NORTH KOREA:
THE RISKS OF WAR IN THE YELLOW SEA

Asia Report N°198 – 23 December 2010

International Crisis Group
WORKING TO PREVENT
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EXECUTIVE SUMMARY AND RECOMMENDATIONS

The Yellow Sea off the Korean peninsula has become a potential flashpoint for a wider conflict. An escalating series of confrontations by the Democratic People's Republic of Korea (DPRK) has seen the sinking of a Republic of Korea (ROK) naval vessel and the shelling of civilian settlements on an island near the boundary. The disputed nature of this maritime boundary, known as the Northern Limit Line (NLL), as well as the volatility of DPRK politics has created a serious risk that any further provocation might turn into a wider conflict. While international attention is once again focused on the North's nuclear program, there is an urgent need to implement measures that could reduce the possibility of a clash in the Yellow Sea becoming something worse.

The Northern Limit Line, drawn up after the Armistice of 1953, has never been recognised by the DPRK. The boundary, which is not considered an international maritime boundary because both Koreas regard this dispute as domestic, crosses an area of fishing grounds that are important to the ailing Northern economy and are close to busy Southern ports. The disputed aspect of the line, the economic importance of the area, the ambiguities of the rules of engagement and the long history of violent confrontations have made it a flashpoint for conflict.

The sinking in March 2010 of the ROK vessel *Ch'ŏnan* and the shelling in November of Yŏnp'yŏng Island are the most recent and deadly of the confrontations in this area. Relations are at their worst point in more than a decade with much of the progress of recent years undone. The South has found itself hamstrung, unable to respond to North Korea with any force for fear of precipitating a wider confrontation. Impatience is growing and there are demands from the right in Seoul for more robust terms of military engagement in the event of future clashes.

The DPRK appears to have heightened tensions as part of a transition in power from Kim Jong-il, the sickly 68-year-old leader, to his 28-year-old son Kim Jŏng-ŭn. While almost nothing is transparent in this hereditary dictatorship, it appears that the attacks are an effort to give the inexperienced heir some appearance of military and strategic prowess. They also signal to potential rivals among North Korean elites that Kim Jong-il is willing to take on the South to promote his son and he would therefore have no problem confronting domestic opponents.

Pyongyang politics aside, the disputed boundary represents a grave risk. Negotiations on common exploitation of marine resources, particularly the crab that is fished in the area, have come to nothing and there has been little progress on various confidence building measures that could help prevent future crises, for example: the use of common radio frequencies, or better signalling of intent by vessels and a naval hotline. While in past talks the North has been willing to discuss economic cooperation, it has done little to address security issues.

The response to the attack against the *Ch'ŏnan* culminated in the U.S. and South Korea organising combined and joint military exercises in the area, with a U.S. aircraft carrier participating for emphasis. Military exercises and clear signalling to Pyongyang that it cannot attack its neighbours with impunity are necessary to restore deterrence and prevent escalation on the Korean peninsula. North Korea would lose an all-out war against South Korea and its ally the United States, but Seoul is constrained in retaliating forcefully because it has so much to lose. Even talk of using force rattles markets and impacts the South Korean leadership, which must take into account the mood of its electorate. Pyongyang, isolated from global markets and domestic political forces, does not face such constraints. Rather the disparity permits it to provoke the South at very little cost even while falling behind in the overall balance of conventional forces.

The *Ch'ŏnan* sinking and Yŏnp'yŏng Island attack are two extraordinary examples of deterrence failure where the North has exploited weaknesses in Seoul's defence posture. In the ongoing period of succession in Pyongyang, and Seoul's adjustment of its defence posture and rules of engagement, there is a real danger that the North will continue its asymmetric attacks in the Yellow Sea or elsewhere in the South. As the sinking of the *Ch'ŏnan* showed, the North is able to carry out stealthy attacks using mini-submarines and torpedoes, but it has other lethal asymmetric capabilities as well.

While the restoration of robust deterrence is the most urgent task, it alone is not sufficient to prevent conflict. Recalibrating the South's deterrent posture will require revised rules of engagement and close alliance cooperation with the U.S. While Crisis Group recommends both Koreas cease live fire artillery drills in the area near the NLL, this does not suggest Seoul should abandon its right to self-defence and the use of retaliatory force against any attacks. Retaliation can be delivered with other weapons systems, such as ground-based precision-guided munitions or air strikes from ROK fighters. Live fire artillery drills on the five islands are not necessary for their defence, and the North is much more likely to be deterred by other weapons systems and revised rules of engagement that enable their use.

In addition to deterrence, the DPRK's interlocutors must prioritise the potential flashpoint that is the NLL because of its critical security implications for the region. The two Koreas have failed to establish an equitable maritime boundary and should submit the issue for arbitration through the International Court of Justice or a tribunal possibly under the framework of the UN Convention on the Law of the Sea (UNCLOS).

China was initially very reluctant to pressure North Korea because it believes clashes in the Yellow Sea are a natural consequence of the unsettled inter-Korean maritime boundary and did not in themselves constitute a serious regional security threat. Of greater concern to Beijing has been a stepped-up U.S. military presence in the region and large-scale U.S.-ROK and U.S.-Japan military exercises. But China's assessment of conflict risks evolved following the live fire drills at Yŏnp'yŏng Island on 20 December, driving its shift from a very muted and cautious approach to making more bilateral and multilateral efforts to push all sides to address the issue, aside from at the Security Council where it blocked action. Given the choice between war or a heightened U.S. military presence, Beijing has made the pragmatic decision to go along with the latter in the short term. China's approach to clashes in the disputed areas of the Yellow Sea will be a test of its willingness, capacity and credibility in addressing regional conflict risks.

Likewise, Washington should make it clear to Seoul that the NLL is *not* a maritime boundary, and that the two parties must seek a peaceful resolution of this dispute in accordance with international law. Furthermore, the U.S. must clarify its intention to fulfil its alliance commitments and emphasise that attacks will not be tolerated. At the same time, Washington and Seoul must be prepared to engage Pyongyang and return to the Six-Party Talks to implement all commitments to denuclearise the Korean peninsula and establish a regional peace regime.

RECOMMENDATIONS

To the Government of the Republic of Korea:

1. Abandon claims that the NLL is an inter-Korean maritime boundary and offer to accept international arbitration, overturning previous rejections of such mechanisms.
2. Cease all live fire artillery exercises in the disputed waters of the Yellow Sea.
3. In the context of an artillery cease fire in the area of the five islands, review defence posture (including improving early warning capabilities in the Yellow Sea) and rules of engagement with a view to improving deterrence and better ensuring protection of civilians, including through deployment of other weapons systems such as ground-based precision-guided munitions and fighter aircraft.

To the Government of the Democratic People's Republic of Korea:

4. Abide by the UN Charter, the Korean War Armistice and the inter-Korean "Basic Agreement" of 1992.
5. Ratify the UN Law of the Sea Convention and accept an arbitration under international law – under the framework of UNCLOS – to establish an inter-Korean maritime boundary in the Yellow Sea.
6. Cease all live fire artillery exercises in the disputed waters of the Yellow Sea.

To the Government of the People's Republic of China:

7. Continue to advocate publically and privately for all parties to cease live fire artillery exercises in the disputed waters of the Yellow Sea.
8. Encourage the DPRK to abide by its obligations under the UN Charter, the Korean War Armistice Agreement and the inter-Korean "Basic Agreement" of 1992.
9. Encourage the DPRK to ratify the UN Law of the Sea Convention and both the DPRK and ROK to accept an arbitration under international law to establish an inter-Korean maritime boundary in the Yellow Sea.

To the Government of the United States:

10. Encourage the ROK to accept an arbitration under international law in the establishment of an inter-Korean maritime boundary in the Yellow Sea.
11. Continue to advocate publically and privately for all parties to cease live fire artillery exercises in the disputed waters of the Yellow Sea.
12. Ensure close alliance cooperation with Seoul, including frequent combined military exercises, to ensure a credible deterrence posture.

Seoul/Brussels, 23 December 2010

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I. INTRODUCTION

The shelling of a civilian settlement on Yŏnp'yŏng Island in November 2010 and the sinking of a South Korean naval ship in March 2010 starkly illustrate the dangers accompanying the disputed inter-Korean maritime border known as the Northern Limit Line (NLL). This boundary in the Yellow Sea (West Sea)[1] has the greatest potential to trigger a second Korean War. Violent naval clashes have occurred in the area, most recently the March torpedo attack on the *ROKS Ch'ŏnan* (*Cheonan*)[2] which killed 46 South Korean sailors. The area is contentious because of the legal ambiguity surrounding this de facto maritime boundary, and because of its importance in terms of economic resources and development, security posture, and Korean politics.

It is not clear what has driven recent aggression by the DPRK. Speculation centres on the planned transition of power from Kim Jong-il to his youngest son, Kim Jŏng-ŭn: specifically that his recent elevation to the rank of four-star general may have required some demonstration of supposed military success on his part, hence the attacks. Along with revelations of a uranium enrichment facility only days before the shelling, it may be part of a DPRK strategy to raise tensions and the stakes before returning to negotiations over its nuclear program. The North has consistently used this tactic in the past to squeeze economic and political concessions from its adversaries.

It is clear that the Yellow Sea is becoming a zone of worsening danger. This analysis of the sea boundary is based on numerous interviews in the ROK and elsewhere on the origins and legal uncertainty surrounding the NLL, the rules of engagement in the South and the history of clashes in the area. This paper is intended as a background resource on a problem that is intertwined with complex historical, political, economic, legal, military and symbolic issues. Resolution will require analysis and compromise across all these dimensions. The NLL is very controversial politically in South Korea; political compromise and the establishment of a *de jure* inter-Korean maritime boundary in the Yellow Sea (which could well prove territorially less advantageous to the South) would be extremely difficult for any South Korean leader to pull off. An update briefing on South Korean politics within this context will follow this background paper.

[1] The body of water between China and the Korean peninsula is known as the Yellow Sea (黃海) in China, but both Koreas refer to it as the West Sea (西海).

[2] According to the McCune-Reischauer system of transliteration, the spelling of the ship 天安 is *Ch'ŏnan*, but according to the South Korean government's revised system, the word is transliterated as *Cheonan*. Transliteration in this report follows the McCune-Reischauer system.

II. THE NORTHERN LIMIT LINE

A. THE ORIGINS OF THE NLL

The 1953 Korean War Armistice established a Military Demarcation Line (MDL) and 4km-wide Demilitarised Zone (DMZ) to separate opposing forces. The MDL was established along the contact line between the [North] Korean People's Army (KPA) and the Chinese People's Volunteers (CPV) in the north and United Nations Command (UNC) forces in the south. The armistice did not establish a maritime boundary, but it did decree that "the waters of the Han River Estuary shall be open to civil shipping of both sides wherever one bank is controlled by one side and the other bank is controlled by the other side". The MDL extends west through about the last 55km of the Han River before the estuary empties into the Yellow Sea.

According to the armistice, "civil shipping of each side shall have unrestricted access to the land under the military control of that side", and the "Military Armistice Commission (MAC) shall prescribe rules for the shipping in that part of the Han River Estuary". However, the estuary has not been developed for commercial shipping; instead, it has remained heavily guarded by both sides.

When the armistice went into force on 27 July 1953, the UNC occupied the islands in the Yellow Sea south of the 38th parallel.[3] The KPA and CPV never gained control of the islands in this area near the Ongjin Peninsula even though they held ground on the west coast of Korea as far south as the Han River Estuary (about 37° 44' 25" N). They could not wrest control of the islands because they lacked the capability to land troops under the fire of the UNC's superior naval and air forces. During the armistice negotiations, the northern side apparently failed to recognise the strategic importance of the islands, and instead focused on maintaining control of Kaesŏng, the capital of the Koryŏ Dynasty (912-1392), which is about 10km north of the DMZ.[4]

The armistice stipulated that all islands to the north and the west of the provincial boundary between Hwanghae Province and Kyŏnggi Province (this line was slightly north of the Han River Estuary) would be under the control of the KPA and CPV, except for the islands of Paengnyŏng-do, Taech'ŏng-do, Soch'ŏng-do, Yŏnp'yŏng-do and U-do.[5] All islands south of the provincial boundary line were to remain under the control of the UNC (see Appendix B).

The armistice did not provide for maritime boundaries, but it commits the commanders on both sides "to insure the stability of the military armistice so as to facilitate the attainment of a peaceful settlement through the holding by both sides of a political conference of a higher level". The issues of a permanent peace and permanent boundaries were relegated to political authorities, but the two sides have made very little progress since 1953.

The east coast maritime boundary in the Sea of Japan, or "MDL extended", is comparatively simple since the coastline is relatively straight and there are no islands near the line. However, the west coast boundary issue is complicated by the number of islands and small islets, a jagged coastline, and the strategic and economic value of the area. After the armistice was signed, the two sides failed to reach an agreement on maritime boundaries; the northern side insisted that territorial waters extend twelve nautical miles (NM) from the coast, but the UN Command would accept nothing more than three nautical miles, which was the common international standard at the time. The current standard is twelve nautical miles.

On 30 August 1953, UNC Commander Mark Clark, an American four-star general, unilaterally drew the NLL to maintain a separation of opposing military forces with the intention of reducing the likelihood of a military clash at sea. The NLL was drawn from the Han River Estuary through twelve coordinates equidistant between the five islands and the shoreline and at least three nautical miles from the DPRK shoreline. The UNC Commander insisted that North Korea was entitled to no more than this amount of territorial sea, but Pyongyang asserted it should have twelve nautical miles.[6] The UNC Commander also established a 3-NM territorial water limit surrounding the five UNC-controlled islands that still stands today.[7] The line initially was drawn as a northern boundary to prevent ships from the south drifting north, but gradually became recognised by the south as a de facto maritime boundary. Pyongyang has never recognised the NLL and has increasingly challenged its legitimacy.

[3] The 38th parallel was established by the U.S. and the Soviet Union as a "temporary" boundary to disarm and repatriate Japanese forces in August 1945. The boundary became "permanent" when separate states were created in the two zones.

[4] The UNC's original plan was to swap some of the islands for Kaesŏng, but the KPA and CPV negotiators refused the offer because of the city's cultural, historical and political value. The UN side gave several small islands to the DPRK since they were close to the shore and probably indefensible. Moo Bong Ryoo, "The Korean Armistice and the Islands", Strategy Research Project, U.S. Army War College, Carlisle, PA, 11 March 2009.

[5] The text reads "island groups of Paengnyŏng-do (37° 58' N, 124° 40' E), Taech'ŏng-do (37° 50' N, 124° 42' E), Soch'ŏng-do (37° 46' N, 124° 46' E), Yŏnp'yŏng-do (37° 38' N, 125° 40' E), and U-do (37° 36' 'N, 125° 58' E)".

[6] 김동욱 [Kim Dong-uk], *한반더안보와 국제법* [*The Korean Peninsula: Security and International Law*] (Paju, ROK: Han'guk Haksul Chongbo, 2010), pp. 81-82.

[7] Crisis Group interview, Seoul, October 2010.

B. DPRK TERRITORIAL CLAIMS

On 5 March 1953, the DPRK cabinet issued a decree establishing a 12-NM boundary for its territorial waters, and in September 1958, Pyongyang reiterated its claim. The DPRK captured the *USS Pueblo* on 23 January 1968 for allegedly violating its 12-NM limit.[8] In early November 1973, Pyongyang declared in a radio broadcast that "the five islands are in the territorial waters controlled by the KPA, and everyone must receive permission to travel to and from the islands in advance. We sternly warn the South Korean authorities that vessels naturally will be subject to inspection and necessary measures will be applied to violators".[9]

At the Third UN Conference on the Law of the Sea in 1975, the DPRK delegate described the then customary 3-NM territorial water limit as an "imperialist mechanism that enabled the developed countries to encroach upon and control resources that rightfully belong to the developing countries". Pyongyang asserted that each individual country should have the right to establish its own territorial sea boundaries.[10]

In 1976, an official informed a visiting Japanese fisheries delegation that in "accordance with the world trend, the DPRK recognises the 12-NM limit and will establish a 50-NM maritime security zone".[11] On 21 June 1977, Pyongyang announced it would enforce a 50-NM military exclusion zone and a 200-NM economic exclusion zone from 1 August 1977. According to the proclamation, foreign military vessels or aircraft are never permitted within the 50-NM zone, and civilian vessels and aircraft must receive permission before transiting.[12]

C. THE LAW OF THE SEA

The 1982 UN Convention on the Law of the Sea (UNCLOS) provides for twelve nautical miles for territorial waters and up to 200 nautical miles for an exclusive economic zone. When states have overlapping territorial claims, UNCLOS generally adheres to an "equity principle" to delineate boundaries, but does not define what is "equitable". The convention has guidelines for settling disputes over maritime boundaries, which are directly connected to claims on territorial waters, the continental shelf and concomitant resources, and exclusive economic zones. Article 287 stipulates that disputes can be settled through the International Tribunal for the Law of the Sea, the International Court of Justice or by special tribunal. Member states are committed to peaceful dispute settlement. South Korea ratified UNCLOS in 1996. North Korea has signed but not ratified the convention.

Several boundary disputes have been adjudicated according to UNCLOS guidelines, but it is very unlikely for the two Koreas to submit the NLL issue for arbitration because of domestic political sensitivities. Neither Seoul nor Pyongyang view inter-Korean disputes as "international" since Korean division is supposed to be a temporary condition. Second, under UNCLOS, the legal legitimacy of the NLL is suspect and an inter-Korean maritime boundary would almost certainly be farther south than the NLL. While some South Koreans would be willing to compromise on the boundary, this would alarm those who view North Korea as a significant security threat. South Korean fisheries groups also oppose revising the status quo because their boats could lose access to lucrative fishing areas. The matter is further complicated by South Korea issuing a declaration on 18 April 2006 that it does not select or prefer any of the three dispute settlement procedures provided by UNCLOS. However, Seoul did not renounce its right to submit a settlement request to a court or tribunal in the future.[13]

[8] At the time of the seizure, the *Pueblo* reported its position about 17-NM offshore, and a DPRK pursuit vessel radioed that it was almost 18-NM offshore. The DPRK asserted that the *Pueblo* had violated DPRK territorial waters on six occasions during 15-23 January 1968. However, later analysis indicates these alleged violations were fabricated. Mitchell B. Lerner, *The Pueblo Incident* (Lawrence: University Press of Kansas, 2002).

[9] 김문 [Kim Mun], "이병형 前합참본부장이 회고하는 秘史 / 北 73년 'NLL 불인정'…해상 무력시위" ["Former JCS Headquarters Commander Yi Byŏng-hyŏng recalls secret history/North in 1973 'does not recognise NLL' … demonstrates military power on the sea"], *The Seoul Sinmun*, 4 July 2002.

[10] 김동욱 [Kim Dong-uk], op. cit., pp. 82-83.

[11] Ibid, p. 83.

[12] Ibid, pp. 91-93; 95-99.

[13] UN Division for Ocean Affairs and the Law of the Sea, "Settlement of disputes mechanism", updated 11 June 2010, www.un.org/depts/los/settlement_of_disputes/choice_procedure.htm.

III. A HISTORY OF CLASHES

Although analysts and policymakers are most familiar with the inter-Korean sea battles of June 1999, June 2002 and November 2009, there have been periodic clashes in the disputed Yellow Sea boundary area since the mid 1950s (see Appendix E).[14]

A. RIVAL CLAIMS

Pyongyang did not really protest the status of the "five islands" and the NLL until October 1973.[15] The North gained confidence to escalate provocations after it acquired attack missile boats.[16] Between November 1973 and February 1974, DPRK ships crossed the NLL about 200 times.[17] During the late 1970s, fishing boats and KPA naval vessels regularly crossed the line about twenty to 30 times a year but usually returned north when confronted by ROK patrol boats.[18]

Previously both Koreas have renounced the use of military force against the other side and have committed to resolving disputes peacefully. In particular, the 4 July 1972 "North-South Joint Communiqué" stipulated that both Koreas would refrain from armed provocations and that reunification would be achieved by peaceful means.[19] The "Agreement on Reconciliation, Nonaggression, and Exchanges and Cooperation between North and South Korea" (Basic Agreement), which went into effect on 19 February 1992, included six articles on non-aggression and confidence building measures.[20] It proclaimed that "the North-South demarcation line and the areas for non-aggression shall be identical with the Military Demarcation Line provided in the Military Armistice Agreement of 27 July 1953, *and the areas that each side has exercised jurisdiction over until the present time*" (emphasis added).

Despite these commitments, this area of the Yellow Sea has been the site of three intense naval battles as well as the sinking of the *ROKS Ch'ŏnan* and the artillery attack against Yŏnp'yŏng Island.

1. Rules of engagement

Sovereign states have the right to self defence, but force should only be used against those who violate international law. The use of force should be proportional to the acts of the transgressor. Senior military policymakers establish rules of engagement, which guide or constrain local commanders in the use of force. The North Korean military – and government system as a whole – is very centralised, and few details are known about the KPA's rules of engagement or what authority is delegated to local commanders during peace or war.

Rules of engagement in South Korea are complicated by its alliance with the U.S. Shortly after the outbreak of the Korean War, the UN Security Council adopted Resolution 84, which put the mission under U.S. command.[21]

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[14] "[남-북한 서해분쟁사] 북 해군보강…73년후 도발잦아" ["[History of North-South battles in the West Sea] North strengthens its navy … seeks provocations after 1973"], *The Chosun Ilbo*, 13 June 1999; "北 서해 도발 / 99년 6월 연평해전땐…" ["North's west sea provocations/the June 1999 Yŏnp'yŏng Island sea battle"], *The Donga Ilbo*, 30 June 2002; 신인호[Sin In-ho], "[DMZ 어제와 오늘] 북한의 DMZ 무력화와 도발" ["[The DMZ yesterday and today] North Korea's arms build-up and provocations at the DMZ"], *The Kukpang Ilbo* [*The Korea Defense Daily*], 19 February 2010; 김문 [Kim Mun], "이병형 前합참본부장이 회고하는 秘史 / 北 73년 'NLL 불인정'…해상 무력시위" ["Former JCS Headquarters Commander Yi Byŏng-hyŏng recalls secret history/ North in 1973 'does not recognise NLL' … demonstrates military power on the sea"], *The Seoul Sinmun*, 4 July 2002; 박병진 [Pak Pyŏng-jin], "남북 서해교전/北 왜 직접사격 가했나/ '北 내부 긴장조성 위해 의도적 도발'" ["North-South West Sea battle/why did the North fire/'intentional provocation to raise tensions internally in the North'"], *The Segye Ilbo*, 11 November 2009.

[15] 김동욱 [Kim Dong-uk], op. cit., p. 93.

[16] "[남-북한 서해분쟁사] 북 해군보강…73년후 도발잦아" ["[History of North-South battles in the West Sea] North strengthens its navy … seeks provocations after 1973"], *The Chosun Ilbo*, 13 June 1999. The DPRK had acquired Soviet-made fast attack Osa class and Komar class missile boats armed with SS-N-2 Styx anti-ship missiles prior to the 1973 provocations.

[17] Kim Tae-seo, "An Unexpected Exchange: North Korea's NLL Provocation", *East Asian Review*, vol. 11, no. 4 (Winter 1999).

[18] Lee Sung-yul, "N.K. naval boats cross sea border again", *The Korea Herald*, 14 June 1999.

[19] ROK Central Intelligence Agency Director Lee Hu-rak travelled secretly to Pyongyang 2-5 May 1972, and DPRK Vice Premier Pak Sŏng-ch'ŏl secretly visited Seoul from 29 May to 1 June 1972 before the communiqué was announced on 4 July. It was signed by Lee Hu-rak, director of [South] Korean Central Intelligence Agency, and Kim Yŏng-ju, director of the [North] Korean Workers Party Organisational Guidance Department.

[20] Under the "Basic Agreement" both Koreas renounced the use of force and armed aggression against the other, and agreed to "resolve peacefully, through dialogue and negotiation, any differences of views and disputes arising between them". It was signed by ROK Prime Minister Chŏng Wŏn-sik and DPRK Premier Yŏn Hyŏng-muk on 13 December 1991.

[21] UNSC Resolution 84 "recommended that all [UN] Members providing military forces and other assistance pursuant to the aforesaid Security Council resolutions [82 and 83] make such forces and other assistance available to a unified commander under the United States of America". UNSC Resolution 84 also "requested the United States to designate the commander of such force; and authorised the unified command at its discretion to use the United Nations flag in the course of operations

During the Korean War, the ROK military was under the operational control of the UNC commander in order to maintain a unity of command.

The UNC commander, who is subordinate to the U.S. chairman of the Joint Chiefs of Staff (JCS) and is responsible for upholding the armistice, has established the rules of engagement with the KPA since 1953.[22] Because the NLL was originally established unilaterally by his predecessor, the UNC commander continues to play a central role. As their military capabilities have continually improved after the war, South Korean forces have assumed greater responsibilities for forward defence. They now patrol practically all areas near the MDL and the NLL, and they are most likely to clash with the KPA. Although Seoul never signed the armistice, South Korea is bound to it because the UNC commander signed it on behalf of all forces, including the ROK, under his command at that time.

According to the U.S.-ROK Mutual Defence Treaty, both parties "undertake to settle any international disputes in which they may be involved by peaceful means … and to refrain in their international relations from the threat or use of force in any manner inconsistent with the purposes of the United Nations, or any obligations assumed by any Party towards the United Nations".[23] Under Article 2, both parties agree to "consult together whenever, in the opinion of either of them, the political independence or security of either of the Parties is threatened by external armed attack".[24]

In November 1978, long after the multinational dimension of the UNC had become a symbolic rather than a war-fighting institution, the U.S. and South Korea established the Combined Forces Command (CFC).[25] Led by a U.S. four-star general and a ROK four-star general as deputy commander, the CFC has operational control of over 600,000 active duty personnel from both countries. During wartime, South Korea would contribute about 3.5 million reservists, and the U.S. would deploy additional personnel from outside Korea.[26] The CFC has retained operational control (OPCON) of South Korean military forces except for "several subordinate units of the Second ROK Army, the Capital Defence Command, and the Special Operations Command".[27] The CFC commander, who is subordinate to the commander of the U.S. Pacific Command in Hawaii, has control of ROK forces during wartime or when the defence readiness condition (DEFCON) reaches level three.[28]

The U.S. and South Korean national command authorities can raise the DEFCON level for their respective armed forces independently and unilaterally. A four-member U.S.-ROK Military Committee (consisting of the chairmen of the two JCS, the U.S. Pacific Command Commander and the ROK Army Chief of Staff) consults and provides advice to the national command authorities to determine any changes in the DEFCON level for the peninsula.[29] If the national command authorities concur, the level is raised for both armed forces. As far as any potential disagreement on raising the level, the South Koreans are more inclined to seek an elevation than the Americans.[30] The normal condition under the armistice is DEFCON four; at DEFCON three, OPCON transfer to CFC occurs. A change in level is uncommon, but it was raised to DEFCON three during the June 1999 inter-Korean naval clash (discussed below).[31]

In 1994, operational control of most ROK military forces in peacetime was transferred to the South Korean Joint Chiefs of Staff (JCS). While the Mutual Defence Treaty stipulates that the two allies will consult one another if one believes "the political independence or security of either of the Parties is threatened by external armed attack", this is a political decision subject to interpretation. The South Korean Joint Chiefs and the Ministry of National Defence

against North Korean forces". United Nations Security Council Resolution 84 of 7 July 1950.

[22] 박천호 [Pak Ch'ŏn-ho], "[서해사태] '우리해군 응사 국제법상 정당'" ["[West Sea situation] 'Our navy's returning fire was justified under international law'"], *The Hankook Ilbo*, 17 June 1999.

[23] Article 1, Mutual Defence Treaty between the Republic of Korea and the United States of America. It was signed on 1 October 1953 and entered into force on 17 November 1954.

[24] Article 2, Mutual Defence Treaty between the Republic of Korea and the United States of America.

[25] However, if war was to resume, the UNC would assume command authority over any multinational forces assisting South Korea. According to the U.S.-Japan Status of Forces Agreement, seven military bases in Japan have been designated as support bases for the UNC in case of a war in Korea. Jae Pill Pyun, "Transfer of Wartime Republic of Korea Command Authority", U.S. Army Strategy Research Project, 30 March 2007.

[26] "Combined Forces Command", no date, www.usfk.mil/usfk/content.combined.forces.command.46.

[27] Pyun, op. cit.

[28] Ibid. DEFCON is a U.S. Department of Defense five-level alert posture with DEFCON 5 being the lowest level, and DEFCON 1 the highest. The system is used for U.S. nuclear forces and different combatant commands. The exact details are classified, and the criteria vary by region and command. In Korea, the CFC establishes the DEFCON level. DEFCON level 3 would be issued if there were indications the DPRK were preparing to launch a full-scale war. DEFCON 1 would be declared before an impending or ongoing attack. Yoo Jee-ho and Kim Min-seok, "Alert level against North raised", *The Joongang Ilbo*, 29 May 2009.

[29] Crisis Group telephone interview, USFK Public Affairs Office, 29 November 2010.

[30] Crisis Group interview, Seoul, October 2010.

[31] "N. Korea tests nuclear weapon at Hwadaeri near Kilju: defense ministry", *The Hankyoreh*, 9 October 2006.

are responsible for establishing peacetime rules of engagement for the military units under their command.

Distinct rules of engagement are in place for encounters on land, in the air or at sea.[32] At the time of the June 1999 sea battle, the ROK rules of engagement at sea included five steps:[33]

- Broadcasting a warning to return north across the NLL.
- Manoeuvring ROK naval vessels to pass in front of DPRK ships to discourage passage.
- Blocking manoeuvres and ramming into DPRK ships to stop their progress.
- Warning shots.
- Firing at DPRK vessels.

Detailed rules of engagement remain classified and they differ according to the type of vessel. The South Korean media have reported there are two types of warning shots, typically blank rounds followed by "threatening rounds" fired in front of the KPA vessel. After the June 1999 sea battle, then President Kim Dae-jung issued four guidelines to the defence ministry:[34]

- Defend the NLL.
- No pre-emptive fire or attacks.
- If the KPA fires first, fire back and repel the attack according to the rules of engagement.
- Take no actions to escalate to war.

The guidelines and the rules of engagement prior to the June 2002 sea battle, although designed to prevent escalation, were later criticised as being "too passive" and putting ROK vessels and crews at risk. They were further revised after that sea battle.

2. June 1999: The first battle of Yŏnp'yŏng Island

The conflict began on 5 June 1999, when the DPRK started attempts to enforce its declared 12-NM territorial sea limit, which lies south of the NLL. The following day, the [North] Korean Central News Agency (KCNA) reported that the South "committed a grave military provocation of illegally intruding warships deep into the territorial waters of the North".[35] Although ROK naval vessels were conducting patrols south of the line, they had approached within twelve nautical miles of the North's shore. *Rodong Sinmun*, the official daily of the [North] Korean Workers Party (KWP) described the "infiltrations" as a "premeditated provocative act intended to find an excuse to make a pre-emptive attack against the North under a war scenario mapped out by the United States".[36] DPRK media reported that "deep incursions also occurred on 7-8 June, but that ROK warships turned south once KPA naval vessels confronted them and DPRK coastal batteries took a firing posture".[37]

South Korean media described the events as a foray into ROK territorial waters, as the North's vessels crossed south of the line daily 8-10 June, with six KPA naval patrol boats as far as 6km south at 1pm on the 8th. South Korea dispatched eight patrol boats and broadcast warnings to return north, which they did in the late evening, but the ROK patrol boats were put on alert. The next morning at about 5:40am, fifteen North Korean fishing vessels, under the escort of six KPA patrol boats, crossed the NLL and began fishing operations 1-4km south of the line. At 6:35, a ROK speedboat and KPA patrol boat collided as the ROK vessels were trying to get the North Korean ships to return north of the line.

While the South Korean defence ministry said that "crossing south of the NLL is an incursion into ROK territorial waters",[38] North Korean media described "repeated military provocations … by scores of [South Korean] warships deep into DPRK territorial waters". "[S]elf-restraint by the

[32] During a ground encounter when a North Korean soldier crosses the MDL, ROK forces broadcast a warning and then determine whether the soldier is from the KPA and is defecting or has hostile intent. If the soldier does not halt and return north, the ROK army fires warning shots. If the soldier is carrying a weapon and appears to have hostile intent, South Korean soldiers are authorised to fire in self defence. If a KPA aircraft crosses into South Korean airspace, the ROK interceptor will approach the intruder to determine its intent. A defecting pilot can take universally recognised actions to demonstrate he or she has no hostile intent, such as decelerating and extending all the flaps or making rocking motions, which make hostile actions and weapon delivery difficult or impossible. The interceptor reports the intent to command headquarters, and in the case of hostile intent, the interceptor shoots down the intruder. 황양준 [Hwang Yang-jun], "北 NLL침범 서해교전 / 해군 교전규칙 어떻게 변해왔나" ["North's trespassing of the NLL and the West Sea battle/how have the rules of engagement changed for the navy"], *The Hankook Ilbo*, 2 July 2002.

[33] Crisis Group interviews, Seoul, June and July 2010.

[34] 황양준 [Hwang Yang-jun], op. cit., 정동근 [Chŏng Tong-gŭn], "교전수칙, 자위권 발동차원 단계별 대응" ["Rules of engagement, the right of self-defence is invoked in steps"], *The Munhwa Ilbo*, 16 June 1999.

[35] "S. Korean warships intrude into North", KCNA, 6 June 1999.

[36] "S. Korean hawks' premeditated provocation flayed", KCNA, 8 June 1999.

[37] "S. Korean warships in N. Korean waters again", KCNA, 9 June 1999.

[38] 김영번 [Kim Yŏng-bŏn], "北, '황금어장' 분할 노리나" ["North, aiming to divide a 'gold fishing ground'?"], *The Munhwa Ilbo*, 10 June 1999.

KPA prevented armed conflict".[39] The UN Military Armistice Commission and South Korea requested a meeting with North Korea's military authorities at P'anmunjŏm on the 9th, but Pyongyang declined.[40]

The situation escalated on the 11th when "dozens of ROK patrol boats intentionally rammed into DPRK vessels about 10-11km south of the NLL and about 11.7km west of Yŏnp'yŏng Island".[41] The manoeuvres significantly damaged four of six North Korean boats, while the ROK vessels were relatively unscathed. The DPRK vessels then retreated north as South Korea began to deploy dozens of naval combat ships including frigates and destroyers to the area in addition to beginning preparations for joint and combined[42] operations with the U.S. to "defend the NLL at all costs". The ROK defence ministry also announced it was putting the military on high alert, arming its naval vessels with ship-to-ship missiles and was preparing to deploy the Special Warfare Command to the area. Shore artillery, guided missiles and submarines were put on standby.[43]

On 12 June, Pyongyang agreed to general officer talks on the 15th in P'anmunjŏm to discuss the matter.[44] The following day, the ROK JCS said they had indications that KPA shore batteries were aiming their surface-to-ship missiles at South Korean vessels as North Korean boats continued to cross the line.[45] At about 7:15am on the 15th, twenty North Korean fishing boats crossed over escorted by six KPA patrol boats and three torpedo boats and began fishing up to 2km south of the line. At 9:20, about 2.5km south of the line and about 13.2km west of Yŏnp'yŏng Island, ten South Korean speed boats and patrol boats began to ram the KPA vessels to force them to return north, as they had done four days earlier.

However, at 9:25, only 35 minutes before the general officer talks began, KPA ships opened fire with automatic cannon rounds, and the South Korean vessels responded in kind. At the end of the short battle, one KPA torpedo boat had been sunk, one patrol boat – the *Tŭngsan'got-684* – was partially sunk but towed back to the North, and three other KPA patrol boats suffered extensive damage.[46] One of the first ships to fire on the KPA vessels was the *ROKS Ch'ŏnan.*[47]

South Korean and Western media reported that at least seventeen KPA personnel and possibly as many as 30 died in the battle, but only nine South Korean sailors suffered minor wounds and two of their boats were slightly damaged.[48] Nine minutes after the talks began in P'anmunjŏm, the North's delegates told their counterparts that the "South Korean Navy had first opened fire against North Korean sailors at 9:15am and that North Koreans are dying now". Their knowledge of the skirmish and the fact the delegates said the battle began before it in fact did led many to believe that it was a premeditated attack.[49] The talks took a recess while the UNC confirmed the information about the battle, but after resuming the two sides were unable to narrow their differences.[50]

[39] "S. Korean warships into north waters continue", KCNA, 10 June 1999.
[40] Lee Sung-yul, "Korean troops put on heightened alert; Following repeated intrusions by N. K", *The Korea Herald*, 11 June 1999. P'anmunjŏm is where the armistice was signed in 1953, and now it is the site for contacts and meetings between the UNC and KPA.
[41] "NK boats retreat after a collision with ROK vessels", *The Korea Times*, 11 June 1999.
[42] "Joint" operations are conducted by different services branches of one nation's armed forces. "Combined" operations are carried out by the military forces of two or more countries together.
[43] 정덕상 [Chŏng Dŏk-sang], "[북경비정 영해침범] 해군, 영해서 몰아내기 작전" ["[North patrol boats intrude into territorial waters] navy conducts operations to oust them"], *The Hankook Ilbo*, 12 June 1999; "N.Korea accepts talks to discuss naval standoff", *The Korea Times*, 13 June 1999.
[44] "N.Korea accepts talks to discuss naval standoff", *The Korea Times*, 13 June 1999.
[45] Lee Sung-yul, "N.K. naval boats cross sea border again", *The Korea Herald*, 14 June 1999.
[46] 이충재및 정덕상 [Yi Ch'ung-jae and Chŏng Dŏk-sang], "[남북교전] 북한 어뢰정1척 침몰 경비정 1척 반침몰" ["[North-South Battle] One North Korean torpedo boat sunk, one patrol boat half sunk"], *The Hankook Ilbo*, 16 June 1999; 김인철 [Kim In-ch'ŏl], "「남북한 西海 교전」北함정 1척 격침•5척 대파" ["North-South Korea West Sea battle: one North naval vessel sunk, 5 vessels with heavy damage"], *The Seoul Sinmun*, 16 June 1999.
[47] The damaged *Tŭngsan'got-684* subsequently was repaired and fired the first shot in the Second Battle of Yŏnp'yŏng Island in June 2002. 김종훈 [Kim Chong-hun], "'서해交戰'긴박했던 순간" ["'West Sea battle' a tense moment"], *The Kyunghyang Sinmun*, 16 June 1999; 조현석 [Cho Hyŏn-sŏk], "「남북한 서해대치」 합참작전일지 토대 당시 상황 새로구성" ["North-South Korea West Sea standoff, foundation of Joint Chiefs plan to have new structure based on conditions at that time"], *The Seoul Sinmun*, 17 June 1999.
[48] Lee Sung-yul, "Seoul could recover sunken torpedo boat if N.K. asks", *The Korea Herald*, 19 June 1999. The estimated number of North Koreans killed in the clash was later revised to "at least twenty". 이철희 [Yi Ch'ŏl-hŭi], "北 서해 도발 / 99년 6월 연평해전땐…" ["North's West Sea Provocation/The Yŏnp'yŏng Sea Battle in June 1999 …"], *Donga Ilbo*, 30 June 2002.
[49] Lee Sung-yul, "S-N navies exchange gunfire; N.K boats open fire first; 1 sunk as S. Korean", *The Korea Herald*, 16 June 1999; 이상기 [Yi Sang-gi] "유엔사-북한 판문점 장성급회담" ["UN Command-North Korea general-level talks at P'anmunjŏm"], *The Hankyoreh*, 16 June 1999.
[50] The UNC requested that KPA vessels withdraw north of the NLL and said the skirmish was caused by the North's pre-emptive attack. The KPA delegates countered that South Korean ships must withdraw from "DPRK territorial waters" and that "the battle was a deliberate act triggered by the South". Ibid.

A KPA spokesman on 20 June described the clash as "an adventurous act for provocation of war which the South Korean authorities had planned, prepared in secrecy and promoted". The spokesman said the ROK tried "to block the routine KPA Navy patrols and when that failed they resorted to 'bump-and-push operations' accompanied by the firing of bullets and shells". The North claimed to have "burned or severely damaged more than ten ROK naval vessels while inflicting many casualties".[51] Subsequent DPRK media reports described the battle as "a wanton violation of the armistice" and "a deliberate military provocation committed by the South Korean authorities under the patronage of the U.S. to increase tensions and ignite a war on the Korean peninsula".[52]

In general officer meetings at P'anmunjŏm on 22 June, the DPRK delegation cited the armistice in claiming that only the five islands are under control of the UNC and that the islands lie within the territorial waters of the North. The delegation asserted that their boats have the right to fish in the surrounding waters under the escort of KPA naval vessels, and therefore, the ROK navy's blocking attempts infringed their "self-defence patrol duties".[53] More general officer meetings were held to discuss the incident, but the two sides were unable to resolve their differences.

The tension surrounding the incident soon subsided. However, the KPA General Staff issued a special communiqué on 2 September 1999 declaring a "new Military Demarcation Line in the West Sea".[54] The boundary is further south than the NLL, which was declared invalid. The communiqué stated that the KPA would assert their "self-defensive right to the Military Demarcation Line at the West Sea of Korea … by various means and methods".[55] On 23 March 2000, the KPA Navy Command defined three 2km wide corridors it would recognise for access to the five islands.[56]

After DPRK ships crossed the NLL 70 times in 1999, the number of crossings declined to fifteen in 2000 and to sixteen in 2001.[57] Tensions dissipated as the "sunshine policy" of then President Kim Dae-jung began to improve inter-Korean ties and resulted in the first inter-Korean summit exactly one year after the 1999 sea battle. That battle was interpreted as a dispute over economic resources in the waters near the NLL that ultimately resulted in violent conflict. The crab fishing season in June and July is considered the most likely time for such a conflict to erupt. Liberal policymakers hoped that the inter-Korean economic projects launched after the June 2000 summit would create sustainable benefits for both sides and thus decrease the likelihood of conflict in the disputed waters of the Yellow Sea.

3. June 2002: The second battle of Yŏnp'yŏng Island

The second sea battle in 2002 near Yŏnp'yŏng Island also occurred during the crab fishing season, on 29 June, the day before the World Cup football final co-hosted by Japan and South Korea. KPA naval vessels had previously crossed the NLL but returned north on 11, 13, 27 and 28 June.[58]

On the 29th, the first of two KPA SO-1 class coastal patrol boats, the *Yukto-388*, crossed the NLL at 9:54am. There were no fishing boats to escort in the area. The *Yukto-388* proceeded 12.6km west of Yŏnp'yŏng Island and 3.2km south of the NLL.[59] At that time about 30

[51] "KPA navy command spokesman on S. Korea's anti-DPRK campaign", KCNA, 19 June 1999.
[52] "S. Korean war hawks' provocations to the north failed", KCNA, 18 June 1999; "Moves to provoke war will lead to destruction", KCNA, 19 June 1999; "Provokers will be doomed to death", KCNA, 20 June 1999; "U.S. urged to halt its moves to start war on Korean peninsula", KCNA, 20 June 1999; "S. Korea's intention to step up armed confrontation", KCNA, 24 June 1999; "NDFSK accuses anti-north provocations", KCNA, 24 June 1999.
[53] "General officer-level meeting of KPA and U.S. Forces sides held", KCNA, 22 June 1999.
[54] Prior to this, the KPA Navy Command had issued several communiqués. The first communiqué warned the South to "stop acting rashly, mindful that every movement of theirs is within the gun-sights of our KPA sailors thirsting for revenge". "Communiqué of KPA navy command", KCNA, 20 June 1999. See also two other communiqués published by KCNA on 21 and 23 June 1999.
[55] "Special communique of KPA general staff", KCNA, 2 September 1999.
[56] "KPA navy command's important communiqué", KCNA, 23 March 2000.
[57] Jon M. Van Dyke, Mark J. Valencia, and Jenny Miller Garmendia, "The North/South Korea Boundary Dispute in the Yellow (West) Sea", *Marine Policy*, vol. 27 (2003), pp. 143-158.
[58] 이철희 [Yi Ch'ŏl-hŭi], "北 서해 도발 / 99년 6월 연평해전땐…" ["North's West Sea Provocation/The Yŏnp'yŏng Sea Battle in June 1999 …"], *The Donga Ilbo*, 30 June 2002. The incident on 13 June almost resulted in violence when a KPA patrol boat crossed 7.2km over the NLL and stayed south of the line for about 2.5 hours. There were no DPRK fishing boats in the area at that time, but the ROK Second Fleet Headquarters reported the incident and concluded the ship was searching for DPRK fishing boats and had no hostile intent. The opposition Grand National Party later claimed the incident was covered up because it could have influenced South Korea's local elections that were held on the same day. Kwang Jang-jin, "Military refutes allegation of cover-up of June 13 conflict", *The Korea Herald*, 10 July 2002.
[59] 김성걸 [Kim Sŏng-gŏl], "서해교전/긴박했던 62분/북, 퇴각요구 고속정에 갑자기 발포" ["West Sea Battle/62 tense minutes/North, asked to retreat and suddenly fires at fast patrol boat"], *The Hankyoreh*, 30 June 2002.

DPRK fishing boats were fishing north of the line.[60] The ROK Second Fleet Situation Room in Inch'ŏn and the JCS Command Centre were alerted about the crossing. About seven minutes later, another patrol boat, the *Tŭngsan'got-684*, which was heavily damaged in the June 1999 battle, crossed the NLL about 22.5km west of Yŏnp'yŏng Island and navigated 5.4km south of the line. As one formation of two ROK fast patrol boats (the *Ch'amsuri-357* and *Ch'amsuri-358*) approached the KPA vessels, two other formations of ROK fast patrol boats (a total of four vessels) were dispatched in support.

The first set of patrol boats approached within about 450 metres of the KPA vessels and broadcast three warnings to return north of the NLL. At 10:25, the *Tŭngsan'got-684* fired three 85-mm rounds at the *Ch'amsuri-357*, killing five crew members, including the ship commander Lieutenant Yun Yŏng-ha. Although gravely damaged and with its communications systems knocked out, the *Ch'amsuri-357* and the *Ch'amsuri-358* immediately returned fire. At 10:26, the ROK Second Fleet Command dispatched two corvette patrol ships, the *Chech'ŏn* and the *Chinhae*, which began firing at 10:43 and 10:47, respectively, but they were about 12km or 13km from the target – beyond the effective range of their guns.[61]

The *Ch'amsuri-327* and *Ch'amsuri-365* patrol boats, the first to arrive to assist the damaged ROK vessel, began firing at the *Tŭngsan'got-684* at 10:30. Two ROK fighter jets were diverted from their air patrol on the west coast. The fighters arrived in the area of the sea battle at 10:38, but they only flew combat air patrols to intercept any potential DPRK aircraft.[62] An investigation of the incident revealed that the Second Fleet Command had misunderstood the initial damage and casualty reports and the command first believed that the South's losses were relatively insignificant compared to those of the KPA, whose vessels were limping back towards the NLL.[63]

By 10:43, the *Tŭngsan'got-684* was reported to be in thick flames and bellowing smoke, and to have suffered heavy casualties. At 10:48, the *Chech'ŏn* detected emissions from KPA missile boats, indicating they were preparing to fire Styx anti-ship missiles. The *Tŭngsan'got-684* crossed north of the NLL at 10:51 and at 10:56, the Second Fleet Commander ordered his ships to cease fire. At 11:00, the ROK ships turned south and at 11:25 the extent of casualties and damage was confirmed just as the military detected KPA units on shore turning on their radars and preparing to launch silkworm anti-ship missiles. The *Ch'amsuri-357* sank while being towed.[64]

The decision to call off the pursuit was based on the desire to avoid escalation to war as outlined under President Kim's guidelines, as well as under the rules of engagement and the responsibilities of the UNC to uphold the armistice. South Korean conservatives were infuriated by the Second Fleet Command calling off the pursuit and the failure to sink the KPA vessel. Critics argued there was no justice in the "weak retaliation to an unprovoked first strike" and that a stronger response was needed to deter the DPRK from making future provocations. Furthermore, many argued that President Kim's prohibition against pre-emptive strikes combined with the use of physical blocking manoeuvres, as stipulated in the rules of engagement and which require a close approach and contact with enemy vessels, made ROK vessels and crew mem-

[60] 박성진 [Pak Sŏng-jin], "西海교전/ 합참 작전본부장 문답 '北 상당한 의도'" ["West Sea battle/JCS Operations Commander interview 'the North's befitting intent'"], *The Kyunghyang Shinmun*, 30 June 2002.

[61] 한평수 [Han P'yŏng-su], "서해교전/문제점 드러낸 핸군전투력/초계함 늑장출동 '반격'못했다" ["West Sea battle/navy combat capability is exposed as a problem/corvette patrol ships mobilized late and couldn't 'counterattack'"], *The Munhwa Ilbo*, 2 July 2002; 박성진 [Pak Sŏng-jin], "서해교전/합참발표 교전상황 재구성-초계함 불뿜자 北미사일 위협" ["West Sea battle/JCS announcement reconstructs battle conditions – North threatens with missiles as soon as flames are emitted from patrol boat"], *The Kyunghyang Shinmun*, 8 July 2002; 김경운 [Kim Kyŏng-un], "서해교전/합참 조사 문제점" ["West Sea battle/JCS investigation problems"], *The Seoul Sinmun*, 8 July 2002.

[62] Two ROK F-5 fighters at Suwŏn Air Base and one F-5 at Wŏnju Air Base were put on combat alert but they did not take off. 이지운 [Yi Ji-un], "서해교전/F16 왜 구경만 했나, 확전 피하려 초계비행만" ["West Sea battle/why could the F-16s only watch? To avoid escalation to war, only patrol flights"], *The Seoul Sinmun*, 1 July 2002; 박병진 [Pak Pyŏng-jin], "서해교전/확전우려 소극적 대응/북함정 왜 격침 안 시켰나" ["West Sea battle/worried about war escalation, so a passive response/why wasn't the North's navy ship sunk?"], *The Syegye Ilbo*, 1 July 2002.

[63] 박성진 [Pak Sŏng-jin], "서해교전/합참발표 교전상황 재구성-초계함 불뿜자 北미사일 위협" ["West Sea battle/JCS announcement reconstructs battle conditions – North threatens with missiles as soon as flames are emitted from patrol boat"], *The Kyunghyang Shinmun*, 8 July 2002.

[64] 김경운 [Kim Kyŏng-un], "서해교전/ 교전상황 재구성 '월선' 경고에 北 85㎜ 발포" ["West Sea battle/reconstructing the conditions of the battle the 'intruder ship' fired an 85-mm round at warnings"], *The Seoul Sinmun*, 30 June 2002; 윤상호 [Yun Sang-ho], "北 서해 도발 / 긴박했던 격전 25분" ["North's West Sea provocation/tense and fierce battle for 25 minutes"], *The Donga Ilbo*, 30 June 2002; 권혁범 [Kwŏn Hyok-pŏm], "함대사령관이 사격중지 명령/北경비정 퇴각후…합참발표" ["Fleet Commander orders cease fire/ after the North's patrol boat retreats … the JCS announces"], *The Hankook Ilbo*, 2 July 2002; 박성진 [Pak Sŏng-jin], "서해교전/합참발표 교전상황 재구성-초계함 불뿜자 北미사일 위협" ["West Sea battle/JCS announcement reconstructs battle conditions – North threatens with missiles as soon as flames are emitted from patrol boat"], *The Kyunghyang Shinmun*, 8 July 2002.

bers vulnerable to the type of first strike inflicted on 29 June 2002.

After the battle, the ROK defence ministry released a statement that described "the surprise attack substantiating the possibility of a premeditated and intentional attack". The statement also discounted the possibility of an unauthorised attack without the approval from the highest DPRK authorities. The statement provided several possible motivations:

- Avenge the defeat in the June 1999 sea battle.
- Disrupt the festive mood in South Korea during the World Cup.
- Distract from international criticism of DPRK human rights abuses.
- Gain leverage in future talks with South Korea and the U.S.
- Direct international attention to the NLL issue in an effort to undermine its legitimacy.

Seoul pledged it would demand an apology from the DPRK, punishment of the perpetrators and an assurance that such an act would not happen again.[65] It also declared it would "improve combat readiness and deter any additional infringement of the NLL".[66]

However, the defence ministry statement failed to mention important details concerning ROK fishing boats on the morning of the attack. At 6:30am six patrol boats, more than the usual number, began their patrols to protect ROK fishing vessels. At about 7:30, there were 56 ROK fishing boats in the area, and twenty of those had crossed north of the fishing control line, which lies 8.9km south of the NLL.[67] The patrol boats began advising the fishing boats to return south of the fishing control line. At that time, all North Korean fishing boats were north of the NLL.[68] Some hypothesised that the KPA patrols reacted to the aggressive manoeuvres of the ROK patrol boats, which were actively rounding up fishing boats that had strayed too far north.[69]

DPRK officials and media unsurprisingly expressed a different interpretation of the event.[70] KCNA reported that ROK warships and fishing boats had been intruding deep into the North's territorial waters for several days prior to the clash. The actions of the KPA patrol boats were "defensive".[71] A spokesman for the KPA Navy Command said the exchange of gunfire was unexpected and labelled the ROK military's statement as "misinformation and noisy false propaganda". He also stated that the NLL is "bogus and illegal" and that "despite the intrusions into the DPRK's territorial waters, the KPA Navy exercised restraint in various ways".[72]

The DPRK foreign ministry blamed the U.S. for the "preemptive firing of hundreds of bullets and shells at KPA ships on routine coastal guard duty in DPRK territorial waters". The ministry reiterated that the NLL is a "bogus line drawn illegally by the U.S. and not part of the Armistice". It described the incident as a "grave act of aggression orchestrated by the United States to drive a wedge between North and South Korea because it was displeased with the progress made in the inter-Korean relations". The spokesman also urged third parties "to pay due attention to the illegality of the 'NLL', the basic cause of the incident". Finally, he warned the DPRK would "not pardon anyone encroaching upon the sovereignty of the DPRK but take a decisive retaliatory step for self-defence by all means".[73]

This second battle revealed several weaknesses in South Korea's defence readiness:

- Rules of engagement that could be exploited by the KPA.
- Command and control issues related to the failure to obtain quick and accurate battle space assessments and report them to national command authorities.
- A serious political divide in South Korea over how it should manage relations with the North.

[65] The North's delegate to the inter-ministerial Korean talks expressed regret for the incident on 25 July 2002 as Pyongyang sought to ease tension over the incident and resume dialogue. Kim Ji-ho, "North Korea Offers to Resume Dialogue with South", *The Korea Herald*, 26 July 2002.

[66] "The Naval Clash on the Yellow Sea on 29 June 2002 between South and North Korea: The Situation and ROK's Position", ROK Ministry of National Defense, 1 July 2002.

[67] The fishing control line was established by the ROK Navy to keep South Korean fishing boats from drifting too far north.

[68] 최현수 [Ch'oe Hyŏn-su], "조사결과로 본 서해교전/北경비정, 격침목적 선제사격" ["West Sea battle seen through the results of the investigation/North's patrol fires in pre-emptive attack with objective to sink"], *The Kukmin Ilbo*, 8 July 2002.

[69] 남문희 [Nam Mun-hŭi], "북한 군부 '불순 세력' 있나" ["Did the North's military authorities use improper force?"], *The Sisa Journal*, No. 664, 15 July 2002.

[70] For a more detailed alternative description and timeline from the DPRK perspective, see "Truth about West Sea Naval Clash; 'NLL' Questioned", *The People's Korea*, 13 July 2002, www1.korea-np.co.jp/pk/182nd_issue/2002071305.htm.

[71] "S. Korean army commits grave provocation in West Sea of Korea", KCNA, 29 June 2002.

[72] "S. Korean military to blame for armed clash in West Sea", KCNA, 30 June 2002.

[73] "U.S. is to blame for armed clash in West Sea of Korea", KCNA, 1 July 2002.

To address these problems, the South Korean Joint Chiefs promised to seek "measures to reinforce readiness along the NLL, review the existing ROE, and establish more effective means to fend off any armed provocation by North Korea". They also committed to "conduct in-depth analyses on the incident … and if necessary, reinforce the [rules of engagement] and standard operating procedures through close consultations with the UNC".[74] Despite this commitment to defend the NLL as an inter-Korean maritime boundary, the territorial dispute over the line remains a potential trigger for full-scale war.

After review, the rules of engagement were changed. The five steps were reduced to three after the elimination of threatening manoeuvres and the physical blocking or colliding with KPA vessels:

- Broadcasting a warning to return north across the NLL.
- Warning shots.
- Firing at DPRK vessels.

President Kim Dae-jung reportedly approved these new rules of engagement only reluctantly, and the DPRK warned they would never accept them.[75]

B. DIPLOMACY FAILS

1. 2000 to 2006: Warming ties

Following the June 2000 summit, the two Koreas began to implement a number of cooperative economic projects, most notably the Kaesŏng Industrial Complex (KIC) just a few kilometres north of the DMZ. Inter-ministerial and working group talks to negotiate bilateral protocols followed. The first talks between defence ministers were held on Cheju Island in September 2000 to discuss reductions in tensions and to establish security guarantees for the reconnecting of highways and railways. However, military talks which aimed to establish confidence building measures generally lagged behind inter-ministerial talks on economic cooperation.

On 26 May 2004, the two Koreas held their first bilateral general officers meeting to discuss confidence building measures and methods to prevent another incident in the Yellow Sea just as the crab fishing season was entering its peak period. Although the two sides agreed that another violent clash should be avoided, they disagreed on how to prevent one. The ROK delegation suggested a communication link between the two naval commands and the use of the same radio frequency for naval vessels on both sides, the use of signal flags to avoid miscommunication, and sharing of information on illegal fishing activities. However, the DPRK delegation instead emphasised they could not recognise the NLL, and that a new maritime boundary must be drawn to avoid conflict. The talks ended with no agreement other than to hold another round of talks on 3 June.[76]

The second round produced an agreement to reduce tensions and avoid the use of force in the Yellow Sea. The two sides agreed that their navies would avoid physical confrontations and use the same radio frequency to facilitate communications. They also agreed to cease propaganda broadcasts and remove billboards near the DMZ slandering the other side.[77] The delegations held heated discussions over the NLL, but the issue was omitted in the agreement. Future talks would be held on implementation.[78]

The third round of talks was not held until 2-3 March 2006 in P'anmunjŏm, just as another crab fishing season was quickly approaching. The DPRK delegation was led by Lt. General Kim Yŏng-ch'ŏl, who later commanded the General Reconnaissance Bureau (GRB) and is suspected of commanding the operation against the *Ch'ŏnan* in March 2010. Kim, considered a hardliner, has long experience in dealing with the South; he visited Seoul in May 1992 as part of the military delegation for inter-

[74] "The Naval Clash on the Yellow Sea on 29 June 2002 between South and North Korea: The Situation and ROK's Position", Republic of Korea Ministry of National Defence, 1 July 2002.
[75] Crisis Group interviews, Seoul, June and July 2010; 나기천 [Na Gi-ch'ŏn], "서해교전이후 교전수칙 어떻게 바뀌었나/소극적 대응서 적극적 응전으로" ["How have the rules of engagement changed since the West Sea battle/from passive to active responses"], *The Segye Ilbo*, 21 July 2004; 박성진 [Pak Sŏng-jin], "서해교전 / 해군, 확전방지 원칙 지켰나" ["West Sea battle/did the navy maintain the principle of preventing escalation to war"], *The Kyunghyang Shinmun*, 11 November 2009.
[76] 최호원 [Ch'oe Ho-wŏn], "남북 첫 장성급회담 / NLL 시각차…회담 정례화 미지수" ["First N-S general officers talks/different views on NLL … uncertain if talks will be held regularly"], *The Donga Ilbo*, 27 May 2004; 박성진 [Pak Sŏng-jin], "南北군사회담 정례화될듯, 2차 장성급회담 내달3일 설악산개최 합의" ["N-S military talks could become regularised, agreement to hold second round of general officers talks the 3rd of next month at Mt. Sŏrak"], *The Kyunghyang Shinmun*, 27 May 2004.
[77] On 24 May 2010, the ROK defence ministry announced it would replace loudspeakers and electronic billboards near the DMZ and recommence broadcasts in response to the *Ch'ŏnan* sinking. The KPA responded that it would fire artillery at the speakers and billboards. Seoul then announced it would postpone taking action, and now the plan apparently has been quietly dropped. "KPA General Staff issues crucial declaration", KCNA, 12 June 2010; Crisis Group interviews, Seoul; "Uncertainties hobble S.Korea's response to Cheonan sinking", *The Chosun Ilbo*, 14 June 2010.
[78] Joo Sang-min, "Koreas agree to ease tensions", *The Korea Herald*, 5 June 2004.

ministerial talks that resulted in the "Basic Agreement" and the "Joint Declaration on the Denuclearisation of the Korean Peninsula".[79]

As the talks began, Kim Yŏng-ch'ŏl suggested the two Koreas should "join hands in the spirit of nationalism and self-reliance, and to cooperate to fight against 'foreign powers'". But the North's position had not changed; the delegation emphasised that the NLL is illegitimate and a new maritime boundary must be established.

On the other hand, the South believed the talks should also include a discussion of security guarantees to conduct test runs of the two inter-Korean railway lines that had been reconnected in June 2003. Seoul hoped the talks could relax tensions and encourage Pyongyang to end its nuclear program in the context of the Six-Party Talks.[80] The South proposed a joint fishing area in the Yellow Sea, but the discussions concluded without a clear agreement, except to hold another round of talks.[81]

2. 2006 to 2007: The peace zone proposal

The fourth round of inter-Korean general officers' talks was held 16-18 May 2006 in P'anmunjŏm. In the interim, inter-ministerial talks had reached a tentative agreement to hold a test run of a reconnected rail line on 25 May, so Seoul pushed the issue of a security guarantee to the top of its agenda. The South reiterated its proposals for increasing communication channels and the establishment of a "West Coast Peace Zone" that would include joint fishing areas. The talks broke down as the two sides had difficulty agreeing on an agenda, and the North stuck to its position regarding the NLL, and insisted on linking it to other issues. The South responded that the NLL should be discussed in future defence ministers' talks. The DPRK delegation refused to provide the security guarantee for the rail test, which was cancelled the day before it was to have taken place.[82]

A year passed before the fifth round of talks took place 8-11 May 2007. Once again, inter-Korean economic talks resulted in an agreement to test a reconnected rail line, but military talks were needed to obtain a security guarantee. After the customary argument over the agenda, the DPRK delegation appeared to have become more flexible when Kim Yŏng-ch'ŏl expressed a willingness to discuss three issues: 1) the prevention of clashes and the establishment of a joint fishing area in the Yellow Sea; 2) the establishment of military measures to support greater inter-Korean economic cooperation; and 3) the implementation of military measures that the two sides had already adopted.[83]

Throughout the negotiations that began in 2004, DPRK military delegations emphasised that the key to resolving all inter-Korean military problems was abolishing the "illegitimate NLL" and establishing a new maritime boundary. The Roh Mu-hyŏn government (February 2003-February 2008) never excluded this possibility when it proposed a "West Sea peace zone", but ROK negotiators stressed this could only result from a process of confidence building and the establishment of a "peace zone" that would no longer require a military demarcation line such as the NLL. Although the DPRK delegation did not change its stance on the NLL in the fifth round of talks, it did compromise by agreeing to begin broader discussions on the reduction of tensions and greater economic cooperation as an initial effort at confidence building.[84] On the second day of talks, the two sides agreed to provide a security guarantee for the long-delayed railway test run, which was finally conducted 17 May 2007.[85]

The DPRK continued to link expanded economic cooperation to the elimination of the NLL. The North threatened to walk out as a spokesman for the KPA Navy Command issued a statement that "vehemently denounced the South Korean military war hawks for amassing forces in the wa-

[79] In December 2008, Kim led an inspection of the KIC as director of the National Defence Commission Policy Office. The visit occurred as Pyongyang was imposing restrictions on access to the site from the South. Kim reportedly told ROK officials that inter-Korean relations were at a crossroads, and the North could do without KIC. 진병기 [Chin Byŏng-gi], "북 군부 '개성공단 없어도 잘살 수 있다'" ["North military 'we can live well without the Kaesŏng Industrial Complex'"], *The Naeil Sinmun*, 19 December 2008; *2009 북한의 주요인물* [2009 North Korea Important People], ROK Ministry of Unification, Seoul, December 2008, pp. 124-125; *2009 통일백서* [2009 Unification White Paper], ROK Ministry of Unification, Seoul, 26 June 2009.

[80] "Two Koreas discuss steps to avoid naval clashes", *The Korea Herald*, 3 March 2006; Lee Joo-hee, "Railways tested following years of disappointment", *The Korea Herald*, 18 May 2007.

[81] *통일백서 2007* [Unification White Paper 2007], Ministry of Unification, Seoul, 2007, pp. 217-218.

[82] Jin Dae-woong, "Two Koreas wrangle over new sea border", *The Korea Herald*, 18 May 2006; Lee Joo-hee, "N.K. calls off cross-border railway test run", *The Korea Herald*, 25 May 2006; *통일백서 2007* [Unification White Paper 2007], Ministry of Unification, Seoul, pp. 218-219.

[83] "5th N-S general officers' military talks opened", KCNA, 8 May 2007; "Inter-Korean General-level military talks held", KCNA, 9 May 2007; Jin Dae-woong, "North Korea seeks sea border talks", *The Korea Herald*, 9 May 2007.

[84] Historically, the South has proposed incremental confidence building measures while the North has suggested grandiose large-scale agreements such as immediately reducing the number of active duty military personnel to 100,000 on each side.

[85] Jin Dae-woong, "N. Korea agrees to security pledge for railway tests", *The Korea Herald*, 10 May 2007; Lee Joo-hee, "Railways tested following years of disappointment", *The Korea Herald*, 18 May 2007.

ters off five islets in the West Sea and infiltrating warships deep into the territorial waters of the DPRK almost every day". The spokesman warned that "the situation in the West Sea of Korea is so unpredictable and serious that the third West Sea skirmish can occur there anytime" and "the South Korean warlike forces are seriously mistaken if they think that they can contain the DPRK and defend the illegal 'northern limit line'". He also warned that "there is a limit to the patience of the DPRK side".[86]

The fifth round of talks was extended one day, and the two sides agreed to hold working-level (colonel-level) military talks to address a list of mutual concerns. Despite the marginal progress, Kim Yŏng-ch'ŏl described the talks as "being too fruitless, given the wasted amount of time" because they did not address the NLL issue.[87] The North continued to use threats and pressure tactics.

As the two sides were arranging working-level talks led by colonels in June 2007, the KPA Navy Command on 30 May issued a statement that accused seven ROK warships of intruding into DPRK territorial waters.[88] On 21 June, the KPA Navy Command declared that "the reckless intrusion of South Korean naval warships into DPRK territorial waters may become a dangerous fuse to spark off the third skirmish in the West Sea and, furthermore, a bigger war going beyond the skirmish". The spokesman said the KPA Navy was "ready to send all targets, big and small, intruding into its waters to the bottom of the sea anytime".[89] The colonels failed to resolve their differences over the location of joint fishing zones and other issues, but they agreed to resume general-level talks.[90]

The sixth round of general officers' talks was held in P'anmunjŏm 24-26 July 2007, but once again the talks broke down over the NLL. As the meeting adjourned, the press described Kim Yŏng-ch'ŏl as "red faced and apparently angry".[91] Kim reportedly called the NLL an "absurd paradox drawn by the American bastards (미국놈) during the Cold War". In an appeal for good-faith bargaining, he asked the ROK delegation to "show me that you are a real counterpart through actions, not words, to establish a peace system" but ultimately he declared that "we have reached the conclusion that we don't need any more dialogue". ROK military analysts and others interpreted the delegation's posture as a sign of Pyongyang's intention to "militarise the area around the NLL".[92]

While inter-Korean military talks had reached deadlock, economic and political dialogue maintained their momentum in 2007. As Pyongyang and Seoul negotiated the details of the second inter-Korean summit, originally scheduled for late August but delayed until early October, the concept of a "West Sea peace zone" and the NLL became highly contentious political issues in South Korea. For President Roh and his liberal constituency, the summit provided a possible opportunity to establish a peace zone that eventually could extend across the peninsula. The idea was to expand economic cooperation beyond the Kaesŏng Industrial Complex to an area that would include the west coast border.[93]

The idea of a "peace zone" or "economic cooperation zone" in the Yellow Sea unnerved most conservatives because they believed the security environment had not changed enough to justify the elimination of the NLL. Many South Koreans felt very uncomfortable with the possibility of DPRK ships transiting very close to Inch'ŏn harbour and the five islands until the inter-Korean security relationship has been transformed. The opposition Grand National Party (GNP) immediately voiced its opposition to the abolition of the NLL or the inclusion of the issue in any inter-Korean summit agenda.[94]

But the debate over the NLL was not limited to inter-party disputes; the issue exposed deep inter-agency divides within the Roh government. Unification Minister Lee Jae-jŏng suggested the NLL could be discussed at the summit and said it is "not a territorial matter".[95] However, the defence ministry and the director of the National Intelligence Service declared the NLL is an issue of "territorial sovereignty".[96] Veterans groups and conservative opinion leaders were alarmed by the idea that Roh might

[86] "S. Korean warlike forces urged to halt intrusion into North's territorial waters", KCNA, 10 May 2007.
[87] Jin Dae-woong, "Sea border a flash point in inter-Korean relations", *The Korea Herald*, 15 May 2007.
[88] "S. Korean military warmongers' military provocations warned", KCNA, 30 May 2007; Jin Dae-woong, "Koreas to hold new round of military talks", *The Korea Herald*, 1 June 2007.
[89] "DPRK's strike means fully ready to go into action", KCNA, 21 June 2007.
[90] "Two Koreas to reopen general-level talks on July 24", *The Korea Herald*, 16 July 2007; Jin Dae-woong, "Koreas split over joint fishing ground", *The Korea Herald*, 17 July 2007.
[91] "Military talks between two Koreas break down", *The Korea Herald*, 26 July 2007.
[92] 윤상호 [Yun sang-ho], "얼굴만 붉힌 장성급회담…北 NLL재설정 계속 고집" ["Red-faced general officers' talks … North continues to be obstinate over redrawing NLL"], *The Donga Ilbo*, 27 July 2007.
[93] Kim Sue-young, "Koreas can set peace zone", *The Korea Times*, 16 August 2007.
[94] Jin Dae-woong, "GNP opposes border issue on summit agenda", *The Korea Herald*, 14 August 2007.
[95] Jin Dae-woong, "Roh's ex-aide fires up NLL dispute", *The Korea Herald*, 29 August 2007.
[96] Jin Dae-woong, "GNP opposes border issue on summit agenda", *The Korea Herald*, 14 August 2007.

go to Pyongyang and reach an agreement to abolish the NLL and compromise ROK security.[97]

Conservatives were outraged in late August when a former senior presidential secretary for national security wrote a newspaper column arguing the NLL as a territorial boundary is unconstitutional because the ROK constitution defines national territory to include all of the Korean peninsula and its surrounding islands.[98] Ultimately, President Roh, a former human rights lawyer, adopted this legalistic view, which antagonised his political opponents.

At the conclusion of the second inter-Korean summit held 2-4 October 2007 in Pyongyang, President Roh Mu-hyŏn and National Defence Commission Chairman Kim Jong-il signed a joint declaration for the development of inter-Korean relations and peace and prosperity. The two leaders agreed to promote economic cooperation in the areas of investment, the building of infrastructure – including refurbishing the Kaesŏng-Sinŭiju railway and the Pyongyang-Kaesŏng highway in the North – and the development of natural resources. The joint statement also included an agreement to establish two joint shipbuilding facilities in the North, and a new inter-Korean tourism project at Mt. Paektu (on the DPRK-China border) along with a direct flight route there from Seoul.

Roh and Kim also agreed to create a "special peace and cooperation zone in the West Sea" encompassing the area surrounding the coastal city of Haeju in the North. The declaration called for the establishment "of a joint fishing zone and maritime peace zone, a special economic zone, the utilisation of Haeju harbour, the passage of civilian vessels via direct routes across the NLL to Haeju and the joint use of the Han River estuary". To implement these measures, the declaration scheduled a defence ministers meeting in Pyongyang in November "to designate a joint fishing area in the West Sea to avoid accidental clashes" and "to discuss military confidence-building measures, including military guarantees covering the plans and various cooperative projects for making this joint fishing area into a peace area". Prime minister-level talks were scheduled for November in Seoul to implement the agreements in the declaration.[99]

As soon as Roh returned from Pyongyang, a political firestorm erupted over the declaration. Many critics attacked the agreement for the financial burden it would put on the South, and others questioned its legality and whether it required approval from the National Assembly. Others argued it was irresponsible for Roh to sign such an agreement only two months before a presidential election and about four and half months before his successor would be sworn into office. Roh instructed his cabinet to draft a "concrete action plan" to ensure the agreement would be implemented smoothly and could not be "watered down or scrapped" by the next president.[100]

Despite Roh's desires and instructions, he was a lame duck. While resistance from the opposition GNP was expected, there was also discord within his administration. ROK Defence Minister Kim Jang-su, who accompanied Roh to Pyongyang for the summit, said upon his return to Seoul that "the NLL will not be affected by the agreement to create a maritime peace zone" and that "it is a main achievement of the summit that we have successfully defended the Northern Limit Line". However, Unification Minister Lee Jae-jŏng reiterated his view that the NLL could be discussed and negotiated since "there is no official document that defines the NLL as a territorial concept". The presidential office clarified there would be no change in the status of the NLL, and the defence minister said there would be no change in the ROK's military posture or deployments in the Yellow Sea.[101]

On 11 October, the president hosted a luncheon for members of the National Assembly and political party leaders to brief them on the summit and to solicit their support. Roh told his guests that "it would be misleading the public to call the NLL a territorial line" and that "the Armistice line was drawn with the agreement of all concerned parties, but the NLL was unilaterally drawn without any agreement". Roh said the NLL "was originally a limit line for our naval operations" and that "under our Constitution, the territory of North Korea belongs to South Korea … in this context, calling a line in our territory a border confuses me". He also asked South Koreans to view the NLL objectively and proposed "to delay tackling the NLL issue" since his political opponents were citing it as a reason to obstruct proposed inter-Korean economic projects.

[97] For example, see "[EDITORIAL] West Sea border", *The Korea Herald*, 14 August 2007; Park Yong-ok, "For now, the Northern Limit Line is non-negotiable", *The Chosun Ilbo*, 14 August 2007.
[98] Jin Dae-woong, "Roh's ex-aide fires up NLL dispute", *The Korea Herald*, 29 August 2007; Kim Ji-hyun, "Border issue rekindles old battles", *The Korea Herald*, 31 August 2007.
[99] "[INTER-KOREAN SUMMIT] Text of summit agreement", *The Korea Herald*, 5 October 2007; "Declaration for development of North-South relations and peace and prosperity", KCNA, 4 October 2007; "북남관계발전과 평화번영을 위한 선언 (전문)" ["Declaration on the development of N-S relations and peace and prosperity (full text)"], KCNA, 4 October 2007; "Roh, Kim sign joint declaration on peace mechanism", *The Korea Times*, 4 October 2007.
[100] "Peace accord faces scrutiny of parliament", *The Korea Herald*, 6 October 2007.
[101] Jin Dae-woong, "Sea border remains intact: defense chief", *The Korea Herald*, 6 October 2007.

Roh stated his administration's fundamental policy was to abide by the 1992 "Basic Agreement".[102]

The administration established an inter-agency task force to implement the agreement to create a "West Sea peace zone" but strong resistance from opposition lawmakers and conservative groups quickly emerged and grew in size and intensity. Defence Minister Kim Jang-su broke with the president and pledged to "defend the NLL" in talks with his counterpart in Pyongyang in late November.[103] But in October 2007, it was politically impossible for Roh to fire Defence Minister Kim and replace him with someone who would uphold the president's instructions regarding the "peace zone" and the potential abolition of the NLL at the inter-Korean defence ministers' talks.[104] Although President Roh wished to establish his legacy by locking in the agreements reached at the inter-Korean summit, his political influence was vanishing as the campaign period for the December presidential election approached, to be followed by National Assembly elections in April 2008.[105]

As the talks approached, the DPRK used its typical tactic of threats or pressure prior to the opening of negotiations. On 21 October, the KPA Navy Command issued a "report in connection with the infiltration of warships into the territorial waters of the North side in the West Sea of Korea by the warmongers of the South Korean forces". The Navy Command declared that "the South Korean military authorities are sadly mistaken if they think they can 'defend' the illegal 'Northern Limit Line' in such a manner now that the North and the South agreed to set up 'a special area for peace and cooperation in the West Sea' and fix waters for joint fishing and peaceful waters (sic)". It also warned that "the KPA Navy will never remain an onlooker to the South Korean naval warships' reckless military provocations as intruding into the inviolable territorial waters of the North side".[106]

After preparatory working-level military talks, ROK Defence Minister Kim Jang-su travelled to Pyongyang 27-29 November to meet with Kim Il-ch'ŏl, Minister of the Korean People's Armed Forces.[107] While the inter-Korean prime ministers' meeting earlier in the month had produced a 49-clause agreement for economic cooperation,[108] the defence ministers' talks reached deadlock over the NLL and the establishment of joint fishing zones.

The ROK proposed two zones – one on each side of the NLL, but the DPRK insisted that both be established south of the NLL. The talks concluded with an agreement to establish a joint military committee, which the two sides had previously agreed in 1991 but failed to implement. The defence ministers also agreed to provide security guarantees for the economic projects proposed at the inter-Korean summit in October, as well as ones for inter-Korean cargo train service and the joint excavation of remains of soldiers who died in the Korean War.[109] During the talks, the DPRK insisted its territorial waters extend twelve nautical miles from the coastline, south of the NLL in some areas.[110]

[102] "Roh's NLL concept prompts fire from GNP", *The Korea Times*, 11 October 2007; Kim Ji-hyun, "Roh says NLL is not official territorial line", *The Korea Herald*, 12 October 2007; "Northern Limit Line not a border: Roh", *The Chosun Ilbo*, 12 October 2007.

[103] Lee Joo-hee, "Seoul moves to open talks on West Sea", *The Korea Herald*, 16 October 2007; "Defense minister firm on Northern Limit Line", *The Chosun Ilbo*, 15 October 2007; Jung Sung-ki, "Conservatives criticize Roh over sea border", *The Korea Times*, 17 October 2007; Jin Dae-woong, "Defence chief vows to defend NLL", *The Korea Herald*, 18 October 2007.

[104] Members of the cabinet must be confirmed by the national assembly.

[105] According to the ROK constitution, the president serves a single five-year term and is ineligible for re-election. The unicameral National Assembly has 299 seats and all seats stand for election every four years. For background information on the December 2007 presidential election and the April 2008 National Assembly elections, see Crisis Group Asia Briefings N°73, *South Korea's Election: What to Expect from President Lee*, 21 December 2007; and N°77, *South Korea's Elections: A Shift to the Right*, 30 June 2008.

[106] "KPA will never remain onlooker to military provocations of S. Korean warships", KCNA, 21 October 2007.

[107] "North-South military working talks held", KCNA, 12 November 2007; "Defense chiefs from two Koreas to meet Nov. 27-29", *The Korea Herald*, 13 November 2007; "Defense chiefs of Koreas to discuss tension reduction measures", *The Korea Herald*, 26 November 2007.

[108] "[INTER-KOREAN SUMMIT] Text of summit agreement", *The Korea Herald*, 5 October 2007; "Declaration for development of North-South relations and peace and prosperity", KCNA, 4 October 2007; "북남관계발전과 평화번영을 위한 선언 (전문)" ["Declaration on the development of N-S relations and peace and prosperity (full text)"], KCNA, 4 October 2007; "Roh, Kim sign joint declaration on peace mechanism", *The Korea Times*, 4 October 2007.

[109] Jin Dae-woong, "[NEWS FOCUS] Talks in rough waters over sea border", *The Korea Herald*, 28 November 2007; Jin Dae-woong, "Two Koreas disagree on fishing zone", *The Korea Herald*, 28 November 2007; "Korean defense ministers clash over sea border", *The Chosun Ilbo*, 28 November 2007; Jin Dae-woong, "Border issue dominates defense ministers' talks", *The Korea Herald*, 29 November 2007; "Two Koreas to conclude defence ministers' talks amid friction over sea border", *The Korea Herald*, 29 November 2007; Jin Dae-woong, "Two Koreas agree to launch joint military committee", *The Korea Herald*, 30 November 2007; "Defence ministers end talks without agreement on NLL", *The Chosun Ilbo*, 30 November 2007.

[110] "N. Korea claimed 12-mile territorial waters at last week's talks: source", *The Korea Herald*, 2 December 2007.

3. 2008: A new president, a new tone

In December 2007, general officers' talks were held and the joint military committee was established and met to discuss confidence building measures and the relaxation of tensions. The negotiations produced security guarantees for economic projects, but failed to resolve the deadlock over the NLL and joint fishing zones.[111] However, after GNP candidate Lee Myung-bak was elected on 19 December, all inter-Korean agreements were subject to a policy review. President-elect Lee did not reject the 4 October summit declaration per se, but he promised to look at every inter-Korean project and proposed project on a case-by-case basis. Lee pledged he could pursue even greater economic cooperation than his predecessor, but it was contingent upon the North making progress on denuclearisation in the Six-Party Talks.

Meanwhile, his transition team clearly was walking away from the 4 October summit proposals. It was obvious that the NLL would not be on any inter-Korean agenda during the Lee presidency. The transition team even discussed the possibility of merging the Ministry of Unification with the Ministry of Foreign Affairs and Trade, or downgrading it to an agency.[112] The ministry was maintained, but the signal was clear: the amount of South Korean aid and assistance that was delivered during the previous two administrations would not be forthcoming, and Pyongyang should not expect the implementation of the joint economic projects proposed at the summit.

DPRK officials and media are well-known for their harsh rhetoric, but the intensity of Pyongyang's language directed at the new president surprised many analysts. However, for people socialised and educated in the DPRK, it was inconceivable that a decision or directive issued by a state's "supreme leader" would not be implemented. President Roh's proposed West Sea peace zone is a valuable case study in ROK domestic politics, but DPRK officials are more likely to have concluded that the South is not a credible partner, and Seoul cannot be trusted because it cannot make credible commitments. Most DPRK officials probably came to share the view of Lt. General Kim Yŏng-ch'ŏl at the conclusion of general officers' talks: "We don't need any more dialogue".

[111] Jin Dae-woong, "[NEWS FOCUS] Inter-Korean military committee to help ease tension, build trust", *The Korea Herald*, 3 December 2007; Jin Dae-woong, "Two Koreas to hold general-level military talks this week", *The Korea Herald*, 10 December 2007; Jin Dae-woong, "Generals from Koreas to talk fishing zone, border security", *The Korea Herald*, 11 December 2007; Jin Dae-woong, "Two Koreas agree on cross-border safety assurances", *The Korea Herald*, 14 December 2007; Jin Dae-woong, "No progress on joint fishing zone", *The Korea Herald*, 15 December 2007.

[112] Lee Joo-hee, "Unification Ministry role to be limited", *The Korea Herald*, 8 January 2008.

IV. TENSIONS WORSEN

A. NOVEMBER 2009: THE BATTLE OF TAECH'ŎNG ISLAND

On 17 January 2009, the KPA's General Staff issued a statement declaring the country was entering a "total confrontation posture [全面 對決態勢 進入] to shatter traitor Lee Myung-bak and his group". The formal statement was the General Staff's first in ten years, and it was read on North Korean television by a spokesman with the rank of colonel. The spokesman declared that "the NLL is illegal and only the DPRK's extended MDL exists in the West Sea". Furthermore, he announced the KPA would defend the extended MDL and he declared that "everyone must clearly understand there is no advanced technology in this world that can counter or anticipate the unlimited ruthlessness and power of our retaliatory strikes".[113] That evening the South Korean Joint Chiefs issued an order to increase military readiness, and deployed more military assets around the Yellow Sea. Seoul also boosted its monitoring of DPRK military activities and asked Washington to increase reconnaissance flights.[114]

The KPA's declaration of the new posture was a prelude to several months of DPRK military exercises and provocations, most notably the flight test of a long-range missile configured as a satellite-launcher in April and the country's second nuclear test in May.[115] While these two episodes grabbed the attention of the international community and media, frequent and large-scale KPA exercises raised military tensions throughout the year.

Between January and early May, the KPA fired over 1,000 rounds of artillery on nineteen occasions into the Yellow

[113] "Principled stand of KPA to defend socialist country as firm as iron wall clarified", KCNA, 17 January 2009; "조선인민군 총참모부 성명 대남전면대결태세진입 선포" ["Korean People's Army General Staff announces declaration for total confrontation posture against the south"], KCNA, 17 January 2009; "북한 '전면대결 태세 진입'" ["North Korea: 'enters total confrontation posture'"], *The Kyunghyang Shinmun*, 18 January 2009.

[114] 박병진 [Pak Pyŏng-jin], "북, 또 NLL무력화 시도… 서해 긴장 고조" ["North, tries again to militarise the NLL … tensions high in West Sea"], *The Segye Ilbo*, 19 January 2009; 이석우 및 김미경 [Yi Sŏ-gu and Kim Mi-gyŏng], "정부, NLL등 접경지 군사력 보강" ["Government, strengthens military power near NLL and surrounding area"], *The Seoul Shinmun*, 19 January 2009.

[115] The DPRK began to deploy the Ŭnha space launch vehicle only days after the KPA statement. See Crisis Group Asia Briefing N°91, *North Korea's Missile Launch: The Risks of Overreaction*, 31 March 2009; Crisis Group Asia Report N°168, *North Korea's Nuclear and Missile Programs*, 18 June 2009; Crisis Group Asia Report N°169, *North Korea: Getting Back to Talks*, 18 June 2009.

Sea near the five islands. The KPA Air Force also increased its flight training in the area during this period. The training consisted of redeployments of fighters to different airfields, night flight training and ground attack exercises compared to the previous year's local navigation flights near home airfields. Again between 17 January and early May, sorties were six times the number recorded during the same period in 2008 and DPRK fighter aircraft crossed the "Tactical Action Line (TAL)" at least 1,087 times.[116] The TAL, which was established by the South Korean Joint Chiefs, lies north of the NLL in DPRK territory, but is only 64km north of Paengnyŏng Island, so DPRK fighter jets can reach Paengnyŏng Island or the Seoul metropolitan area only three to four minutes after crossing the TAL. If DPRK fighters are detected crossing this line, South Korean air defence units in the five islands go on alert and fighters are scrambled.[117]

In the summer of 2009, Pyongyang sent several signals to Seoul and Washington that it wanted to improve relations, but military tensions continued around the NLL.[118] On 10-11 October, one KPA patrol boat escorted about 50 fishing boats to catch crab south of the line, which triggered the South Korean military to go on high alert. ROK patrol boats broadcast warnings to the vessels but they ignored them and continued to fish in the waters near Yŏnp'yŏng Island south of the NLL.[119]

On 14 October, the KPA Navy Command issued a report on "the intrusion of South Korean naval vessels" into areas claimed as DPRK territorial waters. The report asserted that these incursions increased in mid-September and averaged three to four incidents per day in October. The KPA Navy Command claimed that on 12 October sixteen ROK Navy ships had intruded ten times; the South Korea maintained that DPRK fishing boats had violated its territorial waters on the same day.

According to the North's report, the KPA Navy informed South Korea through radio transmissions that the DPRK ships "were engaged in routine fishing operations in its territorial waters". Furthermore, the KPA Navy Command declared it "will neither allow the south Korean military authorities' any slightest attempt to keep the bogus line of no legal validity as an extension of the Military Demarcation Line in the sea nor remain an on-looker to their attitude (sic)". Finally, "it is clear to everyone what consequences the third skirmish in the West Sea of Korea will entail" and that the South Korean military "should bear in mind that warnings are bound to be followed by actions".[120]

In the afternoon of 17 October, ROK air defence radars detected what initially were believed to be MI-8 helicopters flying south towards the NLL. As the objects crossed the TAL, South Korea scrambled KF-16 fighters from Suwŏn Air Base to patrol the air space over the five islands, and ROK units on Paengnyŏng Island fired warning shots from Vulcan anti-aircraft guns into the sea. Shortly thereafter, the objects were determined to be flocks of birds.[121]

The sea battle that the KPA Navy command warned about finally occurred on 10 November. But this battle was quite different from those in 1999 and 2002. The weather and visibility were poor in the area of the five islands that morning, but at 10:33am a ROK radar facility on Paengnyŏng Island detected a DPRK patrol heading towards the NLL. The patrol boat, *Tŭngsan'got-383*, was one of two that were escorting several Chinese and DPRK fishing boats north of the line. Between 11:22 and 11:25, the ROK Second Fleet Headquarters broadcasted two warnings to return north, but the *Tŭngsan'got-383* ignored them and at 11:27 crossed the NLL 11.3km east of Taech'ŏng Island. The South issued two more warnings and at 11:32 broadcast that it would fire unless the patrol boat returned north.[122]

[116] 진성훈 [Chin Sŏng-hun], "北 해안포 • 비행 훈련 급증… 24시간 실전 태세" ["North rapidly increases coastal artillery and flight training … 24 hour war posture"], *The Hankook Ilbo*, 9 May 2010.

[117] On 7 April 2009, the DPRK air force sent about 100 sorties across the TAL. The artillery exercises and fighter sorties in the area create opportunities to measure the ROK defence posture and readiness. "北, 서북지역 포사격•전투기훈련 강화" ["North intensifies exercises for artillery firing and fighter aircraft in north west area"], *The Joongang Ilbo*, 8 May 2009.

[118] For example, former U.S. President Bill Clinton visited Pyongyang in early August 2009, and the DPRK sent a delegation to former President Kim Dae-jung's funeral later that month. DPRK diplomats also issued statements expressing a desire to improve ties.

[119] 정충신 [Chŏng Ch'unsin], "北선박 50척 지난달에도 월선" ["50 of the North's boats also crossed the line last month"], *The Munhwa Ilbo*, 11 November 2009.

[120] "Halt to intrusion of S. Korean warships into DPRK waters demanded", KCNA, 15 October 2009; "해군사령부 보도 남측의 령해침범은 북남관계악화책동" ["Navy Command report: the South's intrusions into territorial waters are a scheme to worsen North-South relations"], KCNA, 15 October 2009.

[121] On 4 May 2009, ROK air force also scrambled fighters after ROK air defence radars similarly mistook a flock of birds for aircraft heading towards the South's airspace. 진성훈 [Chin Sŏng-hun], "새떼에 발칸포 쏜 軍/ 北 항공기로 오인 고슴도치 발령·전투기 출격 소동" ["Military fires Vulcan artillery at flock of birds/uproar over hedgehog [alert] order and fighter sorties following misconception of North's helicopters"], *The Hankook Ilbo*, 19 October 2009; 안동환 [An Donghwan], "새떼를 北 항공기로 착각 소동" ["Uproar over flock of birds mistaken for North's helicopters"], *The Seoul Shinmun*, 19 October 2009.

[122] 박병진 [Pak Pyŏng-jin], "남북 서해교전/北경비정 NLL침범에서 퇴각까지/北함포 50발→ 아군 15발 맞고 200발 응사 … 北함정 물러가" ["N-S West Sea battle/from

At 11:36 the *Tŭngsan'got-383* was 2.2km south of the NLL when two ROK patrol boats fired four warning shots from about 3km away. The warning shots landed about 1km in front of the *Tŭngsan'got-383*, but it fired about 50 rounds at the *ROKS Ch'amsuri-325*; fifteen rounds struck the ROK ship but it only suffered minor damage.[123] The *Ch'amsuri-325* immediately returned fire, and during the ensuing two minutes, six ROK naval vessels fired 4,950 rounds – almost 100 times the number fired by the KPA patrol boat.[124]

The southern fire blew a large hole in the *Tŭngsan'got-383* and killed the ship's captain.[125] But sending the ship back under tow spewing black smoke was insufficient for many South Korean conservatives who expressed despair at the failure to sink the ship in retaliation for its pre-emptive strike against the *Ch'amsuri-325*.

Several questions remain regarding why the *Tŭngsan'got-383* ignored the warning broadcasts and retaliated with gunfire. There are at least four possible reasons, and they are not all mutually exclusive. First, it could have been an accidental clash. North Korea has a chronic shortage of foreign exchange but with few means to earn hard currency.[126] North Korea sells fishing licenses to Chinese boats to operate in its waters in the Yellow Sea on a daily, monthly or annual basis.[127]

Chinese fishing boats have an incentive to underreport the period of their fishing operations, and DPRK patrol boats have an incentive to crack down on illegal Chinese boats, which frequently move both ways across the NLL to escape enforcement.[128] On the morning of 10 November, Chinese fishing boats were in the area, but the KPA Navy sent only one patrol boat across the NLL – unlike in 1999 and 2002 when several vessels were in position to provide support.[129] Nor were any coastal anti-ship missile batteries or aircraft mobilised to support the *Tŭngsan'got-383*.

This led some analysts to believe the incident was accidental. When ROK Prime Minister Chŏng Un-ch'an was testifying before the National Assembly (regarding other state affairs) on the day of the incident, he told lawmakers the clash was accidental. However, later that afternoon the National Assembly's National Defence Committee convened a hearing where Defence Minister Kim T'ae-yŏng called it an intentional provocation by the North since the DPRK patrol boat ignored several warnings and had strayed about 2km across the NLL.[130] This discrepancy perturbed many lawmakers. Although not a serious blunder, it is an example of the government's poor management of public relations that later undermined public confidence in the

the North's patrol boat NLL intrusion to its retreat/North's naval gun 50 rounds … 15 rounds hit our forces and they return 200 rounds … North's warship retreats"], *The Segye Ilbo*, 11 November 2009.

[123] The *Tŭngsan'got-383*'s 25mm and 37mm guns must be fired manually, which decreases accuracy significantly, especially in rough seas. Waves were 2-3 metres high at the time of the encounter. 권혁철 및 황준범 [Kwŏn Hyŏk-ch'ŏl and Hwang Jun-bŏm], "남-북 서해교전 /7년만에 재발/군, NLL 넘어온 북 함정 격퇴" ["N-S West Sea battle/recurs after 7 years/military says North's naval vessel retreats after crossing NLL"], *The Hankyoreh*, 11 November 2009; 최현수 [Ch'oe Hyŏn-su], "남북 7년만에 서해교전 / 급박했던 충돌 상황-南 경고사격⇒北 50발 조준공격⇒南 580발 응사" ["N-S West Sea battle after 7 years/situation after urgent clash-South fires warning shots, North fires 50 direct rounds, South returns 580 rounds"], *The Kukmin Ilbo*, 11 November 2009; 박병진 [Pak Pyŏng-jin], "北, '참수리 325호'만 표적 공격" ["North, only targeted '*Ch'amsuri-325*'"], *The Segye Ilbo*, 12 November 2009.

[124] 윤상호 및 박민혁 [Yun Sang-ho], "10일 서해교전때 4950발 퍼붓고도 격침 못한 이유는?" ["During the West Sea battle on the 10th, why couldn't [the North's ship] be sunk even though 4,950 rounds rained down in it?"], *The Donga Ilbo*, 13 November 2009.

[125] 박성진 [Pak Sŏng-jin], "북한 경비정 '10년 악연'…두차례 모두 침몰직전 퇴각" ["10 year fatal destiny of North Korean patrol boat … in two battles, retreating just before sinking"], *The Kyunghyang Shinmun*, 13 November 2009.

[126] See Crisis Group Asia Briefing N°101, *North Korea under Tightening Sanctions*, 15 March 2010.

[127] 김동욱 [Kim Dong-uk], *한반더안보와 국제법* [*The Korean Peninsula: Security and International Law*] (Paju, ROK: Han'guk Haksul Chongbo, 2010), pp. 100-101; 장인수 [Chang In-su], "北 동•서해 조업권 中에 팔아 '외화벌이'" ["North sells [fishing] licenses in the East Sea and West Sea to China to 'earn foreign exchange'"], *The Segye Ilbo*, 26 October 2007.

[128] "Chinese trawlers fish in S.Korean waters with impunity", *The Chosun Ilbo*, 14 May 2010. On 20 December, the ROK Coast Guard announced it would crackdown on illegal fishing after a confrontation with a Chinese fishing boat on the 18th left the fishing boat capsized, one crew member dead and one missing. "S.Korea launches crackdown on fishing after Chinese boat sinks", Agence France-Presse, 20 December 2010; "China web users irate over deadly S.Korea collision", Agence France-Presse, 20 December 2010.

[129] The considerable distance of the closest Chinese fishing boat and the KPA patrol boat's heading and manoeuvres were inconsistent with routine patrols and policing of illegal fishing. Crisis Group interview, Seoul, October 2010.

[130] 안의근 [An Ŭi-gŭn], "남북 7년만에 서해교전 / 우발적<의도적…김태영 국방 '북한 보복 가능성 있다'" ["N-S West Sea battle after 7 years/accidental or intentional … Defence Minister Kim T'ae-yŏng 'North Korean retaliation possible'"], *The Kukmin Ilbo*, 11 November 2009; 신정훈 [Sin Jŏng-hun], "남북 서해교전/'우발 충돌'?鄭총리 국회 답변 논란" ["N-S West Sea battle/'accidental clash'? Prime Minister Chŏng's reply denounced"], *The Segye Ilbo*, 11 November 2009; 염영남 [Yŏm Yŏng-nam], "남북 3차 서해교전/'우발과 도발 사이' 머리싸맨 정부" ["3rd N-S West Sea battle/government's head wrapped in a towel between 'accidental and intentional'"], *The Hankook Ilbo*, 11 November 2009.

investigation of the *Ch'ŏnan* sinking and the response to the KPA artillery attack against Yŏnp'yŏng Island.

A second possibility, although very unlikely, is that the *Tŭngsan'got-383* failed to receive the warning messages and/or was disoriented and unaware of its precise location when the warning shots were fired. In that case, the *Tŭngsan'got-383*'s captain may have believed the ship was coming under fire. However, this fails to explain why it did not fire its larger calibre 85mm cannon at the *Ch'amsuri-325*, unless there was a malfunction or the captain decided to keep the larger weapon in reserve in case of escalation.

Another possibility is that the incident was a deliberate provocation by the DPRK, which leads to the question of Pyongyang's motivations. Some analysts speculated that it was part of Pyongyang's common strategy of increasing tensions or creating the perception of a crisis prior to negotiations. On 10 November (Washington time), the U.S. State Department announced that Ambassador Stephen Bosworth, Special Representative for North Korea Policy, would visit Pyongyang in December. Since North Korea had to be aware of this before the announcement, this hypothesis fits the pattern of creating a crisis before entering talks with the U.S. The clash also occurred only three days before President Obama was to travel to East Asia.[131]

The same logic above would suggest that the DPRK could have been seeking bargaining leverage with the South since the two sides held a secret meeting in Singapore in October to discuss a possible inter-Korean summit.[132] Or, the North Korean military might have wanted to test the resolve of the South regarding Seoul's pledge to enforce the NLL as a maritime boundary.

During the weeks and days before the clash, KPA vessels frequently navigated south towards the NLL, drawing responses from the ROK Navy. South Korean patrol boats repeatedly were dispatched to intercept and prevent incursions. The manoeuvres of the vessels on both sides became repetitive and predictable as they took similar routes and turned away in the same direction. The KPA plans meticulously for operations, and these manoeuvres made the South's reaction very predictable.[133] The incursion by the *Tŭngsan'got-383* could have been part of a larger scheme for future asymmetric retaliation. On the day of the clash, General Kim Kyŏk-sik, commander of the Fourth Corp, was inspecting a coastal military base in the area.[134]

The DPRK denied responsibility. In the afternoon shortly after the firefight, the "Supreme Command of the Korean People's Army" (the National Defence Commission and Chairman Kim Jong-il) issued a short report describing the incident as an "intrusion by an unidentified object into DPRK territorial waters". According to the report, "after a KPA Navy patrol boat on routine patrol duty confirmed the intrusion, a group of South Korean warships pursued the KPA Navy boat and fired at it". Pyongyang also requested an apology from the ROK military and measures to prevent a recurrence.[135]

There are numerous possible internal reasons why Pyongyang might have taken high risks and instigated military provocations on 10 November. However, the DPRK's internal decision-making process is opaque, so it is often difficult to understand the motivations. If the DPRK leadership did execute a premeditated plan to fire at the *Ch'amsuri-325*, it is inexplicable that the KPA did not deploy more resources to assist and help protect the *Tŭngsan'got-383*. If the DPRK leadership believed a military skirmish served their interests and they were willing to sacrifice the *Tŭngsan'got-383* as part of a larger strategic plan, this indicates the leadership is willing to accept significant risks.

1. Tensions after the November 2009 battle

After the battle, the ROK military went on alert in anticipation of possible retaliation. Defence Minister Kim T'ae-yŏng warned the National Assembly's National Defence Committee of this risk, and a special military inspection team was dispatched to the area to investigate, but immediately after the incident no unusual activities or deployments were noticed in the North.[136] However, Pyongyang warned it would retaliate through various channels and

[131] 안의근 [An Ŭi-gŭn], "남북 7년만에 서해교전 / 우발적<의도적…김태영 국방 '북한 보복 가능성 있다'" ["N-S West Sea battle after 7 years/accidental or intentional … Defence Minister Kim T'ae-yŏng 'North Korean retaliation possible'"], *The Kukmin Ilbo*, 11 November 2009; 한면택 [Han Myŏn-t'aek], "보스워스 연내 방북 공식발표" ["Formal announcement of Bosworth's trip by the end of the year"], *The Naeil Sinmun*, 11 November 2009.

[132] Jon Herskovitz, "Two Koreas held secret talks for summit: report", Reuters, 22 October 2009; "N.Korea still expects payment for summit", *The Chosun Ilbo*, 26 February 2010.

[133] Crisis Group interview, Seoul, October 2010.

[134] "'Senior N.Korean hardliner at hand' during incursion", *The Chosun Ilbo*, 11 November 2009.

[135] "DPRK demands S. Korea apologise for armed provocation", KCNA, 10 November 2009.

[136] 안의근 [An Ŭi-gŭn], "남북 7년만에 서해교전 / 우발적<의도적…김태영 국방 '북한 보복 가능성 있다'" ["N-S West Sea battle after 7 years/accidental or intentional … Defence Minister Kim T'ae-yŏng 'North Korean retaliation possible'"], *The Kukmin Ilbo*, 11 November 2009; Kim Ji-hyun, "Military keeps vigil against North Korea", *The Korea Herald*, 12 November 2009.

media, and its rhetoric became more extreme as the days passed.[137]

On 12 November, the *Rodong Sinmun*, official daily of the Korean Workers Party, published an editorial describing the incident as a deliberate provocation by the South, and warned that "artillery pieces of the KPA convinced of justice and afire with hatred are now levelled at the provokers".[138] The following day, KPA Lt. General Kim Yŏng-ch'ŏl delivered a message through P'anmunjŏm to his counterpart, ROK Major General Yu Je-sŭng. Kim's message was communicated from "higher authorities", which clearly was a reference to Kim Jong-il and the National Defence Commission. Kim Yŏng-ch'ŏl said it is a "futile military adventure to preserve the illegal 'Northern Limit Line'" and conveyed "four KPA principles":

- The South should apologise and promptly punish those responsible.
- The South should behave with discretion and be mindful that the South's stand to preserve the NLL no longer works.
- The MDL extended as established by the KPA is the only demarcation line in the Yellow Sea, and the KPA will take merciless measures to enforce it from now on.
- The South will pay a dear price for having disturbed the unity of the nation and having disrupted efforts to achieve peace and reunification.[139]

The warnings from Pyongyang were interpreted by many as nothing but bluster since the balance of conventional capabilities has shifted to Seoul. The naval superiority demonstrated by the South in the Yellow Sea clashes convinced many South Koreans that the KPA had no real means to retaliate, or that Pyongyang was deterred from retaliating because the North would always pay higher costs in a conventional military confrontation.[140] On 15 November, KPA surface-to-ship missile batteries and artillery units turned on their radars near Yŏnp'yŏng and Taech'ŏng Islands, but ROK naval vessels withdrew from the area and tensions temporarily subsided.[141] Commercial shipping between the two Koreas continued as a DPRK ship docked in Inch'ŏn on the 16th and the North's *Rodong Sinmun* published an editorial on the 17th calling for an improvement in inter-Korean relations.[142]

2. Cycle of vengeance in the Yellow Sea

Memories of recent clashes, military camaraderie and strong wills to avenge perceived injustices should not be underestimated in the Yellow Sea disputes. The DPRK and ROK military units patrolling the area are familiar with each other and their history of close encounters. The same units, some of the same vessels and indeed some of the same individuals have seen action in more than one recent sea battle. The North's *Tŭngsan'got-383* and the South's *Ch'amsuri-325* participated in both the 1999 and 2009 battles. In 1999, the *Tŭngsan'got-383* and *Tŭngsan'got-684* squared off against the *Ch'amsuri-325* and *Ch'amsuri-357*. The *Tŭngsan'got-383* was able to return to base under its own power, but the *Tŭngsan'got-684* nearly sank and lost its captain at the hands of the *Ch'amsuri-325* and *Ch'amsuri-357*. In 2002, the *Tŭngsan'got-684* fired its 85mm gun in its lethal strike against the *Ch'amsuri-357*, which is now on display at the ROK Navy Second Fleet Headquarters in P'yŏngt'aek so that officers and seamen can view it every time they begin their patrols.[143] And the *Ch'ŏnan*, a participant in the 1999 battle, was sunk in March 2010.

The danger of recurrence and escalation remains. The November 2009 battle took place under rules of engagement that had been modified by the Lee Myung-bak government to delegate more authority to ship commanders to respond quickly and return fire. The change was made with the intention of invoking the right of self-defence to avoid or reduce the South's casualties, and to enhance deterrence by increasing the likelihood that the KPA Navy

[137] 홍진수 [Hong Jin-su], "점점 더 거칠어지 는북 '서해교전' 입장" ["North's position on 'West Sea battle' becoming more and more harsh"], *The Kyunghyang Shinmun*, 15 November 2009.

[138] "S. Korea will be forced to pay dearly for armed provocation", KCNA, 12 November 2009.

[139] "DPRK takes merciless action to defend MDL", KCNA, 13 November 2009; 안의근 [An Ŭi-gŭn], "北 'NLL 더이상 안통해' 무자비한 군사 조치 협박" ["North 'NLL no longer connected' threatens merciless military measures"], *The Kukmin Ilbo*, 14 November 2009; 정충신 [Chŏng Ch'ung-sin], "北 '무자비한 군사조치'" ["North 'merciless military measures'"], *The Kukmin Ilbo*, 14 November 2009; Kim Ji-hyun, "N.K. threatens military action against Seoul", *The Korea Herald*, 14 November 2009.

[140] For example, a *Korea Herald* editorial called the North's "military threats against the South" as "becoming rather tiresome" and the "confrontational rhetoric largely an empty threat". The commentary concluded that "against South Korea's modern military, the North Koreans have virtually no chance of winning". "[EDITORIAL] Empty threats", *The Korea Herald*, 16 November 2009.

[141] "S.Korean Navy on high alert in West Sea", *The Chosun Ilbo*, 16 November 2009; "北 지대함미사일 한때 가동/軍 비상경계태세" ["North operates surface-to-ship missile radar once/military alert posture on border"], *The Segye Ilbo*, 16 November 2009.

[142] Kim Sue-young, "Koreas continue shipping despite naval skirmish", *The Korea Times*, 16 November 2009; "Improved inter-Korean relations demanded", KCNA, 17 November 2009.

[143] 박성진 [Pak Sŏng-jin], "북한 경비정 '10년 악연'…두차례 모두 침몰직전 퇴각" ["North patrol boat's '10 year fatal destiny' … retreating twice just before sinking"], *The Kyunghyang Shinmun*, 13 November 2009.

would pay a high price for any incursions or provocations. Warships are likely to return fire more quickly if the captain does not have to report the current situation and then wait for authorisation from headquarters. The swift and decisive victory in November 2009 convinced many South Koreans that the new rules of engagement were a great improvement over the more passive ones in force in June 2002.

Article 51 of the UN Charter extends the right to self-defence, but the ROK Navy's retaliatory fire during the Battle of Taech'ŏng Island, in which the ROK vessel fired almost 100 times the number of rounds fired by the KPA patrol boat, arguably could be interpreted as an excessive use of force. It would be naïve to expect the North to stand pat after the humiliating defeat.

3. Preparations to retaliate

Shortly after the November 2009 battle of Taech'ŏng Island, there were several indications that Pyongyang would act on its warnings of retaliation. On 27 November, state media broadcast a report of Kim Jong-il's visit to the KPA West Sea Fleet Headquarters.[144] Although no date was given for the visit, the media usually report on Kim's movements a day or two afterwards. Kim instructed the navy to modernise its weapons and tactics, which was revealed during a television broadcast of the visit in May 2010. Kim told the headquarters staff that "You have to intensify training and our 'do-or-die' sea unit must be prepared to become heroes".[145]

Military tensions began to escalate again when the KPA Navy Command issued a statement on 21 December declaring the waters in the disputed area of the Yellow Sea to be a "peacetime naval firing zone of coastal and island artillery units of the KPA". It declared the NLL invalid and asserted that "the warmongers of the military and the conservative forces of South Korea are seeking to preserve the illegal 'Northern Limit Line' through their premeditated military provocations".[146]

On 15 January 2010, a spokesman for the North's National Defence Commission released a statement condemning a South Korean government contingency plan code-named "Puhŭng" in case of a North Korean collapse, coup d'état, rebellion or other emergency in the North.[147] The spokesman declared that "once the reckless provocative plan of the South Korean authorities to bring down the supreme headquarters of our revolution and the dignified socialist system is completed and put into practice, there will start a sacred nationwide retaliatory battle [聖戰 or holy war] to blow up the stronghold of the south Korean authorities including 'Ch'ŏngwadae' [the Blue House or ROK presidential residence]".[148]

Around the same time, Kim Jong-il was reported to have viewed joint training exercises, and on 17 January DPRK television broadcasted images of 240-mm Multiple Launch Rocket System (MLRS) vehicles deployed on the southwestern coast.[149] On 25 January, the KPA declared two exclusion zones from 25 January to 29 March.[150] The end of the period coincided with a U.S.-ROK combined military exercise as well as the sinking of the *Ch'ŏnan*. The two exclusion zones straddled the NLL – one near Paengnyŏng Island and the other near Taech'ŏng Island. The KPA began firing artillery shells into the zones on 27 January, but all rounds fell into waters north of the NLL.[151]

There was heightened military alertness and KPA training throughout the spring of 2010. Pilot flight training was conducted frequently in early 2010, however no sorties were flown on the day of the attack on the *Ch'ŏnan* until the ROK military was responding.[152] The stand-down ap-

[144] "김정일 서해함대 시찰 '서해 교전' 관련 주목" ["Kim Jong-il inspects West Sea Fleet 'West Sea battle' focus of attention"], *The Kyunghyang Shinmun*, 28 November 2009.

[145] The term 決死隊 often has been translated as "suicide unit" but this is misleading. KPA forces have demonstrated their will to fight to the death, but there is no evidence the KPA has adopted "suicide tactics". For Kim's visit and instructions, see 신석호 [Sin Sŏk-ho], "김정일, 대청해전 패배직후 '바다결사대' 지시" ["Kim Jong-il, right after defeat in Taech'ŏng sea battle, gives instruction for 'sea do-or-die unit'"], *The Donga Ilbo*, 6 May 2010; 신보영 [Sin Bo-yŏng], "김정일 訪中-北•中 정상회담/北, 대남 비난 여전" ["Kim Jong-il visits China-North-China summit/North, criticism of South unchanged"], *The Munhwa Ilbo*, 6 May 2010; 안의근 [An Ŭigŭn], "김정일, 해군 '무기•전술' 현대화 지시" ["Kim Jong-il, instructions to navy modernise 'weapons and tactics'"], *The Kukmin Ilbo*, 6 May 2010.

[146] "KPA Navy sets up firing zone on MDL", KCNA, 21 December 2009.

[147] The statement followed a leak of the plan in the ROK press. 신보영 [Sin Bo-yŏng], "코드명 '부흥' 北급변사태 지원플랜 만들었다" ["Aid plan code-named 'Puhŭng' made for emergency situation in the North"], *The Munhwa Ilbo*, 13 January 2010.

[148] "DPRK warns S. Korean authorities of anti-DPRK operation", KCNA, 15 January 2010.

[149] 차대운 [Ch'a Dae-un], "北 '무력시위'서 240㎜ 방사포 사진 공개" ["North displays military force by releasing photos of 240-mm MLRS"], Yonhap News Agency, 17 January 2010.

[150] "N.Korean shipping ban intrudes into S.Korean waters", *The Chosun Ilbo*, 27 January 2010.

[151] Choe Sang-hun, "Koreas exchange fire at sea, adding to tension", *The New York Times*, 27 January 2010; Hyung-jin Kim, "NKorea, SKorea exchange fire near disputed border", The Associated Press, 27 January 2010.

[152] The KPA Air Force conducted flight training on 25 March and pilots were on alert when the *Ch'ŏnan* was hit, and fighters were in the air conducting combat air patrols near the NLL as the *Ch'ŏnan* was going to the bottom of the sea. "北전투기, 천안함 침몰 당일에만 비행 안해" ["North's fighter jets

pears to have been intended to put ROK Navy patrols at ease and eliminate suspicions of any possible confrontation.

B. THE SINKING OF THE *CH'ŎNAN*

1. The torpedo attack

Prior to the November 2009 sea battle, the KPA Navy sent patrol boats south towards the NLL to probe ROK Navy reactions, which had become routine and predictable. After the battle, Pyongyang issued a number of warnings and took several incremental steps that caused Seoul to change its patrols in ways that ultimately made the *Ch'ŏnan* more vulnerable to attack.[153]

The KPA artillery exercises caused the ROK Navy to change its patrol routes and posture. Smaller patrol boats, such as the Chamsuri-class fast patrol boats were moved towards the rear, and larger Corvette-class ships such as the *Ch'ŏnan* forward. The patrols became predictable, which made it easier to launch a submarine attack in waters difficult for submarine navigation.[154] Testimony by survivors of the *Ch'ŏnan* attack said "the ship was on the same route it had always gone" when it was sunk. Although the South Korean government has cited this testimony to refute arguments the ship ran aground, it also reveals how the ship was under greater risk to attack.[155] While critics have argued that the shallow waters around Paengnyŏng Island make it impossible for submarine operations, an independent expert submariner reviewed the evidence and concluded it is possible.[156]

At 9:22pm on 26 March 2010, the *ROKS Ch'ŏnan* was blown in half by an underwater explosion. The ship was about 2.5km south west of Paengnyŏng Island in waters with a depth of 24 metres when it was struck.[157] The explosion knocked out the ship's power and communication systems; one of the ship's officers used his mobile phone to report the incident to the ROK Navy Second Fleet Command at 9:28.[158] Within two minutes, the command dispatched patrol boats and surface vessels to conduct search and rescue operations. 58 crew members were rescued by 10:40, but 46 sailors died.[159]

President Lee was informed and convened an emergency meeting with his national security advisers at the Blue House at about 10:00.[160] At 10:55, the *ROKS Sokch'o*, a corvette patrol ship that was dispatched to the area, fired 130 rounds of 72mm shells at an unidentified object that was heading north.[161] After a heated internal debate, Lee's advisers were convinced it was a North Korean torpedo attack and most counselled the president to order military retaliation. However, instead he ordered restraint and to focus efforts on rescue operations. Lee appeared to be very concerned about the economic consequences and costs of escalation, including the possible impact on the planned G-20 summit in Seoul in November 2010.[162]

At the time of the explosion, the Korea Institute of Geoscience and Mineral Resources detected a seismic wave in the area of the *Ch'ŏnan* equivalent to 1.5 on the Richter scale. The event was described as being consistent with an explosion from about 145-180kg of TNT.[163] The testimony of the survivors who described being lifted up from the floor, and the physical evidence all are consistent with an external explosion. Critics have argued that a mine was more likely to have sunk the *Ch'ŏnan*, but it would have been nearly impossible for the KPA Navy or Special Forces to have placed a mine in that location, and it is unlikely the DPRK has sophisticated mines capable of blowing the

didn't fly only on the day the *Ch'ŏnan* sunk"], *The Kyunghyang Shinmun*, 8 April 2010.

[153] Crisis Group interviews, Seoul.

[154] Crisis Group interviews, Seoul.

[155] For testimony of the crew, see "Joint Investigative Report on the Attack against ROK Ship Cheonan", ROK Ministry of National Defence, 10 September 2010.

[156] The water depth in the area is about 30-50 metres. Operating at a shallow depth runs the risk of being pushed to the surface, but on the other hand, it makes detection by sonar more difficult. Critics of the "Joint Investigative Report" findings often under-estimate the difficulty of anti-submarine operations and the limits to sonar technology, which is compounded by swift currents, the sea bed topography and number of fishing boats in the area. Crisis Group interviews, Seoul.

[157] According to the Korean Naval Tactical Data System (KNTDS), its exact coordinates were 37° 55' 45" N 124° 36' 02" E. 권혁철 [Kwŏn Hyŏk-ch'ŏl], "천안함사건 100일의 기록" ["100-day record of the *Ch'ŏnan* incident"], in 강태호 역음 [Kang T'ae-ho, editor], *천안함을 묻는다: 의문과 쟁점* [*Burying the ROKS Ch'ŏnan: Questions and Issues*], (Paju: Changbi Publishers, 2010), pp. 31-32. The *Ch'ŏnan* was about 2.5km from the shore of Paengnyŏng Island when it was struck, it was in ROK territorial waters regardless of the status and legality of the NLL.

[158] 권혁철 [Kwŏn Hyŏk-ch'ŏl], op. cit., p. 33.

[159] 나기천 [Na Gi-ch'ŏn], "천안함 침몰 사고/'평 소리와 함께 선체 90도 기울어'" ["*ROKS Ch'ŏnan* sinking accident/'hull tilted 90 degrees with a p'ŏng sound'"], *The Segye Ilbo*, 29 March 2010.

[160] 이영섭 [Yi Yŏng-sŏp], "해군 초계함 침몰/ 李대통령 '인명 구조 최선 다하라' 긴급 지시" ["Navy patrol boat sinks/President Lee emergency directive 'do everything to rescue the people'"], *The Hankook Ilbo*, 27 March 2010.

[161] 정충신 [Chŏng Ch'ung=sin], "천안함 침몰-26일밤 도대체 무슨일이/ 합참 '속초함 발포, 교전수칙상 자위권 따른 대응'" ["*ROKS Ch'ŏnan* sinking-what happened the night of the 26th/Joint Staff '*ROKS Sokch'o* fired guns/self-defence response according to rules of engagement'"], *The Munhwa Ilbo*, 31 March 2010.

[162] Crisis Group interview, Seoul.

[163] 전동혁, 이형주 및 이원주 [Chŏn Dong-hyŏk, Yi Hyŏng-ju and Yi Wŏn-ju], "천안함 침몰 /기뢰-어뢰 등 외부폭발 가능성 높아져" ["*ROKS Ch'ŏnan* sinking/mine-torpedo, the possibility of an external explosion higher"], *The Donga Ilbo*, 2 April 2010.

Ch'ŏnan in two.[164] The South had placed mines around Paengnyŏng Island in the 1970s, but they were later removed. Even if not all had been cleared, it is very unlikely that one could have floated away and it is virtually impossible for an old stray ROK mine to have inflicted such extensive damage to the *Ch'ŏnan*.[165]

Critics cite the Russian investigation as evidence of a mine having sunk the *Ch'ŏnan*, although the findings from the investigative team that visited the ROK from 31 May to 7 June 2010 have not been released.[166] Despite rumours in the media, a source close to the investigation told Crisis Group that the findings were inconclusive; the damage could have been caused by either a mine or a torpedo. While the Russian team was granted access to any physical evidence they requested, they were not given access to all of the intelligence information regarding DPRK operations, movements and posture at the time of the attack. The Russians were even permitted to take a sample of the torpedo part that was recovered from the sea floor. A puzzling finding is that they estimated it must have been in the water for about six months because of the amount of corrosion.[167] The part was retrieved 50 days after the attack, but another source told Crisis Group that corrosion could have begun well before the attack depending how and where the torpedo was stored.[168]

Other critics cite the hand-written script "1번" [No. 1] in blue ink on the torpedo to challenge the international investigation's conclusion. Some argue that the ink would not survive the heat of an explosion and therefore it must have been placed there by the South to fabricate evidence against the DPRK. While odd, the ink, which was on the inside of the torpedo propulsion assembly and at the back end, was not engulfed in the explosion as the assembly was propelled away from the blast.[169] Others have argued that despite the backwardness of DPRK in many ways, munitions produced in factories there would not have such crude markings.[170] However, pieces of artillery shells retrieved from the subsequent attack on Yŏnp'yŏng Island are clearly marked with stamped and hand-written Arabic numerals.[171]

No voice transmissions or commands authorising the firing of a torpedo were intercepted even though ROK intelligence monitors the radio frequencies and communications of the KPA Navy in the area.[172] However "a few North Korean midget submarines" were reportedly detected leaving their bases two or three days before the *Ch'ŏnan* sinking and returning two or three days afterwards.[173] The bases were almost certainly located at Pip'agot and Cho Island.

Some critics of the "Joint Investigative Report" believe it would be impossible to penetrate the South's defences and torpedo the *Ch'ŏnan*, but they tend to overestimate ROK and U.S. intelligence capabilities. The General Reconnaissance Bureau, which is responsible for special operations against the South, would take extraordinary precautions in conducting such an operation. The KPA is aware of the effects of signals intelligence and electronic warfare in conflict, and almost certainly would have conducted the operation under radio silence.[174] Furthermore, some of the thermal observation devices in the area were not working properly, and some surveillance equipment on Paengnyŏng Island and Soch'ŏng Island was not functioning at all when the *Ch'ŏnan* was sunk.[175]

The composition of the international investigative team has also been scrutinised, casting doubt for some on the credibility of its findings. Many critics have pointed out that the ROK defence ministry has a conflict of interest in

[164] The ship was blown in two by a "bubble jet effect". Sophisticated mines and torpedoes that produce this effect are equipped with proximity fuses, but less sophisticated systems detonate on contact. Although contact explosions can blow a hole in a ship's hull, they do not break ships like the *Ch'ŏnan* in two.
[165] "Joint Investigative Report on the Attack against ROK Ship Cheonan", ROK Ministry of National Defence, 10 September 2010; Crisis Group interviews, Seoul.
[166] 최현수 [Ch'oe Hyŏn-su], "러 천안함 조사단, 수중 폭발 인정… 어뢰 공격엔 구체 반응 안보여" ["Russian investigative acknowledges underwater explosion … but does not show a definite response that it was a torpedo"], *The Kukmin Ilbo*, 8 June 2010; "Russian experts complete investigation into Cheonan sinking", RIA Novosti, 4 September 2010, http://en.rian.ru/world/20100904/160465980.html.
[167] Crisis Group interview.
[168] Crisis Group interview, Seoul.
[169] In the case of the artillery attack against Yŏnp'yŏng Island on 23 November 2010, ink markings on parts of shell casings also survived impact. For a view supporting the possibility of the ink remaining after the torpedo explosion, see Jung Sung-ki, "Prof. refutes doubts on inscription on torpedo", *The Korea Times*, 2 August 2010.
[170] 박선원 [Pak Sŏn-wŏn], "좌초와 기뢰는 침몰원인이 될 수 없는가" ["Impossible for running aground or a torpedo to have caused the sinking? "], in 강태호 역음 [Kang T'ae-ho, editor], *천안함을 묻는다: 의문과 쟁점* [*Burying the ROKs Ch'ŏnan: Questions and Issues*], (Paju: Changbi Publishers, 2010).
[171] 권혁철 [Kwŏn Hyŏk-ch'ŏl], "북 방사포 추진체에 숫자 '①' 적혀" ["Number '①' written on North's artillery propulsion bodies"], *The Hankyoreh*, 27 November 2010.
[172] Crisis Group interview.
[173] "Joint Investigative Report on the Attack against ROK Ship Cheonan", ROK Ministry of National Defence, 10 September 2010, p. 32.
[174] 조선인민군 [Korean People's Army], "전자전참고저료" ["Electronic warfare reference material"], 군사출판사 [military publishing company], DPRK, 2005; Steve Herman, "Secret manual gives glimpse of North Korean military tactics", VOA News, 19 September 2010.
[175] The type of surveillance equipment was not disclosed. Crisis Group interview, Seoul.

investigating the sinking because it would be hesitant to investigate or reveal possible internal causes. Furthermore, some have argued that the other nations that provided specialists for the investigation (the U.S., the UK, Sweden, Australia and Canada) are allies of the South and would endorse any version of events drafted by Seoul.[176] Sources describe the internal dynamics of the investigation as acrimonious initially because the foreign participants were unwilling to take short-cuts and produce a final report that would not withstand close scrutiny.[177]

Some critics argue that had China been invited – even had it refused to participate – it would have been harder for Beijing to criticise the panel as partial. However, given the sensitivities of the intelligence and information regarding ROK naval capabilities and the analysis of KPA Navy operations, Seoul never intended to invite China to participate because of the implicit military alliance under the China-DPRK Treaty of Friendship and Cooperation.[178]

The lack of direct evidence linking a KPA vessel with the firing of a torpedo along with a suspected DPRK-directed or supported misinformation campaign on the internet has enabled the North to continue denying culpability. On 28 May, the National Defence Commission held a press conference in Pyongyang, and on several occasions has offered to send an inspection team to investigate the cause of the sinking.[179] Seven rounds of colonel-level talks between the KPA and the UNC were held at P'anmunjŏm to discuss the sinking, but no agreement was reached to hold general-level talks.[180] However, the KPA representatives consistently requested an onsite visit to see the *Ch'ŏnan*. The request was always turned down because of the probable political theatre and propaganda value for the North, but one observer described this as an effort to send specialists for onsite damage assessment to evaluate the quality of their torpedoes.[181]

2. KPA submarine capabilities

South Korean analysts and media have highlighted the superiority of their conventional forces, particularly naval forces, compared to those of the North. The KPA understands this as well, so Pyongyang has developed asymmetric means to deal with this worsening disadvantage. According to Paek Sŭng-ju, a researcher at the Korea Institute for Defence Analysis, a knowledgeable KPA defector said that the military had been studying the weaknesses of ROK corvette-class patrol ships following the 1999 sea clash and has focused on submarine tactics.[182]

In the 1970s, North Korea imported machinery and equipment from China to establish a submarine manufacturing plant at Sinp'o, North Hamgyŏng Province. The plant, code-named the "Pongdae [Beacon] Boiler Factory", is run by the Korean Workers Party's Second Economic Committee and has the capability to produce all of North Korea's submarines. The submarine design work is done at the 8.15 [August 15] Ship Design Works in Namp'o, South P'yŏng'an Province. North Korea's other shipbuilding facility, the Taedonggang Shipyard, is a small facility on the Taedong River near Pyongyang that produces special vessels including midget submarines, such as the Yŏn'ŏ-class submarine suspected of attacking the *Ch'ŏnan*.[183]

In the 1990s, three incidents led the North to upgrade its submarine systems and tactics. In September 1996, one of its submarines ran aground on the South Korean east coast, and in June 1998 a midget submarine was captured in ROK waters off the east coast after it got tangled in fishing nets.[184] In December 1998, the ROK Navy sunk a semi-submersible DPRK vessel off the southern coast

[176] For example, ROK National Assemblyman Ch'oe Mun-sun and others criticised that the names of the foreign investigators were not released to the public. Most were later leaked and the senior representatives from the U.S., the UK and Sweden signed the final report that was released in September 2010. The names were confidential for security reasons according to memoranda of understanding prior to the investigation. Crisis Group interview, Seoul.
[177] Crisis Group interviews.
[178] Crisis Group interviews.
[179] "NDC holds press conference on 'Cheonan' sinking", KCNA, 28 May 2010. The National Defence Commission first offered to send an investigative team immediately after the ROK defence ministry released the initial findings of its investigation on 20 May 2010, and then repeated the offer in the media and at talks held at P'anmunjŏm. Crisis Group interview; "National Defence Commission issues statement", KCNA, 20 May 2010; "S. side urged to receive NDC inspection group", KCNA, 22 May 2010; "NDC spokesman rebukes Lee Myung Bak's 'Statement to People", KCNA, 24 May 2010; "FM accuses US of creating atmosphere of international pressure", KCNA, 28 May 2010.
[180] Crisis Group interview, Seoul; "UNC-KPA Colonel-level meetings at Panmunjom", United States Forces Korea, press release, 29 October 2010.
[181] Crisis Group interview.
[182] Paek Sŭng-ju, presentation at the Seoul Foreign Press Club, Seoul, 30 April 2010.
[183] 황일도 [Hwang Il-do], "북한의 잠수함•어뢰 해외거래 파일" ["North Korean submarine torpedo foreign transaction file"], *Shindonga*, Issue 610, 1 July 2010, pp. 280-287.
[184] Harry P. Dies, Jr., "North Korean Special Operations Force: 1996 Kangnung Submarine Infiltration", *Military Intelligence Professional Bulletin*, October-December 2004, pp. 29-34; 김회승 [Kim Hŭi-sŭng], "자살한 11명 인듯/북한 잠수함 침투 군당국 현장안팎" ["11 crew commit suicide/ins and outs from military authorities on site of North Korean submarine infiltration"], *The Hankyoreh*, 19 September 1996; Nicholas D. Kristof, "Koreans kill 7 Northern infiltrators as manhunt widens", *The New York Times*, 20 September 1996; "Infiltrator sub's captain is killed in South Korea", *The New York Times*, 23 September 1996.

after it was detected near the port city of Yŏsu.[185] These incidents were not only embarrassing for Pyongyang, the capture of the vessels and a live crewmember compromised KPA technical capabilities and tactics.

The KPA Navy uses its submarines for coastal defence, but the midget submarines and semi-submersible craft are used primarily to insert special operations agents into South Korea. According to the ROK defence ministry, the DPRK possesses about 70 submarines, including approximately twenty Romeo-class submarines (1,800 tons), 40 Sang'ŏ-class submarines (300 tons) and ten midget submarines including the Yŏn'ŏ-class (130 tons).[186] The latter is 29 metres long and is equipped with two torpedo tubes.[187]

The discovery of submarine infiltration in the 1990s led Seoul to implement a number of measures on the east coast. The waters in the Sea of Japan have an average depth of 1,200 metres compared to the relatively shallow 50 metres in the Yellow Sea, which makes submarine operations relatively easy off the east coast. The vast area in the Sea of Japan would require tremendous anti-submarine warfare resources to track and monitor all submarine movements, so Seoul focused on cutting off infiltration points.

To insert special operations agents, KPA subs must approach within 1km of the coast where the water depth is about 20 metres. The ROK military worked with fishing cooperatives to place fishing nets in strategic areas and placed obstacles in other relevant areas to deny access. The military also deployed more sentries along the coast as well as P-3 Orion aircraft and Lynx helicopters over the Sea of Japan. The "access denial" strategy appears to have been successful so far as no similar submarine infiltrations have been discovered on the east coast since 1998.[188]

North Korea is rumoured to have been improving its submarine technology. In the 1990s, engineers reportedly tried to develop "snorkelling" technology that would enable its submarines to bring oxygen from the surface through tubes while the vessel remains submerged, which reduces the likelihood of discovery. However, these efforts reportedly failed and a defector claims Pyongyang subsequently imported the technology along with submarine engines from Sweden.[189] However, a Swedish Defence Ministry official said there is no evidence of submarine-related exports or technology transfers from Sweden to the DPRK.[190]

3. The CHT-02D torpedo

The so-called "smoking-gun" was recovered from the sea bed on 15 May by a civilian vessel contracted to dredge debris from the site of the sinking. It arrived at the site on 29 April after the *Ch'ŏnan*'s stern and bow were salvaged on 15 and 25 April, respectively. The salvage and dredging operations were very difficult given the swift currents, high waves and generally poor conditions in the area.[191] Persistence and some luck were instrumental, but critics have expressed disbelief that the "contra-rotating propellers, propulsion motor and steering section" of a torpedo would suddenly appear apart from other debris. However, a large amount of small debris from the *Ch'ŏnan* was also recovered during the salvage operations.[192] The ROK government simply was not transparent or forthcoming initially, believing this information was not relevant to the overall findings. This was part of a broader misman-

[185] 차세현 [Ch'a Se-hyŏn], "한밤 바닷길 100 km 7 시간추격/北 반잠수함 발견서 격침까지" ["100km sea pursuit for 7 hours at night/from the time the North's semi-submersible was discovered until it was sunk"], *The Kyunghyang Shinmun*, 19 December 1998; Nicholas D. Kristof, "North Korean vessel is chased and sunk off coast of South", *The New York Times*, 18 December 1998.

[186] "Investigation Result on the Sinking of *ROKS Cheonan*", ROK Ministry of National Defence, 20 May 2010.

[187] The Yŏn'ŏ-class reportedly is a DPRK-modified version of the Yugo-class vessel and is strikingly similar to Iran's Ghadir-class submarine; Pyongyang reportedly has exported the Yŏn'ŏ to Iran and provided extensive assistance. "Yono (IS 120) class", *Jane's Fighting Ships*, 17 Aug 2010; "Jane's World Navies: North Korea", *Jane's World Navies*, 5 July 2010; Patrick Goodenough, "Iran unveils new submarines and makes more Persian Gulf warnings", CNSNews.com, 9 August 2010; "N. Korea agrees to supply 5 mini-submarines to Iran: source", Japan Economic Newswire, 4 July 2007; Kenneth Katzman, "Iran: U.S. Concerns and Policy Responses", Congressional Research Service Report for Congress, 23 July 2010; Shin Joo Hyun, "North Korean submarine helmsman breaks 14-year silence", *The Daily NK*, 1 June 2010.

[188] The ROK has not detected infiltrations on the east coast, but this does not prove they have not occurred. However, the country has taken measures to increase the difficulty and risk of conducting submarine infiltration operations significantly on the east coast. 尹淵 [Yun Yŏn], "Commanders who cannot exercise authority are unqualified to command", *Wŏlgan Chosŏn*, June 2010, pp. 84-101.

[189] Crisis Group interview, Seoul; 황일도 [Hwang Il-do], "북한의 잠수함•어뢰 해외거래 파일" ["North Korean submarine torpedo foreign transaction file"], *Shindonga*, Issue 610, 1 July 2010, pp. 280-287.

[190] Pyongyang may still have been able to acquire the technology. North Korea has demonstrated it is very adept at smuggling illicit items through foreign shell companies. Crisis Group email correspondence with senior Swedish Defence Ministry official, 4 October 2010.

[191] However, the ship's firm, Taep'yŏng Fisheries, had experience salvaging ROK Air Force fighters that had crashed into the sea in 2006 and 2007. 李相欣 [Yi Sang-hŭn], "도대체 뭘 더 건져주면 믿을 것인가?" ["What else do you have to pull out of the water for people to believe it?"], *Wŏlgan Chosun*, July 2010.

[192] Crisis Group interviews, Seoul.

agement of information that ultimately undermined public confidence in the Joint Civilian-Military Investigation Group's report.

The recovered torpedo parts were determined to originate from a DPRK-made CHT-02D (Combined Homing Torpedo-Dual Purpose).[193] According to *Jane's World Navies*, North Korea produces torpedoes "of an unknown type but likely a copy of Russian or Chinese models at the No. 26 Factory",[194] which is said to manufacture 533mm and 320mm torpedoes.[195] The diameter of 533mm is the same as that of the CHT-02D torpedo, which is compatible with the Sang'ŏ-class and Yŏn'ŏ-class submarine torpedo tubes.[196]

The CHT-02D has been exported by "Green Pine Associated Corporation (青松聯合)". Green Pine was registered as a foreign trading firm in the DPRK on 25 August 2005 and was placed under the direct control of the General Reconnaissance Bureau, led by Kim Yŏng-ch'ŏl, in late 2009. The firm is said to account for about 50 per cent of North Korea's arms exports.197 On 30 August 2010, the U.S. Treasury Department announced that President Obama had signed executive orders sanctioning Green Pine as well as Kim Yŏng-ch'ŏl.[198]

During the press briefing releasing the initial findings of the *Ch'ŏnan* investigation, the South Korean defence ministry presented schematic drawings of a torpedo that were said to have originated in a Green Pine export catalogue. Afterwards, it was discovered the wrong schematic was displayed, and the ministry corrected the mistake the following day.[199] According to a Crisis Group source, the U.S. Defense Intelligence Agency discovered the error the day before the presentation and urged correcting it even if it meant delaying the presentation by one day. However, the ministry declined to re-schedule, believing the press would never catch the error.[200] The blunder fuelled speculation that the government was trying to manipulate the findings on the same day the official campaign period began for local elections. Nor has it released more evidence and information it has regarding Green Pine because South Korea lacks an inter-agency review process to declassify documents for the public.[201]

C. THE YŎNP'YŎNG ISLAND SHELLING

On 27 May 2010, the KPA General Staff declared it would "make a prompt physical strike at the intrusion into the extension of the Military Demarcation Line under our side's control in the West Sea of Korea".[202] While the KPA issued threats, the ROK military sought to restore deterrence following the sinking of the *Ch'ŏnan*. The major thrust of that effort included a series of joint and combined military exercises, as well as a multilateral exercise (see below). The *Hoguk* (護國; "defence of the country") joint and combined exercise in November included amphibious landings by the ROK Marine Corps Special Forces,[203] which in the context of "Puhŭng" contingency plan was viewed as provocative by the KPA.

The day the *Hoguk* exercise began (22 November), DPRK media reported that Kim Jong-il led a delegation of senior party and KPA officials including Kim Jŏng-ŭn and General Kim Myŏng-guk, director of operations in the Ministry of the People's Armed Forces' General Political Bureau, to inspect the coastal area near the "five islands".[204] While DPRK media reported the delegation visited fish farming facilities, it is inconceivable for such a high-level delegation not to have visited nearby military units. Most analysts believe the group visited military installations to be briefed by local commanders including General Kim Kyŏksik, commander of the Fourth Corps, so that Kim Jong-il could authorise the artillery attack on 23 November.

At 8:00am on 23 November, the KPA telephoned the ROK military at P'anmunjŏm and warned it to cancel an artillery firing exercise that was scheduled to be held later

[193] "Investigation Result on the Sinking of ROKS 'Cheonan'", Joint Civilian-Military Investigation Group, ROK Ministry of National Defence, 20 May 2010.
[194] The No. 26 Factory, also known as Kanggye No. 26, is a missile and munitions production facility located in Kanggye, Chagang Province. "Strategic Weapon Systems", *Jane's Sentinel Security Assessment – China and Northeast Asia*, Missile Production Facilities Section, date posted 5 July 2010.
[195] See "Jane's World Navies: North Korea; Torpedoes Section", *Jane's World Navies*, updated 5 July 2010.
[196] *Jane's Fighting Ships*, op. cit.
[197] 이범진 [Yi Bŏm-jin], "천안함 공격 어뢰, 북 '청송연합' 수출 무기" ["Torpedo that attacked the *Ch'ŏnan*, export weapon for the North's Green Pine Associated"], *Chugan Chosun*, 17 August 2010.
[198] U.S. Department of the Treasury, Office of Foreign Assets Control, "Recent OFAC Actions", 30 August 2010, www.ustreas.gov/offices/enforcement/ofac/actions/20100830.shtml.
[199] Crisis Group interview.
[200] Crisis Group interview.
[201] 이범진 [Yi Bŏm-jin], "천안함 공격 어뢰, 북 '청송연합' 수출 무기" ["Torpedo that attacked the *Ch'ŏnan*, export weapon for the North's Green Pine Associated"], *Chugan Chosun*, 17 August 2010.
[202] "General Staff of KPA issues crucial notice", KCNA, 27 May 2010.
[203] 김광수 [Kim Kwang-su], " 조지워싱턴號, 10월 서해에 뜬다/ '한미연합 기동훈련 참가'" ["The USS George Washington sails in the West Sea in October/'participates in ROK-U.S. combined manoeuvre training'"], *The Hankook Ilbo*, 24 August 2010.
[204] "Kim Jong Il inspects fish farm and fish breeding ground", KCNA, 22 November 2010.

that day on Yŏnp'yŏng Island.[205] The live fire exercise is part of regular training for an ROK Marine Corps unit stationed on the island, and is held about once a month. It was unrelated to the *Hoguk* exercise that was underway elsewhere on the peninsula.[206]

The KPA warning and execution of its threat served multiple purposes:

- Signalling that the KPA monitors ROK military activity closely and maintains situational awareness.
- Targeting the ROK Marine Corps, which was conducting amphibious landing exercises further south on the peninsula.
- Reiterating claims regarding the NLL and the "MDL extended".
- Demonstrating KPA will and capabilities to fight in the case of South Korea intervening in the North following any "emergency contingencies" as outlined in the "Puhŭng" plan.
- Inflicting terror on civilians to undermine public confidence in the South Korean government.
- Prompting ROK citizens to flee the five islands and abandon their fishing activities, essentially ceding the area's fisheries resources to the North.
- Claiming the incident as a "great military victory" to support the power transfer to Kim Jŏng-ŭn.
- Using rising inter-Korean tensions to quell domestic complaints about the DPRK collapsing economy.
- Leveraging the incident as part of a bargaining strategy in the lead up to reconvening the Six-Party Talks.

The shelling on Yŏnp'yŏng Island fits the pattern of the attack on the *Ch'ŏnan*. It was preceded by several warnings, and was executed after meticulous planning. When a National Assembly member asked Defence Minister Kim T'ae Yŏng if he believed General Reconnaissance Bureau Director Kim Yŏng-ch'ŏl and KPA Fourth Corps Commander Kim Kyŏk-sik primarily were responsible for commanding and executing the artillery attack,[207] Kim said that was their assessment.[208] The attack came as a complete surprise to the ROK government.

ROK National Intelligence Service (NIS) Director Wŏn Se-hun told the National Assembly's Intelligence Committee on 1 December that the NIS had intercepted communications in August 2010 confirming plans for a large-scale attack against the five islands.[209] But given the frequency of such threats, the NIS and other government agencies did not take it seriously. This was a tremendous analytical failure of intelligence.

The ROK had six K9 155-mm self-propelled howitzers deployed on Yŏnp'yŏng Island and they began a live fire exercise at about 10:00am on 23 November.[210] At 2:34pm, after the exercise had finished, the KPA began to fire at Yŏnp'yŏng Island from two bases, Kaemŏri, on the DPRK coast, and Mu Island, which are only about 12-13km from Yŏnp'yŏng Island (see Appendix C). About 80 of some 170 rounds fired from the North hit the island and around 90 fell into the surrounding waters.[211] The shells hit military and civilian targets killing two civilians and wounding three others. Two ROK Marines were killed and fifteen were wounded.[212] Several homes were damaged and the shells were described as special incendiary rounds designed to penetrate structures and cause exten-

[205] "Panmunjom mission of KPA sends notice to U.S. forces side", KCNA, 25 November 2010.
[206] Christine Kim, "South thwarts even bigger attack", *The Joongang Ilbo*, 25 November 2010.
[207] "북한 김격식•김영철, '연평도 도발' 주도?" ["Did North Korea's Kim Kyŏk-sik and Kim Yŏng-ch'ŏl lead the 'Yŏnp'yong island provocation'?"], *The Chosun Ilbo*, 24 November 2010.
[208] It is more likely this type of attack was commanded by Kim Kyŏk-sik and supervised by General Ri Yŏng-ho, chief of the General Staff. Ri is said to be an expert in artillery. 안용현 [An Yong-hyŏn], "北 '특수포탄 만행' 뒤에 리영호(김정은 측근)•김격식(서해 5도 책임자) 있다" ["Behind the North's 'atrocity of the special shells' are Ri Yŏng-ho (at Kim Jŏng-ŭn's side) and Kim Kyŏk-sik (responsible for the five islands)"], *The Chosun Ilbo*, 26 November 2010.
[209] 김범현 [Kim Bŏm-hyŏn], "올 8월 감청통해 '北도발징후' 확인" ["'Signs of North's provocation' confirmed this August through communications intercepts"], Yonhap News Agency, 1 December 2010.
[210] Yŏngp'yŏn Island has military facilities and about 1,700 civilians living in about 930 dwellings. Park Si-soo, "Yeonpyeong turns into inferno", *The Korea Times*, 23 November 2010.
[211] 김호준 [Kim Ho-jun], "北 170여발 포격..80여발 연평도 떨어져" ["North fires about 170 shells … about 80 rounds fall on Yŏnp'yŏng Island"], Yonhap News Agency, 24 November 2010.
[212] "北포격 사망자 4명으로 늘어…충격 확산" ["Deaths from North's artillery attack rises to 4 … shock spreads"], *The Chosun Ilbo*, 24 November 2010.

sive damage.[213] The cost of the damage initially was estimated to be about $4.3 million.[214]

The KPA shelling came in two volleys. Between 2:34 and 2:46 the KPA fired 150 rounds from Kaemŏri and Mu Island; 60 shells hit Yŏnp'yŏng Island and 90 fell into the surrounding waters during the first wave.[215] The ROK howitzers on the island had their barrels pointing south for their firing exercise; three were unable to pivot and point their fire north.[216] The radar on Yŏnp'yŏng Island also malfunctioned and it took thirteen minutes to return fire. The KPA had deployed MLRS vehicles to Kaemŏri shortly before the attack, and during the first wave of artillery fire, the ROK unit only returned fire to Mu Island while shells were also being launched from Kaemŏri.[217]

The slow response enabled the KPA to fire another twenty shells from 3:12 to 3:29; all twenty hit Yŏnp'yŏng Island.[218] The ROK returned fire according to the rules of engagement, which restricted counter-fire to similar weapons systems attacking from the North. ROK fighter planes were scrambled but were restricted from attacking the KPA artillery bases at Kaemŏri and Mu Island.

The ROK military initially announced it returned fire immediately with all six K9 howitzers on 23 November, changing the number to four the following day, and three on the 25th. When National Assembly members asked Defence Minister Kim T'ae-yŏng on 24 November why it had taken thirteen minutes to return fire, he said "they had done well to return fire in thirteen minutes".[219] His resignation was accepted by President Lee the next day.[220]

ROK military forces were put on alert *Chindog'gae 1* (진돗개 1) but the DEFCON level was not raised.[221] The *Chindog'gae* alert system applies to ROK military forces on the five islands and near the DMZ. The alert is designed to raise ROK military readiness for infiltrations or amphibious assaults from the North, but it does nothing for civil defence.[222]

[213] Christine Kim, "N. Korea fired thermobaric (sic) bombs", *The Joongang Ilbo*, 26 November 2010; "N.Korean shelling 'aimed for maximum damage to lives, property'", *The Chosun Ilbo*, 26 November 2010; "北이 쏜 122mm 방사포는 대량살상용 로켓포" ["122mm artillery rockets fired by North used for mass casualties"], *The Chosun Ilbo*, 25 November 2010.

[214] "Damage assessed at US$4.3 mln from N.K. attack on island, gov't pushes for compensation", Yonhap News Agency, 28 November 2010.

[215] 김호준 [Kim Ho-jin], "北 170여발 포격..80여발 연평도 떨어져" ["North fires 170 shells ... 80 fall on Yŏnp'yŏng Island"], Yonhap News Agency, 24 November 2010.

[216] 김호준 [Kim Ho-jin], "대포병레이더 오작동...K-9 절반만 작동" ["Anti-artillery radar malfunctions … only half of K-9 operate"], Yonhap News Agency, 25 November 2010.

[217] "Military knew of N.Korean artillery move before attack", *The Chosun Ilbo*, 26 November 2010.

[218] 김호준 [Kim Ho-jin], "北 170여발 포격…80여발 연평도 떨어져" ["North fires 170 shells ... 80 fall on Yŏnp'yŏng Island"], Yonhap News Agency, 24 November 2010.

[219] Christine Kim, "South thwarts even bigger attack", *The Joongang Ilbo*, 25 November 2010.

[220] Ser Myo-ja, "Defense minister resigns after heavy criticism", *The Joongang Ilbo*, 26 November 2010; "Why the defense minister was 'sacked'?", *The Korea Times*, 27 November 2010.

[221] 김호준 [Kim Ho-jin] "<'데프콘' 아닌 '진돗개' 발령한 이유는>" ["The reason *Chindog'gae* was issued and not DEFCON"], Yonghap News Agency, 24 November 2010.

[222] *Chindog'gae* (진돗개) is the name of a dog native to Chin Island (珍島) off South Korea's south western coast. On the *Chindog'gae* alert system, see 김형원 [Kim Hyŏng-wŏn], "軍이 발령한 '진돗개 하나' 는 최고경계태세" ["'*Chindog'gae* 1' order issued by the military is the highest warning posture"], *The Chosun Ilbo*, 23 November 2010.

V. NORTH KOREAN MOTIVATIONS

The motivations of the DPRK leadership are impossible to ascertain. The political system is built upon an intense personality cult surrounding the Kim family. The leader enjoys extraordinary benefits and rent-seeking capabilities, and can use this power and control of resources to maintain a coalition of support. The state ideology is based upon a doctrine of "military first" or *sŏn'gun* (先軍) and "self-reliance" or *chuch'e* (主體). The country strives for military and economic autarchy.

DPRK cannot keep itself completely isolated. "Military first" doctrine includes a modified Leninist world view with a capitalist power – the U.S. – driven to "enslave" the rest of the world.[223] Therefore, according to *sŏn'gun*, North Korea must remain engaged in international security affairs to maintain national independence. And while adherents of *chuch'e* would prefer economic autarchy, the country cannot sustain a closed industrialised economy and feed its population. The contradictions in the political system and state ideology are numerous. The political leadership is motivated by both international and domestic considerations, but generally, most foreign policymakers and analysts probably underestimate the domestic factors that drive decision-making.

A. THE INTERNATIONAL DIMENSION

Many sceptics believe that North Korea was unlikely to have been responsible for sinking the *Ch'ŏnan* because Pyongyang had expressed its willingness to return to the Six-Party Talks. More than one senior U.S. government official told Crisis Group they "simply could not believe it was a North Korean torpedo attack because it didn't make sense".[224] A lot of quiet diplomacy was already underway to re-start these talks. Beijing had been working hard to get the parties back to the table, and had proposed a three step process: a U.S.-DPRK bilateral meeting; a preliminary agenda-setting meeting; followed by a new round of Six-Party Talks. After the *Ch'ŏnan* sinking, Wu Dawei, China's special representative for the Korean Peninsula, conducted shuttle diplomacy with the other five members of the Six-Party Talks from mid-August 2010. On the same day Kim Jong-il visited China (August 27), other senior North Korean officials told former U.S. president Jimmy Carter that Pyongyang was willing to resume the talks. Two days later, the North agreed to the three-step process that Beijing had proposed before the *Ch'ŏnan* incident.

North Korea also has economic reasons to return to talks. Although China regularly cuts deals with the DPRK according to its own interests, other countries have provided economic incentives to encourage North Korea to return to the negotiating table, without explicitly announcing or directly linking these offers.[225] Pyongyang could be holding out for "expanded economic cooperation" before returning to talks. When Chinese Premier Wen Jiabao visited Pyongyang in early October 2009 with an unusually large delegation and signed major agreements for economic cooperation and assistance, he was only able to obtain a vaguely-worded commitment from Kim Jong-il to return to the Six-Party Talks.[226]

In late October 2009, representatives from North and South Korea reportedly held secret meetings in Singapore to discuss a possible inter-Korean summit and economic cooperation.[227] Ambassador Stephen Bosworth, U.S. Special Representative for North Korea Policy, visited Pyongyang in early December 2009. Shuttle diplomacy continued in early 2010, and when the *Ch'ŏnan* was sunk, Washington was considering a visa for Kim Gye-gwan, North Korea's main nuclear negotiator, to visit the U.S.

The deliberate sinking of the *Ch'ŏnan* seems to have cost Pyongyang the economic benefits it expected to receive from returning to Six-Party Talks.[228] There may be other, domestic reasons that explain why launching a torpedo attack made sense. Different actions and changes in policy have distributional consequences, so some of the elite may be willing to support or implement risky policies that are perhaps damaging in the short term or sub-optimal for the nation as a whole.

[223] The North Korean literature on *sŏn'gun* frequently warns that Koreans face the tragic indignity of "slavery" unless they develop and possess powerful military capabilities to resist imperialist aggression.

[224] Crisis Group interviews, Washington DC, April 2010.

[225] This occurred on several occasions when the U.S. was negotiating with North Korea in the 1990s to implement the "Agreed Framework", and South Korea continued this practice under President Kim Dae-jung and President No Mu-hyŏn. In the 1990s, Israel also had contacts with the North to discuss possible payments to Pyongyang to stop its missile exports to the Middle East. China has stepped in more recently to provide economic incentives after the collapse of the Agreed Framework and the election of Lee Myung-bak.

[226] "Chinese, DPRK leaders meet on bilateral ties, denuclearization of Korean peninsula", Xinhua News Agency, 6 October 2009; "Agreement and agreed documents signed between DPRK, Chinese governments", KCNA, 4 October 2009.

[227] Cho Mee-young, "Two Koreas held secret talks for summit: report", Reuters, 22 October 2009.

[228] 강태호 [Kang T'ae-ho], "스스로의 덫에 갇힌 천안함 외교" ["Ch'ŏnan diplomacy caught in its own trap"], in 강태호 [Kang T'ae-ho], editor, *천안함함을 묻는다* [*Burying the Ch'ŏnan*] (Paju: Changbi, 2010), pp. 205-224.

The DPRK has continued to deny any responsibility for the *Ch'ŏnan*, but has acknowledged the November 2010 firing of artillery at Yŏnp'yŏng Island. Pyongyang cannot plausibly deny the shelling and instead has portrayed it as a "self-defensive measure against the ROK's provocative shelling into DPRK territorial waters".[229] Since the leadership is willing to accept the international costs of firing artillery against military and civilian targets on the South's territory, it is reasonable to assume the risks of stealthily sinking a ROK naval vessel in a disputed area under conditions of plausible deniability were also acceptable to the North's leaders.

B. DPRK Domestic Politics

Domestic politics, particularly concerning succession may explain why Pyongyang sunk the *Ch'ŏnan* and shelled Yŏnp'yŏng Island. The military carried out terrorist attacks against the South in the 1980s when Pyongyang was preparing for its first power transition from Kim Il-sung to Kim Jong-il, so the attacks fit this pattern.[230]

In August 2008, Kim Jong-il apparently suffered a stroke. He had not previously focused on succession. In contrast, Kim was groomed for about two decades by his father and already was managing most state affairs when Kim Il-sung died in July 1994. After the stroke, plans were set in motion for the transfer of power to the third generation of leadership. Domestic arrangements were implemented in the shadow of a hard-line stance towards the South and the international community in order to encourage internal unity.

Elections were held for the Supreme People's Assembly in March 2009, and the constitution was revised in April to institutionalise and elevate the status of Kim Jong-il and the Kim family cult. The National Defence Commission (NDC) was elevated as the highest state authority and expanded from eight to twelve members. Kim Jong-il's brother-in-law, Chang Sŏng-t'aek was appointed as a vice chairman. During this period, there were frequent mass rallies and displays of fervent nationalism, and the DPRK defied the international community and tested a long-range missile (configured as a satellite) and a nuclear bomb.

North Korean media described international criticism of the attempted satellite launch as "an attack against DPRK sovereignty" that justified "bolstering the nation's nuclear deterrent".[231] Under these conditions, it is more difficult to express dissent or oppose the leader who is "resolute in pushing the development of science and defence technologies in the face of international pressure or threats". Kim Jong-il and his son could take credit for this perceived resolve, and it would be easier to purge anyone opposing the Kims or suggesting a soft line to the outside world. If the leadership was in a hurry to draft and implement succession plans, a crisis or siege atmosphere could help accelerate the process.

On 30 January 2009, only thirteen days after the KPA General Staff said the DPRK was beginning a "posture of total confrontation" against the South, the Committee for the Peaceful Unification of Korea issued a statement declaring that the DPRK was nullifying all agreements with the ROK. The committee, a Korean Workers Party (KWP) organisation dealing with the South, specifically mentioned that the 1992 "Basic Agreement" and the clause regarding the NLL would no longer be respected.[232] Increased tensions justify the allocation of even more scarce resources to the military, and military commanders can utilise their authority while the military conducts more large-scale exercises.

During this same period, institutional and personnel changes were underway that could support provocations against the South as well as deter or defend against any ROK retaliation. First, three intelligence organisations were consolidated and placed under the control of the NDC, shifting intelligence operations from the KWP to the military. The KWP's Operations Department, Office 35 and Foreign Liaison Department were merged with the Ministry of People's Armed Forces Reconnaissance Bureau to form the GRB, which is directed by Lt. Gen. Kim Yŏng-ch'ŏl.[233] O Gŭg-ryŏl, a four-star general who had directed

[229] "KPA Supreme Command issues communique", KCNA, 23 November 2010; "Statement released by spokesman of DPRK foreign ministry", KCNA, 24 November 2010; "Panmunjom mission of KPA sends notice to U.S. forces side", KCNA, 25 November 2010.

[230] In October 1983, two North Korean special agents planted a bomb in Rangoon, Myanmar in a failed attempt to assassinate South Korean President Chŏn Du-hwan. However, the blast killed seventeen senior ROK government officials and four Burmese; fourteen South Koreans and 32 Burmese were wounded. In November 1987, two North Korean agents planted a bomb on a Korean Airlines passenger plane, killing all 95 passengers and twenty crew. For more details see Hannah Fischer, "North Korean Provocative Actions, 1950-2007", CRS Report for Congress, 20 April 2007.

[231] "Rodong Sinmun Refutes UNSC's 'Presidential Statement'", KCNA, 19 April 2009.

[232] "DPRK to scrap all points agreed with S. Korea over political and military issues", KCNA, 30 January 2009.

[233] The Operations Department was responsible for infiltration into the South, and Office 35 was an intelligence collection and analysis institution. The Foreign Liaison Department trained foreign intelligence agents and conducted foreign intelligence collection and analysis. "北대남해외공작기구 '정찰총국'으로 통합" ["Operations organisations against the South and abroad combined into the General Reconnaissance Bureau"], *The Donga Ilbo*, 10 May 2009; 신석호 [Sin Sŏk-ho],

the KWP's Operations Department since 1989, was appointed by Kim Jong-il as a vice chairman of the NDC in February 2009.[234]

Also in February, General Kim Kyŏk-sik, chief of the KPA General Staff, was transferred to command the Fourth Army Corp, which borders South Korea and the Yellow Sea near the five islands. Kim was replaced by General Ri Yŏng-ho, commander of the Pyongyang Defence Command. On the surface, Kim's transfer would appear to be a demotion, but he is one of the DPRK's best generals and knowledgeable about joint military operations that would be implemented in case a military confrontation with the ROK were to escalate. Shortly after Kim took command of the Fourth Corp, artillery exercises and joint military training increased significantly in the area, particularly after the KPA representative at P'anmunjŏm said on 27 May that the DPRK could no longer guarantee safe navigation to the five islands.[235] Kim also commanded the units responsible for the shelling of Yŏnp'yŏng Island in November 2010.

The consolidation of intelligence and special operations under the NDC, and the personnel promotions and transfers during the first half of 2009 reflect an effort to concentrate power and control mechanisms in the hands of a few staunch Kim family loyalists. By the fall of 2010, a core group of senior military officers and Kim family members had emerged to function as guardians for heir apparent Kim Jŏng-ŭn, or as a leadership committee in case Kim is unable to assume power after his father's demise.

C. SUCCESSION PLANS FORMALISED

In September 2010, the KWP held its third party conference, the first since 1966 and the first major party meeting since the sixth party congress in October 1980.[236] One day prior to the opening of the conference, Kim Jong-il, as NDC chairman, appointed his third son, Kim Jŏng-ŭn, and his younger sister, Kim Kyŏng-hŭi, to the rank of four-star general, even though they had no prior military experience. Ri Yŏng-ho, chief of the General Staff, was promoted to five-star general the day before the party conference and then was appointed as a vice chairman (along with Kim Jŏng-ŭn) of the party's Central Military Commission. Ri also was elected to the five-member standing committee of the Politburo, and is now considered the key Kim guardian and supporter in the KPA.[237]

The succession plan risked facing opposition. Kim Jŏng-ŭn is 27 or 28 years old, and was unknown in North Korea until very recently.[238] He has very little political or military experience and the Kim family has had little time to build a coalition of supporters around him. Kim Jŏng-ŭn is rumoured to have been given "credit" for the 150-day and 100-day "speed battles" to mobilise workers in 2009 and also for the disastrous currency reform in December 2009.[239] These campaigns and policies hurt the economy and were unpopular domestically. Public complaints, although not a threat to the regime, were unprecedented in the country. By taking credit for a "military victory" such as the sinking of the *Ch'ŏnan* or the artillery attack, Kim Jŏng-ŭn could establish credibility with the military and boost morale after the humiliating defeat in the November 2009 sea battle. Furthermore, an attack would send a clear signal internally: if the Kim family is willing to sink a South Korean ship or fire artillery at enemy territory and risk war, they also would deal ruthlessly with anyone opposed to the succession plan.

"北 대남기구 확대개편설 잇따라…黨서 국방위로 이관 관측" ["North's organisations dealing with South viewed as expanded and reorganised … thought to have been transferred from the party to the NDC"], *The Donga Ilbo*, 11 May 2009; Joseph S. Bermudez, Jr., "3 8 North Special Report: A New Emphasis on Operations against South Korea?", 38 North Special Report 4, 11 June 2010, www.38north.org.

[234] "북 국방위 부위원장에 '강경파' 오극렬" ["'Hard-line faction' O Gŭg-ryŏl becomes North's NDC vice chairman"], *The Kyunghyang Shinmun*, 20 February 2009.

[235] The representative made this statement two days after the DPRK's second nuclear test. 이범진 [Yi Bŏm-jin], "북한이 천안함 공격했다면 누가 지휘? 정찰총국 김영철 유력… 4군단 김격식도 주목" ["If North Korea sunk the Ch'ŏnan, who commanded it? General Reconnaissance Bureau's Kim Yŏng-ch'ŏl is a strong candidate … 4th Army Corp's Kim Kyŏk-sik also focus of attention"], *Chugan Chosun*, No. 2103, 3 May 2010; "'Senior N.Korean hardliner at hand' during incursion", *The Chosun Ilbo*, 11 November 2009.

[236] The first and second party conferences were held in March 1958 and October 1966. Many party institutions had become dormant or inactive as many members had died since the 1980 party congress.

[237] Chang Sŏng-t'aek, Kim Jŏng-ŭn's uncle, is believed to play a similar role in the KWP. 이미숙 [Yi Mi-suk], "김정은, 北 2인자 등극/ 左성택 – 右영호, 김정은 '양날개' 달았다" ["Kim Jŏng-ŭn, the North's second son to ascend the throne/on the left Sŏng-t'aek – on the right Yŏng-ho, Kim Jŏng-ŭn attached two wings"], *The Munhwa Ilbo*, 29 September 2010.

[238] Kim reportedly spent his middle school years attending a private school in Switzerland.

[239] For background on the currency reform and other pressures facing the regime in early 2010, see Crisis Group Briefing, *North Korea under Tightening Sanctions*, op. cit.

VI. THE ROK RESPONSE

A. COMMAND AND CONTROL PROBLEMS

The torpedo attack on the *Ch'ŏnan* was a result of the KPA's planning and execution combined with the South's defence posture and deterrence failure. The incident revealed the ROK military's command and control problems and inadequate joint capabilities. Initial reports of the sinking made their way to the Blue House through informal telephone calls as the Second Fleet Headquarters was preparing its report for the chain of command.[240]

The Second Fleet Command received the distress call from the *Ch'ŏnan* at 9:28pm and reported the incident to the Navy Operations Headquarters three minutes later, but failed to notify the Joint Chiefs of Staff at 9:45. At 9:53 the *Ch'ŏnan* captain reported they had been hit by a torpedo to the Second Fleet Command, which failed to report this up the chain of command. At about 11:00, the *ROKS Sokch'o* reported to the Second Fleet Command that it was firing at what it assessed to be a North Korean semi-submersible vessel, but this command initially withheld this information and other units subsequently began reporting it to be a "flock of birds".[241]

Once receiving a situation report from the Second Fleet Command Headquarters at 9:45, the Joint Chiefs of Staff did not report the incident to the JCS chairman and the defence minister until 10:11 and 10:14, respectively. The Joint Staff also amended its report up the chain of command to read that the time of the incident was 9:45 and deleted references to the "sound of an explosion".[242]

General Lee Sang-ŭi, chairman of the Joint Chiefs of Staff, learned of the incident shortly after he had boarded a train in Taejŏn for the one-hour ride back to Seoul.[243] Lee, who had been at a dinner, was unfairly criticised for attending a social event, drinking and "arriving late" at the command centre. He arrived at 10:42. Senior officials sometimes travel and attend social functions, so communication systems must enable continuity of command and control, or deputies must be able to step in immediately if commanders are not available. However, Korea has a long tradition of "weak deputies".[244] The second-in-charge often is the least influential or powerful person in any Korean organisation.[245]

Joint military operations aim to integrate the capabilities of the different service branches to increase military effectiveness. They are difficult to implement and sustain. Service traditions are often rigid and reinforced through inter-service bureaucratic infighting. Joint training is designed to surmount these obstacles, but the ROK military could do much better. The army has dominated military affairs because the primary security threat to South Korea for decades has been another southward invasion. In general, the army has failed to appreciate the need for joint operations to deter and contain the DPRK. South Korea also must coordinate combined military operations with its U.S. ally. Some critics argue that the ROK military has relied excessively on the U.S. since the Combined Forces Command would take operational control of South Korea's military in wartime, and therefore does not have sufficient incentives to improve its joint capabilities.

In a crisis for a particular service branch, the joint staff should mobilise the resources of other branches to respond in a coordinated manner. If the chairman of the JCS is temporarily or permanently unavailable, the deputy should be able to act with the full authority of the chairman for as long as necessary. However, in the case of the *Ch'ŏnan* sinking, the joint response was inadequate.[246]

The Second Fleet Command issued an emergency order for units to go on the highest level of alert (서풍1), but the defence ministry failed to establish a crisis management task force but reported to the minister as if it had.[247] The Joint Staff also failed to form a crisis management team

[240] Crisis Group interview, Seoul.
[241] 감사원 [Board of Audit and Inspection], "천안함 침몰사건 대응실태 감사결과" ["Results of the inspection into the sinking of the *ROKS Ch'ŏnan*"], 11 June 2010; "Watchdog blasts military over handling of Cheonan sinking", *The Chosun Ilbo*, 11 June 2010.
[242] 감사원 [Board of Audit and Inspection], op. cit.
[243] He had travelled to Taejŏn by helicopter for a dinner and was accused of being drunk after having consumed several "boilermakers". "Bold as brass", *The Korea Times*, 13 June 2010. Lee claims to have had only three glasses of wine. 吳東龍 [O Dong-yong], "北 어뢰공격 확증만 있었다면 적 잠수함 基地 타격했을 것" ["If there had been conclusive evidence of a torpedo attack by the North, [I] probably would have hit an enemy submarine base"], *Wŏlgan Chosun*, July 2010.
[244] Chosŏn Dynasty (1392-1910) monarchs frequently rotated the geographic locations of powerful officials to prevent their cultivation of a coalition to challenge the leadership. Contemporary examples include then Prime Minister Ch'oi Kyu-ha at the time of Prsident Pak Chŏng-hŭi's assassination in October 1979, and the DPRK's current president of the presidium of the Supreme People's Assembly Kim Yŏng-nam, who nominally is number two in the DPRK but has no political base of support to succeed Kim Jong-il. Gregory Henderson, *Korea: The Politics of the Vortex* (Cambridge: Harvard University Press, 1968).
[245] Crisis Group interview.
[246] 尹淵 [Yun Yŏn], "권한을 행사하지 못하는 지휘관은 지휘관 자격이 없다" ["Commanders who cannot exercise authority are not qualified to command"], *Wŏlgan Chosun*, June 2010.
[247] 강태호 역음 [Kang T'ae-ho, editor], op. cit., p. 294; "천안함 침몰사건 대응실태 감사결과" ["Results of the inspection into the sinking of the *ROKS Ch'ŏnan*"], 감사원 [Board of Audit and Inspection], 11 June 2010.

and did not put military forces on combat alert.[248] The disorganised response led to an eighteen-day investigation by the Board of Audit and Inspection (BAI) that ended on 28 May 2010.[249] The BAI concluded that thirteen general officers, nine colonels, one lieutenant colonel and two civilian employees should be reprimanded or relieved of duty for negligence. While the military careers of several senior officers were cut short, Defence Minister Kim T'ae-yŏng retained his post until after the KPA's artillery attack against Yŏnp'yŏng Island in November.

B. CIVIL-MILITARY RELATIONS

The *Ch'ŏnan* sinking also revealed serious problems in South Korean civil-military relations. The ROK has conscription for males who also are required to do reserve duty after being discharged, so society is broadly familiar with the military. However, some elites have managed to avoid the service, and the experiences and perceptions of career officers and conscripts are very different. Many South Koreans are still suspicious of the military because of past military governments, and most senior officers tend to believe that civilians do not understand national security affairs or the nature of the North Korean threat. The senior military brass and defence ministers have tended to convey their preferences to the president through senior military advisers, rather than serving the president as would normally be the case in a system with civilian oversight of the military.

Since former President Roh Tae-woo (No T'ae-u) left office in February 1993, all ROK presidents have been civilians. President Kim Yŏng-sam is credited with instituting reforms to remove the military from politics, while presidents Kim Dae-jung and Roh Mu-hyŏn tried to reorient inter-Korean relations to reduce tensions. President Roh Mu-hyŏn modernised the ROK military and reduced reliance upon the U.S., but critics argue his policies focused more on high-priced hardware to win the support of the service branches rather than structuring reforms to deal with evolving North Korean and regional threats. President Lee Myung-bak is a former CEO and while he and his party are committed to strong national defence, his areas of expertise are business and economics. The president is still an "outsider" to the military establishment.

The current strain in civilian-military relations can result in mutual suspicions and poor policy. The BAI inspection team had 29 members, but no one with military or naval expertise. When a prominent National Assembly member's staff inquired about this, a BAI official said, "It doesn't really matter". The surprised staffer asked why, and the response was, "We don't really care. The Blue House told us to 'tame' the military, so that's what we're doing".[250]

C. ROK INTER-GOVERNMENTAL RELATIONS

Strained relations also have been the case between the executive and legislative branches, different government agencies, the ruling and opposition parties, the military and the press, and the government and civil society. South Korea has laws to protect classified information, but often it is very difficult to convict violators in court. The National Assembly often is the source of leaks and it is nearly impossible to find the individual responsible for the leak in any particular member's office. Staff of members are also assumed to have access to any information members receive. Thus, the executive branch often declines to brief members, even those of the ruling party, on information the Blue House wants protected. In the case of the BAI report that was released in June, the longer classified version was only made available to a limited number of National Assembly members; they were given a limited amount of time to read a small number of hardcopies in a secure room, but no copies were handed over.[251]

Bureaucratic turf wars are endemic in most governments, but the ROK's poor inter-governmental coordination and cooperation were clearly exposed after the *Ch'ŏnan* sinking, which does not bode well for a large-scale national emergency such as a sudden collapse of North Korea. Relations with the press have also been problematic, with some officials accusing some journalists of being "pro-North Korea communists" simply for expressing doubts about government findings or asking difficult and probing questions.[252]

D. MILITARY EXERCISES AND THE RESTORATION OF DETERRENCE

After the *Ch'ŏnan* sinking, Seoul sought to restore deterrence by conducting a series of joint and combined military exercises to convey to Pyongyang that there would be serious costs for transgressions. However, the exercises were delayed because the government, particularly the foreign ministry, wanted to submit the matter to the UN Security Council, and that required completion of the joint investigation report on the *Ch'ŏnan*. Critics, mostly

[248] "천안함 침몰사건 대응실태 감사결과" ["Results of the inspection into the sinking of the *ROKS Ch'ŏnan*"], 감사원 [Board of Audit and Inspection], 11 June 2010.
[249] The BAI was established by the constitution under the president's office, but ostensibly maintains the independence to audit and investigate state affairs.
[250] Crisis Group interview, Seoul.
[251] Crisis Group interview, Seoul.
[252] Some journalists also have been irresponsible in their reporting and have disseminated false or misleading information to discredit the government.

South Korean, argued that the report was released prematurely because President Lee and the Grand National Party sought to manipulate the incident and capitalise on local elections held on 2 June.

Senior foreign ministry officials believed that "deterrence would have to be restored through other means" and that the DPRK "must face consequences for their actions". Most did not believe sufficient costs would be forthcoming from the UN Security Council, but viewed the step as a formality before moving onto military exercises and financial sanctions, for example.[253]

The foreign ministry's response was poorly handled. The ministry asked some of the foreign participants in the joint investigation if they could go to New York and testify at the UN with only one day's notice.[254] U.S. government officials strongly urged Seoul to present the retrieved torpedo parts at the UN, but the Blue House and the foreign and defence ministries refused. ROK officials told the U.S Embassy: "The U.S. and others don't understand the special nuances of Korean culture – some Koreans will not be convinced no matter what we do, so there is no use in sending the parts to the UN".[255] Whether an excuse to avoid further scrutiny of the torpedo parts or a reflection of the government's preoccupation with its domestic audience, it again raises questions about the management of the investigation and the presentation of the findings.

While Seoul was eager to conduct combined military exercises with the U.S., Washington was more hesitant. The issue of deploying the *USS George Washington* carrier group became controversial over the summer, and the U.S. appeared to acquiesce to China's frequent requests not to send the aircraft carrier to the Yellow Sea. The U.S. showed some restraint by delaying the deployment of the *USS George Washington* and finally conducting the exercise in late July in the Sea of Japan.

The ROK wanted to conduct a further combined exercise with the *USS George Washington* in the Yellow Sea in late October, but at the same time also was eager to host its first multilateral Proliferation Security Initiative (PSI) exercise near Pusan in the same month.[256] The U.S. delayed deployment of the *USS George Washington* again, but the PSI exercise was held as planned. Seoul also scheduled a combined amphibious landing exercise with the U.S. Marines as part of the annual *Hoguk* exercise in early November. The exercise was postponed until 22 November, and about one week before it was to begin, the U.S. Marines stated they would not participate.[257] DPRK media described the exercise as "a provocation aimed at mounting a preemptive nuclear strike".[258]

South Korea's enthusiasm – even desperation – to conduct frequent military exercises and the U.S. postponements could be perceived as weakness by states in the region. The KPA may well have been encouraged by South Korea's poor defence posture and numerous blunders, Washington's equivocating and postponing or cancelling combined exercises, and Chinese "neutrality" or public indifference to North Korean acts of war.

On 20 December, the ROK military conducted an artillery firing exercise on Yŏnp'yŏng Island under threats from Pyongyang that the KPA would respond with "unimaginable retaliation". About twenty U.S. military personnel were deployed to the island along with a few observers from the Neutral National Supervisory Commission. The South Korean military was put on alert and the government signalled it would retaliate with force to any North Korean attack or provocation. After the exercise concluded in the afternoon, the KPA Supreme Command issued a statement declaring it was not worth a response.

[253] Crisis Group interviews.
[254] Crisis Group interview.
[255] Crisis Group interview.
[256] "S.Korea seeks to host anti proliferation drill in October", Agence France-Presse, 21 June 2010; 조홍민 및 박성진 [Cho Hong-min and Pak Sŏng-jin], "한국 해상 PSI훈련에 '자위대' 첫 참가" ["'Self-Defence Forces' participate in PSI training in Korean waters for first time"], *The Kyunghyang Shinmun*, 25 August 2010.
[257] Jung Sung-ki, "S. Korea, US planning massive marine exercise", *The Korea Times*, 15 September 2010; Song Sang-ho, "Military to stage annual joint exercise next week", *The Korea Herald*, 16 November 2010.
[258] "Hoguk war exercises assailed", KCNA, 10 November 2010.

VII. CHINA'S RESPONSE

In contrast to the statements by the U.S., South Korea and Japan assessing Pyongyang's actions as a grave threat to regional security, Beijing's tepid public reactions to the *Ch'ŏnan* sinking, the Yŏnp'yŏng Island artillery attack, and the recent disclosure of a new uranium enrichment facility reflect the Chinese view that these incidents themselves did not constitute a serious regional security threat. What China sees as a bigger threat to regional – and its own security – is a greater U.S. military presence in the region.

Since the Yŏnp'yŏng Island shelling, China's perception of conflict risks has evolved. From a very muted and cautious initial approach, it is now undertaking more bilateral and multilateral efforts to push all sides to address the issue, aside from at the Security Council where it blocked action.[259] The large-scale combined U.S.-ROK and U.S.-Japan military exercises and the decision to hold live fire military exercises on Yŏnp'yŏng Island on 20 December despite DPRK threats increased China's concerns about the possibility of an unpredictable escalation of tension on the Korean peninsula. Although Beijing still sees a heightened U.S. military presence in the region as a threat to its own security, it is willing to accept this larger U.S. role for now if the alternative is a military conflict on the Korean peninsula.

Beijing has historically downplayed clashes in the Yellow Sea because it considers them a natural consequence of the unsettled inter-Korean maritime boundary. Chinese policymakers see them as small in scale, relatively far from its border, and the product of actions for which both Koreas carry responsibility.[260] Beijing does not consider the *Ch'ŏnan* and Yŏnp'yŏng incidents in 2010 as provocations by Pyongyang given the disputed nature of the territory where they occurred and the ROK military patrols and drills that preceded them.

China's reluctance to criticise or pressure the North about these incidents is linked to its concern about instability during the succession process in Pyongyang.[261] Beijing's reaction also reflects a strengthened relationship with North Korea, heightened confidence in its growing power and ability to resist external pressure over third country issues,[262] and its belief that international demands for action – particularly in the UN Security Council – on North Korea's conventional military attacks are less justified compared to the country's two nuclear tests.[263] Though some Chinese analysts privately concur that North Korea was "most likely" responsible for the *Ch'ŏnan* sinking, most have declared the international investigation "inconclusive" and "biased", and recommend that the parties "turn the page" and "ease tensions through the Six Party Talks".[264] Initial official responses to the Yŏnp'yŏng Island shelling were similarly indifferent,[265] with Chinese media describing it as "the North and the South ... shooting at each other".[266]

Over the last year and particularly in recent months, China has strengthened its political and economic ties with North Korea. Driven by the desire to ward off instability – particularly following the country's disastrous currency reform in December 2009 and the ongoing succession process – and to hedge against rising U.S. engagement in

[259] During more than eight hours of negotiations at emergency Security Council talks on 19 December, China firmly refused to label North Korea as the aggressor, and reportedly even opposed mentioning the artillery shelling in the proposed Council statement. Previously Beijing worked to dilute the Security Council statement on the Cheonan sinking, resulting in a final statement which weakly noted that five nations had participated in the investigation in which North Korea was held "responsible for sinking the Cheonan"; that North Korea had stated "it had nothing to do with the incident"; and that "therefore the Security Council condemns the attack which led to the sinking of the Cheonan". "UN powers wrangle over blaming N. Korea for attack", AFP, 19 December 2010. UN Security Council SC/9975, UN Department of Public Information, 9 July 2010, www.un.org/News/Press/docs/2010/sc9975.doc.htm.

[260] Crisis Group interviews, Beijing, May, September and November 2010.

[261] Crisis Group interviews, Beijing, 2010.

[262] This perception has been fuelled by its successful dilution of the UN Security Council statement on the *Ch'ŏnan* sinking, as well as its assertive stances in the South and East China Seas.

[263] For discussion of China's position and debate on DPRK policy after the second nuclear test in 2009, see Crisis Group Report, *Shades of Red: China's Debate Over North Korea*, op. cit., pp. 5-15.

[264] Crisis Group meetings, Chinese government officials, think-tank leaders and scholars, Beijing, September-November 2010. China has made sustained efforts to restart the Six-Party Talks because it believes that framework – even if no progress is achieved on denuclearisation – is the best approach to reduce tensions on the Korean peninsula before they escalate into conflict. The talks also benefit China by diminishing international criticism and pressure on Beijing, allowing it to be seen as a "responsible great power", and enabling it to influence the international response towards the DPRK. Crisis Group Report, *Shades of Red: China's Debate over North Korea*, op. cit., p. 2.

[265] On the day of the incident, the Chinese foreign ministry announced that Beijing had noticed the reports and was "concerned about the issue" although "the specific circumstances have yet to be verified". Beijing subsequently continued to refrain from holding the DPRK culpable, with the foreign ministry stating that "this issue is complicated since the two sides accuse each other of opening fire first". Chinese Ministry of Foreign Affairs press conferences, 23 November and 2 December, www.mfa.gov.cn.

[266] 钟声 [Zhong Sheng], 《朝鲜韩国互相炮击》["North Korea and South Korea shoot at each other"], Xinhua News; 《朝鲜半岛需要减压，而非增压》["The Korean peninsula needs decreased pressure, not increased pressure"], 《中国网》[China Net], 10 December 2010.

Asia, Beijing has drawn its neighbour closer. Since Premier Wen Jiabao's "goodwill trip" to North Korea in October 2009, the frequency of high-level visits between Beijing and Pyongyang has increased dramatically.[267] Economic cooperation has deepened with Beijing promising $10 billion for infrastructure development,[268] the North leasing two new free-trade zones to China,[269] along with new moves to bring North Koreans to work in north eastern China.[270]

However, Beijing's increased solidarity with Pyongyang and its reluctance to criticise the North after the *Ch'ŏnan* sinking and Yŏnp'yŏng Island artillery incident have significantly strained relations with South Korea[271] as well as with the U.S. and Japan. The U.S., Japan and South Korea have since intensified their condemnation of the DPRK, and China has been excluded from discussions on their next steps for dealing with Pyongyang.[272] The trilateral rejection of China's call for emergency consultations by representatives of the Six-Party Talks following the Yŏnp'yŏng Island shelling[273] was more than a display of frustration at China's unwillingness to take concrete action; it shows a widening gap between the two camps' perceptions of threats and the appropriate ways to manage them.

Beijing sees the U.S.-ROK and U.S.-Japan combined military exercises, though directed at the DPRK, as serious threats to both regional and national security, and as an unwelcome source of pressure against China.[274] The *Ch'ŏnan* sinking and the shelling also have strengthened the U.S.-ROK and U.S.-Japan security alliances, and pushed Seoul and Tokyo to elevate their military postures.[275] For example, both are now considering an expansion of their missile defence systems, which could increase the risk of a regional arms race.[276]

[267] In 2010, Kim Jong-il visited China twice in four months. In October alone, both Politburo Standing Committee member Zhou Yongkang and Vice Chairman of the Military Commission Guo Boxiong visited Pyongyang for the 65th anniversary of the founding of the Korean Workers Party and the 60th anniversary of the Chinese People's Volunteers joining the Korean War, respectively.

[268] The funds are planned to be paid to North Korea's State Development Bank. 《韩媒称朝鲜将从中国获得100亿美元投资》 ["South Korean media report that DPRK will receive $10 billion investment from China"], 《环球时报》 [*Global Times*], 15 February 2010.

[269] "North Korea leasing two islands in Yalu River to two Chinese companies for 50 years", Phoenix TV, 24 February 2010.

[270] In October, China agreed for the first time to employ more than 100 North Korean workers in Jilin province. Daisuke Nishimura, "China gives nod to North Korean workers at border cities", *The Asahi Shimbun*, 19 October 2010.

[271] The ROK is especially aggrieved by China's continued political protection of the DPRK and undercutting of its post-*Ch'ŏnan* campaign to criticise the North, with some sources suggesting bilateral relations have slumped to their lowest level since normalisation in 1992. Crisis Group interviews, Beijing, November-December 2010.

[272] In Washington DC on 6 December, the foreign ministers of Japan and South Korea met U.S. Secretary of State Hillary Clinton and all reaffirmed their respective alliances and partnership relationships, and "strongly condemned" the Yŏnp'yŏng Island artillery attack and the DPRK's construction of a uranium enrichment facility, while appealing for cooperation from Beijing. Chinese officials were not invited to the meeting. "The Ministers welcomed China's support for United Nations Security Council Resolutions 1718 and 1874 and looked forward to China's efforts to urge North Korea to adhere to its commitments as articulated in the September 2005 Joint Statement of the Six-Party Talks". "Trilateral Statement Japan, Republic of Korea, and the United States", Office of the Spokesman, U.S. State Department, Washington DC, 6 December 2010.

[273] On 28 November, at a rushed Sunday press conference, Beijing proposed an emergency meeting of delegates to the Six-Party Talks in Beijing in early December. Although Russia supported China's call for emergency consultations, the proposal was quickly rejected by South Korea, the U.S. and Japan as no substitute for action by North Korea. Ian Johnson and Helene Cooper, "China seeks talks to ease Korean tension", *The New York Times*, 28 November 2010; "South Korea rejects China call for talks as naval drills begin", Bloomberg, 28 November 2010; Yuka Hayashi, "Japan rejects session on Koreas", *Wall Street Journal*, 29 November 2010.

[274] Chinese Ministry of Foreign Affairs press conferences, 8 July and 3 December 2010. Nationalists and some netizens have resolutely condemned China's "weak" response to the military drills. "PLA should issue mutually assured destruction warning to U.S.", Tiexue BBS, 5 December 2010. Netizen comments included: "China should show the determination we had in the anti-Japanese war and fight the Americans"; "Let's sink the *USS George Washington*. All Chinese people support you"; "The U.S. is at our doorstep, where are our advanced weapons?", Tiexue BBS, Army Forum and Global Affairs Forum, accessed 5 December 2010.

[275] Yoshihiro Makino, "Japan, U.S., South Korea deepen defense links", *Asahi Shimbun*, 6 December 2010; "Seoul announces halt of aid to N. Korea, firepower buildup, military drills", Yonhap News Agency, 24 November 2010; "It's time to close Kaesong complex", *The Joongang Ilbo*, 4 December 2010.

[276] Chikako Mogi, "Japan eyes nationwide missile interceptors: report", Reuters, 10 December 2010; "Gov't to boost spending on West Sea defences", *The Chosun Ilbo*, 30 November 2010; Jung Sung-ki, "South Korea seeks budget increase for arms plans", *DefenseNews*, 29 November 2010.

VIII. CONCLUSION

A. THE NLL

South Korea claims the Northern Limit Line is the "de facto" inter-Korean maritime boundary, but it was drawn by the UNC commander in August 1953 because the Korean War Armistice did not provide for maritime boundaries. North Korea has never recognised it, and the UNC does not recognise it as a maritime boundary. Neither Pyongyang nor the UNC recognise the waters south of the NLL as the "territorial waters of the ROK". In 1999, the KPA declared a "MDL extended" south of the NLL. Neither Seoul nor the UNC recognise this line. The waters – and the resources in the water and on the sea bed – between the NLL and the "MDL extended" are in dispute. The North feels aggrieved about the current arrangement, and the KPA increasingly has demonstrated its willingness to enforce territorial claims through military means.

While the DPRK position on the "illegitimacy of the NLL as a maritime boundary" is likely supported by international law, there are peaceful methods for settling this boundary dispute. The attacks on the *Ch'ŏnan* and Yŏnp'yŏng Island are completely unjustified. The *Ch'ŏnan was in the territorial waters of the five islands* when it was struck by a torpedo, almost certainly fired by a submarine under the command and control of the GRB, directed by Lt. Gen, Kim Yŏng-ch'ŏl.

Even if one accepts the North's position regarding its territorial claims north of the "MDL extended", firing live artillery rounds at civilians in response to the ROK firing exercise into disputed waters is completely unjustified. The KPA claims to be a "dignified and professional military" and the military holds high status under the state's *sŏn'gun* doctrine but atypical attacks against civilians are perhaps a sign that military discipline has deteriorated. Likewise there is no basis to blame the ROK military for "using civilians as human shields" as the North did. Attacks against civilians are a violation of international humanitarian law, and the International Criminal Court (ICC) has begun a preliminary investigation into the Yŏnp'yŏng Island shelling and *Ch'ŏnan* sinking.[277]

Seoul and Pyongyang have failed to reach an agreement on a maritime boundary in the Yellow Sea. While an inter-Korea affair, the issue is very important to the region and international security because conflict over the NLL would have tremendous costs for the international community. Since the likelihood of the two parties alone reaching any agreement in the near future is very low, they should agree to an international tribunal to settle the dispute, ideally with the DPRK having first ratified UNCLOS.

B. CONFIDENCE BUILDING MEASURES

Tensions on the Korean peninsula have continued to rise, and the risk of military conflict is greater than it has been for a considerable time. Much effort has been invested over nearly two decades to address North Korea's nuclear program, and although efforts should continue, the threat of conventional conflict on the Korean peninsula cannot be ignored. Confidence building measures are urgently needed to reduce this risk. At a minimum, the two Koreas should:

- Uphold previous agreements that provide for non-aggression and peaceful dispute settlement (the "Basic Agreement").
- Not conduct live fire drills in the disputed waters of the Yellow Sea.
- Re-establish the radio communications channel that was severed by the KPA on 27 May 2010.
- Re-establish the inter-Korean military committee as stipulated by the "Basic Agreement" and reaffirmed by the defence ministers in 2007.

Seoul/Brussels, 23 December 2010

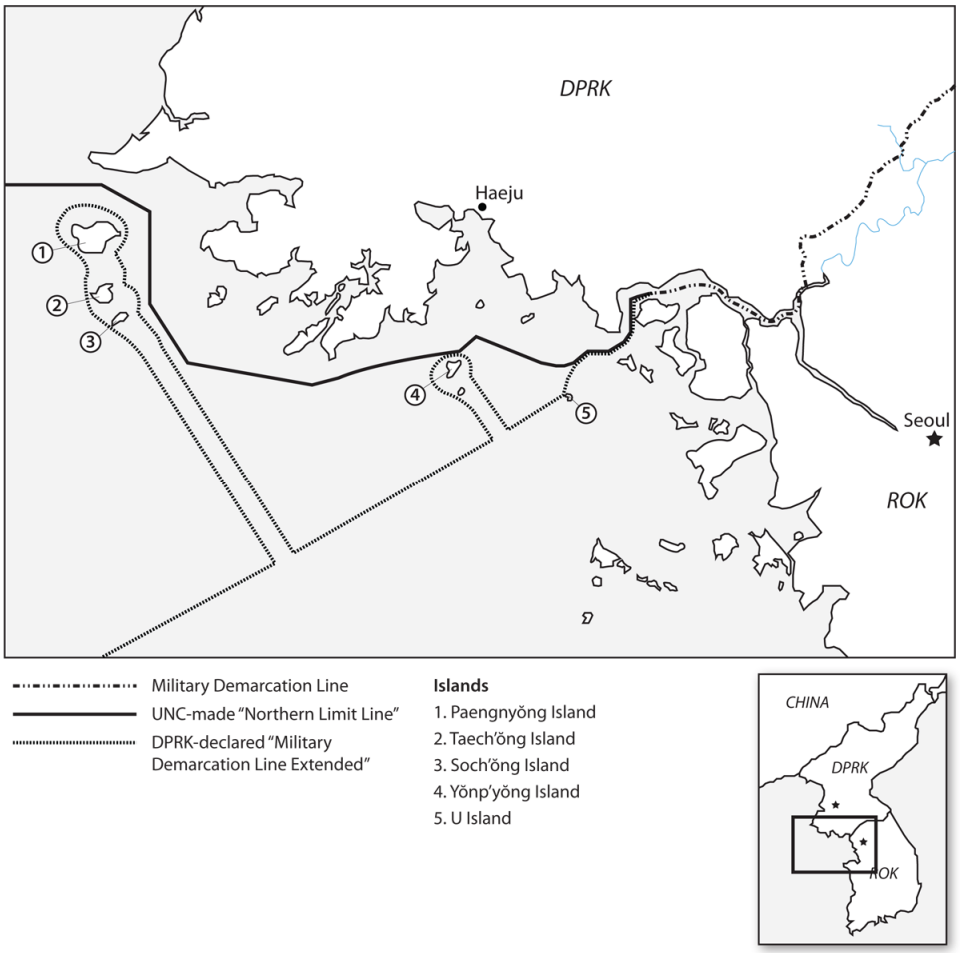
[277] "International court could launch N. Korea war crimes case", Agence France-Presse, 6 December 2010.

APPENDIX A

MAP OF THE DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA

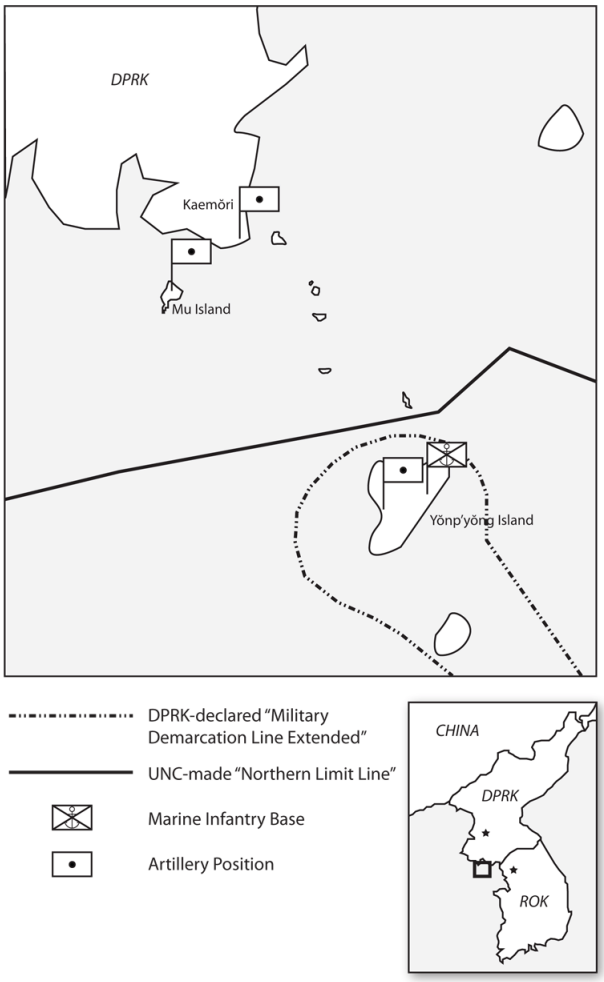
APPENDIX B

MAP OF THE FIVE ISLANDS AND THE NORTHERN LIMIT LINE



APPENDIX C

MAP OF YŎNP'YŎNG ISLAND



APPENDIX D

GLOSSARY

BAI	Board of Audit and Inspection
CFC	Combined Forces Command
CPV	Chinese People's Volunteers
DEFCON	Defence Readiness Condition
DMZ	Demilitarised Zone
GNP	Grand National Party (ROK)
GRB	General Reconnaissance Bureau (DPRK)
JCS	Joint Chiefs of Staff
KCNA	Korean Central News Agency (DPRK)
KPA	Korean People's Army (DRPK)
KWP-	Korean Workers Party (DPRK)
MAC	Military Armistice Commission
MDL	Military Demarcation Line
NDC	National Defence Commission (DPRK)
NIS	National Intelligence Service (ROK)
NLL	Northern Limit Line
NM	Nautical mile
OPCON	Operational Control
TAL	Tactical Action Line
UNC	United Nations Command
UNCLOS	United Nations Convention on the Law of the Sea

APPENDIX E

CLASHES IN THE YELLOW SEA

7 July 1954
The KPA fires at ROK patrol boat in the Han River estuary

November 1956
KPA Air Force fighters shoot down two ROK F-51 Mustang fighter aircraft over the Yellow Sea

16 May 1957
The DPRK seizes a ROK fishing boat near Yŏnp'yŏng Island

24 August 1960
The ROK sinks a DPRK armed infiltration vessel near Yŏnp'yŏng Island

23 December 1962
Clash near Yŏnp'yŏng Island results in three ROK Navy deaths

29 October 1965
DPRK naval vessel captures 109 ROK fishermen near Kanghwa Island in ROK territorial waters

5 June 1970
DPRK seizes ROK Navy broadcasting vessel with twenty crew northwest of Yŏnp'yŏng Island

6 January 1971
KPA Navy patrol boat sinks a ROK fishing boat

4 February 1972
KPA naval vessel sinks one ROK fishing boat and seizes five others west of Taech'ŏng Island

October-November 1973
KPA naval vessels cross the NLL 43 times; KPA fighters fly over Paengnyŏng Island

7-18 December 1973
Ten KPA patrol boats cross the NLL at least eleven times in the vicinity of Paengnyŏng Island, Taech'ŏng Island and Yŏnp'yŏng Island during the "West Sea situation (西海事態)"

15 February 1974
KPA Navy seizes two ROK fishing boats west of Paengnyŏng Island

26 February 1975
Ten DPRK fishing boats sail across the NLL to the southwest of Paengnyŏng Island; 40 KPA missile boats cross the NLL; ROK Navy sinks an armed DPRK fishing vessel; MiG fighters cross the NLL 34 times and six fighters penetrate 72km south of the NLL

12 August 1981
KPA Air Force Mig-21 fighter crosses the NLL near Paengnyŏng Island

26 August 1981
KPA fires a surface-to-air missile at a U.S. Air Force SR-71 reconnaissance plane approaching ROK airspace from the Yellow Sea

5 February 1985
DPRK seizes two ROK fishing boats near Paengnyŏng Island

13 April 1991
KPA patrol boat crosses the NLL near Paengnyŏng Island

21 June 1993
KPA patrol boat crosses about 4km south of the NLL near Paengnyŏng Island

19 April-27 August 1996
KPA torpedo boats and patrol boats cross the NLL thirteen times

29 May 1997
KPA patrol boat crosses 5.6km south of the NLL to the northwest of Paengnyŏng Island

5 June 1997
Nine DPRK fishing boats cross the NLL and one KPA patrol boat crosses 12.9km south of the NLL to the west of Paengnyŏng Island; KPA patrol boat fires two canon rounds and ROK vessel returns three rounds

15 June 1999
Several DPRK vessels cross the NLL; the First Battle of Yŏnp'yŏng Island

30 October 1999
One KPA Navy patrol boat crosses the NLL and ROK patrol boat fires warning shots

June 2002
DPRK fishing boats and naval vessels cross the NLL on several occasions; the Second Battle of Yŏnp'yŏng Island occurs on the 29th

20 February 2003
One KPA Air Force MiG-29 fighter flies 13km south of the NLL near Yŏnp'yŏng Island but returns north after ROK Air Force fighters are scrambled

3 May 2003
One KPA Navy patrol boat crosses the NLL to the east of Paengnyŏng Island

30 October 2003
One KPA Navy patrol boat crosses the NLL but returns north after ROK Navy fires warning shots

4 June 2004
Two KPA Navy patrol boats cross 14.5km south of the NLL to the west of Yŏnp'yŏng Island

14 July 2004
One KPA Navy patrol boat crosses the NLL but returns north after ROK Navy fires warning shots

14 August 2004
One KPA Navy patrol boat crosses 12.9km south of the NLL to the east of Yŏnp'yŏng Island

23 September 2004
One KPA Navy patrol boat crosses 5.8km south of the NLL to the east of Yŏnp'yŏng Island

12 October 2004
One KPA Navy patrol boat crosses 23.3km south of the NLL to the southeast of Soch'ŏng Island

1 November 2004
Three KPA Navy patrol boats cross 10.5km south of the NLL near Soch'ŏng Island and 40km south of the NLL near Yŏnp'yŏng Island, but they return north after the ROK Navy fires warning shots

7 December 2004
One KPA Navy patrol boat crosses 16km south of the NLL to the southeast of Soch'ŏng Island

13 May 2005
Two KPA Navy patrol boats cross 12km south of the NLL to the southwest of Sunwi Island

21 August 2005
One KPA Navy patrol boat crosses 6.4km south of the NLL to the north of Paengnyŏng Island

14 October 2005
One KPA Navy patrol boat crosses 2.7km south of the NLL

13 November 2005
One KPA Navy patrol boat and nine DPRK fishing vessels cross 16km south of the NLL near Yŏnp'yŏng Island

17 May 2008
One KPA Navy patrol boat crosses 1.9km south of the NLL near Taech'ŏng Island and Yŏnp'yŏng Island

4 September 2009
One KPA Navy patrol boat crosses 10km south of the NLL to the northeast of Paengnyŏng Island

10 November 2009
One KPA Navy patrol boat crosses 10.1km south of the NLL; the Battle of Taech'ŏng Island occurs

26 March 2010
ROKS Ch'ŏnan sunk by torpedo near Paengnyŏng Island killing 46

3 November 2010
ROK Navy fires warning shots after a DPRK fishing boat crossed the NLL

23 November 2010
KPA fires artillery rounds onto Yŏnp'yŏng Island killing 2 civilians, 2 ROK Marines; injuring 2 civilians and injuring 15 ROK Marines; the attack is the first of its kind since the Korean War

APPENDIX F

ABOUT THE INTERNATIONAL CRISIS GROUP

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Crisis Group's approach is grounded in field research. Teams of political analysts are located within or close by countries at risk of outbreak, escalation or recurrence of violent conflict. Based on information and assessments from the field, it produces analytical reports containing practical recommendations targeted at key international decision-takers. Crisis Group also publishes *CrisisWatch*, a twelve-page monthly bulletin, providing a succinct regular update on the state of play in all the most significant situations of conflict or potential conflict around the world.

Crisis Group's reports and briefing papers are distributed widely by email and made available simultaneously on the website, www.crisisgroup.org. Crisis Group works closely with governments and those who influence them, including the media, to highlight its crisis analyses and to generate support for its policy prescriptions.

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Crisis Group's international headquarters are in Brussels, with major advocacy offices in Washington DC (where it is based as a legal entity) and New York, a smaller one in London and liaison presences in Moscow and Beijing. The organisation currently operates nine regional offices (in Bishkek, Bogotá, Dakar, Islamabad, Istanbul, Jakarta, Nairobi, Pristina and Tbilisi) and has local field representation in fourteen additional locations (Baku, Bangkok, Beirut, Bujumbura, Damascus, Dili, Jerusalem, Kabul, Kathmandu, Kinshasa, Port-au-Prince, Pretoria, Sarajevo and Seoul). Crisis Group currently covers some 60 areas of actual or potential conflict across four continents. In Africa, this includes Burundi, Cameroon, Central African Republic, Chad, Côte d'Ivoire, Democratic Republic of the Congo, Eritrea, Ethiopia, Guinea, Guinea-Bissau, Kenya, Liberia, Madagascar, Nigeria, Rwanda, Sierra Leone, Somalia, Sudan, Uganda and Zimbabwe; in Asia, Afghanistan, Bangladesh, Burma/Myanmar, Indonesia, Kashmir, Kazakhstan, Kyrgyzstan, Nepal, North Korea, Pakistan, Philippines, Sri Lanka, Taiwan Strait, Tajikistan, Thailand, Timor-Leste, Turkmenistan and Uzbekistan; in Europe, Armenia, Azerbaijan, Bosnia and Herzegovina, Cyprus, Georgia, Kosovo, Macedonia, Russia (North Caucasus), Serbia and Turkey; in the Middle East and North Africa, Algeria, Egypt, Gulf States, Iran, Iraq, Israel-Palestine, Lebanon, Morocco, Saudi Arabia, Syria and Yemen; and in Latin America and the Caribbean, Bolivia, Colombia, Ecuador, Guatemala, Haiti and Venezuela.

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