

African states and The Hague Code of Conduct against Ballistic Missile Proliferation

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Four of the five most recent subscribing states to The Hague Code of Conduct against Ballistic Missile Proliferation (HCoC) are African. Adopted in November 2002 in The Hague, the HCoC's chief objective is to curb the proliferation of ballistic missiles capable of delivering nuclear, chemical or biological weapons, as well as related technology. When fully implemented, the HCoC holds significant security and socio-economic benefits, and is thus of crucial importance given Africa's developmental context and imperatives.

Key findings

- ▶ As of June 2021, the great majority of African states have joined the HCoC, with 41 out of the 54 African UN members having subscribed.
- ▶ A slightly different picture emerges when analysing The Hague Code of Conduct against Ballistic Missile Proliferation (HCoC) subscription on the continent by RECs. For instance, there is a degree of disparity between the REC with the lowest subscription rate – SADC – and ECOWAS, which has the highest (93%) participation rate.
- ▶ Thirteen African UN member states have not yet subscribed to the HCoC: Algeria, Angola, Botswana, Côte d'Ivoire, the Democratic Republic of Congo, Djibouti, Egypt, Eswatini, Mauritius, Namibia, São Tomé and Príncipe, South Sudan and Zimbabwe.
- ▶ However, 94% of African states that took part in the UN General Assembly vote (A/RES/75/60) in December 2020 voted in favour of the text, showing increased support from many of the regional non-subscribing states.
- ▶ Many have also taken part in sub-regional seminars on the continent held by the Foundation for Strategic Research – the EU's designated implementing agency for the code.
- ▶ The development of space agencies in several African countries has been one of the most notable evolutions of the space landscape in recent years, with the AU developing a space policy and aiming to establish an African Space Agency by 2023.

Recommendations

- ▶ The AU should encourage member states to engage with the HCoC Executive Secretariat and to support related UN General Assembly resolutions.
- ▶ RECs should encourage non-subscribing members to contact the Immediate Central Contact to ascertain the process and benefits of subscribing.
- ▶ Mechanisms to enhance the sharing of information and experiences concerning civilian space activities in Africa should be discussed on an ongoing basis.
- ▶ African states that have not yet subscribed to the HCoC should do so to reinforce their support for global disarmament and non-proliferation efforts. This will enhance the effectiveness of the code as a confidence-building measure. 2022 is a unique opportunity for such states to join the regime, as November 2022 is the 20th anniversary of its adoption.
- ▶ The Africa Group, through the AU Observer Mission, should arrange briefings on the non-proliferation benefits and peaceful use activities of subscribing to the HCoC so that a common African position can be reached.
- ▶ African states that have subscribed to the HCoC should participate more in global discussions on reducing the threat posed by missiles; integrate the code's implementation activities into their non-proliferation national strategies; and regularly submit their policies on ballistic missiles and space-launch vehicles via the code's mechanism of annual declarations.

Glossary of terms¹

Ballistic missile: A missile whose flight path follows a ballistic (parabolic) trajectory governed mainly by gravity and aerodynamic drag once thrust is cut, comprising a launcher, a rocket-powered propulsion system, a payload and a guidance system.

Confidence-building measures: Unilateral or agreed actions taken by a state for the purpose of reducing uncertainties and concerns of other states about its intentions, making the state's behaviour more predictable to other states, and promoting the reduction of tensions between states.

Cruise missile: A missile that uses aerodynamic lift to offset gravity and a propulsion system to counteract drag. Cruise missiles travel parallel to the ground and, like an aircraft, usually at a constant height.

Delivery system: A means of propulsion or transport employed to carry munitions to their target. Many delivery systems can transport both conventional weapons and weapons of mass destruction payloads.

Export controls: Measures designed to regulate international trade in sensitive equipment, materials and dual-use technologies, such as weapon systems and their components.

Hypersonic weapons: Hypersonic weapons do not follow a ballistic trajectory and can manoeuvre en route to their destination. There are two primary categories of hypersonic weapons, both of which fly at speeds of at least Mach 5 (five times the speed of sound). At present, hypersonic weapons are not covered by any existing arms control agreements, nor by voluntary measures that restrict the development and proliferation of missile technology, such as the HCoC and the Missile Technology Control Regime.

Hypersonic glide vehicles (HGV): Launched from a rocket before gliding to a target, they leave the Earth's atmosphere and then plunge back into it, gliding

through the upper layers in a shallow, random series of curves and turns.

Hypersonic cruise missiles (HCM): HCMs are powered by high-speed, air-breathing scramjet engines and can manoeuvre at low altitudes.

Missile: An unmanned, self-propelled, self-contained, unrecalable, guided or unguided vehicle designed to deliver a weapon or another payload.

Missile Technology Control Regime (MTCR): A grouping of states that have agreed to, inter alia, restrict the export of missiles and related technologies.

Payload: The front part of a missile that could carry a warhead containing a nuclear or conventional explosive charge, or a chemical or biological agent. Payloads can also be satellites with a wide range of missions: communication, weather monitoring, planetary exploration and observation.

Space launch vehicle (SLV): A rocket-propelled vehicle used to transport a spacecraft or a satellite beyond Earth's atmosphere, either into orbit around Earth or to some other destination in outer space.

UNSC Resolution 1540: United Nations Security Council Resolution 1540 (2004) requires all states to refrain from providing any form of support to non-state actors that attempt to develop, acquire, manufacture, possess, transport, transfer or use nuclear, chemical or biological weapons and their means of delivery. The resolution requires all states to adopt and enforce appropriate laws to this effect, as well as other effective measures to prevent the proliferation of these weapons and their means of delivery.

Weapons of mass destruction (WMD): WMD refers to nuclear, radiological, biological or chemical weapons, 'and any weapons developed in the future which might have characteristics comparable in destructive effect to those of the atomic bomb or other weapons mentioned above'.²

Introduction

With four of the five most recent subscribing states being African, the continent has seen considerable positive development since 2016 with regard to The Hague Code of Conduct against Ballistic Missile Proliferation (HCoC).³ Adopted in November 2002, the HCoC's chief aim is to limit the proliferation of ballistic missiles, as they are the preferred delivery vehicle for weapons of mass destruction (WMD). The recent increase in their availability, geographic spread and sophistication, as well as their use in conflicts (such as in Yemen⁴ and the Armenian-Azerbaijani⁵ conflict), means that they are once again a growing security concern.

The HCoC not only is the only universal norm against the proliferation of ballistic missile systems but also enhances transparency in ballistic and space-launch programmes. This transparency takes the form of a confidence-building mechanism, which requires subscribing states to notify each other before any ballistic missile or space-launch vehicle is launched or test flights initiated. This is referred to as pre-launch notifications.

The HCoC is the only universal norm against the proliferation of ballistic missile systems

Africa stands in a paradoxical position vis-à-vis the HCoC. The risk posed by ballistic missiles appears relatively low, as few countries have embarked on such programmes on the continent. The proliferation of small arms and light weapons (SALW) is a much more immediate threat for many African states. Moreover, although on the increase, only a handful of states are currently heavily investing in the peaceful use of rocket technologies.

Despite this, regional actors remain supportive of the HCoC and the majority of African states have subscribed to it. A closer analysis of the position of most African countries on the HCoC indicates that this support is an expression of their commitment to the struggle against the proliferation of WMDs and their delivery vehicles in general. Indeed, it is integral to their unequivocal call for the total eradication of all WMDs. This position is held in tandem with an emphasis on the fact that

non-proliferation instruments must not prevent the development of civilian technologies.

African states are also sensitive to the financial and human resource costs associated with the implementation of global non-proliferation norms and commitments. They often insist on the importance of limiting the administrative burden for implementing countries; the streamlining of reporting processes; and the need to adapt the frameworks to suit their context.

This report gives an overview of the HCoC and its implementation on the African continent. It points to several challenges but also a number of opportunities for African states and ways to increase the HCoC's relevance. Finally, it establishes a set of recommendations going forward.

Overview of the HCoC

Prior to the HCoC's adoption, the main forum for discussion of ballistic missile proliferation was the Missile Technology Control Regime (MTCR). Established in 1987, the MTCR is now composed of 35 states ('partners'). These states agree on restricting the export of Category I missiles capable of carrying at least a 500 kg payload at a distance of at least 300 km. They also promote restrictions on missiles intended for the delivery of chemical, biological or nuclear weapons, and related technologies.⁶

In addition, the MTCR prohibits the transfer of Category I missile production capabilities. It has a key role in limiting the proliferation of missile equipment, material and related technologies that could be used to produce systems capable of delivering WMD.⁷

While the MTCR focuses on the supply side, no multilateral norm existed at that time to regulate ballistic missile production and proliferation. Following ballistic missile developments in, for example, the Democratic People's Republic of Korea (DPRK) and Iran, MTCR partners negotiated the International Code of Conduct against Ballistic Missile Proliferation (ICoC) – now the HCoC. This move was also the result of their recognition that multilateral solutions should be adopted to curb missile proliferation.

The HCoC was adopted as a politically binding agreement by 93 states in The Hague in November 2002.

It aims to contribute to international stability and security by improving transparency and confidence among states regarding ballistic missiles and civilian space programmes. Its intention is also to serve as a warning system prior to launches.

HCoC in the global non-proliferation regime

As of March 2021, 143 states, including the 41 African states, have joined the HCoC, which remains the only international instrument delegitimising the proliferation of ballistic missiles.

While the HCoC was initially perceived as originating in the MTCR (a perception that continues to endure in some states), it has become an integral part of the global non-proliferation regime and the multilateral United Nations (UN) framework. At the same time, there is room for improving complementarity and strengthening the implementation of their provisions, institutional linkages and interactions.⁸ This integration can be attributed to a number of factors, including:

- The UN General Assembly's support for the HCoC through the passing of a biennial resolution.
- The linkages between the HCoC and other UN initiatives, such as UN Security Council (UNSC) Resolution 1540 (2004) – efforts to promote the implementation of Resolution 1540 in many countries has indirectly contributed to highlighting the relevance of the code in curbing the proliferation of delivery vehicles. Reciprocally, subscribing to the code complements the binding obligation under Resolution 1540 for all states to exercise caution on transferring missile technologies and components.⁹
- Outreach events held by the HCoC chair, the Immediate Central Contact (ICC) and the Foundation for Strategic Research (FRS) – the European Union's (EU) designated implementing agency for the code – also serve to embed the code within a global UN framework. Such events usually take place on the margins of, for example, the First Committee of the UN General Assembly. This committee deals with global challenges and threats to international peace and security.¹⁰
- Events organised by applied policy institutes such as the ISS that conduct research and provide policy advice to governments and undertake activities to

build state capacity to meet their non-proliferation and disarmament commitments.

With the arms control and non-proliferation environment mostly deteriorating since 2015, the HCoC is one of the few instruments that remains effective, as demonstrated by the growing number of subscribing states. This resilience is probably due to its potential to regulate behaviours and contribute to the avoidance of a military escalation following a misunderstanding. This is all the more relevant at a time of increased global and regional tension.

Executive Secretariat/ Immediate Central Contact

Austria acts as the Executive Secretariat/ICC and coordinates information exchange within the HCoC framework. It also organises an annual regular meeting, usually held in Vienna in June. To promote transparency, it runs a dedicated website (<http://www.hcoc.at/>).

HCoC chair

Subscribing states nominate an annual rotating chair. Each subscribing state can become chair of the HCoC, and notably receives support from the EU to undertake its mission.

HCoC subscribing states

States can join the HCoC by sending a Note Verbale to the Austrian ICC. Subscription to the HCoC is free of charge.

HCoC's role and functioning

The code has reinforced the normative framework against the proliferation of missiles. Since the 2000s, state-to-state transfers of ballistic systems capable of delivering WMDs have been rare. However, ballistic missiles remain central to the deterrence strategy of nuclear-armed states and are therefore undergoing innovation, modernisation and qualitative improvements. These developments inevitably lead to in-flight testing. Sending pre-notifications through the HCoC mechanism is one way of minimising risks linked to this activity.

Missile possessors – but also non-possessors – are aware of this immediate benefit of the HCoC and the

role it can play in ensuring confidence even in tense environments. Without legitimising the nature of the programmes, it limits the risk of confusing a missile test with a missile strike. In 2019 about 50 tests were reported in open sources, and 30 in 2020.¹¹ The code's function in this respect is therefore of tangible benefit and justifies the momentum built up over the last five years, in particular in Africa, in its support.

The HCoC places most of the burden of implementation on missile-possessor states. States without ballistic or launching capacities have been attracted to an instrument where they can get information and expect transparency without compromising their access to civilian technologies or diverting scarce administrative resources.

Besides additional subscribers, the code's momentum can be seen in the record number of positive votes in favour of the most recent UN General Assembly resolution supporting the HCoC (176 votes in favour of

A/RES/73/49, with one against [Iran] and 10 abstentions on 7 December 2020).¹² This momentum is also reflected in recent declarations by regional organisations or states pointing to the code as an inspiration for progress on arms control.¹³

Scope of the HCoC

Ballistic missiles are capable of carrying not only WMD payloads but also various types of conventional payloads. As a result, some states consider ballistic missiles legitimate weapons for their national security. The HCoC thus intends to curb the proliferation of ballistic missiles used as WMD delivery vehicles, even if some of its confidence-building measures could also in theory apply to ballistic systems used as conventional weapons.

Civilian space activities fall within the scope of the HCoC. This is because the same technologies used to develop and launch ballistic missiles can also be used for peaceful purposes. Such purposes include

Table 1: Overview of the HCoC

Accede or adhere to international conventions and treaties related to the peaceful use of space	Prevent the proliferation of ballistic missiles capable of delivering WMD	Implement transparency and confidence-building measures
<p>The Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies ('Outer Space Treaty', 1967)</p> <p>The Convention on International Liability for Damage Caused by Space Objects (1972)</p> <p>The Convention on Registration of Objects Launched into Outer Space (1975)</p>	<p>To curb and prevent the proliferation of ballistic missiles capable of delivering WMD</p> <p>To exercise maximum possible restraint in the development, testing and deployment of ballistic missiles</p> <p>To exercise the necessary vigilance in the consideration of assistance to Space Launch Vehicle programmes in any other country</p> <p>Not to contribute to, support or assist any ballistic missiles programme in countries that might be developing or acquiring WMD in contravention of international disarmament and non-proliferation treaties</p>	<p>Submitting an annual declaration outlining their policy on ballistic missiles and space launch vehicles, and declare the launches of each made during the year (nil declaration for states that have not carried out any such launches)</p> <p>Sending pre-launch notifications</p> <p>Encouraging visits to space launch sites</p>

Source: Adapted from paragraph 3 of the Code, See: https://www.hcoc.at/?tab=what_is_hcoc&page=text_of_the_hcoc

the development, use and launch of civilian rockets and satellites, and space exploration. Thus, while the development of space launch capabilities is not necessarily perceived as a threat to international peace and security, access to the technology required could contribute to the acquisition of ballistic missiles. This is often seen as detrimental to global and regional stability.

Regarding hypersonic manoeuvring systems, their inclusion in the HCoC's scope depends on the type of system. Hypersonic glide vehicles (HGVs) leave the Earth's atmosphere and then plunge back into it, gliding through the upper layers in random curves and turns. This is intended to fool an enemy's radar as to their intended target. Hypersonic cruise missiles (HCMs), while not as fast, are designed to fly low but also at extremely high speeds.¹⁴ Hypersonic manoeuvring systems can move at five times the speed of sound – 6 174 km/h or more,¹⁵ and are likely to impact on war fighting and strategy.¹⁶

Technologies used to develop and launch ballistic missiles can also be used for peaceful purposes

Systems¹⁷ currently being developed by China, the United States (US), Russia and several other states fall within the HCoC's scope when relying on a ballistic missile for the boost phase of a launch. This includes HGVs, which are initially launched by a space launcher or a ballistic missile, and then complete most of their flight along a non-ballistic trajectory in the atmosphere.¹⁸

Despite criticism by non-subscribing states and propositions made by some experts and even subscribing states,¹⁹ the HCoC does not cover cruise missiles. This limitation can be understood given the pragmatic considerations that prevailed at the time of its adoption. While some regret the exclusion of cruise missiles²⁰ from the HCoC's scope, the absence of an agreed definition of these systems constitutes a first obstacle. In fact, it may be particularly problematic in the context of future or potential arms control agreements.²¹

Moreover, cruise missiles are regularly used on the battlefield (without carrying a WMD payload). States with cruise missile capabilities are reluctant to exercise the level of transparency that the HCoC would require if

cruise missiles were to be included. Finally, the import and export of cruise missiles and related technologies are dealt within the MTCR framework. Many possessors and exporters, especially Western states, often do not perceive their dissemination as a proliferation risk, with most systems being transferred having a short or medium range and not designed to deliver WMD.²²

The exclusion of cruise missiles and Unmanned Combat Aerial Vehicles (UCAVs) may, in future, become more problematic. This is because UCAVs and cruise technologies continue to be disseminated and may become more appropriate as WMD delivery vehicles, owing in part to the progress being made in scramjet hypersonic technologies. UCAVs may be especially challenging given their rapid spread globally, including in Africa, where Egypt, Nigeria and South Africa, as well as non-state actors, are already deploying them.²³

Some analysts argue that 'missiles are not just ballistic anymore, even many of the ones that are called ballistic'.²⁴ As such, according to Wilson and Dunham, there is a need to adapt the taxonomy as this has implications for early warning, missile defence and arms control, as well as broader strategic policy.²⁵ 'This blurring of categories [also] has the potential to erode the utility of existing arrangements on missiles, such as the export controls applied to certain missiles in the MTCR.'²⁶

What is needed, according to Izumi Nakamitsu, the UN under-secretary-general and high representative for disarmament affairs, is a new 'set of common, agreed definitions ... a systematic and widely understood taxonomy of missiles could help governments identify particularly destabilizing or harmful types of weapons and, ultimately, means for their control'.²⁷ The HCoC will therefore increasingly be faced with a need to rethink its scope and implementation, in order to remain relevant with ongoing technological evolutions.

Challenges related to the HCoC

Efforts to increase transparency and confidence have had little impact on limiting the acquisition of ballistic missiles by some key non-subscribing states, especially in Asia and the Middle East. Despite its 143 subscribing states, the code has yet to be signed by some of the most active states in the field of ballistic missiles and launching technologies. These include Brazil, China,

Egypt, Iran, Israel,²⁸ the DPRK, Pakistan and Syria. In that context, India's decision to subscribe to, and abide by, the code in 2016 was a positive sign reflecting the role of the HCoC in contributing to regional stability, and it may give hope that other main actors will join the code. Moreover, it should be noted that China and Pakistan participate in bilateral notification mechanisms on ballistic missiles with Russia and India respectively, displaying their interest in this kind of confidence-building measure.

All subscribing states that have ballistic or space launch technologies do send pre-launch notifications and annual declarations. However, other states fail to submit their annual declarations despite being required to do so – even though a 'nil form' was created to ease the process for states that do not possess missile or space capabilities.

According to Santoro and Glosserman, while the MTCR and HCoC have had some successes, the 'missile problem has continued to worsen because technology has diffused faster than controls have adapted, and because some missile-technology possessors have chosen not to comply with MTCR and HCoC requirements.'²⁹ In addition, they argue that the complexity of the missile problem is reflected in ballistic missiles' remaining invaluable components of national defence strategies and often being an integral part of any interceptor-based defence system.³⁰

In Africa, only South Africa, Libya, Egypt and Algeria have shown interest in acquiring or developing ballistic missiles

Another criticism of the HCoC is that it is a product of its time.³¹ At the turn of the century there were numerous attempts to negotiate a treaty on ballistic missiles. A number of UN-mandated Groups of Governmental Experts (GGEs) worked on this issue with some measure of success. While no agreement could be reached on negotiating a treaty, there was general consensus that it is essential to continue efforts to deal with the issue of missiles, both within and outside the UN.³²

As a compromise measure, the HCoC does not 'control' ballistic missiles. It is largely a notification instrument and, as such, a confidence-building measure instrument –

albeit an important one. Having to give notice of the launch of a delivery system builds trust with one's neighbours.

However, some have stressed that it may have put a damper on the need to focus on a potential multilateral treaty on ballistic missiles,³³ and that this has led to a 'significant and dangerous gap in current regulatory frameworks.'³⁴ There is therefore 'a need to strengthen existing transparency and confidence building measures' through 'reinforcing and/or complementing the Code of Conduct and by extending its coverage.'³⁵ Nevertheless, the HCoC remains to date the only existing instrument to focus on ballistic missiles, at a time when the erosion of the existing arms control architecture would render the adoption of any other (legally-binding) instrument highly challenging. It is a pragmatic instrument which actually works, thereby contributing to reinforcing global stability and security.

HCoC's relevance to African states

Limited dissemination of ballistic technologies

Ballistic missile activity in Africa has generally been limited. Only South Africa, Libya, Egypt and, more recently, Algeria have shown interest in acquiring or developing ballistic missiles.³⁶ Algeria imported short-range systems from Russia in 2017, which were displayed for the first time in 2020.³⁷ Algeria and Egypt are currently the only African states with active ballistic missile programmes. It is uncertain whether capacity persists in Libya, which is presently experiencing significant political-military instability.

While the ballistic threat coming from African countries therefore remains low, developments on the borders of the continent are of concern. According to the Stockholm International Peace Research Institute (SIPRI), at least 10 out of 19 MENA³⁸ states have missiles that, launched from the ground or from aircraft, can be used to attack high-value targets deep inside other states.³⁹

Moreover, the civil war in Yemen has seen a high number of missile strikes since 2015, most of which originate from the Houthi-controlled territories in south-west Yemen, less than 200 km from the coasts of Eritrea and Djibouti.⁴⁰ Areas off the coasts of Djibouti, Eritrea and Somalia are also attractive stopovers for smugglers of missile parts into the Gulf of Aden.⁴¹ As stated by the UNSC's Panel of

Experts on Yemen, the Houthi's ability to project power beyond Yemen is thus a threat to regional stability and a challenge for future peace negotiations.⁴²

In addition, and as will be discussed below, a number of African countries are advancing their space programmes, which may in the long term lead to ambitions to acquire launching capabilities. While this may not reflect any goal to develop or contribute to the development of a ballistic programme, it nevertheless can result in the mastery of dual-use sensitive technologies. As such, choices made about the uses of outer space directly impact international peace, safety and security.⁴³

Oyewole argues that 'although most space programmes in Africa are administered by civilians and designed for research and development purposes, there is also a military-security dimension'.⁴⁴ There is therefore 'a need to assess the growing interest to acquire space capabilities in a military-security framework in Africa, considering the trajectories, opportunities, motivations and possible implications'.⁴⁵

Nexus between security and development

The HCoC, while helping to strengthen existing national and international security arrangements, also creates new opportunities for states to pursue their socio-economic and developmental goals. One could argue that the code is of critical relevance to Africa as more states and private sector entities pursue outer space actions.

For the African continent, there is a clear nexus between security and development. This is reflected in key AU frameworks and agendas, such as the African Peace and Security Architecture (APSA) and Agenda 2063, as well as Africa's implementation strategies with respect to meeting the UN's Sustainable Development Goals.

It is also reflected in a very practical way in many of the conventions and treaties governing peace and security internationally. Each, when fully implemented, holds significant security and socio-economic benefits, and is thus of crucial importance given Africa's developmental context and imperatives.

The Treaty on the Non-Proliferation of Nuclear Weapons (NPT), in Article IV, explicitly recognises the inalienable right of non-nuclear armed states to pursue peaceful uses of nuclear energy. The International Atomic Energy

Agency's (IAEA) technical cooperation programmes in Africa include the application of fertilisers through drip irrigation, increased crop yields and the eradication of agricultural pests by environmentally friendly procedures. They also involve the eradication of the tsetse fly; the application of the Sterile Insect Technique against human disease vectors, particularly mosquitoes; the assessment and management of groundwater resources; and the investigation of water leakages in dams and reservoirs.⁴⁶

The code is of critical relevance to Africa as more states and private sector entities pursue outer space actions

The organisation responsible for overseeing the Comprehensive Nuclear Test Ban Treaty (CTBT) – the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) – also focuses on the use of its verification technologies for civil and scientific applications. As states parties to the CTBT, 'African countries can take advantage of the data generated by the international monitoring stations designed to collect seismological, hydroacoustic, infrasound and radionuclide data (tsunami warnings, volcanic and seismic monitoring, etc.)'.⁴⁷

The African Nuclear-Weapon-Free Zone Treaty (Treaty of Pelindaba), while not dealing with the means or delivery of nuclear explosive devices *per se*, is nonetheless relevant. The treaty, which enhances both regional and global peace and security and requires complete nuclear disarmament by African states, provides for the promotion of cooperation in the peaceful uses of nuclear energy.⁴⁸

The African Commission on Nuclear Energy (AFCONE), established in line with Article 12 of the Treaty of Pelindaba, plays a key role in advancing the peaceful application of nuclear science and technology in Africa. It also gives much-needed support to states parties to fully benefit from nuclear science and technology applications in the areas of health, agriculture and energy.⁴⁹

Political and socio-economic benefits of subscribing to the HCoC

At first sight, some African states may be reluctant to subscribe to an additional international security

commitment such as the HCoC. These states may fear having to dedicate scarce resources to an issue that is not prominent among their security priorities. Nonetheless, the HCoC has several political and practical benefits. It allows African states to access information shared via a restricted Internet platform by other subscribing states on their missile and launch policy and on launches. It also gives them an opportunity to voice concerns over matters in which they are usually not involved.

The HCoC can be effective in enhancing international cooperation for space technologies

In addition, the HCoC provides benefits in terms of space developments. As well as addressing ballistic missile launches, the code covers space launches, given that the same technologies can be used for both applications (they have a 'dual-use' character). It recognises 'that states should not be excluded from utilising the benefits of space for peaceful purposes' but offers a set of principles and a framework for declaring space launches. This can be of particular importance, as 'developments in the field of space have increased in Africa in the past few years'.⁵⁰

As noted in the *Handbook of Space Security*, the rapid development of spatial activities, epitomised by the emergence of 'New Space', means that an increasing number of countries and actors are depending on space assets for civilian activities. This may be in anticipating and mitigating natural disasters, improving communication and navigation, studying disease epidemiology, monitoring climate, assisting agricultural activities or managing natural resources.⁵¹

By subscribing to the HCoC (and by encouraging others to subscribe to its principles), African states signal their readiness to further strengthen global non-proliferation objectives without impacting or undermining their national security interests or their developmental imperatives. This is because it is 'not designed to impede national space programmes or international co-operation in such programmes as long they do not contribute to delivery systems for weapons of mass destruction'.⁵²

From an African perspective, one can be committed to regional, continental and international security while also believing that this must be done without impeding the continued delivery of developmental benefits. Such benefits include nuclear, chemical and biological material and related dual-use items such as launching technologies.

African countries realise the disruptive potential of the threat from chemical, biological, radiological or nuclear (CBRN) weapons. This is exacerbated by the continuous dissemination of missiles and their regular use on the battlefield by non-state actors in particular. Nonetheless, African states also recognise, especially in the field of SALW, that transparency can be a positive and useful tool to limit misunderstandings between neighbours and create predictability regarding the evolution of military powers.

The HCoC, with its emphasis on confidence-building and transparency measures, and its limited administrative requirements, can be effective in enhancing international cooperation for the peaceful application of space technologies.

Development of space activities in Africa

A cursory scan of current developments in the space landscape worldwide shows that space is becoming more accessible than ever before. An example of the major structural changes taking place and the private sector's increasing involvement in the space arena took place in January 2021. A SpaceX Falcon rocket launched out of Florida carried 143 payloads, of all shapes and sizes. Many of these belonged to start-up companies intent on delivering better broadband Internet connections and monitoring any change on the planet almost immediately.⁵³

The development of space agencies in various African countries has been one of the most notable evolutions of the space landscape over recent years. Several space research organisations are engaged in activities related to outer space and space exploration in Africa. The Nigerian Space Research and Development Agency is one of the first.

The South African National Space Agency (SANSA), established in 2010, is another key development for the continent. In 2018, a 10 kg satellite designed by South

African engineers was put into orbit to monitor the country's coastline and send home real-time information about impending natural disasters, including fires, floods and drought.⁵⁴ Others space agencies on the continent include the:

- Algeria Space Agency
- Egypt Space Agency
- Kenya Space Agency
- Zimbabwe National Geospatial and Space Agency
- Gabinete de Gestão do Programa Espacial Nacional (Angola)
- Royal Center for Remote Sensing Space (Morocco)
- Ghana Space Science and Technology Centre
- Libya Center for Remote Sensing and Space Science
- National Remote Sensing Center (Sudan)
- Tunisia Space Agency
- Agence Gabonaise d'Etudes et d'Observations Spatiales (Gabon)
- Ethiopian Space Science and Technology Institute⁵⁵

Many of these have already had satellites launched on their behalf. At present, these African countries do not have domestic satellite launching capabilities. However, the evolution of space systems, especially given their substantial reduction in size and cost, may lead to autonomous launch programmes in the mid to long term. This is a renewed opportunity for African countries to invest in this new field and grow their presence in the space-launch sector.

According to a study by Space in Africa, over US\$3 billion has been spent on space projects in Africa since 1998. African investment in space science and technology has grown, driven by Earth observation development programmes and the need for satellite telecommunications.⁵⁶ South Africa's Department of Science and Innovation (DSI) envisages the space industry as 'one of the key instruments in addressing South Africa's national priorities of job creation, poverty eradication, resource management and rural development'.⁵⁷

The country's minister of higher education, science and innovation, speaking at the test launch of the Phoenix-1B Mk II-R hybrid rocket,⁵⁸ stated that 'the launch is hugely significant for South African engineering and the development of African satellite rocket launch capability'. He added that 'advancement and sustainability of the industry would play a key role in the implementation of African Space Policy and Strategy'.⁵⁹

In September 2020 it was reported that SANSA, an entity of the DSI, had been awarded R4.47 billion to develop a Space Infrastructure Hub as part of the Sustainable Infrastructure Development Symposium (SIDS) initiative. Space infrastructure is seen as a national priority similar to the Square Kilometre Array Project.

The Space Infrastructure Hub will include a number of satellite builds (earth observation and space science missions), a new ground station, an expanded data segment and a new data visualisation centre, and activation of the satellite-based augmentation system over Southern Africa.⁶⁰

According to a study by Space in Africa, over US\$3 billion has been spent on space projects in Africa since 1998

'The project will position space data as a tool for sustainable development, addressing government's national priorities and for commercial use in thematic areas including remote sensing, navigation, and space sciences.'⁶¹ According to Dr Val Munsami, the CEO of SANSA, South Africa is looking to build half a dozen satellites in the next three to four years, as well as the ground infrastructure to support these missions.⁶²

In Sudan in September 2012, the ministers of science and technology recommended that the AU Commission develop a space policy for the continent. This should be in collaboration with relevant stakeholders and take into account remote sensing applications and satellite imagery processing. Following the Khartoum Declaration, the AU Commission endorsed the establishment of a Working Group on Space Science tasked to develop a draft African space policy and strategy. The group, comprising members of the African Leadership Conference and national space agencies, completed an

initial draft policy in October 2013. The final document was adopted at the AU Summit in January 2016.⁶³

In February 2019, during the 32nd ordinary session of the AU Assembly, Egypt was endorsed as the official host of the headquarters of the AU African Space Agency.⁶⁴ The AU's Agenda 2063 proposes 2023 for the establishment of the agency.⁶⁵

Together, the African space policy and the space agency could improve dialogue within Africa, and between Africa and other space agencies on other continents. This could lead to greater African capacity and expertise in earth observation, communication, navigation and positioning, and astronomy. As stated by the economic development programme of the AU, the New Partnership for Africa's Development (NEPAD);

As a co-ordinated and integrated continental initiative, the Agency aims to [be] responsive to the social, economic, political and environmental needs of the continent and to develop a regulatory framework that ensures that the continent is a responsible and peaceful user of outer space.⁶⁶

Implementation of the HCoC in Africa

High level of subscription

Though Africa has limited ballistic missile and space-launch activities, there is a relatively high level of support for the HCoC among African states. As of March 2021, 41 African UN member states have subscribed to the HCoC. This represents a subscription rate of 76% for the continent – slightly higher than that of UN member states as a whole (73%).

One African state has held the chair of the HCoC: Morocco, in 2006–2007. This position was used to promote the subscription of African and Middle Eastern states to the code through bilateral engagement and outreach in multilateral forums (Geneva, New York and Vienna in particular). As chair, Morocco emphasised the role of the code in creating a safe environment for all countries to benefit from the peaceful use of space.

With four of the five most recent HCoC subscribing states originating from Africa – Lesotho (2017), Togo (2019), Equatorial Guinea and Somalia (2020) – the region has now risen above the world average. Figure 1 and

Table 2 illustrate Africa's firm stance on disarmament and non-proliferation issues.

A slightly different picture emerges when analysing HCoC subscription on the continent by regional economic community (REC). For instance, disparities exist between the REC with the lowest subscription rate – the Southern African Development Community (SADC) – and the Economic Community of West African States (ECOWAS), which has the highest participation rate in the HCoC. A total of 93% of ECOWAS member states have subscribed (see Table 2).

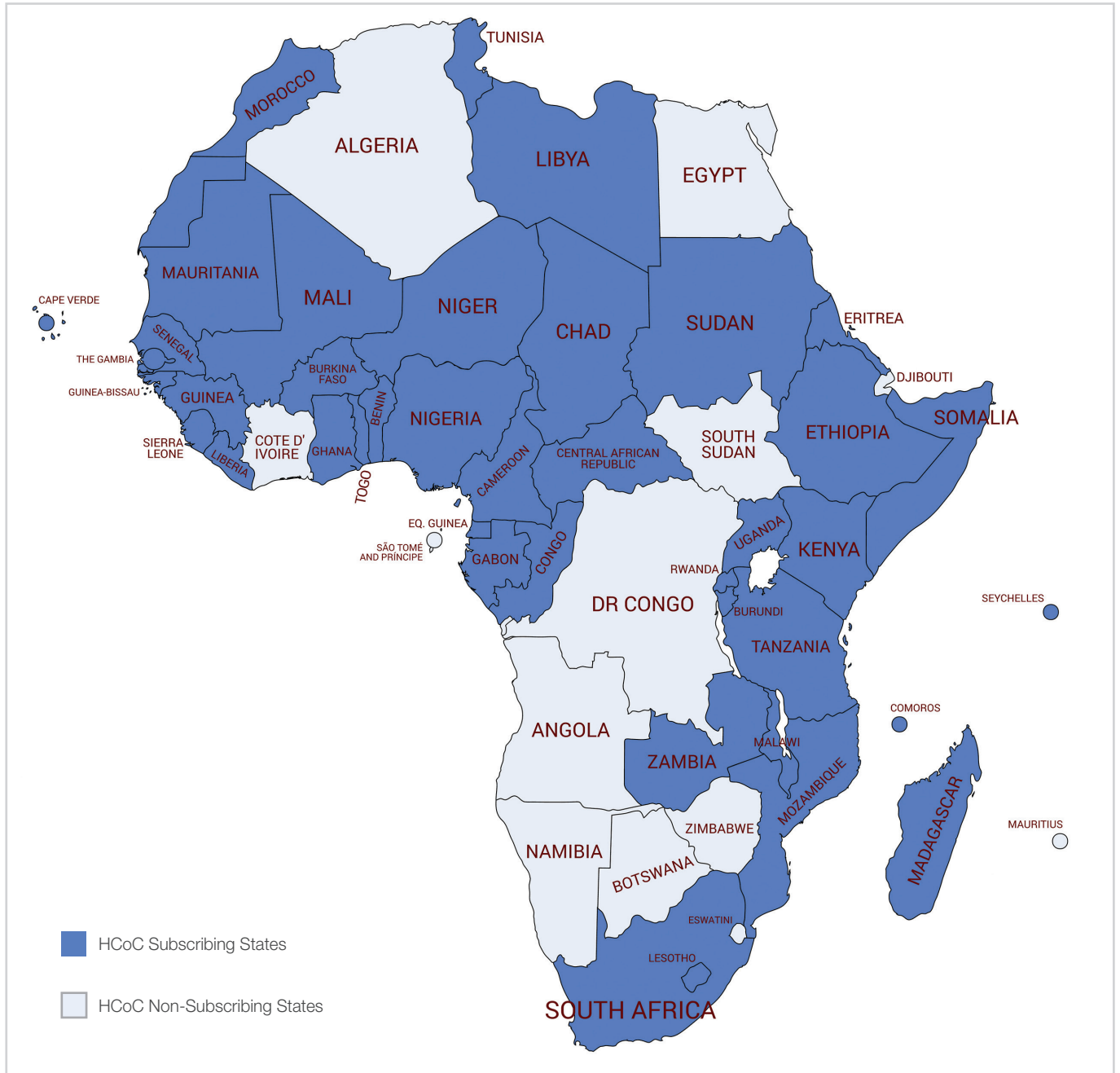
A total of 93% of ECOWAS member states have subscribed to HCoC – the highest participation rate on the continent

Thirteen African UN member states have not yet subscribed to the HCoC: Algeria, Angola, Botswana, Côte d'Ivoire, the Democratic Republic of Congo, Djibouti, Egypt, Mauritius, Namibia, São Tomé and Príncipe, South Sudan, Eswatini and Zimbabwe. It should, however, be noted that 94% of the African states that took part in the UN General Assembly vote (A/RES/75/60) in December 2020 voted in favour of the text. This showed increased support from many of the regional non-subscribing states.⁶⁷ Many have also taken part in sub-regional seminars held by the FRS.

Algeria and Egypt remain the two African UN member states to have systematically refrained from endorsing UN General Assembly resolutions on the HCoC. They have done this either by abstaining (Algeria consistently and Egypt since 2005) or by voting against them (Egypt in 2004).⁶⁸

Among other arguments, non-subscribing states point to the HCoC's limited scope. This, they claim, fails to address modernisation efforts by states with ballistic missile capabilities and excludes cruise missiles. They also point to its genesis – in the context of the MTCCR, with its restricted membership, rather than in an inclusive forum.⁶⁹ North Africa is also affected by regional tensions in the Middle East, where several states possess ballistic missiles and which has a much lower subscription rate to the HCoC.⁷⁰

Figure 1: Map of HCoC subscribing states and non-subscribing states in Africa



Source: Emmanuelle Maitre and Lauriane Héau, The HCoC and African states, HCoC Issue Brief, Foundation for Strategic Research, December 2020

While subscription to the HCoC in Africa has seen major improvements in the past few years, a closer look shows that not all sub-regions have similar levels. Equally, the implementation of the HCoC could be improved, namely, the submission of annual declarations by African states. This has been raised in regional and national seminars carried out by the FRS.

One idea would be for states to nominate a relevant point of contact to coordinate all information regarding

the annual declaration and to ensure that the data is processed and forwarded to the HCoC's Executive Secretariat or ICC.

Role of the AU and sub-regional organisations

The AU and its affiliated sub-regional organisations are increasingly active in tackling international security issues, and can therefore play a role in supporting an instrument such as the code.

Table 2: African RECs' subscription rates to the HCoC

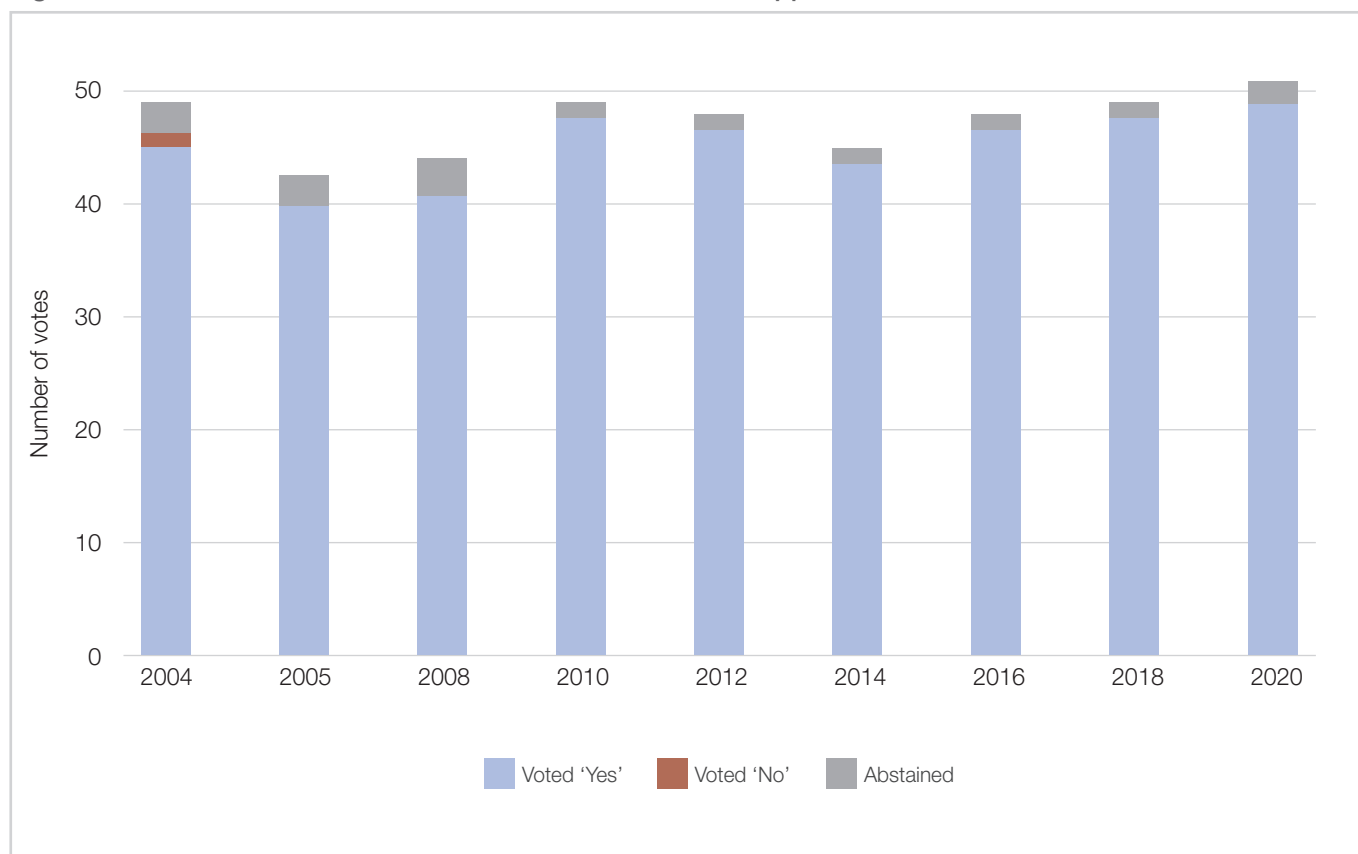
Regional Economic Community	Subscription to the HCoC (%)
Southern African Development Community (SADC)	56
Economic Community of Central African States (ECCAS)	73
Intergovernmental Authority on Development (IGAD)	75
Common Market for Eastern and Southern Africa (COMESA)	71
Community of Sahel-Saharan States (CEN-SAD)	88
Arab Maghreb Union (AMU)	80
Economic Community of West African States (ECOWAS)	93
East African Community (EAC)	83

Source: Authors

The Communiqué of the 837th AU Peace and Security Council meeting on international disarmament, which took place in April 2019, expresses ‘concerns over the continued impasse in global disarmament fora’. It also emphasises ‘the urgency for all members of the international community to reaffirm multilateral cooperation in the field of disarmament and nuclear non-proliferation and demonstrate the required sense of responsibility and compromise to achieve progress’.⁷¹

The AU Commission promotes its member states’ compliance with international and regional disarmament and non-proliferation multilateral regimes. The AU also assists states in developing the required human and technical capacities to implement such regimes. There is general commitment by AU member states, at the highest political level, on non-proliferation and disarmament as enshrined in the AU’s Common African Defence and Security Policy (CADSP). The CADSP guides the AU’s non-proliferation and disarmament activities.

Figure 2: Votes of African countries to UNGA Resolutions in support of the HCoC



Source: Authors

However, the challenge in subscribing to and implementing the code is the competing priorities that present a more immediate threat to the peace, security and stability of states. The illicit proliferation of conventional arms and, in particular, SALW is often considered a greater threat.⁷² Nonetheless, the AU Commission's efforts underlines that, whereas conventional weapons pose an immediate threat, WMD and their delivery systems, while considered latent, pose a grave danger precisely because of their capacity for 'mass destruction'.⁷³

The AU promotes member states' compliance with international and regional disarmament and non-proliferation regimes

Regional branches of international organisations can also play an important role in the matter. The UN Regional Center for Peace and Disarmament in Africa (UNREC) has co-organised four seminars on the HCoC with the FRS in several sub-regions in 2019.

Established in 1986 by the UN Secretariat at the request of the then Organization of African Unity (OAU), and headquartered in Lomé, Togo, UNREC is the African branch of the UN Office for Disarmament (UNODA). Its mandate is to 'provide African states, at their request, with assistance to support their initiatives and other efforts to maintain peace and security, arms limitation and control as well as disarmament in the region' (UNGA Resolution A/66/5[Sect4] and A/RES/65/45).⁷⁴

Regional outreach

Since 2008 the EU has designated the Paris-based FRS to implement its decisions in support of the HCoC. The foundation has led efforts to create a dialogue on the code and ballistic proliferation more generally among African states. Working in cooperation with UNREC and regional organisations, states, non-governmental organisations (NGOs) and academic experts, several events have been held. These have resulted in constructive and informative discussions on the code. Examples include the:

- Regional seminar on The Hague Code and ballistic proliferation for African states in Cape Town, South Africa in April 2016 (in collaboration with the ISS)

- Regional seminar on The Hague Code and ballistic proliferation for French-speaking African states in Lomé, Togo in February 2019
- Regional seminar on The Hague Code and ballistic proliferation for SADC member states in Livingstone, Zambia in July 2019
- Regional seminar on The Hague Code and ballistic proliferation for IGAD member states in Djibouti in September 2019

In addition, three national workshops were held to discuss the benefits of subscribing to the HCoC:

- In Algeria in 2014
- In Abidjan, Côte d'Ivoire in December 2019
- A virtual workshop with experts and representatives from the government of South Sudan was held in March 2021

Key lessons learnt

This programme has increased awareness of the code among African states. It has also enhanced an understanding of the challenges in implementing the code and other non-proliferation norms and regimes. Key lessons learnt from these series of meetings are listed below.

Importance of outreach

There is still a lack of knowledge about the HCoC among a number of subscribing and non-subscribing states.⁷⁵ Moreover, while ballistic missile capabilities are not common on the African continent, this could change in the future. Developments are occurring in the neighbouring Middle East, where ballistic missiles proliferate and are regularly used on the battlefield. In this regard, outreach efforts are key to enhance dialogue and expertise on the HCoC and its implementation, as well as on the risks associated with ballistic missiles and their proliferation. Those events also tend to create momentum in national administrations, enabling further discussions about the code, and gather regional actors such as sub-regional organisations, thereby enabling follow-up events. Training also touches on other WMD instruments and links with SALW proliferation, thus building capacity on a number of related non-proliferation and disarmament issues.

Relevance of WMD norms to prevent the proliferation of SALW

Participants identified common challenges to WMD, their means of delivery and SALW proliferation. These include better border control and law enforcement, tracking of sensitive imports and exports, and the need for greater awareness among officials at all levels. The processes are very different, especially in many African countries that do not have sensitive industries on their soil. However, it was agreed that by better enforcing WMD norms, African countries could improve the practices and standards applied by security officials and therefore deepen a non-proliferation culture within administrative authorities. This is an important precondition to ensure that the proliferation of SALW is prevented.

Strengthening the link between non-proliferation and development

As with the other non-proliferation instruments, the HCoC's implementation faces stiff competition in the form of other social, political and economic challenges considered to be of more immediate concern to the state and human security. In light of this reality, African states are increasingly considering non-proliferation initiatives according to their ability to promote internal socio-economic development. As mentioned above, several instruments, such as the Biological and Chemical Weapon conventions, the NPT and the CTBT, promote peaceful activities. Therefore, they link the fight against proliferation with the acquisition of civilian technologies for medical diagnosis and therapies and geological hazard mitigation.

The seminars have been useful to evoke the link between the code and peaceful space exploration. Indeed, the code has brought transparency to both missile testing activities and space launches. As such, it removes ambiguity regarding the nature of launches. Transparency about space-related activities is in the interest of all states and not only those currently deploying space launchers. The code also has the potential to facilitate the integration of national companies with international trade circuits, including companies working on potentially sensitive or dual-use technologies.

Fear of administrative burden

Because African countries tend to have limited administrative resources and staff, a key concern related to

international commitments is the amount of time needed to fulfil obligations. Many are wary of instruments that have extensive administrative burdens, such as progress reports, national initiatives and measures to ensure implementation, and compulsory in-person meetings. Such countries assess the net benefits of joining an instrument against the cost and effort it may require in terms of implementation. In this respect, the outreach programme involved a representative of the ICC (Austria) and of African states already subscribing. They were able to dispel fears of the administrative burden by pointing to their individual experience. For subscribing states without missile or space launch programmes, filling out the annual declaration is the only task required and can be done using a standardised form. Because many states do not test ballistic missiles or launch space vehicles, they do not require a sophisticated structure to submit what may essentially be a 'nil' report.⁷⁶

Simplifying and mutualising commitments

Participants in the seminars expressed the difficulty of managing various commitments requiring reporting and follow up simultaneously. For instance, having different points of contact for the implementation of the 1540 Resolution, the Biological and Chemical Weapons conventions, the UN Programme of Action on Small Arms and Light Weapons (UNPoA), and the Arms Trade Treaty (ATT) may create redundancy and an inflation of administrative work for personnel. In addition, the segmentation of work and function requirements regarding the type of weapons addressed may lead to a tendency to see instruments in isolation. This, in turn, could result in missed opportunities to mutualise implementation.

One of the objectives of the seminars was to present the code in the context of other instruments, in particular Resolution 1540, which also aims to limit the proliferation of ballistic missiles. The discussions explored ways in which commonalities between various non-proliferation instruments could be reinforced. Participants thought about the bridges that could be built so that the implementation of one instrument could have a positive impact on the implementation of another. They also tried to identify common challenges and best practices that could be adopted on the ground to facilitate the implementation of non-proliferation policies in general.

Keeping track of instruments and access to information

The multiplicity of initiatives and reporting mechanisms in recent years makes it more difficult to keep track of all the instruments and their evolution. The problem is amplified by the frequent turnover of staff in ministries of foreign affairs, which results in the loss of institutional memory. Some participants had little knowledge of the status of their country with regard to the HCoC. They did not know whether a point of contact had been nominated; whether an annual declaration had been submitted; and, most critically, whether the state was subscribing or not.

This lack of knowledge prevents the effective sharing of information with relevant stakeholders in subscribing states and in helping to fulfil each state's obligations. As the code does not have an implementing agency, it is mostly other subscribing states that are charged with sharing information and reinforcing the implementation of the code. Austria, as the ICC, and the rotating chairs involved in the seminars noted the necessity to better reach out to African countries, promote the nomination of points of contact, and use the Internet platform dedicated to subscribing states. Finally, participants agreed that the participation of African states in the annual regular meetings in Vienna should be improved.

Language proficiency

During the meeting organised in Lomé for francophone countries, the question of language was raised as a potential difficulty. Some officials tasked with implementation, especially in defence or law enforcement circles, may not be familiar with English-only platforms. The organisation of a meeting in French was therefore greatly appreciated, as was the distribution of translated material on the code. The meeting led to a wider reflection on the best way to promote language inclusiveness in the reporting system used by the code. Similar analysis may emerge from Arabic, Spanish and Portuguese-speaking countries in Africa.

Conclusion

Africa is not exempt from the threat posed by ballistic missiles, and all African states are within reach of ballistic missiles. This illustrates the risks posed by their

proliferation and the need to ensure predictability in this area.⁷⁷ By joining the HCoC, a state signals its readiness to strengthen global non-proliferation objectives without undermining its national security interests or developmental imperatives. Subscribing to the HCoC shows a political commitment to the non-proliferation of ballistic missiles.

Importantly, some of the major producers of technologies required for the exploration and utilisation of space may look at the non-proliferation credentials or profile of a state before making a decision on allowing satellite technology exports. Subscribing to the HCoC may help in improving one's credentials – although it should be noted that this is still not a guarantee for condition of supply, as decisions on allowing exports are a sovereign right of states.

In light of this, the AU should encourage its member states to proactively engage with the HCoC's ICC (Executive Secretariat) and to support related UN General Assembly resolutions. It could also effectively link up countries that may need information or assistance with actors in a position to help them, such as UNREC.

The code also covers peaceful space-launch activities, which is of critical relevance to Africa as more states and private sector entities pursue initiatives in outer space. The code is designed in such a way as to not impede national space programmes or international cooperation in these programmes – as long as they do not contribute to WMD delivery systems.

Although space programmes in Africa are at various stages of development, some already have operating satellites providing tangible benefits. These are in sectors such as human settlement monitoring, telecommunications, agriculture, environmental and water management, soil assessment, disaster planning, meteorological data collection and global positioning system technology.

By subscribing to the HCoC, African states will receive advance notification of any ballistic missile and space-launch vehicle flights. In addition, it will also allow them not to fall behind in what is clearly a rapidly growing and developing space-launch landscape. African universities should also be encouraged to develop curricula and offer academic courses on

space studies, including legal and policy frameworks governing space activities and applications applicable both internationally and domestically.

All African states, except Algeria and Egypt, have voted at least once in favour of a UN General Assembly resolution supporting the code. The continent therefore overwhelmingly supports the HCoC. Formally subscribing to the code is one way for African states, both individually and as part of the African community, to stay informed of developments in a field that presents many opportunities for the private sector. At the same time it furthers their commitment to strengthening the global non-proliferation regime and enhancing international and regional peace and security.

Recommendations

- The AU should continue to encourage its member states to engage with the HCoC Executive Secretariat and to support related UN General Assembly resolutions.
 - RECs should encourage non-subscribing members to contact the ICC located within the Austrian Foreign Ministry to discover the benefits of subscribing.
 - Although the AU's Agenda 2063 proposes 2023 as the year for the establishment of the African Space Agency, mechanisms to enhance the sharing of information and experiences on civilian space activities in Africa should be discussed in the meantime.
 - African states that have not yet subscribed to the HCoC should consider doing so to reinforce their support for global disarmament and non-proliferation efforts, and to enhance the effectiveness of the code as a confidence-building measure. In this respect, 2022 is a unique opportunity for such states to join the regime, as November 2022 is the 20th anniversary of the HCoC's adoption.
 - The Africa Group, through the AU Observer Mission, which coordinates Africa's efforts on issues of peace and security, should arrange briefings on the non-proliferation benefits and peaceful-use activities of subscribing to the HCoC so that a common African position can be reached.
 - African states that have subscribed to the HCoC should:
 - increase their participation in global discussions on how best to reduce the threat posed by missiles
 - integrate the code's implementation activities into their non-proliferation national strategies
 - regularly submit their policies on ballistic missiles and peaceful-launch vehicles via the code's mechanism of annual declarations
- They could also consider following in Morocco's steps by putting forward their candidacy to hold the rotating chair. This would give African voices a platform to express their priorities and perspectives within this multilateral framework.
- International organisations such as UNREC and think tanks such as the FRS and ISS should make continued efforts to address African states' lack of information and need for training. At a national level these countries are keen to create and strengthen links with various officials in order to facilitate coordinated approaches to multilateral cooperation. A lack of knowledge excludes developing countries from international debates. This highlights the need for capacity-building and awareness-raising support to improve capacity for counter-proliferation activities. Awareness-raising exercises should involve regional and sub-regional organisations such as the AU and SADC, for example. This will ensure the universalisation of the code and its implementation through regional approaches.⁷⁸
 - Given that the private sector has largely overtaken the role of state entities in developing and operating launch facilities, the HCoC's African subscribers should lobby for further outreach activities to encourage a culture of transparency within the industry. This industry should also be included in discussions at annual regular meetings.
 - The AU should mobilise resources for the launching and subsequent activities of the African Space Agency. NEPAD should be supported by individual member states, RECs and other civic and private organisations and companies in its effort to build capacity. As articulated in the African Space Policy and Strategy, areas requiring support and capacity building include: earth observation; satellite communication, navigation and positioning; and space science and astronomy.⁷⁹

Annex: Text of the HCoC

Preamble

The subscribing states:

Reaffirming their commitment to the United Nations Charter;

Stressing the role and responsibility of the United Nations in the field of international peace and security;

Recalling the widespread concern about the proliferation of weapons of mass destruction and their means of delivery;

Recognizing the increasing regional and global security challenges caused, inter alia, by the on-going proliferation of Ballistic Missile systems capable of delivering weapons of mass destruction;

Seeking to promote the security of all states by fostering mutual trust through the implementation of political and diplomatic measures;

Having taken into account regional and national security considerations;

Believing that an International Code of Conduct against Ballistic Missile Proliferation will contribute to the process of strengthening existing national and international security arrangements and disarmament and non-proliferation objectives and mechanisms;

Recognising that subscribing States may wish to consider engaging in co-operative measures among themselves to this end;

1. Adopt this International Code of Conduct against Ballistic Missile Proliferation (hereinafter referred to as "the Code");

2. Resolve to respect the following Principles:

a. Recognition of the need comprehensively to prevent and curb the proliferation of Ballistic Missile systems capable of delivering weapons of mass destruction and the need to continue pursuing appropriate international endeavours, including through the Code;

b. Recognition of the importance of strengthening, and gaining wider adherence to, multilateral disarmament and non-proliferation mechanisms;

c. Recognition that adherence to, and full compliance with, international arms control, disarmament and non-proliferation norms help build confidence as to the peaceful intentions of states;

d. Recognition that participation in this Code is voluntary and open to all States;

e. Confirmation of their commitment to the United Nations Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States taking into particular Account the Needs of Developing Countries, adopted by the United Nations General Assembly (Resolution 51/122 of 13 December 1996);

f. Recognition that states should not be excluded from utilising the benefits of space for peaceful purposes, but that, in reaping such benefits and in conducting related cooperation, they must not contribute to the proliferation of Ballistic Missiles capable of delivering weapons of mass destruction;

g. Recognition that Space Launch Vehicle programmes should not be used to conceal Ballistic Missile programmes;

h. Recognition of the necessity of appropriate transparency measures on Ballistic Missile programmes and Space Launch Vehicle programmes in order to increase confidence and to promote non-proliferation of Ballistic Missiles and Ballistic Missile technology;

3. Resolve to implement the following General Measures:

a. To ratify, accede to or otherwise abide by:

- the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (1967),
- the Convention on International Liability for Damage Caused by Space Objects (1972), and
- the Convention on Registration of Objects Launched into Outer Space (1975);

b. To curb and prevent the proliferation of Ballistic Missiles capable of delivering weapons of mass destruction, both at a global and regional

level, through multilateral, bilateral and national endeavours;

- c. To exercise maximum possible restraint in the development, testing and deployment of Ballistic Missiles capable of delivering weapons of mass destruction, including, where possible, to reduce national holdings of such missiles, in the interest of global and regional peace and security;
 - d. To exercise the necessary vigilance in the consideration of assistance to Space Launch Vehicle programmes in any other country so as to prevent contributing to delivery systems for weapons of mass destruction, considering that such programmes may be used to conceal Ballistic Missile programmes;
 - e. Not to contribute to, support or assist any Ballistic Missile programme in countries which might be developing or acquiring weapons of mass destruction in contravention of norms established by, and of those countries' obligations under, international disarmament and non- proliferation treaties;
4. Resolve to implement the following:
- a. Transparency measures as follows, with an appropriate and sufficient degree of detail to increase confidence and to promote non-proliferation of Ballistic Missiles capable of delivering weapons of mass destruction:
 - i. With respect to Ballistic Missile programmes to:
 - make an annual declaration providing an outline of their Ballistic Missile policies. Examples of openness in such declarations might be relevant information on Ballistic Missile systems and land (test-) launch sites;
 - provide annual information on the number and generic class of Ballistic Missiles launched during the preceding year, as declared in conformity with the pre-launch notification mechanism referred to hereunder, in tiret iii);
 - ii. With respect to expendable Space Launch Vehicle programmes, and consistent with commercial and economic confidentiality principles, to:
 - make an annual declaration providing an outline of their Space Launch Vehicle policies and land (test-) launch sites;
 - provide annual information on the number and generic class of Space Launch Vehicles launched during the preceding year, as declared in conformity with the pre-launch notification mechanism referred to hereunder, in tiret iii);
 - consider, on a voluntary basis (including on the degree of access permitted), inviting international observers to their land (test-) launch sites;
 - iii. With respect to their Ballistic Missile and Space Launch Vehicle programmes to:
 - exchange pre-launch notifications on their Ballistic Missile and Space Launch Vehicle launches and test flights. These notifications should include such information as the generic class of the Ballistic Missile or Space Launch Vehicle, the planned launch notification window, the launch area and the planned direction;
 - b. Subscribing States could, as appropriate and on a voluntary basis, develop bilateral or regional transparency measures, in addition to those above.
 - c. Implementation of the above Confidence Building Measures does not serve as justification for the programmes to which these Confidence Building Measures apply;
5. Organisational aspects Subscribing States determine to:
- a. Hold regular meetings, annually or as otherwise agreed by Subscribing States;
 - b. Take all decisions, both substantive and procedural, by a consensus of the Subscribing States present;
 - c. Use these meetings to define, review and further develop the workings of the Code, including in such ways as:
 - establishing procedures regarding the exchange of notifications and other information in the framework of the Code;

- establishing an appropriate mechanism for the voluntary resolution of questions arising from national declarations, and/ or questions pertaining to Ballistic Missile and/or Space Launch Vehicle programmes;
- naming of a Subscribing State to serve as an immediate central contact for collecting and disseminating Confidence Building Measures submissions, receiving and announcing the subscription of additional States, and other tasks as agreed by Subscribing States;
- and others as may be agreed by the Subscribing States, including possible amendments to the Code.

Notes

- 1 This glossary is compiled from various sources, including, but not limited to, S Tulliu and T Schmalberger, *Coming to terms with security: A lexicon for arms control, disarmament and confidence-building*, Geneva: UN Institute for Disarmament Research, 2004; China Atomic Energy Press, *Glossary of key nuclear terms*, Beijing: China Atomic Energy Press, April 2015, 5; UN Panel of Governmental Experts, *The issue of missiles in all its aspects: report of the Secretary General*, New York: UN General Assembly, 2002; the website of the UN Office for Disarmament Affairs (UNODA), <https://www.un.org/disarmament/>; Encyclopaedia Britannica; the US Department of Defense's Defense Technical Information Center; and various resolutions and decisions adopted by the UN General Assembly.
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- 4 See I Williams and S Shaikh, Lessons from Yemen's missile war, Center for Strategic and International Studies (CSIS), Missile Threat, 11 June 2020, <https://missilethreat.csis.org/lessons-from-yemens-missile-war/>; Reuters, Yemen's Houthis attack Saudi oil heartland with drones, missiles, 8 March 2021, <https://www.reuters.com/article/us-yemen-security-saudi/yemens-houthis-fire-missiles-drones-at-saudi-oil-facilities-idUSKBN2AZ03F?il=0>
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- 9 1540 Committee, <https://www.un.org/en/sc/1540/>
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- 11 Non-exhaustive data gathered independently by FRS from open source.
- 12 United Nations (UN), General Assembly, adopting 66 First Committee texts, calls on states to revitalize stalled disarmament machinery, tackle chronic, emerging security threats, 7 December 2020, <https://www.un.org/press/en/2020/ga12296.doc.htm>
- 13 European External Action Service (EEAS), Non-proliferation: Statement by the spokesperson on the subscription of Saint Vincent and the Grenadines and Equatorial Guinea to the Hague Code of Conduct against Ballistic Missile Proliferation, 4 February 2020, <https://eeas.europa.eu/headquarters/headquarters-homepage/73991/non-proliferation-statement-spokesperson-subscription-saint-vincent-and-grenadines-anden>; G7 France, G7 NPDG declaration on the countering of illicit and/or destabilising missile activities, 6 April 2019, https://www.diplomatie.gouv.fr/IMG/pdf/g7_npdg_declaration_on_the_countering_of_illicit_andor_destabilising_missile_activities_cle056c1c.pdf; Swiss Federal Department of Foreign Affairs, Switzerland seeks to build trust between states to stop the proliferation of delivery systems for weapons of mass destruction, 3 June 2020, <https://www.admin.ch/gov/en/start/documentation/media-releases.msg-id-79328.html>
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