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THE MODERNISATION OF THE REPUBLIC OF KOREA NAVY

SEAPOWER, STRATEGY AND POLITICS

Ian Bowers

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Ian Bowers is Associate Professor at the Norwegian Institute for Defence Studies in Oslo, Norway. His research interests include East Asian security, seapower and naval modernisation, South Korean defence policy and the theoretical and policy aspects of conventional deterrence. He is co-editor of *Security, Strategy and Military Change in the 21st Century: Cross-Regional Perspectives* (Routledge, 2015). He has written journal articles and book chapters on South Korean seapower, conventional deterrence in the South China Sea, escalation at sea, the balance of naval operations and peacekeeping in maritime contexts. His work has been published in the *Journal of Strategic Studies*, the *Korean Journal of Defense Analysis* and *Global Asia*. Dr. Bowers teaches at the Norwegian Defence University College where he has lectured on international relations theory, maritime security and East Asian security. He holds a BA in History from University College Dublin (2001), an MA in War Studies from King's College London (2002) and a Ph.D. in War Studies in King's College London (2013).

Abbreviations

AAW	Anti-Air Warfare
AAV	Amphibious Assault Vehicle
ACV	Armoured Combat Vehicle
ADIZ	Air Defence Identification Zone
ANDVT	Advanced Narrowband Digital Voice Terminal
AIP	Air Independent Propulsion
AOE	Ammunition Oil Equipment (Replenishment Ship)
AORH	Ammunition Oil Resupply Helicopter (Replenishment Ship)
ARM	Anti-radiation Missile
AShM	Anti-ship Missile
ASROC	Anti-Submarine Rocket
ASUW	Anti-Surface Warfare
ASW	Anti-Submarine Warfare
ATS	Salvage and Rescue Ship
AWACS	Airborne Warning and Control System
C	Cruiser
C2	Command and Control
C4I	Command Control Communications Computers and Intelligence
C4ISR	Command Control Communications Computers Intelligence Surveillance and Reconnaissance
CINC USF	Commander in Chief US Forces Korea
CIWS	Close in Weapon System
CFC	Combined Forces Command
CMS	Combat Management System
CNO	Chief of Naval Operations
COMROKFLT	Commander, Republic of Korea Fleet

CPIC	Coastal Patrol Interdiction Craft
CTF-151	Combined Task Force 151
CV	Aircraft Carrier (Conventional)
DAPA	Defense Acquisition Program Administration
DD	Destroyer
DDG	Guided Missile Destroyer
DDH	Destroyer Helicopter
DE	Destroyer Escort
DMZ	Demilitarized Zone
DOD	Department of Defense
EBO	Effects Based Operations
EEZ	Exclusive Economic Zone
EW	Electronic Warfare
FIP	Force Improvement Program
FF	Frigate
FFX	Future Frigate Experimental
FMS	Foreign Military Sale
FMP	Force Modernization Plan
FRAM	Fleet Rehabilitation and Modernization
FS	Corvette
FTA	Free Trade Agreement
GCCS-M	Global Command and Control System-Maritime
IAMD	Integrated Air and Missile Defense
IMET	International Military Education & Training
JCS	Joint Chiefs of Staff
JMSDF	Japanese Maritime Self Defense Force
JSA	Joint Security Area
JVS	Joint Vision Study
KAMD	Korean Air and Missile Defense System
KCG	South Korean Coast Guard (Maritime Police)
KDX	Korea Destroyer Experimental
KIMS	Korea Institute for Maritime Strategy
KMA	Korean Military Academy
KMPR	Korean Massive Punishment and Retaliation
KNCCS	Korean Naval Command and Control System
KNOC	Korea National Oil Corporation
KNTDS	Korea Naval Tactical Datalink System
KPN	Korean People's Navy
KSS	Korea Submarine System
KVLS	Korea Vertical Launch System
LACM	Land Attack Cruise Missile
LCAC	Landing Craft Air Cushion

LCU	Landing Craft Utility
LCVP	Landing Craft Vehicle Personnel
LHD	Landing Helicopter Dock
LNG	Liquid Natural Gas
LPD	Landing Platform Dock
LPH	Landing Platform Helicopter
LPX	Landing Platform Experimental
LSF	Landing Ship Fast
LSM	Landing Ship Mechanised
LST	Landing Ship Tank
MANPAD	Man Portable Air-Defence System
MAP	Military Assistance Program
MASOC	Maritime Air Support Operations Centre
MBT	Main Battle Tank
MCBM	Maritime Confidence Building Measures
MDL	Military Demarcation Line
MHC	Minehunter Coastal
MINDEF	Minister of Defence (South Korea)
MND	Ministry of National Defense (South Korea)
MLEA	Maritime Law Enforcement Agency
MLRS	Multiple Launch Rocket System
MLS	Mine Laying Ship
MNF	Multi-National Force
MPA	Maritime Patrol Aircraft
MPC	Maritime Patrol Craft
MTF	Maritime Task Flotilla
MSH	Minesweeper Hunter
MTS	Maritime Task Squadron
NCW	Network Centric Warfare
NDPO	National Defense Program Outline
NDRC	National Defense Reform Committee
NLL	Northern Limit Line
NLOS	Non-Line-Of-Sight
NSC	National Security Council (US)
NWI	Northwest Islands
OECD	Organisation for Economic Cooperation and Development
OPCON	Operational Control
PACOM	Pacific Command
PCC	Patrol Craft Corvette
PK	Patrol Killer (Fast Patrol Boat)
PKG	Patrol Killer Guided-Missile (Fast Patrol Boat)

PKM	Patrol Killer Medium Fast (Patrol Boat)
PKMR	Patrol Killer Medium Rocket (Fast Patrol Boat)
PKO	Peacekeeping Operations
PKX	Patrol Killer Experimental
PLAAF	People's Liberation Army Air Force
PLAN	People's Liberation Army Navy
PRC	People's Republic of China
PRT	Provincial Reconstruction Team
PSI	Proliferation Security Initiative
RAM	Rolling Airframe Missile
RIMPAC	Rim of the Pacific Exercise
RMA	Revolution in Military Affairs
ROC	Requirement of Operational Capabilities
ROE	Rules of Engagement
ROK	Republic of Korea
ROKAF	Republic of Korea Air Force
ROKA	Republic of Korea Army
ROKMC	Republic of Korea Marine Corps
ROKN	Republic of Korea Navy
ROKS	Republic of Korea Ship
SAM	Surface to Air Missile
SAREX	Search and Rescue Exercise
SATCOM	Satellite Communications
SLOC	Sea Lines of Communication
SOF	Special Operations Forces
SSK	Attack Submarine (Conventional)
SSCS	Surface Ship Command System
TDL	Tactical Data Link
UN	United Nations
UNC	United Nations Command
UNCLOS	United Nations Convention on the Law of the Sea
UNMAC	United Nations Military Armistice Commission
UNPKO	United Nations Peacekeeping Operation
USFK	United States Forces Korea
USN	United States Navy
VLS	Vertical Launch System

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Note on Transliteration

For the transliteration of Korean terms this volume generally uses the Revised Romanization of Korean system with the exception of names, places and other well-known cases. Korean names are written with the family name first, then the given name, however, there are some exceptions (Syngman Rhee).

CHAPTER 1

Introduction

On a March day in 1995, the President of South Korea, Kim Young-sam stood before the graduating cadets of the Korean Naval Academy.[1] In his address, he called for these new Republic of Korea Navy (ROKN) officers to be part of a blue-water maritime era when, for the first time, South Korean warships would operate across the world.[2] The speech marked a moment when nascent ROKN ambitions to become a modern naval force received public political support. This was a major change and a long-term challenge for a navy that was both operationally and ideationally defined by the post-Korean War mission of deterring North Korea in the littoral waters of the Korean Peninsula.[3] To be successful, not only would it require a substantial leap in technological capability, it would need a shift in mindset within the ROKN, South Korean security stakeholders and the wider public about what a navy is for and the ultimate purpose of South Korean seapower. Is it solely to provide deterrence within the limited context of the North Korean threat or is the ROKN to become representative of a more advanced, independent and globally engaged South Korea?

This is the first English-language book to explore the ROKN and its ongoing process of blue-water modernisation. It examines how South Korea's understanding of seapower, its strategic environment and political situation has and continues to inform ROKN modernisation. It is a study of how the navy of a previously inward-looking nation, dealing with an existential threat on its only land border, began to look outwards

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towards the seas that surround it. Although the book delves into the origins of the ROKN, it primarily covers the period after 1988 when South Korea democratised and the foundations for blue-water modernisation were laid. In its current state, the ROKN is one of the world's most powerful and combat-experienced conventional navies yet it is often ignored within the wider literature on seapower and naval modernisation in Asia.

This book argues that a new perception of South Korea's maritime security requirements and the ever-evolving threat from North Korea combined with greater South Korean access to modern naval technology facilitated a new and still developing approach to naval operations and seapower, where mobility, multi-functionality, connectivity and lethality have primacy. These strategic and technological factors have coincided with a changing political and alliance landscape that has become more amenable to the concept of an expanded operational role for the ROKN. The book contends that the United States, South Korea's only ally, first constrained but now facilitates and encourages the ROKN's goal of an expanded operational role. The ROKN has also attempted to leverage the reduced impact of the army (ROKA) in South Korean society after democratisation to engage in a campaign to persuade the public and political elites of the importance of seapower and naval power to South Korea's security and prosperity. It is shown that this effort has been partially successful and the ROKN's ambitions and arguments for blue-water modernisation have matched the political and strategic vision of successive South Korean presidents. However, this volume emphasises that naval modernisation is a long-term project and resource-intensive endeavour and ROKN ambition remains vulnerable to changes in the strategic environment and the political orientation of the country.

What Is Blue-Water Modernisation?

South Korea has traditionally maintained a singular mindset regarding the development and application of the naval component of its seapower. The existential threat posed by North Korea on land since the end of the Korean War coupled with an asymmetric alliance relationship where the US once controlled the purse strings and still maintains wartime operational control (OPCON) of the South Korean military framed and constrained the development of the ROKN. Since the navy's inception in 1945, it has been overshadowed by the much larger ROKA.

The ROKN's operational approach betrayed its own limitations and the continental mindset of the South Korean government and Ministry of National Defense (MND). The understandable operational priority has been to maintain deterrence at sea in the context of North Korea. In war, the ROKN has been tasked with holding the line until the US Navy (USN) arrives and would, much like in the Korean War, perform missions that would complement their ally's operations.[4]

Even as South Korea grew economically and gained the ability to control the direction of its own procurement programs, the ROKN's mission set did not expand. Despite the modernisation of its platforms and the deployment of vessels such as *Gearing*-class destroyers that were capable of blue-water operations, the ROKN remained focused on the littoral waters around the peninsula. Its modernisation goals were framed by and reactive to the capabilities of the North Korean Navy (KPN) and the ROKN was rarely allowed to take the initiative in terms of the deterrent competition between the two sides. This book shows that the series of army-dominated governments prior to the democratisation of South Korea in 1980s did not consider South Korean seapower as something that could be separated from the strategic situation around the Korean Peninsula and while maintaining parity with the KPN was viewed as important, the investment needed to create a superior ROKN with a wider operational purview was not judged to be of substantial strategic benefit. The constant presence of the US 7th Fleet ensured that the South Korean leadership did not need to consider a more expansive use of South Korean naval power.

It is against this strategic and political background that in the early 1990s the ROKN sought to build its independence, expand its operational roles and make itself more central to South Korea's current and future security planning. The predominantly northward continental view of South Korean security still dominates in many areas of the MND and the South Korean Joint Chiefs of Staff (JCS), yet the introduction of democracy and the gradual expansion of South Korean security and foreign policy interests and goals provided the ROKN with the space to develop and then propose a new operational concept.

The ROKN has framed this modernisation process as the development of a blue-water or ocean-going navy. The term blue-water navy usually implies the ability to operate on the world's oceans and away from coastal waters, yet its generic nature provides little specificity.[5] The USN describes it as a non-doctrinal term referring generally to

operations in the open ocean. This term is problematic as many navies with vastly different capabilities can perform effective operations outside of their home waters. For example, both the USN and the German navy can operate in waters far from their homeports, but their warfighting capability, sustainability, operational goals and strategic effect are vastly different. Some have tried to further deconstruct this term, dividing blue-water navies into groups delineated by their geographic reach. Todd and Lindberg, for example, argue that the term blue-water can refer to navies that can project power in four geographic categories outside of their home waters: Global-reach, limited global reach, multi/extra-regional and regional.[6] However, while the ROKN is ultimately seeking to possess the capability to project power in regional and even extra-regional settings, the term blue-water as commonly understood has little utility to describe what the ROKN is trying to achieve.

This book demonstrates that ROKN blue-water modernisation is fundamentally about creating a new navy that reflects the ambitions and geopolitical circumstances of South Korea. The ROKN is seeking sufficient capabilities to independently and cooperatively carry out the requisite range of operations to support South Korea's foreign and security policy requirements at home and abroad.[7] To achieve this, the ROKN is developing a balanced, technologically advanced naval force capable of network-centric warfare (NCW) and precision operations. As Table 1.1 shows, since 1990 the ROKN has introduced 20 new classes of warship, resulting in a modernised and expanded set of warfighting capabilities.

The book also disabuses the notion that ROKN blue-water modernisation ignored North Korea in favour of developing large platforms aimed solely at regional operations. In the context of North Korea, ROKN modernisation has two core goals. The first is maintaining deterrent superiority over the KPN. A long-term conventional deterrent relationship is dynamic and the ROKN has introduced capabilities to offset specific North Korean asymmetric operational approaches such as high-speed infiltration and amphibious craft and its numerous coastal and mini-submarines. Second, the ROKN is seeking to expand its strategic effect in relation to North Korea. Larger platforms that are blue-water capable have utility in a peninsular context. The introduction of sea-launched cruise missiles and other offensive capabilities, for the first time, gives the ROKN the capacity to perform both tactical and strategic strike

Table 1.1 ROKN vessels introduced since 1980. Displacement is calculated at full load

Name	*Type*	*Displacement (tons)*	*Number in class*	*Notes*
1980–1989				
Ulsan class	FF	2,180/2,300	9	To be replaced by Incheon/ Daegu-class
Pohang class	PCC	1,220	24	To be replaced by Incheon/ Daegu-class
Donghae class	PCC	1,076	4	Final vessel decommissioned in 2011
Ganggyeong class	MHC	520	6	
1990–1999				
Cheonji class	AOE	9,000	3	
Go Jun Bong class	LST	4,278	5	
Chung Haejin class	ASR	4,330	1	
KDX-I	DDH	3,855	3	Also known as *Gwanggaeto Daewang*-class
Wonsan class	MLS	3,300	1	
Chang Bogo class	SSK	1,285	9	1st in class constructed in Germany
Yangyang class	MSH	730	3	
2000–2009				
Dokdo class	LPH	18,800	1 (+1)	2nd in class under construction with modifications
KDX-III	DDG	10,290	3	Also known as *Sejong Daewang*-class
KDX-II	DDH	5,500	6	Also known as *Chungmugong Yi Sun-shin*-class
Son Won-il class	SS	1,860	7 (+2)	Nine planned in class
PKG	PKG	570	18	Also known as *Gumdoksuri*-class
2010–				
Soyang class	AOE	10,000	1 (+2)	Three planned in class
Cheon Wang Bong class	LST-II	7,140	4	
Tongyeong class	ATS	4,700	2	
Nampo class	MLS	4,240	1 (+3)	Four planned in class
Daegu class	FFG	3,592	1 (+7)	Eight planned in class
Incheon class	FFG	3,250	6	
New Mulgae class	LCU	940	6	
PKMR	PKMR	200	1 (+15)	16 planned in class

operations against North Korea. Further, given North Korea's development of nuclear weapons and ballistic missiles, the ROKN's installation of the Aegis system on its KDX-III destroyers means the platforms that in many ways symbolise the blue-water modernisation program are now a key component of peninsular defence. The commissioning of the 18,800-ton, amphibious assault ship ROKS *Dokdo* and its future sister ship ROKS *Marado* in combination with the introduction of a new class of four 7,100-ton landing ships will provide the ROKN with a much greater amphibious capability.[8] If resourced properly, these capabilities will strengthen the ROKN's ability to perform independent defensive and offensive operations on the peninsula in a time of war.

Of course, blue-water modernisation is not just about the Korean Peninsula. East Asia is a predominantly maritime theatre that now suffers from increased strategic tension, a heightened potential for arms racing and is the crucible where the rising power of China is pushing against the established power of the US and its allies. The US and Japan are reinforcing their navies and further south, the littoral nations of the South China Sea are undertaking the targeted procurement of key anti-access capabilities such as submarines and strike aircraft.[9] Seoul cannot afford to ignore these developments and therefore, ROKN modernisation is partially aimed at providing a hedge against instability in the maritime sphere. Although South Korea is a US ally, it is reluctant to choose sides in the East Asian maritime domain and views both Japan and China with a level of suspicion. The ROKN cannot compete in terms of manpower and resources with its Northeast Asian neighbours and therefore has set the target of maintaining sufficient independent capabilities to deter threats to its regional maritime interests and sea lines of communication (SLOC). The ROKN is looking to create a force that would represent South Korean interests and is commensurate with an independent, responsible middle power.

Even with the addition of new platforms, questions remain regarding the ability of the ROKN to carry out independent operations far from Northeast Asia. Operational requirements to manage the ever-evolving threat from North Korea and the pressure of increasing maritime strategic tension between China, Japan and the US will mean that ROKN platforms will need to remain in Northeast Asian waters. The goal of sustained independent operations in the wider East Asian region is currently a remote possibility and is more aspirational than realistic given South Korea's geostrategic environment.

Further, ROKN modernisation is not without its problems. It is an ongoing process and one that is fraught with difficulty given the level of suspicion that it generates among some South Korean security stakeholders who are unconvinced by its necessity. Due to the expense of naval modernisation the ROKN is vulnerable to trends in the nation's finances and political priorities. The sinking of the ROKS *Cheonan* by a North Korean submarine in 2010 and the subsequent shelling of Yeonpyeongdo a few months later led many in the South Korean media, political circles and even the public to call for an end to the blue-water program and for the ROKN to refocus on the threat from North Korea.

This was a misunderstanding of the goals of ROKN modernisation, but it exposed the vulnerability of the ROKN to accusations of ignoring peninsular operations. Publicly the ROKN dropped the language of blue-water modernisation but the plans themselves after some delay have continued. The future of the ROKN lies with the initial blue-water concept, but an outstanding question remains regarding the ability of the ROKN to cement its strategic importance within the minds of the public and policymakers.

South Korea and the Sea

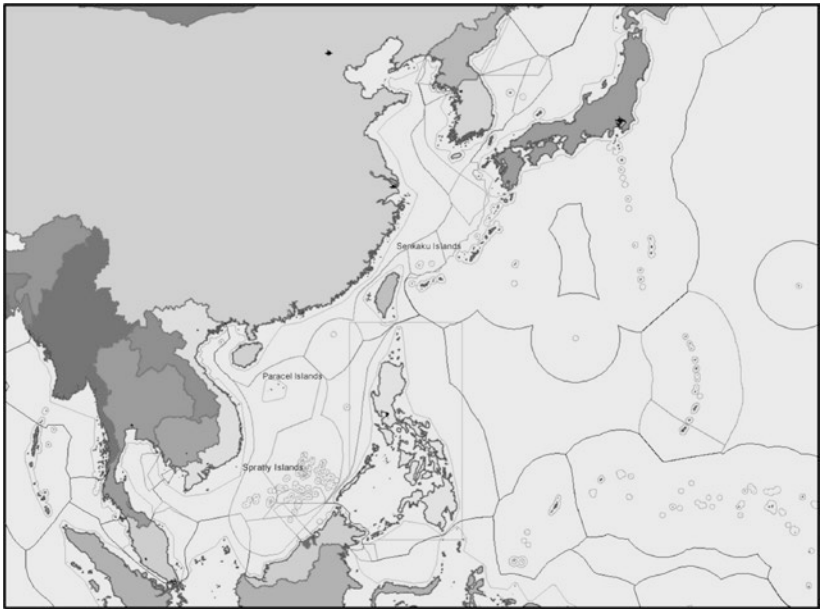
The sea has many attributes, it can be a medium for trade, commerce and cultural exchange, a resource to be exploited, a means of dominion, a barrier from attack and a potential strategic vulnerability.[10] For South Korea, the sea is all of these things. The free use of the maritime domain has facilitated South Korea's phoenix-like emergence from the ruin of the Korean War and its subsequent transformation into one of the world's most advanced trading economies. However, geopolitics and the division of the Korean Peninsula means that South Korea is essentially an island. The safety of its SLOC is therefore of enormous strategic importance as their disruption would imperil their economy and their population's well-being.

The constant threat from North Korea on land and at sea means that South Korea must constantly guard its 2413 km coastline and over 3300 islands, of which 482 are populated.[11] The Northern Limit Line (NLL), the de facto maritime border between the two states, is an area of great strategic tension and its security has meant that the ROKN has been

deployed and ready for combat every day since the end of the Korean War in 1953.

South Korea is also sandwiched between two larger and rival powers. To the east and across the East Sea/Sea of Japan lies Japan, the ships of the US 7th Fleet and the route to the Pacific Ocean. To the west across the West Sea/Yellow Sea is the rising power of China.[12] To the south is the East China and the South China Seas, waters that provide a gateway to the Middle East and Europe but are rife with contentious geostrategic issues including disputed maritime territory, conflicting economic exclusive zones (EEZ) and Taiwan. Geostrategic tension in maritime East Asia has been a reality since the end of the Cold War but it is being exacerbated by China's drive to become the preeminent seapower in the region. This is an uncomfortable geostrategic position for South Korea as its vital maritime interests run through waters that are increasingly conflictual (Map 1.1).

South Korea has declared a territorial sea of 12 nm and a contiguous zone of 24 nm.[13] With the ratification and enactment of UNCLOS in 1996, Seoul also declared an EEZ of 200 nm.[14] However due to South



Map 1.1 East Asian Maritime Environment

Korea's proximity with Japan and China and outstanding differences over the ownership of islands, the measuring methods of EEZ and the limits of the continental shelf, neither South Korea's EEZ or continental shelf have been formally delimited.[15] The UNCLOS regime has heightened the strategic and economic importance of maintaining maritime rights and consequently protecting South Korean EEZ has become an important element in South Korea's maritime security thinking.

The economic importance of South Korea's EEZ lies in its maritime resource exploitation activities. The seas around South Korea are rich fishing grounds and although fisheries only account for approximately 0.2% of the country's GDP they are important as a source of food and employment.[16] The South Korean fishing fleet has over 67,000 powered vessels but it has been in slow decline over the past 15 years in part due to government schemes aimed at reducing the size of the fleet.[17] Nevertheless, fishing provided employment for over 200,000 people in 2015.[18] The majority of South Korea's fishing activity takes place within its EEZ. Declining stocks caused by over-fishing and other environmental factors have put increased emphasis on conservation measures and has ensured that the protection of maritime economic rights is a political priority.

So far minimal oil and gas deposits have been found in the waters surrounding the peninsula. In 1998 the Korea National Oil Corporation discovered a viable gas field in the East Sea. Called Donghae-1, it has modest reserves of around 186 billion cubic feet of natural gas.[19] Production started in 2004 and was scheduled to finish in 2016/2017, however the discovery of a second field 5.2 km away (Donghae-2) has extended production until 2019.[20] There is also hope that oil and mineral deposits will be discovered around the Jeju Basin in the East China Sea.[21]

The economic and strategic value of the sea for South Korea extends far beyond its EEZ. With a focus on manufacturing and exports, the economy of South Korea has shown some spectacular growth since the mid-1970s and in 2006 it joined the exclusive group of nations with a GDP of over one trillion dollars.[22] This growth is inextricably linked with the sea. Shipbuilding was identified in the 1960s as a key developmental area in South Korea's industrialisation efforts and received substantial government aid.[23] As Fig. 1.1 demonstrates, access to the sea is vital for South Korean economic growth and seaborne trade has shown