future, complete elimination of the current nuclear weapon arsenals seems to be unrealistic.

Taking into account the more modern viewpoint of the attractiveness of nuclear weapons – symbolism – the elimination of these weapons could become more realistic. When nuclear weapons are mainly used as symbols for power, wealth and sovereignty, states might more easily dismantle them when this symbolism can also be reached otherwise, preferably less complicated and expensive. Nuclear weapons are attractive because of the feeling of security and the symbolism of power and respect that these weapons bring. Unattractive, however, are the financial implications of developing and maintaining a nuclear weapon arsenal, as well as the possible international reactions to it. A change in the balance between benefits and expenses of nuclear weapons will also change their attractiveness.

It is not that unrealistic to suppose that this balance between benefits and expenses may be changed. Even nowadays, the expenses for pursuing nuclear weapons are already enormous. Especially the broad support of the Non-Proliferation Treaty by the international community is very important in this respect. The fact that in the almost 40 years since the framing of the NPT only three more nuclear-weapons states came up, is an unparalleled achievement, even though it is not a hundred

percent success. Strengthening the international non-proliferation regime may increase the expenses of nuclear weapons even further. At least the proliferation of these weapons may thus be contained. Some examples of strong international measures, like the UN sanctions towards Libya, have proven that unanimous international pressure offers the possibility to influence national policies indeed²⁰. Other cases indicate that lack of unanimous international pressure did spur proliferation; the Russian support of Iran and the Russian-Chinese support to North Korea are recent examples, but the same could be said about the support of the United States to India and Pakistan²¹. The strange thing seems to be, that quite often the nuclear-weapons states themselves are the states that hinder international non-proliferation policies, even though they also seem to have most profit when no other states acquire the same status.

Although further proliferation could be stopped when the regime of the Non-Proliferation Treaty could be strengthened by more international unanimity, non-proliferation is not the same as reduction or elimination of nuclear weapons. Part of the Non-Proliferation Treaty, however, is that the 'recognized' nuclear-weapons states should decrease their amounts of weapons – steadily working to disarmament, so to say. As long as the United States, Russia, China, Great Britain and France do not reduce their nuclear weapon arsenals, the credibility of the NPT is being undermined. At this moment, however, these states are not decreasing their nuclear weapon capabilities at all. Somehow, a way must be found to convince the nuclear weapon states that reduction – and in the far future even elimination – of nuclear weapons is also in their benefit. Reduction of nuclear weapons, to start with, could be achieved by diplomatic arrangements, like the SALT and START agreements between the United States and the Soviet Union (later: Russia) in the 1970s, 1980s and 1990s, in which both states agreed to a maximum amount of nuclear warheads.²²

The European Union could be of importance in strengthening the international non-proliferation regime, especially by diplomatic efforts. It should not be neglected, however, that the EU itself has two member states with nuclear arsenals, focussed at modernising of their weapons more than at reducing or eliminating them. It should also be stressed that several European NATO members allow the United States to station

²⁰ W. Q. BOWEN, *Libya and nuclear proliferation...*, *op. cit.*

²¹ R. O. FREEDMAN, *Russia, Iran and the nuclear question...*, *op. cit.*; W. HOGE, "China and Russia stall sanctions on North Korea", *New York Times*, October 13, 2006; A. GUPTA, *The U.S.-India relationship: Strategic partnership or complementary interests?*, Carlisle, Strategic Studies Institute, US Army War College, 2005, pp. 2-3.

²² SALT: Strategic Arms Limitation Talks; START: Strategic Arms Reduction Treaty.

nuclear weapons on their territory. Against this background, the European Union does not seem to be the most credible actor to plea for nuclear disarmament or to convince other states to refrain from acquiring nuclear weapons.

CONCLUSION

Are non-proliferation, reduction and elimination of nuclear weapons realistic options? To answer this question, this paper gave an overview of the existing nuclear weapon arsenals, including the possible increase of them in the near future, and examined the benefits and expenses of pursuing or maintaining nuclear weapons. On the one hand, the large amount of nuclear weapons in the world – around 27,000 nuclear warheads – may not inspire anyone to positivism regarding the non-proliferation, reduction and elimination of these weapons. This may be even worse when the attractiveness of these weapons to states is considered: they offer security, and symbolize power, wealth and sovereignty, thus also attracting some kind of respect, both national as international. On the other hand, one might become optimistic, while realizing the expenses of nuclear weapons. Not only developing, producing and maintaining them is complicated and very costly, but international pressure on states pursuing nuclear weapons can also be severe. Since the framing of the Non-Proliferation Treaty in 1968, only three more states acquired nuclear weapons. This positivism, however, is related to non-proliferation of nuclear weapons, and not to reduction or elimination of them. Unfortunately, no examples are known of states that eliminated their nuclear weapons – except maybe for South Africa, but these weapons were dismantled before being tested. Reduction of weapons, however, has proven to be a realistic option in the past. Especially by diplomatic agreements between the United States and the Soviet Union (later: Russia), the nuclear arsenals of these states have been reduced – although both states still possess 97 percent of all nuclear weapons in the world.

Still, the fact that there is so much global consent about the non-proliferation regime under the NPT may also give some hope for the reduction and elimination of nuclear weapons in the far future. Strengthening the NPT, not only by convincing the (aspirant) nuclear-weapons states of the importance of this Treaty, but also by making international measures like economic sanctions more effective, will be a first step towards the stages of non-proliferation, reduction and elimination. Although even containing the further proliferation of nuclear weapons may be qualified as an unparalleled success, reduction

and elimination of nuclear weapons are not unlikely to be reached in the long term either.

Only when the current nuclear-weapons states are willing to reduce their arsenals themselves, however, global non-proliferation, reduction and eventually even elimination of nuclear weapons will come within reach. Reaching these goals will require a lot of patience and perseverance anyhow, but still, that is not a reason to label them 'unrealistic'.