2019 National Defense Report
Ministry of National Defense
R.O.C.

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Foreword

The Chapter One Laying Plans of *The Art of War* by Sun Tzu starts with the famous quote: "The art of war is of vital importance to the State. It is a matter of life and death, a road either to safety or to ruin. Hence it is a subject of inquiry which can on no account be neglected." This timeless quote epitomizes, in all ages the significance of defense to a nation's survival. Therefore, the armed forces are established to safeguard security, maintain peace, and protect people's livelihood and well-beings of a nation. This iteration of the National Defense Report (NDR) titled "Guardian for Peace" presents the development and progress of force buildup and policy implementation of the armed forces over the past two years. It is expected that through the transparency of defense affairs as NDR's strategic communications goal, more people can better understand and support the armed forces.

The security in the Indo-Pacific region is facing multiple challenges: denuclearization stagnation in the Korean Peninsula; neighboring countries' claims over the East and South China Seas' islets and reefs, increased armament preparedness of regional nations in response to the People's Republic of China (PRC) military expansion; and the discord over "freedom of navigation" among international players. In the meantime, the PRC never renounces the use of force against Taiwan and has been intensively realigning its force structure, fielding new weapon systems, conducing long-distance training and air-sea force-on-force exercises, and even intentionally crossing the middle line of the Taiwan Strait with its fighters, among other activities targeting Taiwan. PRC intends to undermine the cross-Strait status quo unilaterally, posing a serious threat to our national security.

Given the growing military pressure, we review possible threats and future operational requirements without intending to engage in any form of arms race. We try to acquire weapon systems that best fit into our Overall Defense Concept (ODC) based on the guidance of "improving force preservation, prioritizing asymmetric, cyber and electronic warfare capabilities, as well as strengthening fundamental competences," in order to timely formal credible force to deter PRC's aggression.

For training and preparedness, military units at all levels are following the presidential guidance of "pragmatic force buildup," directive of "to train as we fightin places of war," as well as "the thinking of relying not upon the absence of enemy, but upon our readiness for it," in conducting training and combat readiness, battlefield management, and joint operations in order to meet the strategic goal of "resolute defense and multi-domain deterrence."

Recruiting is vital to the implementation of the "Lean Force Policy" and has been done through diverse ways. It is expected that a 90% of manning ratio can be reached next year with well-thought-

out measures and governmental support. We continue improving our manpower quality following the ideas of "leading by serving," "dynamic recruiting," and "refining training." Meanwhile, we strive to form a cohesive military family by cultivating responsible and caring leadership to further generate service members' motivation for excellence and encourage talented personnel to "serve and stay willingly," which is our goal of creating a prime military force both in quality and quantity.

Self-reliant defense is one of the important government policy guidance. To exhibit our determination in self-defense, the Executive Yuan has included the "defense industry" into its "5+2 Innovative Industries Plan," aiming at bringing capable domestic companies into the defense supply chain. To create a quality environment for defense industry, the *Defense Industry Development Act* was thus formulated to better categorize companies, improve their research and development (R&D) capacities, and provide incentives to increase the participation of domestic companies and create a virtuous cycle where economy and defense are mutually supportive. The military have been cooperating with academia, conducting R&D for key technologies and weapon systems, and going into planned mass production. Our efforts are also augmented by the implementation of the indigenous ship and aircraft building programs, in which we have seen inspiring progresses and outcomes.

Our mission is to shape our military into a force "capable of disaster relief in peacetime and fight in wartime." Aside from routine training and drills, the armed forces also actively join in humanitarian assistance and disaster relief (HA/DR) efforts. They were the first responders to the Hualien earthquake on 6th February 2018, and whe flood caused by torrential rains on 23rd August in the same year. Facing drastic composite natural disasters, we show up wherever needs, and embed our training in relief efforts as we work together with the public in protecting our homeland.

In the era of globalization, national security is interlinked with international affairs and regional situations. The Republic of China (ROC) as a stakeholder in the international community, is keeping peace and stability of the Taiwan Strait and is dedicating to prosperity and collective security in the region, making it a trustworthy partner. The ROC will continue building up close partnership with like-minded countries to protect our respective sovereignty while promoting a free and open Indo-Pacific region.

In conclusion, the NDR aims to make the public understand that "peace through national defense" is not merely a slogan, but an around-the-clock mandate in the heart of every man and woman in uniform. Adhering to the presidential guidance that "safeguard unrelentingly every inch of our land, strengthen our combat capabilities, and pursue the goal of a self-reliant defense" and upholding the idea that "preventing war but not fearing war, and preparing for war but not provoking war," the ROC Armed Forces continue strengthening training, enhancing combat readiness, improving self-reliant defense capacities, and constructing a stalwart national defense. We are confident and determined to defend our nation with strict discipline and high morale and vow to achieve the ultimate goal of safeguarding our national sovereignty and the values of freedom and democracy.

Minister of National Defense

嚴德發

September 2019

Introduction

Article 30 of the *National Defense Act* stipulates that the Ministry of National Defense (MND) periodically publishes a national defense report to elaborate changes in the security environment, and to provide an update on ROC Armed Forces' combat readiness, and the implementation performance of national defense policies to the people. This report is the 15th edition with "Guardian for Peace" as the theme. It is hoped that by revealing ROC Armed Forces' determination and contribution to protect our people and homeland, safeguard our sovereignty, and maintain peace in the Taiwan Strait, the people may acknowledge and support our efforts, and thus attach high importance to national defense.

This report covers the period from 2018 to August 2019, and is divided into 5 parts: Security Environment, National Defense Capabilities, Self-reliant Defense, National Defense Governance, and Heritage of Honor and Glory.

Part 1: Security Environment

Current Indo-Pacific strategic environment is having both alliances and competitions among great powers, and the situation in this region is getting more complex and precarious. Even though the regional security situation is dominated by the United States with its formidable national power and military strength, it faces challenges from the influence of PRC's rapid military reform, issues on the Korean Peninsula, disputes over sovereignty of controversial islands and maritime rights and interests, and non-conventional threats, all posing tremendous challenges to our national defense and security. Taiwan is located at the forefront of the Indo-Pacific region as a critical node to regional order and stability, and its geostrategic advantages shall be explored to maintain regional peace and stability.

Part 2: National Defense Capabilities

The ROC Armed Forces defend our territory and sovereignty against foreign aggression and protect lives and property of the people as defined in the *Constitution of the Republic of China* and the *National Defense Act*. After examining emerging threats and challenges to our security, we have formulated national defense and military strategies, and mapped out goals for developing capabilities that can meet our innovative/asymmetric thinking and fit into our overall defense concept, so we may rapidly shape the ROC Armed Forces into a highly credible force to ensure security for the nation.

Part 3: Self-reliant Defense

Pursuant to the guidance set forth in Article 22 of the *National Defense Act* and the "5+2 Innovative Industries Plan," we develop, produce, and maintain necessary weapons and equipment. The *Defense Industry Development Act* is thus formulated to encourage viable domestic enterprises to join the defense industrial supply chain to rejuvenate our defense industry, and promote economic development and fortify a self-reliant defense.

Part 4: National Defense Governance

To construct a well-designed national defense is laden with a myriad of considerations. The MND is thinking ahead to grasp the developing trend, with innovation and pragmatism in mind, to push for defense reforms, better care for personnel, protection of human rights, connection with global security circles, and a value of cleanness and integrity. The MND continues to finetune its governance efforts so as to improve its performance of policy-implementation and overall operational capabilities.

Part 5: Heritage of Honor and Glory

Descending from a remarkable history of honor and glory, the ROC Armed Forces firmly shoulder the responsibility of "safeguarding the nation and protecting the people." We continue to dedicate ourselves to maintaining operational readiness, realizing the concept of all-out defense, and saving the people in need. In addition, we have been recruiting and cultivating talented personnel via multiple educational channels, and enhancing personnel care for retired/discharged service members. Therefore, both active members and retirees can contribute to the society as the true Guardians for Peace.

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Guardian for Peace

Dawn or dusk, thunderstorm or burning heat, the ROC Armed Forces stand by to protect our homeland and people whoever in need.

國防

Part 1: Security Environment

Current Indo-Pacific strategic environment is complex and full of uncertainties due to security alliance and competition coexisting among great powers, and is more so when factoring in interconnected economic development, technological advancement, and rapid information flows. The United States (US) remains dominant in providing regional security and order with its unparalleled national power and military strength. However, the picture could change with factors-PRC's growing political and economic clout in the world and its rapid military reform, unstable situation on the Korean Peninsula, sovereignty disputes and conflicts over controversial islets and reefs, maritime rights and interests, non-conventional threats, as well as an arms race among regional countries-and become security challenges to our nation. Taiwan is situated at the key location in the Indo-Pacific region as a critical node to the regional order and stability and will hence use its geostrategic advantages to act as an avid security partner who commits itself to the regional peace and stability.

Chapter 1 Strategic Posture

At the moment, the security situations in the Indo-Pacific are centered around the interactions between the US and PRC, and their current strategic status in which "co-petition" is seen. The US is promoting its "Indo-Pacific Strategy" to consolidate allies and partners and maintain regional peace and stability; while the PRC is developing force projection capability with its growing national power, revealing its strategic intention to dominate the entire region. On the Korean Peninsula, although situations seem to be détente, uncertainties remain due to stagnation of the Democratic People's Republic of Korea (DPRK or North Korea) in "denuclearization." Furthermore, important transnational security issues, such as sovereignty clashes over the islets and reefs, maritime rights disputes, and non-conventional security threats are still prevalent and could threaten stability. Our nation should maximize its geostrategic advantages and strategic early warning to construct a threat-based security and cooperation mechanism with like-minded countries of shared values to ensure the regional security and stability.

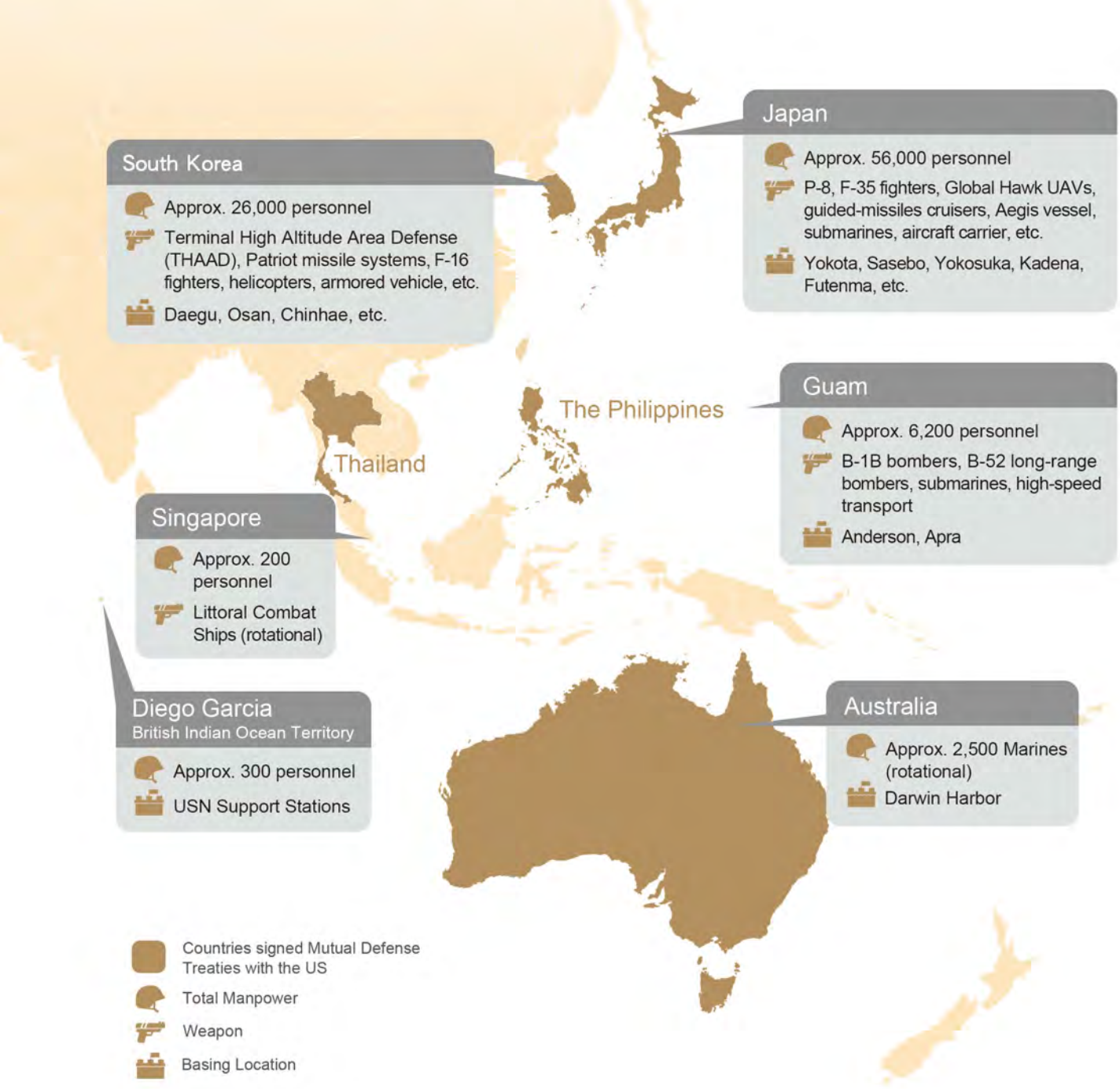
Section 1 Trends in the Indo-Pacific Security Environment

The Indo-Pacific region covers a vast area in between the Pacific Ocean and west coast of India and its neighboring countries. The primary security uncertainties as a whole come from PRC's rapidly and incessantly growing military power and DPRK's denial hitherto to renounce the development of nuclear weapons. In the meantime, the US is actively strengthening its relations with Japan, the Republic of Korea (ROK or South Korea), and other allies, while regularly conducting "freedom of navigational operations (FONOPs)" in the East and South China Sea, demonstrating itself as a stabilizing force for regional stability. Regional countries continue stepping up their military preparedness for their respective security concerns, increasing the risks of conflicts and will need to rely upon security dialogue and cooperation to resolve possible misunderstandings and disputes.

I. US Promoting the Indo-Pacific Strategy

After inaugurated in January 2017, US President Donald Trump announced his "America First" policy, and successively proclaimed the *National Security Strategy*, *National Defense Strategy*, *Nuclear Posture Review*, etc., in which the PRC was identified as a revisionist power and strategic competitor challenging US global leadership. The rise of the PRC has apparently become the most concerning security challenge to the US.

The Trump administration proposed the "Free and Open Indo-Pacific (FOIP)" vision in 2017 and the next year started its strategic arrangement, including enhancing diplomatic and strategic network with Japan, Australia, India, and other allies and partners, increasing military exchanges with regional countries, maintaining freedom of navigation in international waters, and appealing for peaceful resolutions for disputes. Concurrently, the US is joining hands with Japan and Australia to offer funds and assistance for developing critical infrastructures of regional countries as a way to support their Indo-Pacific allies and ensure regional peace and stability.

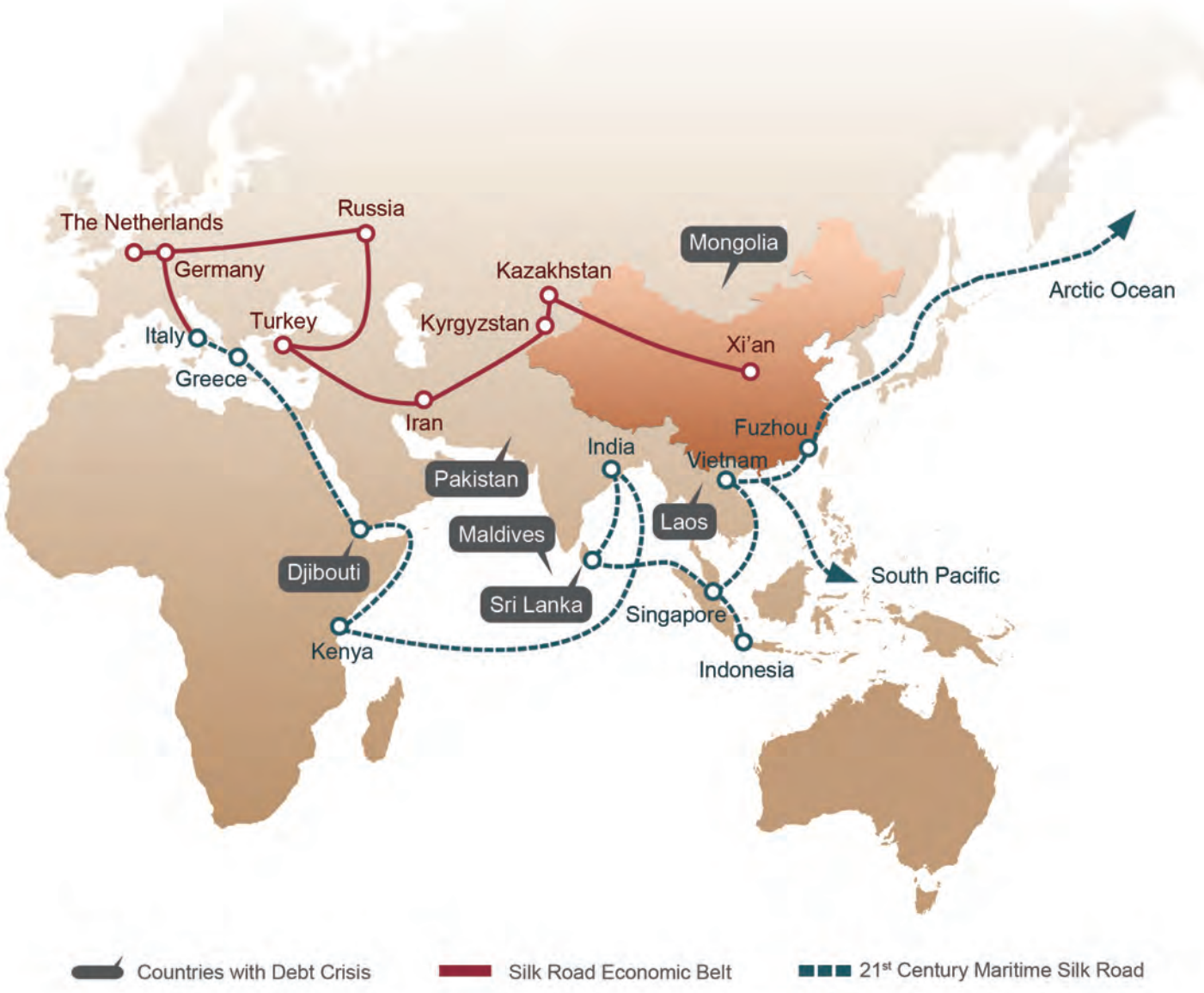


Source: Defense Manpower Data Center, DoD; The Military Balance 2019

【Overview of US Military Basing in the Indo-Pacific Region】

In May 2018, US Department of Defense (DoD) renamed its US Pacific Command (USPACOM) the US Indo-Pacific Command (USINDOPACOM) to reflect the pragmatic meaning of the Command's area of responsibility that covers both the Pacific and Indian Oceans as well as its active efforts.

This year in June, US DoD released the *Indo-Pacific Strategy Report: Preparedness, Partnerships, and Promoting a Networked Region* (hereinafter refer to as the *Indo-Pacific Strategy Report*) and listed the Indo-Pacific region as a priority theater. In order to realize the vision of the "FOIP," the US will further cement relations with allies and partners in the region, strengthen military preparedness in order to react rapidly to regional contingencies, promote regional prosperity and stability, and ensure the global security and order.



Source: Examining the Debt Implications of the Belt and Road Initiative from a Policy Perspective, 2018, Center for Global Development

【PRC's Belt and Road Initiative】

II. PRC's Drastic Increase of Regional Influence

After taking the helm of the PRC in 2012, Xi Jinping proposed the vision of "The Chinese Dream" and pushed for a "comprehensively deepening reform" in economy, society, and military to swiftly consolidate his power base. In March 2018, through a State Constitution amendment, the limitation of President's tenure was rescinded, and "Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era" was codified into both the *Constitution of the Communist Party of China* and the *Constitution of the People's Republic of China*, making Xi after Mao Zedong and Deng Xiaoping another powerful leader. He then gradually abandoned the principle of "hiding one's capabilities and biding one's time" set forth by Deng and altered the international situations and status quo with his ideas of making "great achievements," "state richer, and military stronger."

2017

11/3-14 — President Trump's first Asia trip, in which he laid out the vision of a "free and open Indo-Pacific."

12/9 — Sri Lanka handed over running of Hambantota port to the PRC.

12/18 — The White House issued the *National Security Strategy* to portrait the PRC as "strategic competitor" and revisionist power.

2018

1/4 — The PRC unilaterally activated south-to-north flight routes of M503, and W121, W122 and W123.

1/19 — The DoD-published *National Defense Strategy* pointed to the long-term competition with the PRC and Russia as its priority.

2/28 — The PRC announced the *Several Measures to Promote Cross Strait Economic and Cultural Exchange and Cooperation* (i.e. 31 measures to Taiwan)

3/11 — The CCP's National Congress passed a revision of the Constitution to delete tenure limits of the President.

3/16 — President Trump signed the *Taiwan Travel Act* to encourage bilateral high-level visits.

4/11 — The PLA conducted a large-scale military exercise in the South China Sea

5/23 — The US canceled RIMPAC invitation to the PLA.

5/30 — The USPACOM is renamed as the USINDOPACOM.

8/13 — President Trump signed the *FY 2019 NDAA* that stressed the importance of strengthening Taiwan's operational readiness.

9/30 — USS Decatur sailed to the Spratly Islands and had a close encounter of only 41 meters with a PLAN's Luyang class "Lanzhou" destroyer.

11/9 — US-China Diplomatic and Security Dialogue in Washington D.C

12/31 — President Trump signed the *Asia Reassurance Initiative Act of 2018*, to support strengthening security relations between the US and Taiwan.

2019

1/2 — Xi proposed "One Country Two Systems for Taiwan," and did not renounce use of force on Taiwan.

3/14 — Then Acting Secretary of Defense Patrick M. Shanahan proposed FY 2020 Budget, naming the PRC as the primary threat.

4/23 — The PLAN held fleet review off the coast of Qingdao, The US didn't send any vessels to join.

5/21 — US-China Asia Pacific Security Dialogue in Washington D.C.

5/31 — Informal US-China Defense Ministerial Meeting in 18th IISS Asia Security Summit: The Shangri-La Dialogue

6/5-7 — Xi visited Russia, and signed with President Putin a joint declaration - the "China-Russia Comprehensive Strategic Partnership of Coordination for a New Era."

6/1 — The US issued the Indo-Pacific Strategy Report to point the Indo-Pacific as the Priority Theater, and it will strengthen partnerships with Taiwan and allies in the region.

7/24 — The PRC issued a defense white paper, *China's National Defense in the New Era*, to carry out Xi's military strategic thoughts, not renounce use of force on Taiwan, and accuse the US of sabotaging global strategic stability.

8/2 — The US withdrew from the *Intermediate-Range Nuclear Forces Treaty* , and it is planning to deploy intermediate range missiles in the Asia Pacific region.

In recent years, the PRC has been using a series of political and economic strategic arrangements, including the initiative of "Silk Road Economic Belt and the 21st Century Maritime Silk Road," also known as "Belt and Road Initiative" or BRI to increase its national interests and expand its regional influence. However, after several BRI countries badly ridden in debt, the PRC is suspected of taking advantage of those countries for its own strategic gains and meddling in their internal affairs. A living example is that Sri Lanka in July 2017 signed a 99-year lease with a Chinese state enterprise on its Hambantota Port. Aside from that, the PRC has been leveraging its "sharp power," infiltrating political, academic, and business sectors in targeted countries through public opinions, media, academia, and means of enticement and forceful threat, which have concerned and alarmed the international community.

Additionally, following a diplomatic guideline of strengthening relations with "great powers as the core, neighboring countries as the primary, developing countries as the fundamental, and multilateral counterparts as a major platform," the PRC has eased its relations with countries, including South Korea, Japan, and India and sped up negotiations with the Association of Southeast Asian Nations (ASEAN) on the *Code of Conduct (COC) in the South China Sea* and the *Regional Comprehensive Economic Partnership (RCEP)* to maximize its best interests. Meanwhile, it has been expanding military and energy cooperation with Russia, with whom it signed a joint statement on developing a "China-Russia Comprehensive Strategic Partnership of Coordination for a New Era" in response to the US Indo-Pacific Strategy.

In support of its national strategic goals, the PRC has been undergoing military restructure and systematic reform while vigorously expanding its armaments since 2015 following the developmental strategy of "three-step modernization of defense and military" in order to "basically realize the modernization of defense and military" by 2035 and own a capability to deny intervention from foreign countries. Moreover, the PRC officially commissioned its first overseas military base in Djibouti in August 2017 and many more can be expected to come in foreseeable future as a way to protect its expanding strategic interests and elevate its international influence.

III. Unresolved Regional Clashes and Disputes

1. The Korean Peninsula Issue

On 28th November 2017, North Korea attracted international attention by claiming a successful test-launch of the Hwasong-15 ballistic missile, which can reach the whole of the continental US (CONUS). Afterward, in order to deal with internal economic plights, it sought the lifting of international economic sanctions by diplomatic negotiations. In recent years, US President Trump has met North Korea leader Kim Jong-un three times in Singapore, Vietnam, and Panmunjom successively, trying to reach an agreement of "complete, verifiable, and irreversible denuclearization." He insisted that economic sanctions on North Korea will not be lifted until the said agreement is reached. The ROK and DPRK have held three summits and signed the *Panmunjom Declaration*, the *Pyongyang Joint Declaration*, and the *Agreement on Military Affairs under the Panmunjom Declaration*, in order to realize denuclearization on the Korean Peninsula, lower risks of military conflicts, and promote bilateral economic development.

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1. The US is promoting the Indo-Pacific strategy to strengthen relations with allies and friends to maintain peace and stability in the region. Photo: US DoD

2. After the third Trump-Kim summit at the DMZ in Panmunjom on 30th June 2019, the US and DPRK resumed negotiations on denuclearization. However, North Korea may rekindle its nuclear weapon program at any moment and remain potential threats to regional security. Photo: US White House

3. The US continues exchanges and cooperation with allies and partners in the region through hosting joint military exercises and providing humanitarian assistance. Photo: US Navy

Despite a détente on the Korean Peninsula, the US intelligence community held the view that North Korea didn't actually give up nuclear weapons despite the suspension of missile tests. However, after the Trump-Kim summit at Panmunjom, the stalled negotiation for denuclearization was rekindled. However, North Korea's nuclear weapon programs can be resumed at any moment, posing a potential threat to regional security.

2. Disputes over Islet and Reef Sovereignties and Maritime Rights

In order to protect their national interests and meet their strategic needs, countries in the East and the South China Sea have different claims and assertions toward islet and reef sovereignties and maritime rights in the region and have been causing clashes and conflicts sporadically.

In the East China Sea, Japan in September 2012 announced the nationalization of the Diaoyu Islands. The PRC in November 2013 announced the demarcation of the "East China Sea Air Defense Identification Zone," and began to assign naval and air assets to carry out routine patrols and pass through the first island chain to the Western Pacific to conduct joint naval and air exercises. Since then, its coast guard vessels have also been frequently entering neighboring waters off the Diaoyu Islands. In response, Japan strengthened the defense around the Nansei Islands and established the "Amphibious Rapid Deployment Brigade" in the Japan Ground Self-Defense Force (JGSDF). To ease a rise in tensions, in June 2018 both sides set up a "maritime and air liaison mechanism" to ward off accidental clashes. In October of the same year, Japanese Prime Minister Shinzo Abe visited Beijing, this gesture demonstrated that both sides were willing to improve relations and resolve disputes.

In the South China Sea, the PRC continues militarizing its islets and reefs and has been assigning naval and air assets to visibly protect its sovereignty. The Philippines in 2018 began to construct a runway and new installations on Zhongye Island. The US has been increasing the frequency and intensity of FONOPs in the South China Sea, and denouncing PRC's activities in the region. Furthermore, even though the PRC has made headway in the negotiations with ASEAN countries concerning the *Code of Conduct in the South China Sea*, its influences have been offset by US ongoing political, economic, and security cooperation, and solidified relations with neighboring countries in the region.

IV. Non-conventional Security Threats

In recent years, non-conventional security threats, such as terrorism, extreme climate changes, composite disaster, contagious diseases, cyberattacks, are taking their toll on national security worldwide.

Even though the Islamic State of Iraq and the Levant (ISIL) was besieged and ostensibly decimated, some remnants may get away and retreat to unknown locations to initiate lone-wolf attacks, which

have triggered panic among local people. Moreover, international terrorist organizations, such as Abu Sayyaf, in the southern Philippines, have been less active because of a dual means of appeasement and extermination by the Philippines government, but their existence remains a potential threat to security in Southeast Asia.

The Indo-Pacific regionis plagued with frequent natural disasters because the Circum-Pacific seismic belt resides within, and a number of countries in the region are located on the paths tormented by typhoons. Epidemics, such as avian flu and African swine fever, and pest infestations, including the fall armyworms, are posing a serious impact on agricultural production and food safety in regional countries. In addition, contagious diseases can be easily spread through the enormous amount of outbound and inbound international travelers and animals, and cause problems in epidemic containment. Moreover, international cyberattacks popping up frequently have caused economic, military, and technological damages which are triggering security worries worldwide. These non-conventional threats are capable of sprawling across borders and shall be prevented and contained through an international cooperation mechanism, so as to stave off their infringements.

Source: Center for Strategic and International Studies (CSIS)

【Diagram of PRC's Militarization of South China Sea Islets and Reefs】

Section 2 Defense Policies of Countries in the Indo-Pacific Region

Facing challenges of rapid change in the regional security environment and competition among great powers, countries in the Indo-Pacific region are actively adjusting defense policies and strengthening military preparedness to protect their own interests, and react to potential security threats.

I. The United States

US DoD published the *National Defense Strategy* in January 2018, pointing out a long-term strategic competition with the PRC and Russia as its top priority. The PRC was portrayed as using predatory economic means to intimidate its neighboring countries for its political and military gains while militarizing features in the South China Sea and attempting to become a great power in the Indo-Pacific region. But the US is hoping to persuade the PRC that their militaries can be transparent and non-aggressive to each other through bilateral military exchanges, so as to establish positive military and security relations.

Militarily, the Trump administration continues boosting up the nation's defense power and proposed a 2020 defense budget of US$733 billion, an increase of US$17 billion from US$716 billion in 2019. In March 2019, former Acting US Secretary of Defense Patrick Shanahan explained, the defense budget growth is mainly to reflect PRC's military threat and the necessity to enhance partnership with allies in the Indo-Pacific region, demonstrating the significance of US military presence, and through bilateral and multilateral security cooperation, ensuring a free and open international system in this region.

In Northeast Asia, the Trump administration insists on a denuclearized Korean Peninsula, and it will not lift the sanctions on North Korea till denuclearization of North Korea is completely done. However, to ease regional tensions, the US and North Korea have announced to suspend large scale military exercises with much smaller drills in their place, and continue going through diplomatic channels to achieve North Korean denuclearization. Moreover, the US military has been actively conducting FONOPs in the East and the South China Sea, so as to demonstrate its military muscles and stance in the Indo-Pacific region.

II. Japan

The US and Japan held a summit in November 2017 and reached a consensus on three subjects: realization of a free and open Indo-Pacific region; continuation of promoting basic values of law and order and freedom of navigation; enhancement of a regional network to fulfill their promises on economic prosperity, peace, and stability (such as establishing a maritime law enforcement capability).

In December 2018, Japan passed a newly revised *National Defense Program Guidelines*, and the *Medium Term Defense Program*, stressing the importance of establishing a "Multi-domain Defense Force" to incorporate forces from land, maritime, air, space, cyberspace, and electromagnetic domains in response to a drastic change in the security environment. Japan is going to spend a record-

high amount of JP¥27 trillion 470 billion (approx. US$240 billion) in defense equipment and related expenditures from 2019 to 2023. In addition, two Izumo-class multi-purpose destroyers of the Japan Maritime Self-Defense Force (JMSDF) will be retrofitted to accommodate short take-off and vertical landing (STOVL) jets and the number of F-35s acquired will be increased to 147.

III. South Korea

In its *2018 Defense White Paper*, South Korea removed the contents in which the North Korean regime and its military were deemed as enemies. The original "three-axis combat system" (kill chain, air and missile defense, and massive punishment and retaliation plan) in response to North Korean threats was replaced with the term of a "strategic strike system." Moreover, the North and South Korea have been discussing to set up a "military joint committee" to reflect the transition of their bilateral relations and decrease provocations.

The proposed South Korean 2020 defense budget has increased 8% over that of 2019, and it is estimated to outlay US$239.9 billion from 2020 to 2024 in defense with an average growth above 7.1% during these five years. Furthermore, it announced in July 2018 a "Defense Reform 2.0" project to propose three goals: "restructuring South Korean military; pushing for defense reform; carrying out its national defense autonomy." It will concurrently initiate defense and military reforms and bolster the development of its defense industry.

Concerning the ROK-US Alliance, in October 2018 the two sides signed the *Guiding Principles Following the Transition of Wartime Operational Control*, in which the US agreed to return the wartime operational control to South Korea by May 2022, but retains the presences of the ROK/US Combined Forces Command and the United States Forces Korea (USFK). The US also insists that South Korea shoulder more of USFK's expenses to reduce US defense spending. In addition, South Korea signed the *General Security of Military Information Agreement* (GSOMIA) with Japan in 2016 to address North Korean nuclear threats. However, on 23rd August 2019, South Korea announced to withdraw from the *Agreement* as a result of disputes over their historical legacies and trade issues. Consequently, their bilateral relations may not be improved anytime soon.

IV. India

In 2017, the standoff between India and the PRC at Donglang (Doklam in Bhutanese) was peacefully concluded. Even though the situation seemed settled with Indian Prime Minister Narendra Modi's subsequent unofficial visit to Wuhan to meet PRC Leader Xi Jinping for a closer communication, PRC's growing relations with Pakistan, Bangladesh, and Sri Lanka through its "BRI" initiative, still raised a serious concern to India.

Since his inauguration, Prime Minister Modi, aiming at realizing his Act East Policy, has been expanding India's military cooperation with the US, Japan, and ASEAN countries, to counter PRC's military expansion in the Indian Ocean. He has also been actively to uting the policy of "Make in India" in the Indian defense industry. Under the notion, the Indian government may initiate a weapons

co-production program with a foreign contractor, and then through a tendering process to select a winner, which would cooperate with a state-owned enterprise or private company also chosen via a competition. The indigenous one may join the program to coproduce weapons with the foreign contractor and ask for technology transfer. In addition, in response to a rapid change of strategic situations, India in April 2018 set up the Defense Planning Committee to direct policies of combat power development and expedite arms acquisition processes. In August 2019, India announced the activation of a new reform on defense command structure, and set up the position of the Chief of Defence Staff (CDS), hoping to strengthen the coordination and joint operational capability of military services.

In July 2018, the US granted India the Strategic Trade Authorization-1 (STA-1) status equivalent to those of NATO countries, Japan, Australia, and South Korea, to ease the restrictions of exporting high-tech products to the country. In September of the same year, the US and India held their first 2+2 ministerial dialogue in foreigner affairs and defense and signed the *Communications Compatibility and Security Agreement* (COMCASA) to share classified communications. Furthermore, India seized the occasion to place orders on advanced weapons and equipment from the US.

In February 2019, because of a terrorist attack in India-administered Kashmir, India launched airstrikes against terrorists across the Pakistani border and triggered a conflict between the two countries. In the following August, India striped the Kashmir of its autonomous status, and the age-long historical grudges and border disputes between India and Pakistan were intensified. Coupled with expanded cooperation between the PRC and Pakistan, concerns of potential instability between India and Pakistan may still arise in the future.

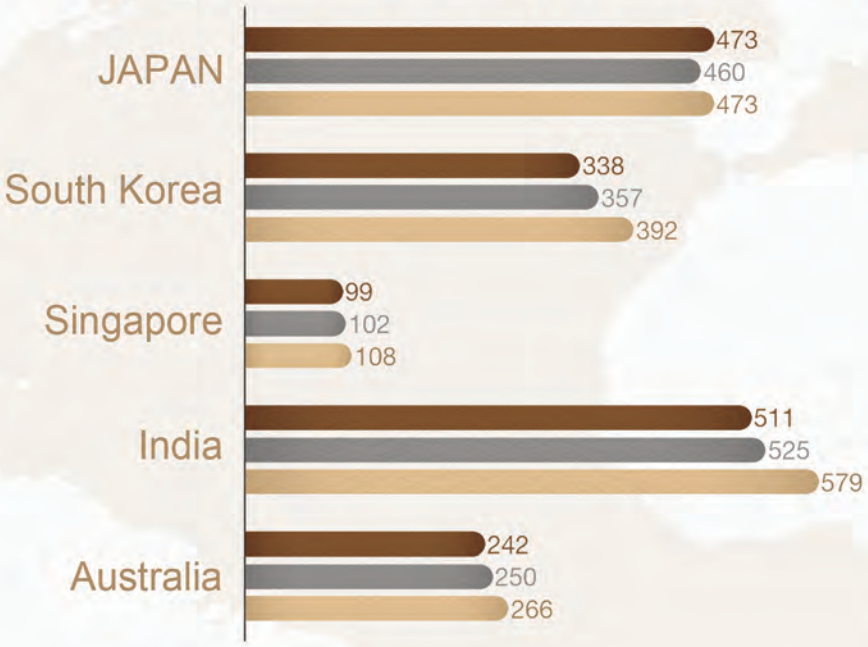
V. Australia

Australia is a long-term ally to the US and is supportive of its Indo-Pacific Strategy. Since 2012, US Marine Corps has been stationing rotationally in Darwin, and its force scale has reached a planned cap of 2,500 personnel in 2019. Australian 2019-2020 defense budget is about US$27.5 billion, and its 2020-2021 defense budget will reach 2% of GDP, in order to strengthen its defense capabilities.

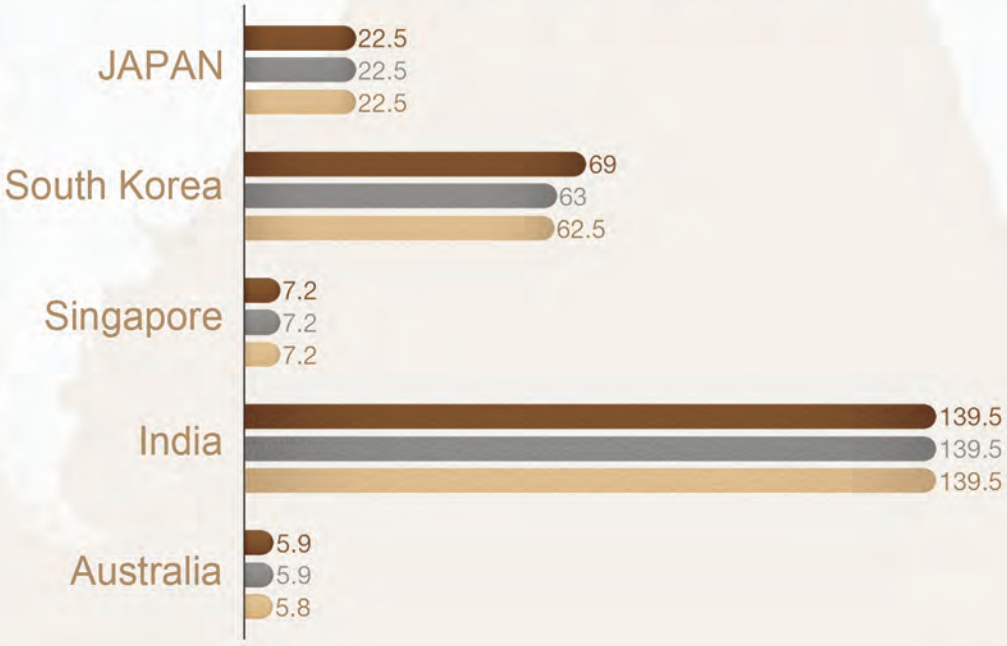
To address PRC's expansion in the South Pacific region, Australia in 2018 passed three anti-foreign intervention bills to keep its democratic system away from outside interference. At the same time, Australia continues improving cooperation with island countries in the South Pacific on military, maritime, anti-terrorism, and cybersecurity areas. For instance, it is going to establish a new Pacific Support Force (PSF), initiate military cooperation with Fiji and neighboring countries, help Papua New Guinea to establish its national defense force, and work with the US to construct the Lombrum Naval Base in Manus Island in Papua New Guinea. In the Pacific Islands Forum (PIF), Australia joined hands with New Zealand and countries in the South Pacific to address the *Boe Declaration*, in order to strengthen their collective defense cooperation to react to the threats to regional security.

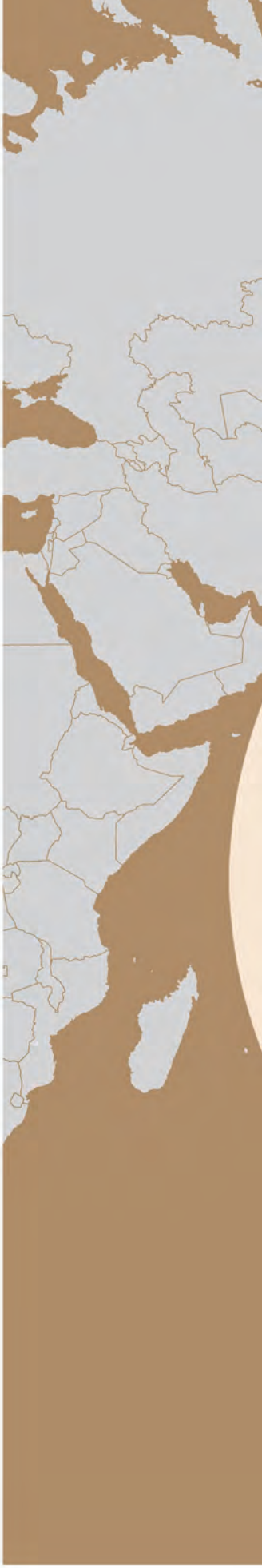
Defense Budget and Manpower Fluctuation of Major Countries in the Indo-Pacific Region

Defense Budget (Unit: US$100 million)



Manpower (Unit: 10,000 Personnel)





Source: The Military Balance 2017, 2018, and 2019; Stockholm International Peace Research Institute (SIPRI); Australian Department of Defence Annual 2016, 2017, and 2018; Defense of Japan 2016, 2017, and 2018

【Diagram of Taiwan's Geostrategic Location】

VI. Southeast Asia

Southeast Asian countries have tremendous potential in economic development and as a result of globalization of market economies, Southeast Asia has become one of the fastest-growing regions in the world. In order to increase their global economic competitiveness and make use of the efficacy on mutual benefits, multilateral economic and trade cooperation, and security alliance in the region have been taken shape; however, the status in this region suggests an inclination of economic reliance on the PRC and security reliance on the US. In addition, for the past few years, maritime security, terrorism and extremism, transnational crimes, and cybersecurity issues have all become the center of attention for ASEAN regional security cooperation efforts.

Southeast Asian countries do not strike the same chord toward PRC's growing national power and militarization efforts on islets and reefs in the South China Sea in recent years. Thailand alienated from western countries after its coup in 2014, and the PRC took the initiative to get a closer relationship with Thailand. The Philippines is a sovereign claimant in the South China Sea; however, President Rodrigo Duterte has intentionally toned down the claims and sometimes acted to be more friendly with the PRC and drift away from the US. As to Malaysia, after Prime Minister Mahathir Mohamad was re-elected, he asked to review parts of the country's involvement in the BRI owing to concerns of financial burdens, but overall Malaysia still values highly the trade relations with the PRC. Vietnam has simmering conflicts with the PRC as a result of the sovereignty issues in the South China Sea, and consequently has greatly improved security relations with the US. Singapore is trying to maintain a balanced policy toward the PRC and the US, and continues providing infrastructure to support US military basing. Singapore and the US continue maintaining a close military security and cooperation relationship. The US has treated regional organizations, such as the ASEAN, the forum of the Asia Pacific Economic Cooperation (APEC) as platforms to foster a free and open Indo-Pacific region and continue cooperating with ASEAN countries.

Section 3 Taiwan's Strategic Role in the Indo-Pacific Region

Taiwan is located at a key geostrategic location in the Indo-Pacific region, and the cross-Strait situation is vital to the security of international sea lines of communicationand global economic development. Over the years, the established democracy and freedom, economic development, information technology, and the experience and capacities in HA/DR of the Republic of China (Taiwan) are exemplary models in the region.Taiwan will share the same universal values with democratic countries, and dedicate to maintaining our common security and interests.

I. Global Views towards Taiwan's Linkage with Security in the Indo-Pacific Region

Pushing forward the freedom and openness in the Indo-Pacific region signifies the assurance of freedom of navigation in the air and at sea. The Taiwan Strait is a critical transportation passage for regional air and maritime transportation as well as international trade. The ROC maintains a free, democratic, and open presence to help ensure the freedom, openness, and sustainable prosperity for the Indo-Pacific region. Consequently, our nation can play an active role to deepen security ties with countries in the region.

1. The United States

   From the 1950s when the US military assisted the defense of Taiwan till the implementation of the *Taiwan Relations Act* in 1979, the US had played a supporting role for Taiwan's security and remains an important pillar to the stability in the Taiwan Strait. The US is supportive of Taiwan's development of a self-reliant defense capability to fight against any form of coercion and advocates cross-Strait differences shall be resolved through cross-Strait dialogues and peaceful means. After President Trump took office, his key officials have mentioned several times that Taiwan is an important security partner to the US and a model of politics, economy, freedom, and democracy in the Indo-Pacific region. With its location at the forefront of the Indo-Pacific region, Taiwan will play a crucial role in maintaining a free and open Indo-Pacific.

   In December 2018, President Trump signed the *Asia Reassurance Initiative Act (ARIA)* of 2018, which incorporates Taiwan in the security umbrella of the Indo-Pacific region, and reiterated US security commitment and support to military sales to Taiwan. US DoD's *Indo-Pacific Strategy Report* in 2019 stressed that the US is pursuing a strong partnership with Taiwan, ensure that Taiwan remains secure, confident, free from coercion, and will faithfully implement the *Taiwan Relations Act*. The *Taiwan Travel Act* was passed to provide the legal basis for high-level officials to visit Taiwan. The Act is helpful to deepen the relations between the two countries, and can encourage like-minded countries in the region to work together to promote regional peace, prosperity, and stability.

2. Japan

Japan is confined with a lack of domestic resources, and is an "export-oriented" country that relies on air and maritime transportation to import crude oil and industrial raw material and export various industrial products. The Taiwan Strait and its neighboring navigation routes are necessary passageways for Japan's inbound/outbound transportation; therefore, the security of the Taiwan Strait is vital to its economic development. Japanese officials have openly stressed several times that cross-Strait peace and stability are critical to the region and the world.

As written in the *Defense of Japan 2018*, issued in August 2018, PRC's missile deployment is posing a serious threat to Taiwan according to a cross-Strait military comparison. To address the issue of the People's Liberation Army Air Force (PLAAF) warplanes across the middle line of the Taiwan Strait, Japanese Ministry of Foreign Affairs calls for a direct dialogue between both sides of the Taiwan Strait to peacefully resolve the issue, and it is obvious that Japan is highly concerned about the security in the Taiwan Strait.

3. Australia

The Department of Foreign Affairs and Trade (DFAT) of Australia in November 2017 issued the *2017 Foreign Policy White Paper*, stressed to advance a secure and prosperous Indo-Pacific region, and expand partnerships with countries of shared values in the world. Australia is hoping to see an Indo-Pacific region that is keeping the law and order, respecting rights of all states, and remaining secure and peaceful, and will promote regional stability through political and diplomatic means, and bilateral and multilateral mechanisms. The Australian Office Taipei has expressed that Taiwan is an important partner to Australia and both countries can work hand-in-hand in the Indo-Pacific region.

4. India

India's Act East Policy emphasizes the importance of maritime security. Because 90% of its trade and energy rely on maritime transportation, India is willing to work with Indo-Pacific countries to maintain the security of international trade and sea lines of communication. Prime Minister Modi expressed his views on the Indo-Pacific region at the Asia Security Summit: The Shangri-La Dialogue in 2018 (hereinafter refer to as the Shangri-La Dialogue) that the region is a free, open, and inclusive one, and is centered on the ASEAN to initiate dialogues, not uses of force, and respect international laws, and the rights of freedom of navigation at sea and in the air.

5. European Union

The ROC holds the same value of democracy, rule of law, and human rights with the European Union (EU). The European Parliament held a plenary session in December 2018 in Strasbourg, France, and adopted a resolution in response to the Annual Report on the implementation of the Common Foreign and Security Policy (CFSP), in which the contents of supporting Taiwan were added. The resolution reiterates the support for Taiwan's meaningful participation in international organizations, mechanisms, and activities, and emphasizes that the security in the Indo-Pacific region is of critical importance to the interests of the EU and its member states. It calls for all parties concerned in the region to solve differences through peaceful means, avoid changing the status quo unilaterally, and encourages a resumption of cross-Strait dialogues, so as to maintain regional security.

6. The ASEAN

The ASEAN is one of our major trading partners. The number of new immigrants in Taiwan from ASEAN countries is climbing, and the interactions of trade and people are also getting closer. The ROC cannot officially join ASEAN related cooperation mechanisms because of the PRC. However, in the recent Shangri-La Dialogues held in Singapore, which have also seen the representation of our scholars and experts, the security in the Taiwan Strait has become one of the hot topics among participating countries. In May 2016, President Tsai Ing-wen announced to implement the New Southbound Policy to expand the connections with the ASEAN, the South Asia, New Zealand, and Australia in trade, cultural, and educational fields, and help to demonstrate the role and value of our nation in the Indo-Pacific region.

II. The ROC as a Key to Peace and Stability in the Indo-Pacific Region

The ROC has pledged to maintain world peace, strengthen the values of freedom and democracy, and realize the protection for human rights and rule of law as long-lasting promises to the region and the world. As a reliable and important partner in the Indo-Pacific region, we have been sharing valuable experience in pursuing prosperity, security and good governance with like-minded countries and we take the promotion of universal values and fulfillment of international obligations as our responsibilities. We have been proactively enhancing exchanges and dialogues with many countries to expand security cooperation in international anti-terrorism, disaster relief, and non-proliferation efforts, in order to facilitate peace, security, and stability in the region.

1. Vital Geostrategic Role

The ROC is located in the center, a position of geostrategic importance, of the first island chain of the Western Pacific, and is vital to US Indo-Pacific Strategy. We will continue strengthening our defense infrastructure and making use of our superior strategic location to work with countries in the region, so as to deter aggression and maintain peace.

2. Protection of Universal Values

Since the lifting of martial law in 1987 and a series of democratic reforms, we have become a democratic and free country with all-inclusive and diversified social values. As US Vice President Mike Pence once stressed, Taiwan's embrace of democracy shows a better path for all the Chinese people. The ROC will steadfastly uphold its honor as a "model of success in Asia," continue working with democratic countries around the world to protect the universal values of democracy, freedom, and human rights, and help realize the freedom and peace in the Indo-Pacific region.

3. Continuation of Developing Free Economy

The economy of our nation is free and open, and is ranked as the 10th among 180 countries in the *2019 Index of Economic Freedom*, published by the Heritage Foundation in the US. In addition, our overall competitiveness is ranked as 16th in the *IMD World Competitiveness Yearbook 2019*, published by the International Institute for Management Development (IMD) in Lausanne, Switzerland, with the best performance in "government efficiency," and greatest progress in "business efficiency" categories. We continue maintaining a stable momentum to push for economic development in the region.

4. Improvement of Information Security Cooperation

The rapid evolution of technologies has brought about a critical topic of concerns worldwide: strengthening information security. Our nation has exceptional information and communications professionals, advanced hardware technology, and cybersecurity capabilities, and we may continue working with countries having advanced information technologies to strengthen cooperation in information security to protect from and counter against sabotages from international hackers, and construct an ever-evolving protection network for information security.

5. Support of International Security Norms

As a stakeholder in the international community, the ROC has always abided by all international laws and regulations, and supported activities including containing terrorist operations, and international non-nuclear proliferation. Facing dynamic international situations, we are capable of and determine to help maintain regional peace and stability as a reliable and enduring partner on the world stage.

【Diagram of the ROC as a Key to Peace and Stability in the Indo-Pacific Region】

6. Promotion of Non-conventional Security Cooperation

Arising from the natural disasters caused by global climate change and fast-spreading contagious diseases transmitted by transnational population movements as a result of globalization, non-conventional security has become an emerging security issue that cannot be ignored by any country. Our nation will continue participating proactively in transnational non-conventional security cooperation and HA/DR activities, being a responsible international stakeholder in fulfilling our obligations.

Chapter 2 Security Threats

The PRC Leader Xi Jinping proposed a "one-country; two systems" scenario for Taiwan in a commemoration event for the 40th anniversary of the *Message to Compatriots in Taiwan*, and he once again didn't renounce the option of the use of force against Taiwan. The PRC continues investing heavily in defense and speeding up its progress in defense and military modernization to tilt drastically cross-Strait military balance to its favor, and it is improving its capabilities to deny foreign intervention and conduct force projection through inter-service joint training in theaters, posing a serious threat to our national defense and security. In order to address the impacts of potential security challenges in our vicinity and changes in our domestic environment, we have to conceive viable responses with a mindset of comprehensive national security.

Section 1 PRC's Military Development and Threats

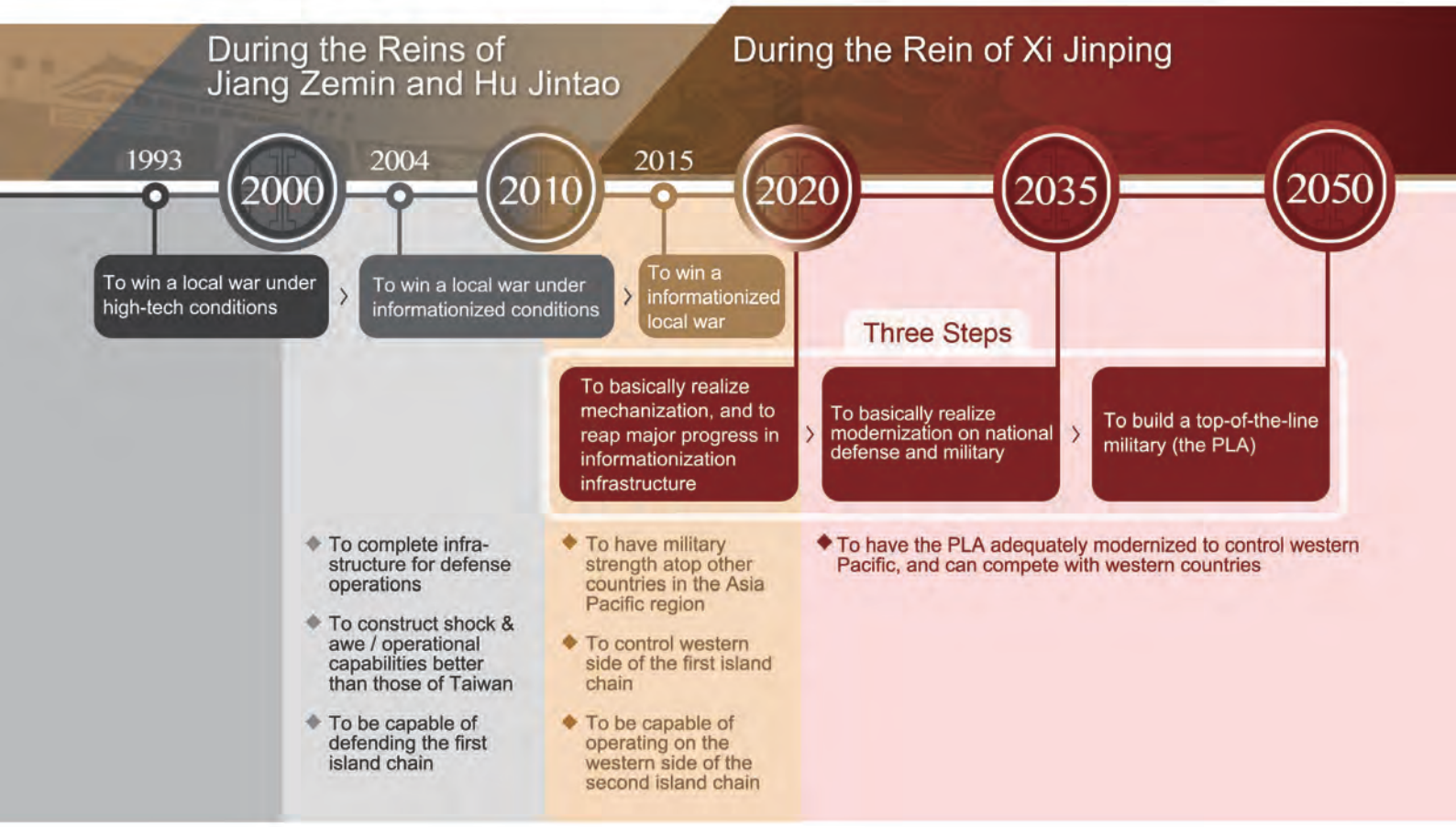
Through military reforms, newly commissioned weapons and equipment, strengthening realistic joint operational training, and inter-theater and long-distance air and maritime drills, the PRC can extend its force projection as far as the Western Pacific and the Indian Ocean, and its ballooning military power has been progressively increasing the threat level to us.

I. Development of PRC's Military Strategy

Since the establishment of the PRC, its military strategy has been centered on "active defense." Through its transitions of leadership, changes of domestic and foreign environment in different periods, and improvements of military capabilities, the meaning of "active defense" has been more leaning toward proactiveness. Accordingly, the guidelines for PRC's war preparation have transformed from "winning local wars under high-tech conditions" in 1993 and "winning local wars under informationized conditions" in 2004 to "winning informationized local wars" in 2015, in order to show its strong will to maintain territorial sovereignty and to win wars.

After the 19th National Congress of the Communist of China (CPC) in 2017, PRC Leader Xi revised the military development strategy of "three-step modernization of defense and military," expecting to (1) "fundamentally realize mechanization and make headway in informationization infrastructure by 2020," (2) "fundamentally realize modernization on defense and military by 2035," and (3) "build a world-class people's army across the board by the middle of this century," so as to provide a powerful strategic buttress to protect PRC's national interests. Then, the strategy of the People's Liberation Army (PLA) is gradually switching from "passive counterattack" toward "active preemption."

1. PLA Army (PLAA): pursuant to the strategic requirements of "maneuver operations and multi-dimensional offense and defense" to shift from regional defense to all trans-theater operations.



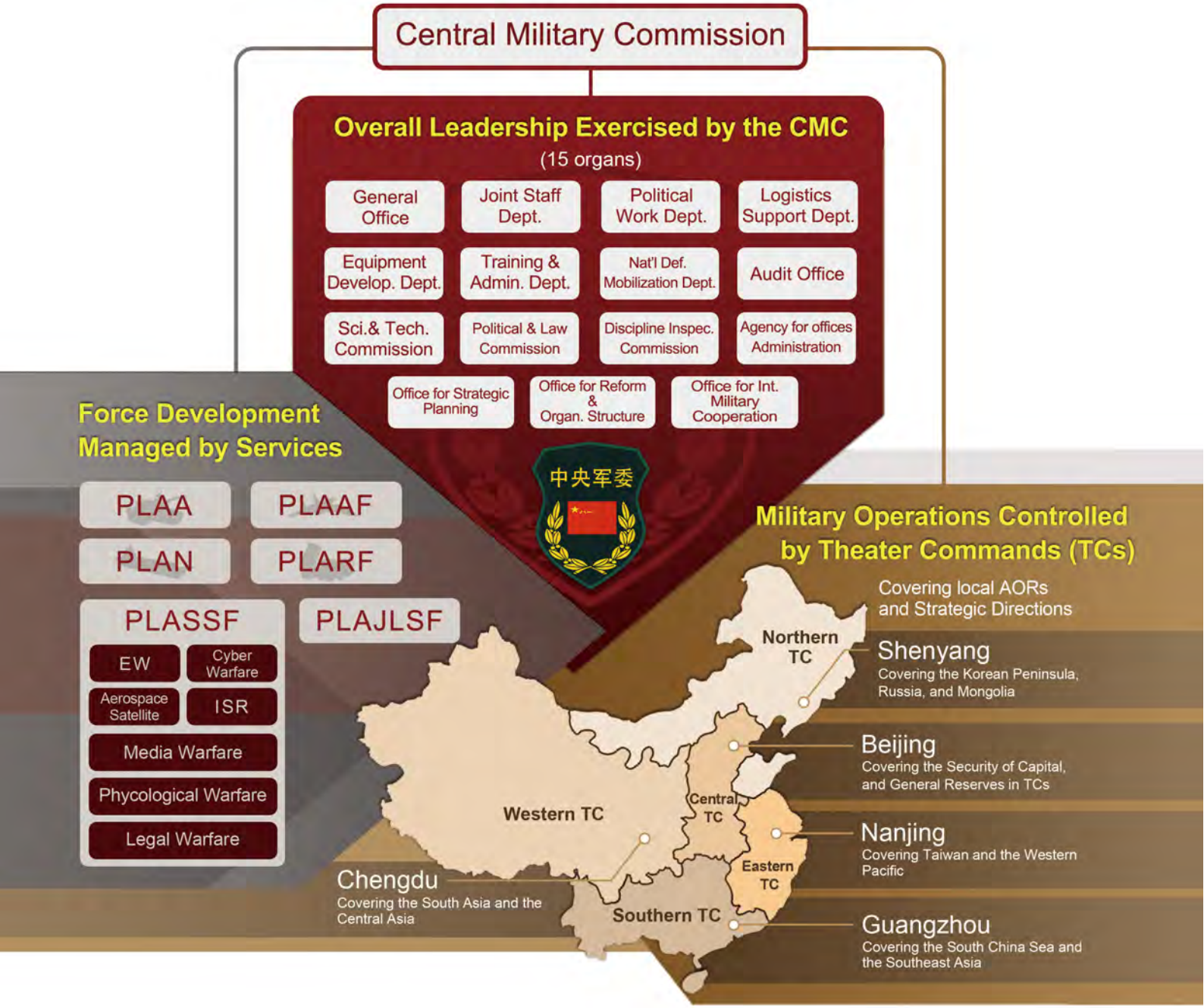
【Diagram of PRC's "Three-step Modernization of Defense and Military"】

2. PLA Navy (PLAN): pursuant to the strategic requirements of "offshore defense and far seas protection" to shift its focus from "offshore defense" to "far seas protection."

3. PLA Air Force (PLAAF): pursuant to the strategic requirement of "integrating air and space capabilities, and coordinating offensive and defensive operations" to shift its focus from territorial air defense to duality of offense and defense.

4. PLA Rocket Force (PLARF): pursuant to the strategic requirement of "possessing nuclear and conventional missiles, deterring wars in all battlespace," to sharpen its medium- and long-range precision strike and strategic counterbalance capabilities.

5. PLA Strategic Support Force (PLASSF): pursuant tothe strategic requirement of "integrating existing systems and aligning civil and military endeavors," to enhance developing capabilities in key areas and new-type combat forces.



【PLA Organizational Chart after Reforms】

II. Goals and Directions of Military Reform

The PLA had fundamentally completed the reform on the upper-level leadership command mechanism in late 2016. Since 2017, the PLA has been realigning army-level units and below by means of integration, switching subordination, and relocation, with primary focus on experimenting combination of manning and equipping for joint operational drills and training, so as to speed up strengthening its joint operational capabilities, and "generally achieve mechanization by year 2020 whit signficantly enhance informationization."

1. PLAA

The PLAA has disbanded institutional and border security/coast guard units, and realigned combat arms branches, so as to "flatten command level, finetune organizational structures, and shorten information transmission process." In addition, the PLAA, following the buildup guidance of "modernization," has strengthened its informationized operational capabilities, ratcheted up upgrading its battlefield command and informational management, and has been pushing for establishing the latest capabilities for its new aviation, and special forces.

2. PLAN

The PLAN has reassigned its North Sea Fleet, East Sea Fleet, and South Sea Fleet to the Northern, Eastern, and Southern Theater Commands respectively. It has increased to 7 Marine Corps brigades, and has been speeding up establishing the next generation of naval force of carriers, large combatant vessels, and replenishment ships. After PRC's overseas basing in Djibouti is completed, the PLAN will continue developing toward building up its capabilities in global force projection and diversified force application to maintain PRC's overseas interests.

3. PLAAF

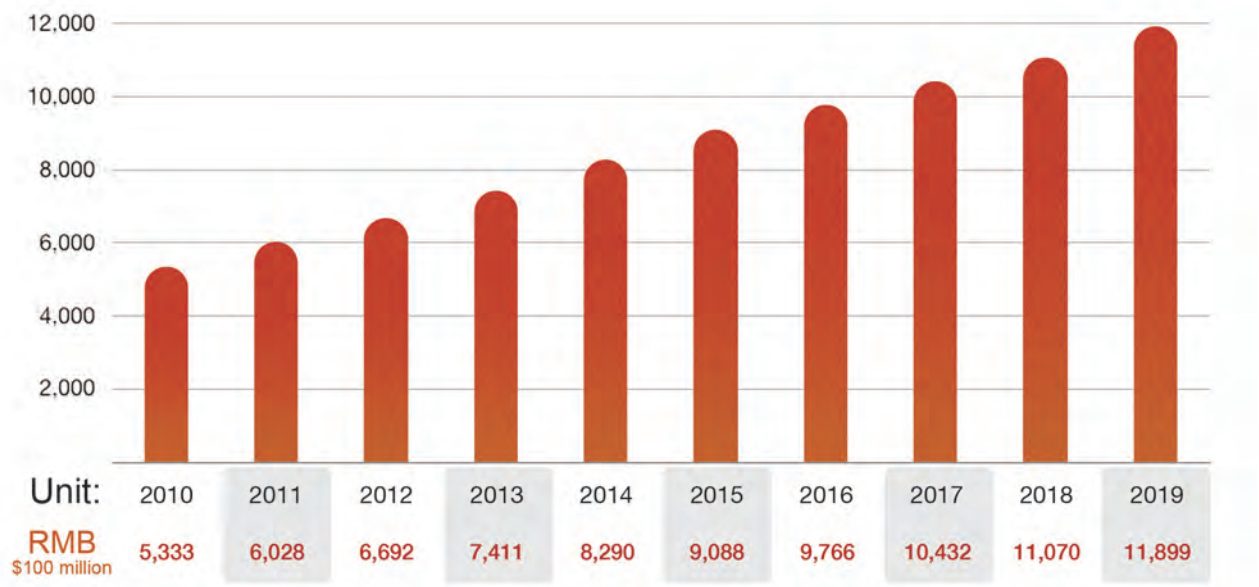
The PLAAF has realigned its organization by disbanding "divisions," and expanding "regiments" into "brigades" to simplify command levels. It has been commissioning next generation of fighters and large transport planes, speeding up modernization efforts, strengthening strategic projection capabilities, and sharpening its capabilities in air command and control, long-distance strike, and air superiority by intensively conducting long-range flight training and drills, so as to apply its strong air power to seize air supremacy.

4. PLARF

The PLARF has been expanding the missile units and conducting realistic firepower assault and maneuvering drills for missile brigades in the day and night settings without preplanned scenarios, so as to strengthen their capabilities in real combat situations. It continues R&D efforts for and then commissioning new missiles. The PLARF participates in PLA's force-on-force and live-fire exercises to exert its shock and awe capabilities in future operations against Taiwan, territorial defense in the region, and operations against foreign forces.

5. PLSSF

Since 2018, the PLSSF has been integrating operational capacities in categories of intelligence, reconnaissance, electronic countermeasures, cyberspace, space, psychological warfare, so as to construct a strategic, fundamental, highly endurable support force to help secure operational advantages to ensure the success of military operations.



Note: statistics from 2010 to 2017 are extracted from final spending data; from 2018 to 2019 from budget data.

【Statistics of PRC's Defense Spending from 2010 to 2019】

6. PLA Joint Logistic Support Force (PLAJLSF)

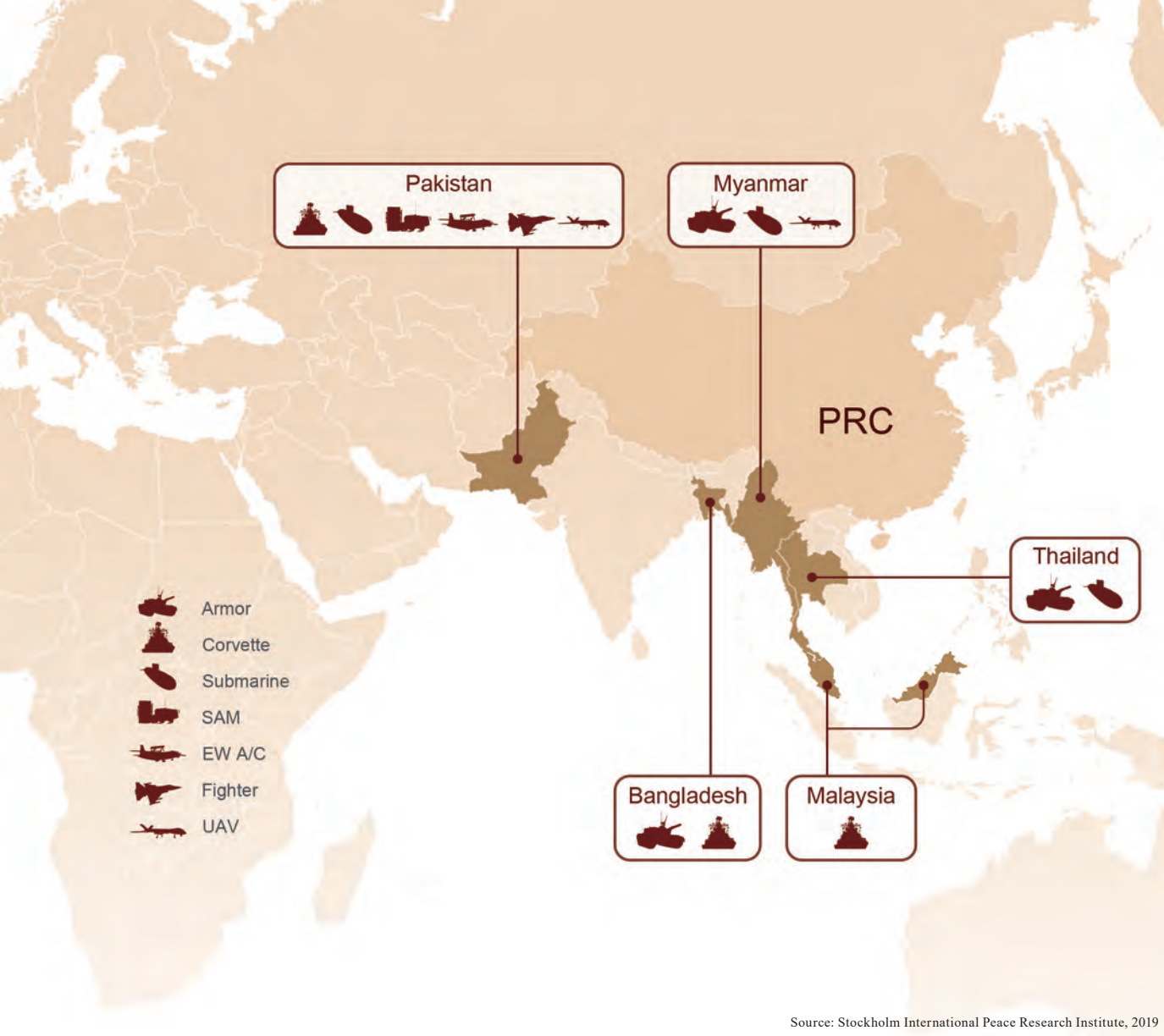
The PLAJLSF has integrated PLA's activities in warehousing, health service, transportation and deliveries, oil pipelines, engineering and construction management, reserved assets management, and acquisition, and set up 5 Joint Logistic Centers in Wuxi, Guilin, Xining, Shenyang, and Zhengzhou. Based on the principle that "Joint operations are achieved by joint training and joint logistics," the PLAJLSF was requested to be incorporated into a joint operational system to strengthen overall joint logistic support capabilities.

III. PRC's Defense Budget and Weapons R&D

The PRC is able to invest more resources in defense because of its growing economic power. In addition to introducing foreign advanced technologies, weapon systems, and platforms, the PRC is strengthening civil-military fusion in defense industry and applications of defense technologies to hasten its defense and military modernization.

1. Defense Budget

PRC's 2019 defense budget, the highest in Asia and only second to the US in terms of defense spending worldwide, of RMB 1 trillion 189.9 billion (US$176.3 billion) has increasedby 7.5% from RMB1 trillion 107 billion (US$164 billion) in 2018, roughly occupied 1.26% of its GDP. The PRC has ostensibly claimed the growth of its defense budget was due to its implementation of military modernization policy, and the protection rendered to its overseas interests. But the budget didn't cover many other expenditures and revenues, such as subsidies for defense R&D institutions for military-related industries and space, defense mobilization funds, and revenues from the defense industry.



Source: Stockholm International Peace Research Institute, 2019

【Overview of PLA's Arms Exports】

Over the years, the PRC has only released figures of its total defense budget and increased percentages, without concrete descriptions. Many expenditures relevant to the military have still been earmarked in the budgets of non-military organs in its State Council. Western think-tanks are suspicious of the transparency level of PRC's defense budget, whose real amount is estimated at least twice the number of the published figure.

2. Weapons R&D

Since the 19th National Congress of the CPC, the direction of PRC's military development has been adjusted to pursuing all territorial operations capabilities. The PRC continues commissioning primary and secondary operational weapon systems, such as light tanks and new helicopters for the PLAA; destroyers of a dozen thousand tons and the first domestically built aircraft carrier for the PLAN; stealth fighters and air defense missiles for the PLAAF; new guided missiles for the PLARF; new reconnaissance and navigation satellites, and new types of unmanned aerial vehicle (UAV), so as to strengthen its abilities of strategic deterrence, suppression attack, anti-ballistic missile, and strategic projection to build "all territorial operations capabilities."

(1) For the PLAA

To conduct maneuver operations and precision strike missions, and enhance all-weather multi-dimensional sea-crossing and island-landing operational capabilities, the PLAA subordinate units in each Theater Command (TC) are expanded with army aviation units equipped with various types of new helicopter, and the artillery brigades of Group Armies have been receiving PHL-03 long-range multiple launch rocket systems (MLRS).

(2) For the PLAN

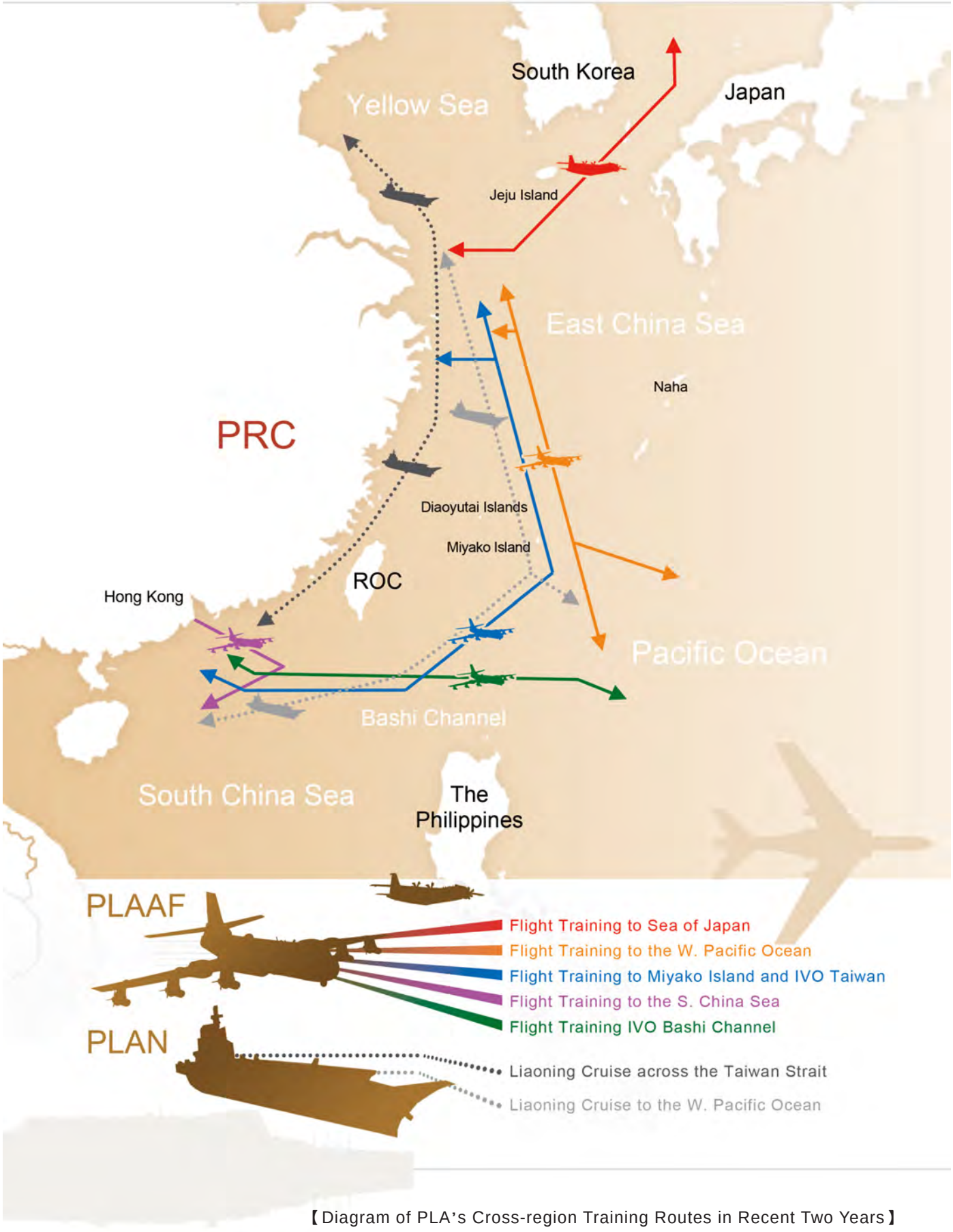
After launching, the first domestically built aircraft carrier remains in trials, and new carrier-based fighters and UAVs applicable to its catapult system is being developed. The PRC continues holding tests on the JL-3 intercontinental-range submarine-launched ballistic missiles (SLBMs) and shipboard electromagnetic guns, and equipping the YJ-18 anti-ship/land-attack missile and the YJ-12 supersonic anti-ship missile, to steadily enhance its far seas operational capabilities.

(3) For the PLAAF

The PRC continues self-manufacturing various types of primary and supportive warplanes, pairing up with Russian-made Sukhoi fighters, to phase out legacy aircraft. Domestically manufactured HQ-9 and HQ-22 air defense missiles, coupling with Russian-made S-300 and S-400 air defense missile systems, are deployed to areas in the vicinity of Beijing and confronting the East China Sea and the Taiwan Strait, to form a defensive net covering dimensions of Far-Medium-Close in distance and High-Medium-Low in altitude. In addition, the PLAAF continue replacing its automated radar measurement and signature intelligence (MASINT) processing and transmitting system, so as to improve its operational command and control efficiency.

(4) For the PLARF

The PLARF has been commissioning conventional, anti-ship, and nuclear variants of DF-26 missiles, and new intercontinental ballistic missiles, like DF-31AG and DF-41, so as to strengthen its long-range strike and nuclear deterrent capabilities. It has also been fielding DF-16 and DF-16G short- and medium-range ballistic missiles, and deploying DF-11 and DF-15 series short-range ballistic missiles to deactivate obsolete ones, so as to strengthen short- and medium-range conventional strike capabilities.



【Diagram of PLA's Cross-region Training Routes in Recent Two Years】

3. Armament Export

Stockholm International Peace Research Institute (SIPRI) issued a report in March 2019, and pointed out that from 2014 to 2018 the PRC had exported weapons to 35 countries with Pakistan, Myanmar, Thailand, Malaysia, and Bangladesh as main recipients. In the report, the top five arms exporting countries worldwide include: the US (34%), Russia (22%), France (6.7%), Germany (5.8%), and the PRC (5.7%), and notably, the arms export of the PRC has risen 2.7% over that of 2018.

PRC's major arms for export include: LY-80 air defense missile system, TL-50 medium-range surface-to-air missile system, VT-4 main battle tank, S26T submarine, C13B corvette, F24C frigate, L-15 advanced jet trainer, JF-17 fighter, and CH-4B and Wingloong-1 integrated reconnaissance and strike UAVs. Furthermore, Long March carrier rocket series are used as commercial space launch vehicles, to increase PRC's competitiveness in international space market and regional influences.

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2		

1. With its operational radius and long-range transportation and supply capabilities, the PLAAF is capable of gaining air superiority on the western side of the first island chain.

2.3. The PLA continues improving its performance in mobile operations and precision strike missions by commissioning new weapons and conducting a variety of exercises and drills, so as to strengthen its operational capabilities.

4. The ROC Armed Forces are monitoring the entire activity of PLA's warplanes and vessels conducting long-range patrol missions, and assigning assets to monitor PLA movements or to escort pursuant to the rules of engagement.

IV. PRC's Military Preparedness

The PLA has been following a development strategy of "three-step modernization of defense and military" to "comprehensively deepen reforms, realign organizational construct, optimize force scale and structure, and strengthen the cultivation of personnel," so as to enhance its combat competences.

1. PLAA

The PLAA has been intensively developing "aviation, special forces, and unmanned and digitalized platforms." The mission of the Theater Command is transformed from "homeland defense" to "regional defense," and all the group armies continue setting up air assault brigades to meet the strategic goals of "mobile operations, and three-dimensional offense and defense." The PLAA has been following its annual "military training outline (MTO)," to conduct training and drills in basic, tactical, and campaign levels, and heading toward a "real combat and regular scale" setting of preparedness through its "Stride (Kua Yue)" and "Unconventional Troops (Qi Bing)" series of exercises. By doing so, the PLAA can lay a solid foundation for developing capabilities of force coordination, joint operations and conducting diversified military missions.

2. PLAN

The PLAN has been using realistic combination settings in drills and exercises, such as "Seahawk (Hai Yin) Cup," "Bravery (Yong Gan) Cup," to conduct training of joint counter-air, joint sea control, long-range strike, anti-submarine, and minelaying. The training focuses include: joint maritime strike, joint blockade, simulated countering foreign forces, anti-submarine, anti-mining, air-sea coordination, far seas drills, and synthesized tactical drills. In addition, the PLAN has been forming flotillas of vessels and submarines to conduct blue water voyage training regularly, so as to sharpen its capabilities of blue water maneuver operations and countering foreign forces in the Western Pacific, the South China Sea, and the Indian Ocean.

3. PLAAF

The PLAAF has been randomly assigning units to receive rotational training at airfields on plateaus and islets, regularly conducting escort missions over the East China Sea, combat air patrol (CAP) missions over the South China Sea, long-distance training to the Western Pacific, so as to strengthen its all-territorial and crossing island chain capabilities. At the same time, ingresses of aggressors are added into simulated training scenarios to improve participants' capabilities of joint operationsand command responses. The PLAAF has been conducting "Red Sword," "Blue Shield," "Golden Helmet," and "Golden Dart" series of drills to sharpen its capabilities in real combat settings, so as to meet its operational requirements of "equal emphasis on deterrence and warfighting, and responding to all territories."

4. PLARF

The PLARF continues increasing the production rate for medium- and long-range and intercontinental missiles, such as DF-16G, DF-21D (anti-ship version), DF-26C, and DF-31AG. The trials for newest missiles, like DF-17, DF-26A (nuclear version), DF-26B (anti-ship version), DF-41, and the hypersonic gliding warhead have been sped up. All the above-mentioned missiles are being developed toward criteria of conventional medium- and long-

range precision strike, and fast destruction of global targets (for nuclear version). In addition, the PLARF has been conducting "Sky Sword" series of exercises, base and trans-theater drills, theater-wide joint training, in order to synchronize operational tempo to achieve the goals of "being combat-ready at all times, launching with punctuality, and destructing targets effectively."

V. Overseas Basing and International Peacekeeping

The PRC has established its first overseas base in Djibouti to conduct escort and maritime HA/DR missions. Through participation in the United Nations (UN) peacekeeping operations, PRC military personnel have been actively implementing a variety of drills with international peacekeepers in the host country to tap lesson-learned in dealing with contingencies and verify the acclimation status of PRC military personnel and their equipment to the local environment. Their activities in escort, anti-piracy, and international peacekeeping have shown PRC's intention to demonstrate its military prowess to the outside world.

1. Overseas Basing

On 1st August 2017, the PLAN held an activation ceremony for its first taskforce to man up its supply base in Djibouti, which is located at the entrance of the Bab-el-Mandab Strait, a choke point to the Red Sea. In April 2018, the task force, in the name of assisting in HA/DR, attended a joint medical support training for the first time with foreign forces stationed on site. Ostensibly, the PRC claimed its presence in Djibouti is used to conduct maritime security, humanitarian assistance, and logistical supply missions. However, in May 2018, the PLA constructed a new pier over 450 meters in length at the base, capable of handling destroyers and large replenishment vessels, demonstrated its broader military application of the base. The base can join up with overseas BRI efforts to enhance PRC's blue water operational capabilities in the Indian Ocean, so as to substantively improve the effectiveness of its operations.

2. International Peacekeeping

Since its first participation in UN peacekeeping operationsin April 1990, the PRC has assigned 39,000 person-times of military personnel to join 24 UN peacekeeping missions. It continued taking part in peacekeeping missions in 5 countries: Lebanon, Mali, South Sudan, Sudan, and Congo in 2018. Now, among permanent members of the UN Security Council, the PRC has become the one which assigned the highest number of peacekeepers.

While attending the 70th UN General Assembly in September 2015, PRC Leader Xi announced in his address, "China will join the new UN Peacekeeping Capability Readiness System, and build a peacekeeping standby force of 8,000 troops." In September 2017, PRC's Ministry of National Defense announced, "A standby force of 8,000 troops has been registered in the UN" The PRC is hoping to train its military forces with realistic scenarios through assigning troops in overseas missions, and trying to play the dominant role in international peacekeeping missions.

The PRC is attempting to project its image as a responsible great power by organizing a UN peacekeeping standby force, assigning rotational escort flotillas to the Gulf of Aden, expanding its HA/DR activities and providing medical services. However, its peacekeepers were assigned mainly to the Middle East and Africa with an eye at the abundance of oil and mineral resources in the region, and the PRC is, in fact, trying to expand its international influence by exhibiting its military prowess both in hardware and software.

VI. Military Threats to Taiwan

So far, the PRC has never renounced the use of force against Taiwan, and one of its major combat preparedness objectives is to invade Taiwan. For the past few years, the PRC has been procuring weapons and conducting combat training and drills specifically aiming for a Taiwan scenario. Now, it is capable of initiating joint blockades and joint firepower strikes against Taiwan, and is posing severe challenges to our defense preparations and defensive operations.

1. Reconnaissance and Early Warning

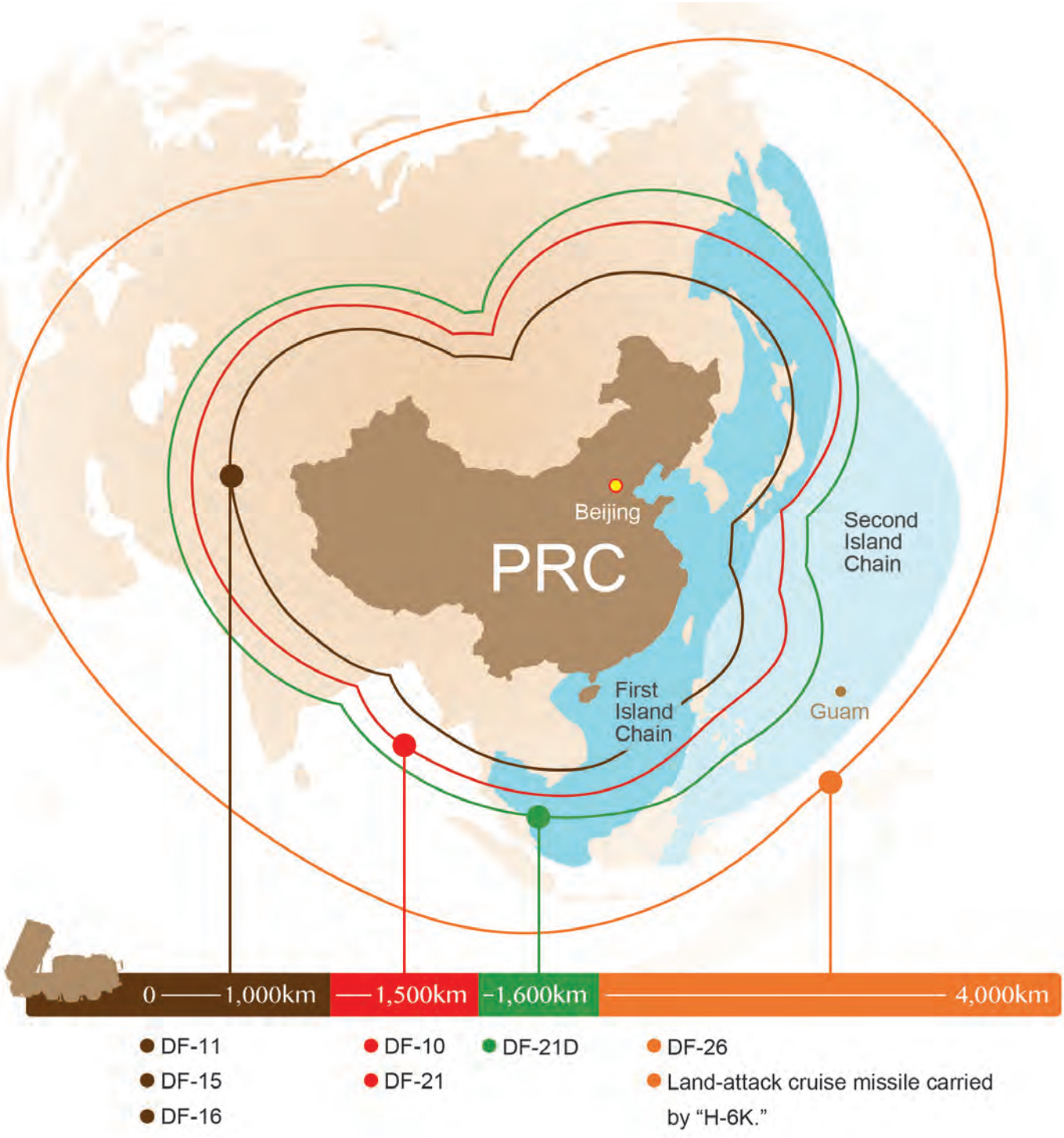
   By deploying reconnaissance satellites and over-the-horizon (OTH) radars, commissioning new airborne early warning (AEW) aircraft, fielding vessel monitoring and alert systems (VMASs), and initiating regular sorties of various reconnaissance aircraft to collect intelligence along its coasts, the PRC is now capable of monitoring dynamic air and maritime status on the western side of the second island chain. This situation is unfavorable for us to conceal our deployment of forces and is threatening the activities of our air and naval assets.

2. Cyber and Electronic Warfare, and Disinformation

   The PRC has established a variety of electronic jamming sites and deployed lots of interference equipment, and have been finalizing the preparations on electronic warfare (EW) capabilities, for major combat platforms in the PLAN and the PLAAF. Furthermore, it can assign signals reconnaissance aircraft and anti-radiation UAVs to jam and attack our nodes of command, control, communications, cyberspace, intelligence, surveillance, and reconnaissance (C4ISR), land-based air defense missile, and fire-control and early warning radar sites. To achieve the goal of "integrated cyber and electronic warfare (ICEW)," the PRC has developed ICEW platforms to initiate cyberattacks on our critical political, economic, and military installations, and take chances to disseminate disinformation, expecting to paralyze our high-value targets (HVTs) and cause disturbances in the public.

3. Command and Communications

   Joint operational drills and exercises attended by multiple services of the PLA have centered on practicing the operations of command and control mechanisms. Through a series of "Stride," "Firepower," and "Joint" operational exercises in recent years, the PLA can finetune the horizontal and vertical communications throughout its command and control mechanisms, and expand their coverage to reach the west side of the first island chain.



【Diagram of PLA's Missile Coverage】

4. Blockade Operations

The PRC continues conducting joint sea control operational exercises in the waters off Shandong, Zhejiang, Guangdong, and Hainan Island. Moreover, it has deployed shore-based anti-ship missiles, S-300 or HQ series air defense missiles, and surface vessels and underwater assets. Now, the PLA is capable of implementing air and maritime blockades in the vicinity of the Taiwan Strait.

5. Firepower Strikes

The firepower of the PLA can cover Taiwan Proper and its offshore islands by means of long-distance multiple rocket launchers deployed in the PLAA forces on the coastal areas confronting Taiwan, as well as anti-ship missiles, air-to-ground missiles, and cruise missiles of the PLAN and the PLAAF. The PLARF has adopted a multi-wave launching mode in live-fire exercises in recent years to render shock and awe effects of assault to paralyze and strike the targets with precision, and is capable of destroying our command and control centers and military targets.

6. Joint Landing

The Eastern and Southern Theater Commands continue receiving assault amphibious vehicles (AAVs) and initiating joint landing (occupying the island) drills with these AAVs and landing platform docks (LPDs) to strengthen their precise, three-dimensional, all territorial, and multi-functional capabilities as well as their amphibious operational capacities. Confined with the complexity of landing operations and a lack of proper transport vehicles and logistic support, the PLA is currently capable of conducting joint landing operations to "take over our offshore islands."

7. Denying Foreign Forces

The coverage of DF-21D and DF-26 anti-ship ballistic missiles, and DF-10 cruise missiles can reach the second island chain and its neighboring areas, and PLAN and PLAAF H-6 bombers routinely fly across the first island chain to the Western Pacific and the Sea of Japan to conduct joint air and maritime drills. These two developments have directly posed a military threat to US forces in the Indo-Pacific region, and can effectively delay foreign interventions between the first and second island chain.

Narrative of Noted Personnel VOICE

Keeping Close Watch and Reacting Preemptively

I started my voluntary military career as a seaman after completing 6 months of compulsory service. After the promotion to a petty officer and going through multiple positions, I became deeply convinced that military career is full of challenges and opportunities. Then I decided to surpass myself and expand my career track by attending an officer candidate class, and believed that my future would be totally different.

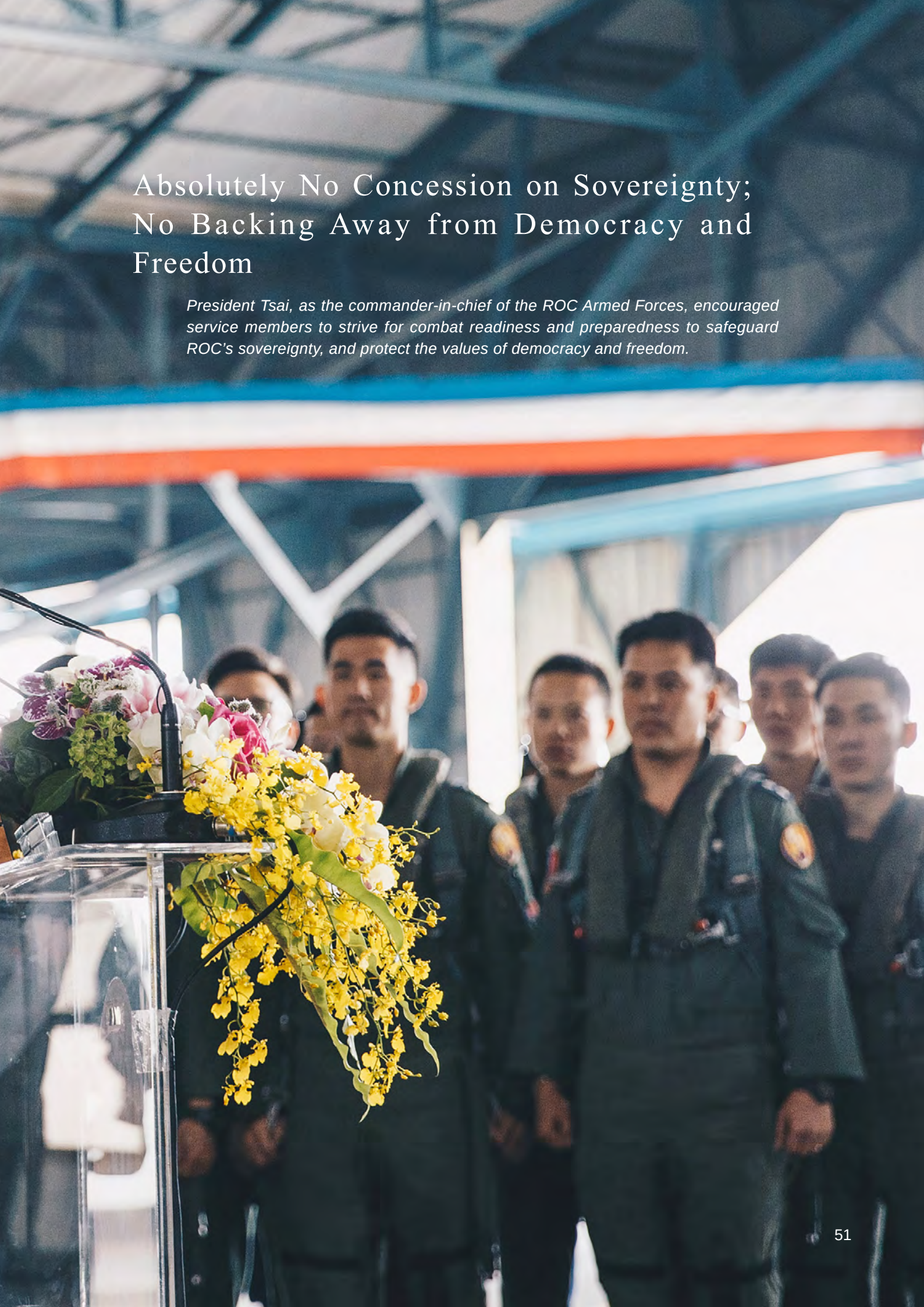
Later, I was commissioned as a communications officer, and realized that being an officer I shall be able to plan and execute orders thoroughly. Therefore, being efficient and effective are prerequisites to carry out a mission. I was later reassigned as an operations officer in the Fleet Operations Center of the Fleet Command, responsible for monitoring the status of neighboring waters in all weather conditions. I now have to collect intelligence and information to verify target bearings and submit verified data to related units to handle. Along the way, every process is interlinked. A sudden change on the situation board might be critical to defense and security; consequently, I have to pay full attention to this virtual battlefield without ashes and dust. I once again, realize that military personnel have to defend the nation round-the-clock, and it is definitely not a walk in the park to maintain peace.

A sailor knows that one shall defend our nation's territorial waters and carrying out assigned duties no matter serving at sea or onshore. While serving onshore in the Fleet Operations Center, which is operational 24/7, I am getting more skilled and experienced. By proficiently following a complete SOP for contingent reactions, I can "handle timely and react instantly" in the face of contingencies, and am trying to "take initiatives and preempt" because I have set a higher standard for myself. I know, as a servicemember, it is my duty and mandate that one shall "not be defeated by the challenges critical to national security."

Lieutenant Junior Grade Lin Ming-hong, Operations Officer, Fleet Command, ROCN

Absolutely No Concession on Sovereignty; No Backing Away from Democracy and Freedom

President Tsai, as the commander-in-chief of the ROC Armed Forces, encouraged service members to strive for combat readiness and preparedness to safeguard ROC's sovereignty, and protect the values of democracy and freedom.



Section 2 Defense Challenges vis-à-vis Changes in Security Environment

Presently, the Indo-Pacific region is seeing dynamic developments in co-opetition among great powers and PRC's military expansion, and non-conventional security threats from disinformation generated from social media by taking advantage of freedom and diversification, and conducting cyberattacks on key information infrastructure. These situations have become threats and challenges to our national security, and we have to face them directly and handle them with serious considerations.

I. PRC's Military Development Detrimental to Security in the Taiwan Strait

Through a rapid growth on its comprehensive national power, the PRC is speeding up its military reform and weapon modernization, and has greatly improved its military capabilities in a real combat setting through its frequent crossing island chains training, far seas drills, and joint air and maritime drills. By constructing runways and missiles batteries on islets and reefs in the South China Sea, conducting routine patrols in the East and the South China Sea by its air and naval assets, the PRC has increased its substantive control over these waters. The growing military strength of the PRC in this region has become a serious concern to regional peace and development, and jeopardized the security and stability of the Taiwan Strait.

On the premise of avoiding an arms race and concerns of our financial resources, our nation has been using defense resources on prioritized items in force buildup and preparedness, and developing mobile, affordable, sizable, mass-producible, and expendable asymmetric capabilities to deter PRC's invasion against Taiwan and ensure our national security.

II. Potential Security Challenges in the Waters around the Taiwan Strait

The waters surrounding the Taiwan Strait are immense, and there are many islets and reefs in the East and the South China Sea while some of them are having sovereignty disputes. In addition, the occurrence that neighboring countries are competing for maritime rights and resources is negatively affecting the ecosystem and fishery resources in our territorial waters, and further complicating the security issues. The PRC has made a foray in recent years to conduct frequent military activities around our air space and territorial waters as well as in the South China Sea and the Western Pacific. Japan, the Philippines, and Vietnam also continue building up their military muscles. Consequently, if a local clash arises in the region, it will not only impact our security, but will also threaten all activities of trade and commerce in this region. Moreover, illegal activities, like marine pollution, maritime smuggling, trespassing fishing are also topics of concern to national interests and economic development.

Facing a complicated security environment surrounding the Taiwan Strait, the ROC Armed Forces stay vigilant by maintaining seamless surveillance and reconnaissance activities, enhancing monitoring air space and waters in our vicinity. Furthermore, the ROC Armed Forces also conduct missions to protect our sovereignty and fishing activities in coordination with the vessels from the Coast Guard, so as to ensure our rights in our exclusive economic zone (EEZ) and play a key role to help secure international waterways and regional stability.

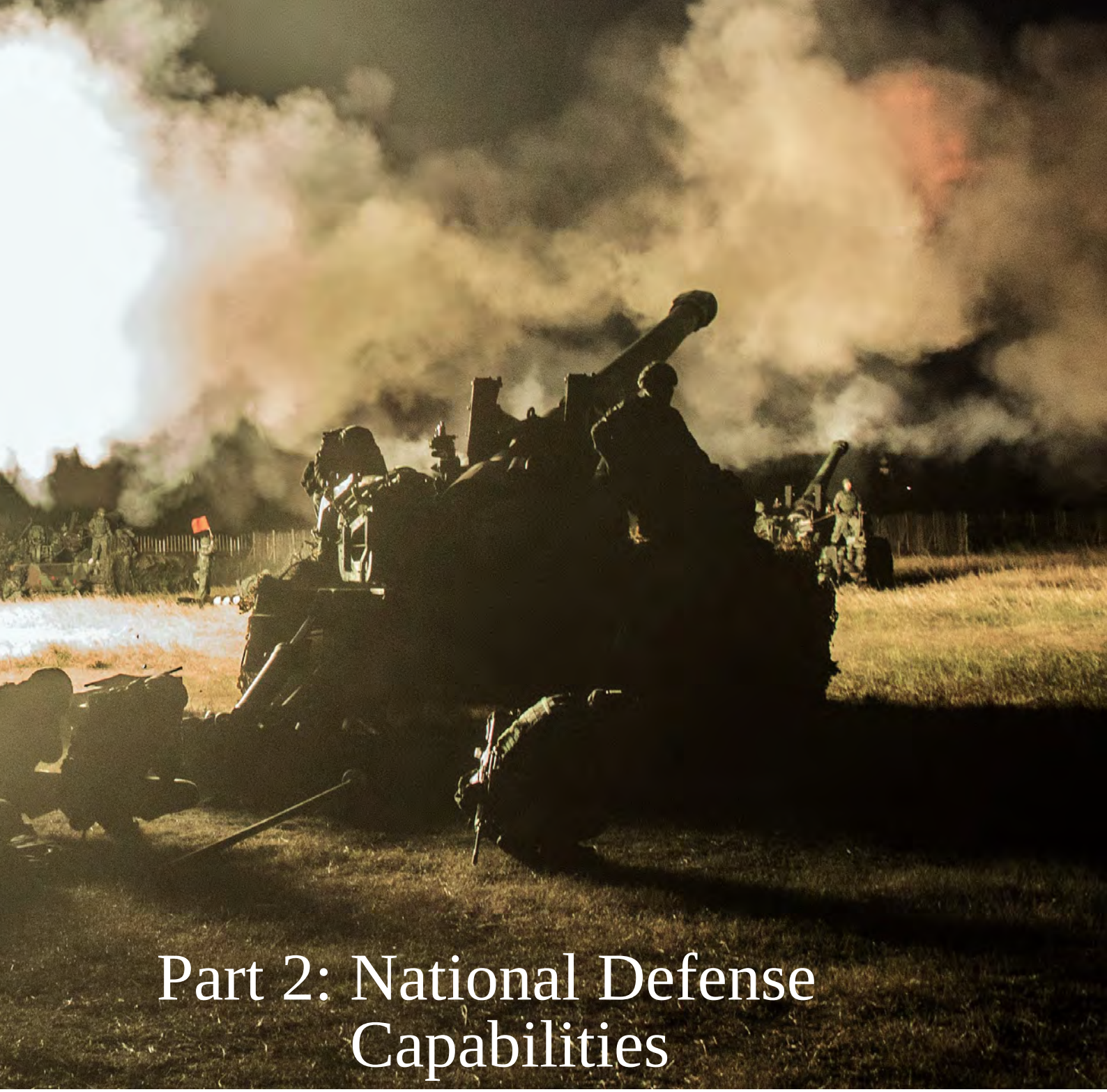
III. Changes in Domestic Status Pose Security Impacts

Because of intensive cross-Strait interactions in social, economic, and cultural sectors over the years, the PRC has been taking this advantage and continues expanding its measures "favorable to the people in Taiwan" to solicit the people's support. The PRC also utilizes a variety of verbal intimidation and saber-rattling means, coordinated with a strategy of "three warfares-public opinion warfare, psychological warfare, and legal warfare," to ideologically infiltrate and divide our society from the inside.

Tremendous disinformation disseminated through the internet, new media, and new communication technologies, are impacting our society. A consistent series of cyber-attacks are targeting our government and industries; therefore, information security and cybersecurity have become a critical frontier to our national security. Moreover, the worsening problem of low birthrate and threats of composite natural disasters are all affecting our national security and sustainable development.

Our nation is facing the onslaught of PRC's "three warfares" and, manipulation of the two-pronged strategy of peace and war, and the concerns of our information and cyberattacks, demographic structure changes, and threats of composite natural disasters. Accordingly, the MND is intensively coordinating with the Executive Yuan and related government agencies to carry out the following tasks: monitoring adversarial status, countering "three warfares," enhancing of information security, transforming forces, and conducting HA/DR missions. Through enhancing these defense preparation activities, the MND continues steadfastly protecting our national security and safeguarding the people's well-being.

國防



Part 2: National Defense Capabilities

In accordance with the *Constitution of the Republic of China* and the *National Defense Act*, the ROC Armed Forces defend our national territories and sovereignty and protect our people's lives and property. Facing adversarial threats and security challenges, the MND formulates national defense and military strategies, maintains an "innovative/asymmetric" mindset to conceive a concept to develop an ODC and the goals for capability development, and continues constructing a strong defensive force to safeguard national security.

Chapter 3 The Mandate of the ROC Armed Forces

With the conviction of serving the country, the ROC Armed Forces firmly abide by the *Constitution* to be loyal to the country and devoted to the people. Following the President's national security guidance, the ROC Armed Forces relentlessly maintain combat preparedness to ensure our national development and the people's well-being, and are mandated to be perpetual a staunch guardian of freedom and democracy.

Section 1 The Core Powers of National Security

National security is the foundation for sustainable development and survival of the nation while national defense is critical to national security. Taking "force buildup and preparedness, safeguarding the nation and the people" as its top priority, the MND has been constructing defense infrastructure and accelerating upgrade of combat capabilities, so as to exhibit the self-defense determination to deter enemy's reckless military moves.

I. Shield of National Security

The national powers of a strong national defense, stable political environment, prosperous economy, secured society, pragmatic diplomacy, and innovative technologies are essential to ensuring national survival and development, maintaining the people's safety and well-being, implementinga democratic system, and protecting human rights. Among these powers, a strong defense capable of deterring and defending against military invasions is the core of national security. "Peace through strength" is a universally accepted saying. Peace can only be attained by having a robust defense power as the shield.

Aside from conventional military and security threats, non-conventional security threats, such as extreme weather conditions, have resulted in droughts and floods, earthquakes, tsunamis, and epidemics in greater complexity. Rapidly advancing technologies are driving transnational crimes, cyberattacks, and terrorist attacks to be a direct threat to the security of the people and their property. The highly ready and quickly responsive Armed Forces can be a source of stability to the society and the people, and a guardian to the sustainable development of the nation and a safe and prosperous livelihood of the people.

II. Missions of the ROC Armed Forces

Article 2 of the *National Defense Act* stipulates that "The national defense of the Republic of China is aimed at utilization of comprehensive national power to establish national defense military force, to assist disaster prevention and relief, safeguard national security and maintain world peace." Accordingly, the ROC Armed Forces have been monitoring the enemy situation, training forces efficiently and practically, carrying out combat preparedness earnestly, and refining disaster prevention

1	2
3	

1.2.3. In peacetime, the ROCA is responsible for contingency operations, defending critical infrastructure, supporting anti-terrorism operations, and assisting in local disaster prevention and relief. In wartime, it joins in a joint force with the navy and air force, to conduct joint homeland defense operations.

and relief capacities diligently. It is hoped that with a robust defense force and a strong will of self-defense, the ROC Armed Forces definitely can fulfill the mandate to safeguard the nation and the well-being of the people.

1. ROC Army

   In peacetime, the ROC Army (ROCA) defends territorial Taiwan proper and offshore islands and focuses on building up fundamental warfighting capabilities and contingency response capabilities to implement contingency operations and assists in defending critical infrastructure. The ROCA, upon receiving orders, also supports anti-terrorism operations and local disaster prevention and relief. In wartime, the ROCA, in a joint force with the navy and air force, conducts joint homeland defense operations.

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Maritime Bulwark to Defend Territorial Waters

The ROCN implements maritime patrols in the Taiwan Strait to maintain maritime security and uninterrupted sea lines of communication; it strives for maritime dominance and generates favorable conditions for our defensive operations.

Soaring High to Safeguard Airspace

The ROCAF is responsible for combat air patrols over the Taiwan Strait, safeguarding our airspace, striving for air dominance, and working in concert with the ROCA and the ROCN to conduct a variety of joint operations.

2. ROC Navy

In peacetime, the ROC Navy (ROCN) implements maritime patrols in the Taiwan Strait, maintains the security of our territorial waters, and actively assists in the protection of fishermen at sea and local disaster prevention and relief. In wartime, the ROCN joins in a joint force with the navy and air force, counters and denies adversarial maritime blockade or invasion, so as to maintain uninterrupted sea lines of communication and create maritime dominance to facilitate joint homeland defense operations.

3. ROC Air Force

In peacetime, the ROC Air Force (ROCAF) conducts combat air patrols (CAPs) and maintains the security of air space over the Taiwan Strait, while carries out combat preparedness and training mission, boosts up operational capabilities for combat readiness, and proactively helps local disaster prevention and relief. In wartime, the ROCAF will seek to gain air dominance, and joins the ROCA and the ROCN in various joint operations to exert its full operational potential.

Section 2 Strategic Architecture of National Defense and Security

Following the national security guidance of the President and the defense policy instructions of the Executive Yuan, the MND has evaluated trends of current strategic environment, security threats, and challenges to conceive forward-looking defense and military strategies, and the ODC as the basis to guide its current defense preparedness, follow-on force development, and defense policy implementation, so as to create a robust and strong defense force and ensure our national security.

I. Defense Strategy

Facing current and future strategic environments and security challenges, it requires creative thinking, pragmatic reforms and effective use of resources to devise a fittest plan for force buildup and combat preparedness. At the current stage, the defense strategic goals are as follows:

1. To Safeguard National Security

   The first priority of our defense preparedness is to deter and defend against any hostile military activities. Especially, when our nation confronts a military force invasion, all of our defense power shall be applied to safeguard our sovereignty and territorial integrity, and protect people's lives and property from destruction.

2. To Construct Professional Armed Forces

   It requires professional manpower and an efficient organizational system to maximize the strength and potential of the ROC Armed Forces. To address the constant changes in internal and external environments, and the needs to build a military force having advanced technologies and innovative capabilities, the ROC Armed Forces have to be engaged pragmatically in defense reform and refinement of defense affairs to enhance the quality of manpower and performance of the organization across the board, and construct a professional, agile, and resilient military force to conquer future challenges.

3. To Realize a Self-reliant Defense

   Defense development requires sufficient economic support. An environment and a virtuous cycle where the economy and defense development are mutually supportive shall be created to lay a solid foundation for a self-reliant defense. The MND has integrated resources from the governmental agencies and capacities of the industries to strengthen its defense technology development and application, push for indigenous development of weapons and equipment, and propel the defense industry to progress, so as to achieve a win-win result of meeting defense needs while promoting proceeds for the nation's economic development.

President Tsai Ing-wen's

Statements and Guidance of National Defense

2018 / 2 / 13
Inspection tour to the 8th Army Command, ROCA and the Fleet Command, ROCN

- ◎ Defense budget shall increase steadily every year in the future.
- ◎ We "do not provoke war, but definitely do not shun war."

2018 / 6 / 1
Attendance in the activation ceremony for assembling the new AJT

- ◎ Revitalizing defense industry is one of the focuses of defense policy implementation.
- ◎ The purpose of heading toward a self-reliant national defense is to strengthen national defense capabilities.

2018 / 6 / 7
Inspection tour to the live-fire phase of "HK # 34" exercise

- ◎ Through "practical" drills and "pragmatic" reviews and revisions, we may establish a "lean and elite" military force.
- ◎ Ever-improving quality of service members is the essence of defense power.

2018 / 6 / 11
Inspection tour to the 602nd Brigade and the 58th Artillery Command, ROCA

- ◎ The principle of force buildup for defense is centered on "steadfastness," we shall raise our consciousness of difficult times, and do our utmost on combat preparedness.
- ◎ Living environments in military installations and personal gears shall be substantively improved.

2018 / 10 / 10
Attendance in the 107th National Day Celebration of the Republic of China

- ◎ Under turbulent political and economic situations worldwide, our solution is to maintain "stability, responsiveness, and advancement."
- ◎ Our most important mission at the moment is to "strengthen national security," "improve economic power," and "enhance social security network."
- ◎ Facing the challenges to our national security, it is urgent to construct a comprehensive strategy, and activate an engineering process to strengthen national security, especially to improve defense capabilities.

2019/ 1 / 16
Inspection tour to military installations in Hualien and Taitung Areas

- ◎ Steadfastly maintain national security and sovereignty.
- ◎ Staunchly keep our way of living in democracy and freedom.
- ◎ Sturdily move toward a robust Taiwan.

2019/ 1 / 22
Attendance in the Chinese New Year Dinner hosted by the MND

- ◎ ROC Armed Forces' determination to secure every piece of our land remains unchanged.
- ◎ ROC Armed Forces' commitment to improving capabilities remains unchanged.
- ◎ Our determination to develop a self-reliant national defense remains unchanged.

2019/ 3 / 11
Announcement of guidelines for reacting and countering "One Country Two Systems for Taiwan," in the National Security Council

- ◎ Steadily increase defense budget.
- ◎ Improve ROC Armed Forces' strength across the board.

2019/ 5 / 9
Attendance in the groundbreaking ceremony for the indigenous submarine shipyard

- ◎ Peace relies on defense, and our determination to realize a self-reliant defense remains unchanged.
- ◎ Greatly enhance asymmetric capabilities.
- ◎ Cultivate elites in defense industry.

2019/ 5 / 28
Inspection tour to turnaround operations on alternative runway in Changhua during "HK # 35" exercise

- ◎ Ultimate goal of national defense is to maintain national sovereignty, democracy and freedom.
- ◎ In the future, we continue improving tangible weapons and equipment, and strengthen fighting spirits of the ROC Armed Forces.

2019/ 7 / 1
Attendance in the promotion and rank-conferring ceremony for ranking military officers

- ◎ We shall realize a comprehensive defense concept, groom talented personnel for the future, and dedicate ourselves to regional peace and security.
- ◎ We shall carefully plan defense budget, practically align defense organization and regulations, and hold ourselves accountable for policy communication with the public.
- ◎ We shall defend our airspace, realize a self- reliant defense, and enhance military discipline.

4. To Protect People's Well-being

Facing emerging non-conventional security threats in recent years, the ROC Armed Forces have to be proactively responsive on call and be a force of stability for the people. Maritime rights and privileges are of vital national interests and critical to people's well-being; therefore, the ROC Armed Forces shall follow the governmental policies to join efforts with all parties to defend maritime rights and privileges.

5. To Promote Regional Stability

In an era of globalization, national security is interlinked with international politics and regional affairs, and cannot be handled in isolation. The ROC Armed Forces not only have to establish robust warfighting capabilities to meet the needs of self-defense, but also promote peace and stability across the Taiwan Strait and security in the Indo-Pacific region as a "staunch guardian for peace."

II. Military Strategy

Military strategy is an art to establish and employ military force, a guideline to direct ROC Armed Forces' force buildup, combat preparedness, and force application, and a principle for all military operations. Our military strategy is updated in consideration of the following factors: national interests, national goals, international situations, potential threats, technological competences, national resources, geostrategic postures, and the types of war.

At current stage, based on "safeguarding national security," a goal of our defense strategic guidance, the military strategy is formulated to proactively construct a joint military strength composed of three services and capable of resolute defense, integrate total civil and military power as an all-out defense, form postures to our favor, and achieve a result of strategic perseverance by means of multi-domain deterrence, so as to ensure the security of our homeland.

1. Resolute Defense to Ensure Homeland Security

We shall strengthen information, communications and electronic (ICW) operational capabilities, ensure the security of operational command and control and critical infrastructure, increase the effectiveness of force protection, so as to enhance joint countermeasure and defense capabilities. In addition, we shall integrate total civil and military power as an all-out defense, construct a multi-layered defense in depth by exploiting geographic features such as channels and trenches, and strengthen operational sustainability, so as to achieve a result of strategic perseverance.

RESCUE

Force-on-force Exercise to Validate Competences to Safeguard the Nation

President Tsai inspected and validated the performance of a live-fire turnaround phase of "HK #35" exercise on an alternative runway using a section of freeway in Changhua. She recognized military participants' seamless and outstanding achievements, and was assured by their confidence to carry out the mission to safeguard the nation.

2. Multi-domain Deterrence to Wield Joint Operational Capabilities

We shall employ multi-domain means to achieve a resolute defense, and apply "innovative/asymmetric" operational thinking to wield joint operational capabilities capable of trapping enemies into multiple pitfalls, so as to deter them from waging a war. In addition, we shall initiate multi-domain intercepts and joint firepower strikes against invading enemies to sequentially weaken their combat strengths, dismantle their offensives, and fight off their landing efforts to invade.

III. Overall Defense Concept

In accordance with the military strategy of "resolute defense and multi-domain deterrence," the MND has developed an ODC of "force protection, decisive battle in littoral zone, and destruction of enemy at landing beach" to make use of natural trenches and geographic advantages, apply "innovative/asymmetric" operational thinking, integrate capabilities of three services, take battlefield initiatives, deal a deadly blow to the enemies, and ultimately "frustrate enemies' invasive mission." The ODC is elaborated as follows:

1. Force Protection

Force protection is the key to exert the combat strength at the full length of the operation. The ROC Armed Forces may employ tactics of mobility, concealment, dispersion, deception,

【Diagram of the Evolution of the Military Strategy】

camouflage, escort, shrewdness, and misleading, as well as a swift and effective damage control, to contain the initial destruction caused by the enemies, and ensure the integrity of military power, so as to effectively support the follow-on operations.

2. Decisive Battle in Littoral Zone

The ROC Armed Forces shall choose an area of water, which is within the coverage of their air assets and shore-based firepower, for a decisive campaign, so as to gain a partial superiority, and employ integrated capabilities of three services to destroy enemies' vessels at sea.

3. Destruction of Enemy at Landing Beach

The ROC Armed Forces may tap the occasions during enemies' landing and maneuvering operations onshore, destruct them at berthing, landing beach, and coastal areas by integrating forces, firepower, and prepositioned barriers of three services, and give them no places to set foot on.

Chapter 4 Development of Combat Competences

Following its evaluation of adversarial threats, perception of future wars, the guidance of the military strategy, and innovative thinking, the MND continues enhancing the integration of joint operational capabilities and combat competences, forging a steadfast defense power by realigning its organizational structure, to ensure national security.

Section 1 Defense Organization and Force Structure

In accordance with the *National Defense Act* and the *Organization Act of the Ministry of National Defense*, implemented on 1st March 2002, the MND was formally realigned as a democratic national defense organ characterized by "civilian control of the military" and "convergence of command and policymaking systems." The head of the state is the commander-in-chief of the military, and the seat of the minister of the MND is taken by a civilian. The MND is in charge of all matters related to national defense, and in command of the ROC Armed Forces. The structure of the ROC Armed Forces is devised after an evaluation of adversarial threats and following the instructions of the military strategy, as a force that is structured and organized in the most optimal and effective way, so as to meet the patterns of future wars.

I. National Defense Organization

The national defense organization, structure, and authority of the ROC are as follows:

1. President

   The President shall assume the supreme command of army, navy, and air force of the ROC, and is the commander-in-chief of the ROC Armed Forces. He or she exerts executive authority over the MND, and the Chief of the General Staff (CGS) follows the command of the Minister to lead the ROC Armed Forces.

2. National Security Council

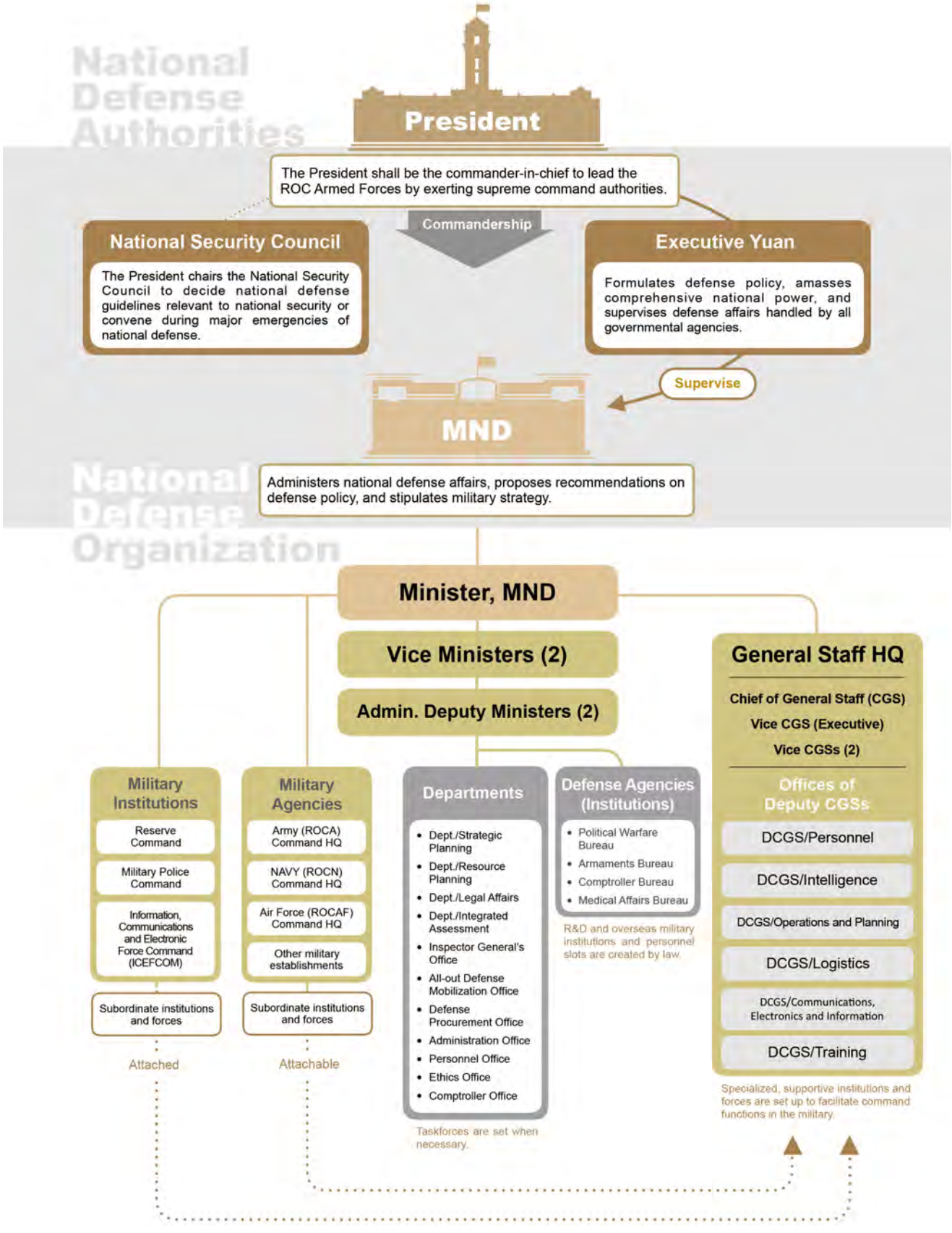
   In order to decide major defense policies and guidelines relating to national security or in response to urgent defense situations, the President may convene the National Security Council.

3. Executive Yuan

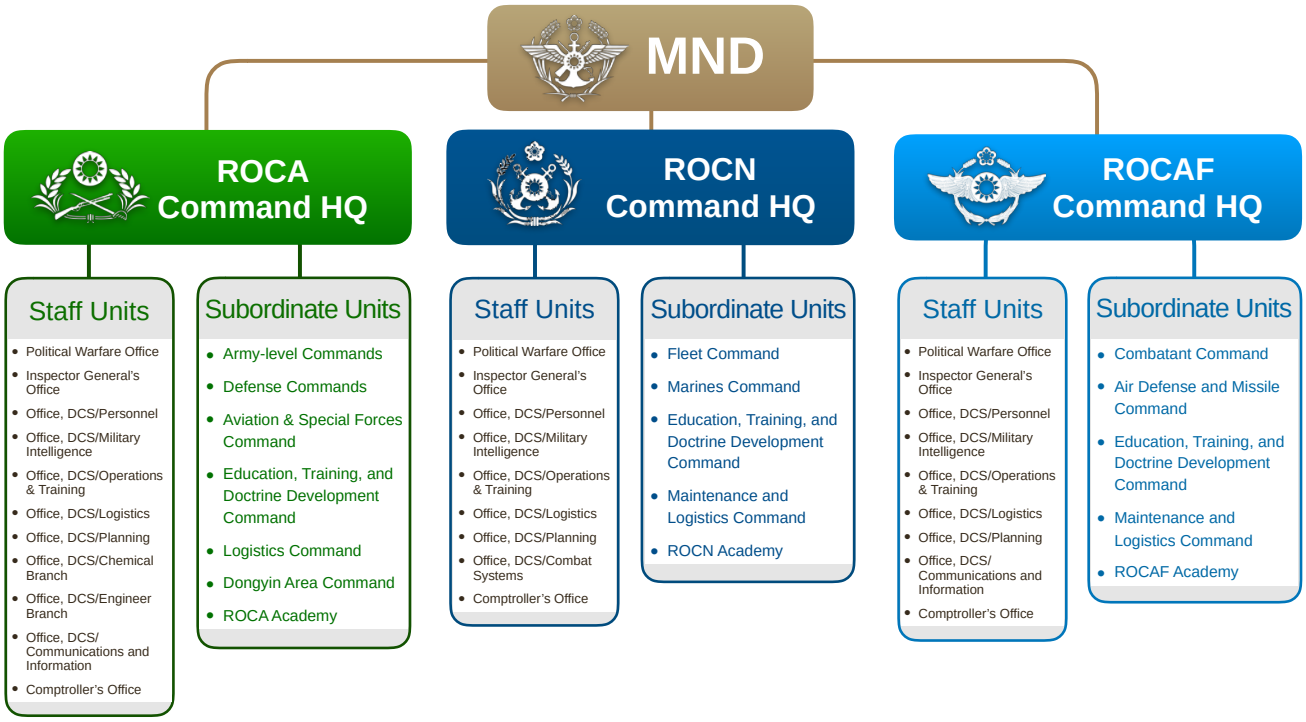
   The Executive Yuan is responsible for formulating defense policies, consolidating overall national power and supervising subordinate agencies to conduct relevant defense affairs.

4. Ministry of National Defense

   The MND is in charge of overall national defense affairs, shall well perform its policy, command, and armament functions. Besides, it shall submit suggestions in defense policies and formulates military strategies accordingly.



【Diagram of Defense Organization and Authorities】



【Organizational Diagram of Service Command Headquarters】

II. Force Structure

The structure of the ROC Armed Forces has been realigned in accordance with an evaluation of adversarial threats, and a mindset of "how we fight dictates how we equip, organize, and train" to adjust in a roll planning fashion the types of forces and their formations, quantities, and manning ratio between commissioned and enlisted members among three services. The acquisition timelines of new weapons and equipment and the allocation of defense resources are also taken into consideration.

1. ROCA

   The Command Headquarters of the ROCA has set up divisions and offices at staff level, and has jurisdiction over army-level commands; defense commands; aviation and special operations forces command; education, training and doctrine development command; logistic command, and so forth.

2. ROCN

   The Command Headquarters of the ROCN has set up divisions and offices at staff level, and has jurisdiction over fleet command; marine corps command; education, training and doctrine development command; maintenance and repair command, and so forth.

【Diagram of Future Realignment of Organization】

3. ROCAF

The Command Headquarters of the ROCAF has set up divisions and offices at staff level, and has jurisdiction over combatant command; air defense and artillery command; education, training and doctrine development command; maintenance and logistics command, and so forth.

III. Continuation of Organization Realignment

To address adversarial threats and war patterns in the future, the MND continues realigning defense organization, strengthening the joint operational structure, and enhancing overall joint operational effectiveness in accordance with the ODC and the "punch" requirements of joint operations. Our ground forces are developing toward a formation of "combined arms" in line with their weapon acquisition timelines. The military police forces are developing toward a formation of "special operations forces and quick reactions." The reservist forces are developing toward a formation capable of "safeguarding littoral zone, protecting HVTs, and conducting anti airborne/heliborne operations." The air and naval forces are also realigning their organizations in coordination with the progresses of indigenous vessel and aircraft programs, to ensure the implementation of joint operations.

Section 2 Realignment of Combat Competences

To address PRC's rapid progress in military modernization and frequent military operations in the vicinity of the Taiwan Strait, the MND has been integrating stringent defense resources to develop weapons and equipment that best fit an ODC of "force protection, decisive battle in littoral zone, and destruction of enemy at landing beach," strengthen all activities for combat power integration, and validate their practicality and adequacy by conducting joint operations exercises and drills, so as to fully exert the joint operational capabilities.

I. Planning for Force Buildup

By evaluating future adversarial threats and requirements of joint operational missions, the ROC Armed Forces have placed the focus of realigning combat competences on building "fit, elite, efficient, precision-striking, and low-attritional basic capabilities;" developing "mobile, affordable, sizable, mass producible, and expendable" asymmetric capabilities; enhancing equipment for "Force Protection" and reconstruction of dated infrastructures as the foundation to exert basic and asymmetric capabilities.

In line with the *Disaster Prevention and Protection Act* and the *ROC Armed Forces' Regulations on Assistance in Disaster Prevention and Protection*, the ROC Armed Forces have been intensively conducting related

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1.2.3.4. Facing PRC's military modernization, the ROC Armed Forces are vigorously developing "innovative/asymmetric" capabilities to create local battlefield superiority, and disrupt enemy's invasive attempts.

preparation activities, and have prioritized dual-use (for operations and disaster prevention efforts) equipment in the force buildup list, so as to better react to diversified composite disasters.

II. Focuses of Realigning Combat Competences

1. Force Protection

(1) To use designs of tunnel shelter, underground facility, and mobility to construct a Force Protection capability, and strengthen "multiple force backups" and "battlefield survival" capabilities.

(2) To refine rapid runway and taxiway repair capacities, reinforce political and military command and control centers, construct hardened aircraft shelters (HASs) in air force bases, and establish backup centers or mobile command and control systems.

(3) To enhance mobilized air surveillance and defense capabilities to react to adversarial air and missile threats.

(4) To acquire radar systems capable of detecting stealth and small targets.

(5) To set up smart warning and monitoring systems for military installations to assure their overall security and enhance their precautionary and responsive capabilities.

(6) To refine command, control, communications, cyberspace, intelligence, surveillance, and reconnaissance (C4ISR) systems and their backups, and develop cyberwarfare, electronic warfare, command and control protection, electronic countermeasure, and signal intelligence (SIGINT) capabilities, to support military operations.

(7) To acquire autonomous high-resolution military reconnaissance systems, generate a common picture of militarily essential and terrain feature data, and expand intelligence support capacity.

(8) To develop short-, medium-, and long-range communications suites with encryption features, so as to improve the efficiency of joint operational command and control.

2. Decisive Battle in Littoral Zone

(1) To develop long-range multi-functional and long-endurance unmanned aerial vehicles (UAVs) to improve joint intelligence, surveillance, and reconnaissance (ISR) efficiency.

(2) To acquire high-performance new fighter jets to strengthen capabilities for air dominance and sea control.

(3) To develop precision strike weapons, and acquire shore-based anti-ship missiles, so as to create a favorable posture for the defensive operations.

(4) To develop next-generation submarines and submersible test platforms, to enhance underwater capabilities.

(5) To acquire light and highly efficient combat vessels, to exert an asymmetric capability of "pitting the small against the big and the fast against the slow."

(6) To establish a naval mining capability, and strengthen the rapid mobile minelaying capability.

3. Destruction of Enemy at Landing Beach

(1) To acquire unmanned combat aerial vehicles (UCAVs) with tactical and surveillance applications, to monitor adversarial moving targets and destruct them at landing beach.

(2) To procure new tanks to enhance ground defense and counterattack capabilities.

(3) To establish a mobile rapid precision strike firepower, and strengthen destruction capabilities on beachheads.

(4) To improve the operational efficiency of ROCA Aviation, and boost up field air defense and sniping capabilities.

(5) To develop precision rockets, and acquire highly effective anti-armor and man-portable air-defense (MANPAD) missiles, to construct an asymmetric operational capability onshore.

4. Disaster Prevention

To acquire multiple-purpose equipment for health, medical service, disaster prevention, and military operations, such as fire engines, engineering machineries, heavy decontamination vehicles, and supportive disaster relief equipment for chemical, biological, radioactive, and nuclear (CBRN) protection, weather monitoring and forecast, and decision-making support systems.

Female Tank Platoon Leader Achieves Milestone

After graduation from the ROCA Academy, I chose a career track in armor branch and became the first female armor officer to operate tanks. I had to build up my confidence to handle a sizeable tank because of my much smaller physique. Serving at the platoon, I gradually realized that with proper leadership skills, and time and patience to dig out useful information from technical references, I could even master the operations of a vehicle no matter how strange or massive it is.

The deepest impression I had after my arrival at the platoon was my participation in "HK #34" exercise. From the exercise, I learned more about military operations and experienced some unexpected communications and vehicle issues. I realized that an officer should be able to troubleshoot instantly to deal with them at hand. Solving problems could be a test to verify the esprit de corps of my platoon, and I felt, when the platoon members were acting as one, striving for collective honor and glory, their willpower could be as steadfast as a rock.

To sharpen my skillsets, including tactically deploying tanks in wedge formations, line formations, and column formations, is another unparalleled challenge. After practices over a month, the tank platoon under my command could perform tactical maneuvers by marching as one with adequate distance against one another, and hit the targets with precision fires. It was quite an achievement to me and left a remarkable page on my burgeoning military career. Therefore, I am very thankful to the support of my platoon buddies and become more confident to move ahead with my strong will to fight.

First Lieutenant He Wen-qian, Platoon Leader, Kinmen Defense Command, ROCA

Ascending Hawk to Protect Territorial Waters

Drastically switched my career from driving an AAV7 centered on amphibious landing mission, I became piloting a S-70CM1 submarine hunter in the air. But I knew for certain that with persistence and tenacity to master my profession I could firmly hold up to my position. As a saying goes, "The devil is in the detail and one shall do everything carefully," and then one can accomplish one's mission smoothly and successfully. Even if sounded like a cliché, it is still a key to flight safety and a critical element to accomplish the mission.

I went through serious considerations to make up my mind to change my career track. I used to look up to the helicopters hovering over in the naval station, and thought it would have been great if I could fly to see from above. I should give myself a chance to challenge a different career.

Then, I passed the exam, received flight training, and was certified as a combat-ready co-pilot, mastering the skills like dropping sonobuoys in anti-sub missions, maintaining airframe balance by manipulating wind direction and force. Upon receiving an order, pilot, co-pilot, sensor operator (officer), sensor operator (NCO), and crew chief onboard all have a collective goal of getting it done smoothly and safely. Here my motto goes, "To cherish every flight with a safe landing is my promise with the blue sky, and it will always come true."

Lieutenant Xue Min-long, Naval Aviator, Anti-submarine Helicopter Group, ROCN

Section 3 Integration of Combat Competences

In accordance with an ODC of "force protection, decisive battle in littoral zone, and destruction of enemy at landing beach," the ROC Armed Forces, focusing on fast strengthening combat competences, continue improving joint command mechanism, sharpening tactics and skills, upgrading weapons and equipment, finetuning logistics and maintenance, beefing up psychological readiness, and boosting up reservists' capacities. Furthermore, the ROC Armed Forces will carefully choose "decisive vantage points" to concentrate all the combat power to attack adversarial centers of operations and critical weaknesses, create a favorable battlefield environment, and achieve operational objectives.

I. Joint Command Mechanism

The ROC Armed Forces have been establishing capabilities of electromagnetic dominance and electronic warfare and expanding their capacities of command and control, and joint ISR through datalink integration. Concurrently, they may tap resources and capacities in the private sector to refine their common pictures of battleground, to bring about a transparent battlefield for all forces to gain a synchronized operational awareness, and improve their battlefield monitoring capability, so as to initiate battlefield management effectively, optimize joint operational command and control functions, and ultimately facilitate the success of the joint operations.

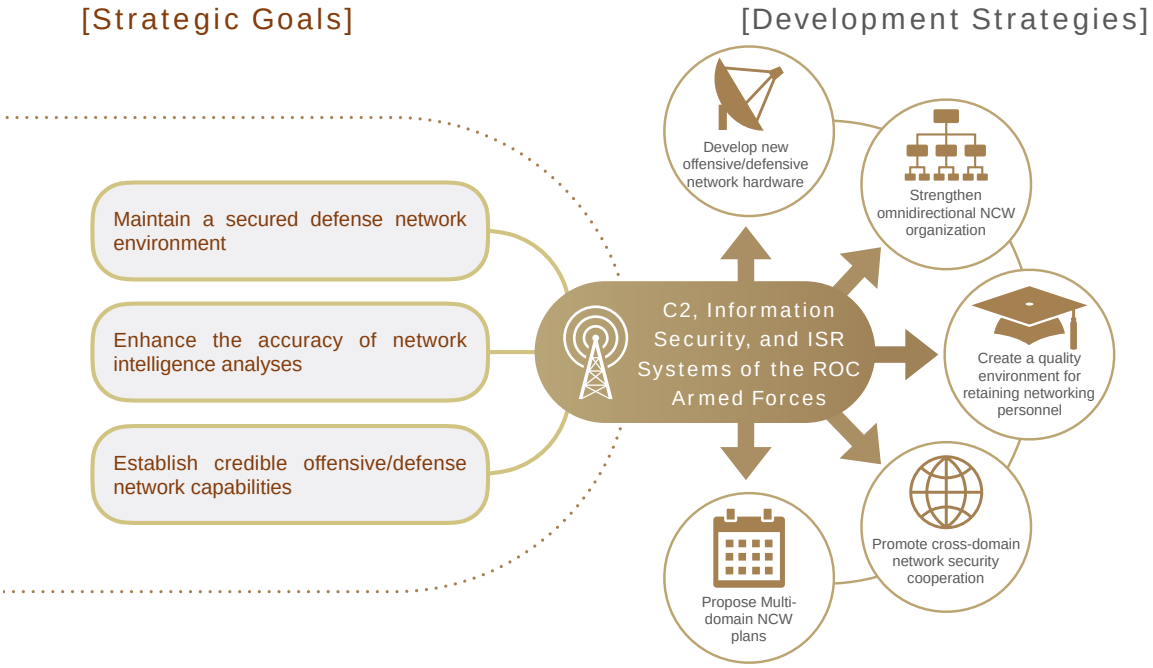
In order to increase the flexibility of force application in defensive operations, it is necessary to enhance the shields for our C4ISR assets and countermeasures to protect them. Moreover, the ROC Armed Forces are going to flatten the command levels to shorten the time spent on transmitting orders, and will tap the joint operational training and drills to verify the command mechanism and joint operational plans for their new and emerging forces, so as to ensure the plausibility of joint operational competences of the ROC Armed Forces.

II. Joint Intelligence, Surveillance, and Reconnaissance Capabilities

The ROC Armed Forces have integrated all ISR capabilities, including observation, communications, radars assets, and the shared early warning system (SEWS) to closely monitor deployments, training activities, and drills of the adversarial forces. UAVs and a variety of slow-flying aircraft are employed in joint ISR missions to improve the surveillance and identification on air and maritime targets, and the processes of transmitting, processing, and controlling the acquired data, so as to timely obtain these early waring information in our neighboring waters, and earn extra time to react to contingencies.

III. Electronic Warfare and Cyberwarfare Capabilities

1. In order to strengthen the electronic warfare (EW) and cyberwarfare (CW) capabilities, the ROC Armed Force have been actively integrating the capacities of intelligence, operations, and cyberwarfare forces. Focusing on the EW and CW strategies and objectives, the ROC Armed Forces continue investing in R&D efforts and EW and CW key technologies and



【Diagram of Development of ROC Armed Forces' Net-centric Warfare Capabilities】

equipment, and planning to initiate exchanges and training programs with domestic and foreign industrial, governmental, and academic sectors, to improve the strength of the EW and CW forces and create an advantage for asymmetric operations.

2. Following the ODC, the ROC Armed Forces have been establishing means for monitoring the electromagnetic spectrum, analyzing signals, and identifying targetson adversarial weapon systems, and an information-sharing mechanism. The ROC Armed Forces continue cultivating professionals, improve technological applications and exchanges, so as to ensure operational forces closely interrelated with EW competences and strengthen the effectiveness for supporting joint operations.

3. In order to fulfill the demands for maintaining cybersecurity of the critical information infrastructure, and meet the strategic objectives of setting up a complete fundamental infrastructure, playing an active role in the national joint cybersecurity system, strengthening industrial self-production capacity, and cultivating quality personnel, the ROC Armed Forces have been working with the government to push for the "national information and communications security development initiative" to strengthen comprehensive capabilities for the national cybersecurity, and accumulating capacities in asymmetric cyber operations by achieving 3 major objectives: "maintaining the security for the defense cyberspace," "providing accurate intelligence analyses on cyber activities," and "establishing a credible offensive and defensive capabilities in cyberspace."

IV. Logistics and Maintenance

1. Maintaining High Readiness

To ensure availabilities of our major weapons and equipment for combat training and drills, the ROC Armed Forces have been using the continuous acquisition and life-cycle support (CALS) to integrate all logistical perimeters and analyses for all weapons and equipment through the logistic information management system (LIMS), so as to keep lean maintenance and responsive supply activities, and increase the maintenance quality. Furthermore, the capacities to validate the availabilities of weapons and equipment and the management of their maintenance records have also been improved, so as to effectively control their status, accurately predict the supply demands for periodical maintenance, in order to keep them in a high readiness condition.

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1.2.3.4. Following a comprehensive defense concept of "force protection, decisive battle in littoral zone, and destruction of enemy at landing beach" and a close watch on adversarial status, the ROC Armed Forces continue improving combat preparedness, logistics and supply, psychological readiness, and reserve capacities, to ensure the accomplishment of defensive operations.

2. Integrating Maintenance and Repair Capacities

The ROC Armed Forces continue integrating maintenance and repair capacities for special- and general-purpose equipment, and discovering workable repair supports across the services through a common logistics information platform, so as to effectively integrate joint maintenance capacities and drive the costs down. In addition, concerning maintenance capacities for newly acquired weapons and equipment, the ROC Armed Forces will effectively provide logistical and maintenance support by the following means: industrial cooperation (offset), integrating current maintenance and reproduction capacities in three services and outsourcing channels.

V. Psychological Readiness

In order to raise the sense of patriotism among service members to solidify their psychological readiness, the MND continues employing multiple media, such as the Military News Agency, Youth Daily News, Voice of Han Broadcasting Network, and Facebook page of the MND Speaker as channels to deepen their understanding during educational occasions, and hosting commemorative events to allow them to learn from the deeds of their predecessors, stick to the core values as a service member, and fulfill their innate responsibilities.

1. Arousing Patriotism

   The MND is instilling all service members with military ethos and moral values through enhancing martial virtue lessons in each phase of military education. Military leadership may tap the broadcasting occasions of "Juguang Park" TV episodes to enhance their comprehension and unit assemblies to impart correct military values, so as to transform them as an elite force of high standard of military ethos and discipline.

2. Solidifying Will of Defense

   In line with overall national security situations, characteristics of military missions, current events, and atmosphere in the society, the MND employs multiple lively advertising means and new types of broadcasting platforms to elaborate defense policy implementation efforts, strengthen service members' determination to self-defense, and solidify people's trust and consensus on the national defense efforts.

3. Tightening up Security

   To prevent from PRC's intelligence-gathering activities through multiple channels, the ROC Armed Forces continue improving internal security efforts and educations, and enhancing all kinds of security reporting mechanisms, to raise the awareness level among service members, their dependents, as well as reservists, and tighten up their sense of internal security.

4. Deepening Strategic Communication Mechanism

   Strategic communication is a topic of significance in national security and defense, and the MND continues flexibly using media to improve its strategic communication mechanism by paying attention to modern warfare features and trends in media broadcasts, and it may formulate communication objectives to integrate efforts with intergovernmental agencies and link with governmental and civilian statistical institutions to strengthen its effectiveness of communication, in order to be recognized and supported by the people and the international community.

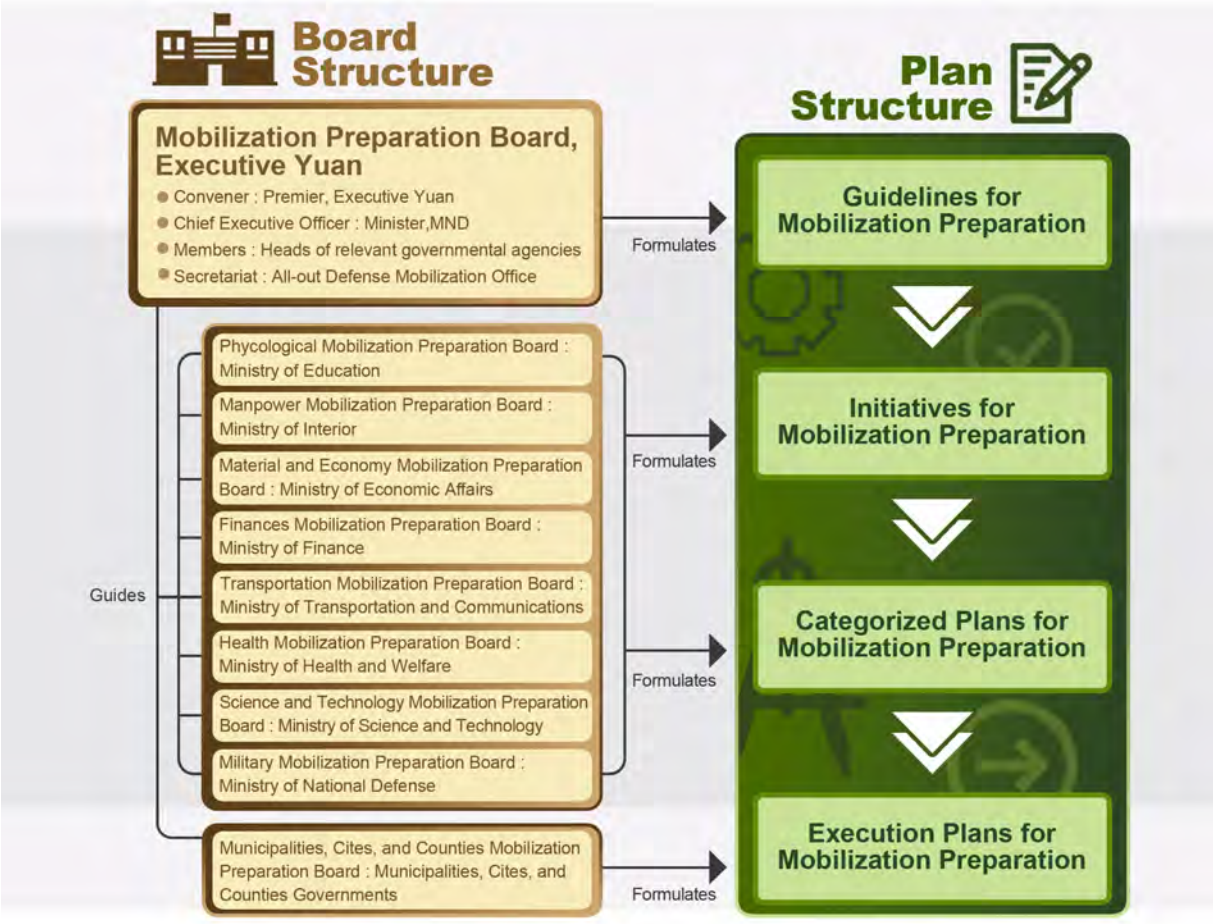
VI. Defense Mobilization

Abiding by the *All-out Defense Mobilization Readiness Act*, the MND has established a mobilization system to realize the concept of all-out defense. The MND has been conducting various mobilization preparations along with its policy implementation efforts to integrate resources from all sectors to

build up a comprehensive national defense power. In peacetime, such mobilization shall be called upon to participate in disaster prevention drills and assist in HA/DR missions according to the *Disaster Prevention and Protection Act* while in wartime, it shall support military operations and contingency responses to emergencies.

1. Integrating Reporting Mechanisms at All Levels

The all-out defense mobilization mechanism is being operated through two systems of "reporting" and "planning." The reporting system is composed of 3 levels: the Executive Yuan, governmental agencies and municipalities, and city and county governments. The planning system is composed of 4 levels: formulation of guidelines for preparation, drafting up initiatives, designing subsidiary programs, and executing programs for mobilization. Through a setting of supervision by direct superiors, all kinds of preparation activities for mobilization are to be realized in annual policy implementation plans from the central to local governments. Furthermore, in order to integrate cross-domain reporting functions and coordinate with flood seasons and simulated scenarios in military drills, the MND had hosted 43 three-in-one (combining mobilization, combat preparedness, and disaster prevention) reporting



【Operational Structure Diagram of All-out Defense Mobilization Mechanism】

meetings which centered on prevention and rescue efforts for natural disasters and supports to military operations. The agenda for the meeting includes "keynote reports" and "wargaming discussions," aiming at fully developing local governments' responsive capabilities during disasters and supportive capacities for military operations.

2. Controlling Military Mobilization Capacities

Military mobilization is divided into two parts: "manpower mobilization" and "material mobilization." Manpower mobilization is focused on fulfilling military manpower demands. Based on the recalling principle of "prioritizing younger-aged for combatant personnel, experienced for specialized personnel, and lately retired/discharged first," manpower mobilization is categorized as "topping up planned manning ratio," "topping up increased manning ratio," "supply to combat attrition," and "military services team." Personnel within 8 years after retired/discharged are prioritized to be mobilized, and will be first assigned to reservist units to sustain military strength. Material mobilization is centered on supplementing the shortage of equipment and supporting tactical demands. Material mobilization has three ways to expand support capacity: "commandeering material directly or by purchasing," "military transportation mobilization," and "transferring production lines." The MND has established a resources integration platform to coordinate with related governmental agencies, municipal and local governments, and supervisory bodies of motor vehicles, to manage an inventory of 341 items in 67 sub-categories of 10 categories, so as to mobilize swiftly in wartime to support defensive operations.

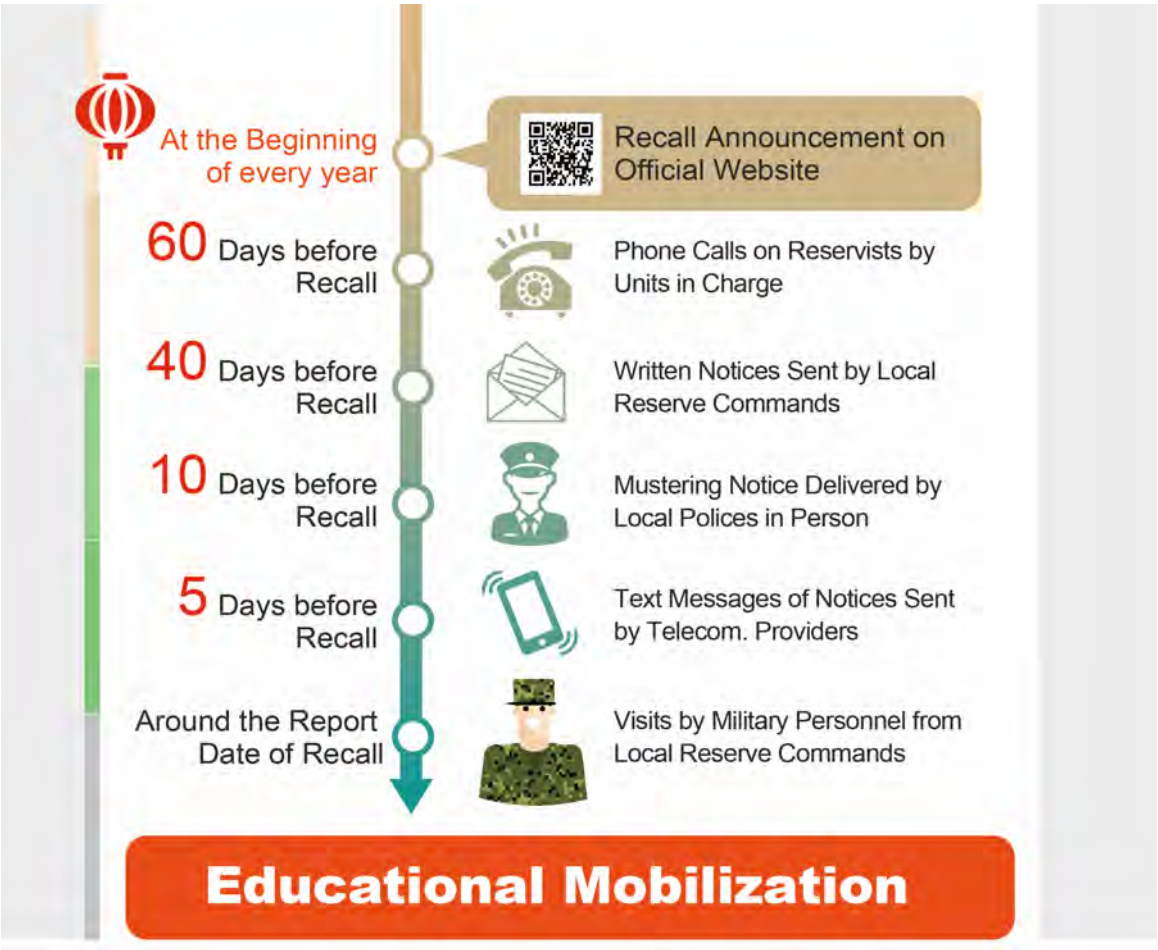
3. Validating Mobilization Efforts through Exercises

In order to validate its efficiency of mobilization efforts, the MND hosts "all-out defense mobilization and disaster prevention (Ming An) exercise," "civil-military joint air defense (Wan An) exercise," and "Zi Chiang exercise" annually. Ming An exercise is jointly held with annual "disaster prevention exercise" of the Executive Yuan, and is led by municipal and local governments, aiming at practicing prevention and rescue operations during composite disasters. From 2018 to 2019, there are 16,148 personnel, 1,925 vehicles, 95 vessels, 21 helicopters used in Ming An #4 and #5 exercises; in coordination with Han Kuang (HK) #34 and #35 force-on-force exercises, there are 96,359 personnel and 33,180 vehicles used in Wan An #41 and #42 exercises; there are 220,509 items commandeered and 336 vehicles and 71 heavy construction machineries used in Zi Chiang #35 and #36 exercises, to validate the plausibility of regulations and doctrines for material mobilization.

【Statistics for Mobilization Exercises】

4. Establishing Mobilization Information System

In order to improve the speed and capacity of mobilizing reservists, the MND has established a "recall queries system" with a QR code to allow reservists to access to recall information, and provided "mobile phone text message" services to increase reservists' reporting rate. Moreover, in order to increase the authentication and accuracy of material to be commandeered, the MND has adopted an online service to verify the material by "their users' direct superiors," so as to maximize the efficiency of the material mobilization information system and streamline the handling process. To follow the trends in information technology and "simplifying administration process," starting from 2019, reservists just retired/discharged can go through an online service to report to local household registration offices, so as to offer a more convenient service.



【Process Diagram of Recall Training for All-out Defense Mobilization】

5. Promoting the Reservist Warrior Policy

To make use of the expertise of retired/discharged personnel, starting from 2017, the MND has been implementing a "reservist warrior" program to reenlist them in the service 2 days every month (included attending an annual exercise or drill, totally 29 days a year at least) aside from their civilian jobs. These warriors return to the service to refresh their skills in operating weapons and equipment, so as to timely exert their expertise in wartime. From 2017 onward, reenlisted warriors have grown from 100 to 185, and the MND will try to provide more benefits and adjust complementary means in a roll planning fashion, and expand the program annually by evaluating the recruiting status and results of this program, so as to maintain a sufficient manpower for the ROC Armed Forces.

Cable Repair Specialist with Artistic Talents

Getting to know fiber optics and cables enriches my expertise, and drawing paintings settles my mood. I recalled the process of being recruited right after my graduation from the Department of Communication of Nan Hua University, and was intrigued by military communications units as described by a military recruiter. I then decided to be enlisted in the voluntary force and joined the networking and signal transmission squad in charge of maintenance and emergency repair for fiber optics and cables.

I have a passion for art, and I'm capable of computer-assisted drawing, video clipping, drawing cartoons, etc. I used to say, "Full mental immersion can be done with a single pen and a piece of paper." Whenever it is available, I would pick up my art tools or a graphics tablet to draw. Of course, some of my paintings do have topics related to myworks. I drew a series of cartoons, titled "A Powerful Buttress," to depict the day-to-day routine and hard work of my squad, and won a quality award in the cartoon category of the 52nd Armed Forces Gold Statues Awards for Literature and Arts. I am getting "multiple skills and diversified talents" in communications and cable repair to enhance the proficiency and quality of my squad, and concurrently, developing my creativity and drawing potential to pave a boarder path for my future career.

Private First Class Zheng Qi-sheng, Cable Repair Specialist,
Information & Communications Wing, ICEF, GSH

Victory in the Air Attributes to Assistance on the Ground

I started as a maintainer for Mirage 2000 fighters and later became the first female crew chief. I insisted on my "choice to serve," even in the face of my family's opposition. I chose to be an aircraft mechanic, a novice from the beginning, going through a series of training courses, tests, and validations; till now, my devotion to keeping these jets in good shape doesn't fade away. I believe that "The more you pay attention; the more you know where the problem is. An old hand used to be a new one."

I am quite aware that practice makes perfect. I can hardly forget an experience of loading/unloading numerous external tanks in fixed timeframe during a turnaround training session for a large fleet of fighter jets. It requires matured skillsets to swap tanks with precision within a time limit to accomplish the mission. To assure safety and allow every plane to take off smoothly is of paramount importance to a crew chief.

Furthermore, professionalism comes from constant learning. Therefore, one shall not give up the chances to pursue higher education. Mirage fighters are French-made, and the designs of their spare parts and connectors are all different from those of U.S. warplanes. Consequently, it shall demand more and higher skillsets to learn how to maintain across different aircraft types. In the future, I will try to complete all necessary training courses for "aircraft maintenance," and continues to devote myself to my profession because it is a sense of pride for me to see every jet soaring into the sky and touching down safely.

Staff Sergeant Yang Zi-xuan, Crew Chief, 2nd TFW, ROCAF

Section 4 Training and Combat Preparedness

The MND follows the demand of "to train as we fight" to strengthen combat readiness, and continues enhancing military education, training, test, and evaluation to fulfill the demand. The MND makes use of the occasions of annual major drills and exercises to assemble forces from three services in the designated areas to jointly practice defensive operations, so as to allow participating service members to be familiar with operational settings, battlefield environment, and the ways to carry out operational plans and battlefield management, and improve their competences to maintain combat preparedness.

I. Military Training

Facing the adversarial progressive status and threat, the ROC Armed Forces is adopting defensive operational scenarios, aiming at realistic combat settings, to conduct military training, so as to enhance the combat preparedness and serve the purpose of combat training. The ROC Armed Forces continue following the principle of "We train as we fight in places of war in places of war to carry out realistic combat training and the focuses on "multiple skillsets," sniper training, new forces training, and joint training between the ROCN and the ROCAF, to offer a military training with realistic battlefield scenarios in a confrontational setting to realize joint operational preparedness.

1. Basic Military Training (BMT)

(1) BMT for Regular Enlistees (Compulsory)

Regular enlistees who are conscripted by the demands for mobilization of reservists and the requests from the *Act of Military Service System* shall legally receive a maximum 4 months regular military service training, which is divided into two parts: 5 weeks of "basic military training" and 11 weeks of "military occupational specialty (MOS) training." The training will be organized in two ways: "MOS-oriented training tracks" and "to train in full batch of enlistment." Starting from 2018, enlistees have to complete a generic shooting training with designated rounds and hours, and pass the validation to be certified. Then they will be listed in the pool of reserve force for future mobilization in wartime.

(2) BMT for Voluntary Enlistees

Recruited voluntary enlistees shall receive 8 weeks of BMT, whose primary focuses include:military courtesy, physical fitness, rifle operation, and individual combat training (or swimming). They are expected to be "certified as rifleman (or ordinary seaman)" after the completion of BMT. Furthermore, these enlistees shall be required to attend "live" shooting courses according to their MOSs, and it is hoped that each enlistee can have 2 or 3 MOSs after the completion of BMT to meet the objective of cultivating professionally qualified combat personnel.

2. Station Unit Training

(1) Physical Fitness and Combat Skill Training

The basic physical fitness training for the ROC Armed Forces is centered on enhancing the physical strength and tolerance, and cardiovascular endurance of service members. A scientific physical fitness training model is adopted to encourage self-training, and has laid

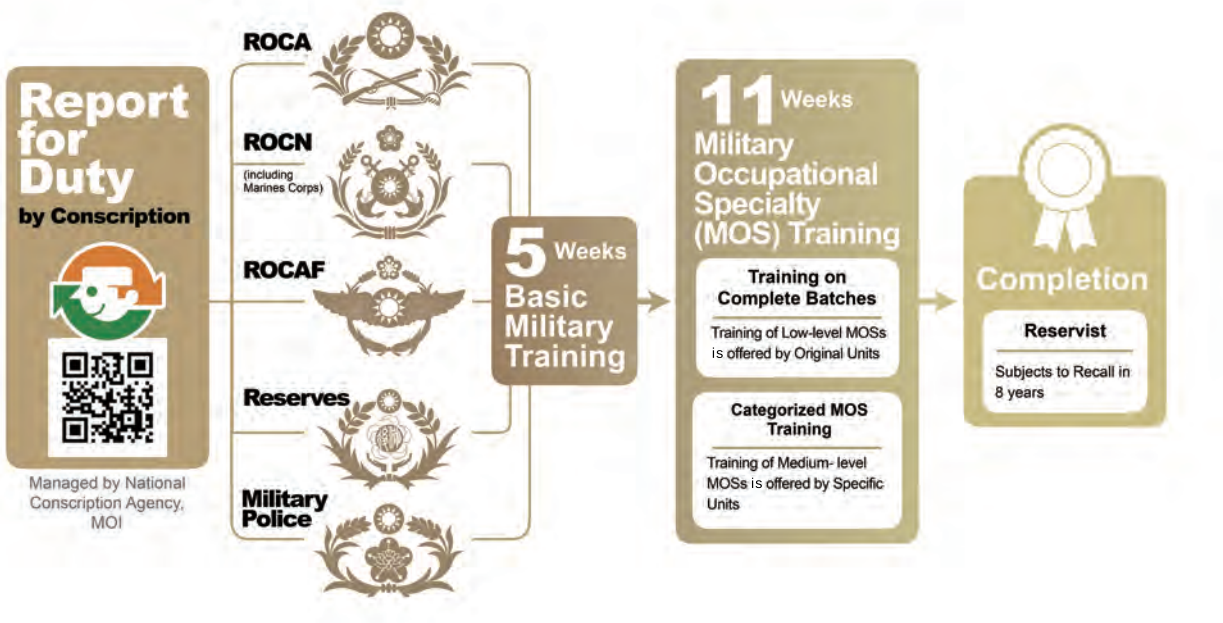
a solid foundation for combat training. Forces at all levels shall receive swimming training in tandem with station unit training, as well as self aid/buddy aid training to enhance their survival skills. Based on their current physical conditions, service members shall receive combat skill training, such as combat shooting, combat fitness test, and mixed martial arts in realistic battlefield scenarios to sharpen their resilience under severe combat situations and fatigue, and strengthen their battlefield survivability.

(2) MOS Training and Certification

Station unit training is centered on defensive operations, and it shall be combined with combat preparedness operations to sharpen trainees' physical fitness, combat skills, and individual combat MOSs. Furthermore, certifications for "multiple skillsets" and multiple personnel combo training for weapons are conducted and enhanced to maintain trainees' competence in combat readiness, and prepare them for upcoming assignments.

(3) Combat Preparedness Training

In order to rapidly improve the overall defensive capability of the ROC Armed Forces, starting from 2019, the combat preparedness training is extended to a month every season from originally a week. The combat preparedness training is divided into 4 phases: on-site surveillance, wargaming, on-site tactical drill, and force-on-force drills, and shall require the attendance of forces from three services in the designated theater and civilian participation on the basis of an all-out defense. The training focuses are force protection, joint anti-airborne/air assault, and joint anti-landing operations, so as to increase its realism and the joint operational effectiveness of the ROC Armed Forces.



【Description of Training Flow for New Recruits (Compulsory) in Four-month Regular Enlistment】

Firepower Salvo to Destruct Adversaries Onshore

Facing ever-changing developments and threats from the adversary, the ROC Armed Forces are rapidly strengthening combat capabilities and improving operational training, so as to ensure national security.

1 2 3

1.2.3. Through drills, exercises, and combat training, the ROC Armed Forces continue refining realistic scenarios to enhance the effectiveness of joint operations.

(4) Competitions on Core Competences

A. Special Services and Recon Forces

By absorbing lesson learned during exchanges and training with foreign special forces and referring to international special services competitions, the ROC Armed Forces are hosting similar competitions to replace tests. The competition is held, using littoral operations as backdrops, in a 24hrs non-stop setting, and special services and recon forces are encouraged to be trained in this fashion.

B. Sniper Training

In order to strengthen the capability of snipping forces and hone snipers' skills, the sniper training of the ROC Armed Forces is centered on "shoot and maneuver" with increased target identification and shooting difficulty, so as to use realistic battlefield scenarios to sharpen sniper's capability in identifying multiple targets in unknown distances.

3. Base Validation

Bases of each service shall use "validated result-oriented training" to organize their training plans to connect with station unit training so as to realize the objectives of combat preparedness. The objectives of three services are as follows: the ROCA-obtaining competence in combat preparedness; the ROCAF-for flight trainees to acquire operational proficiency on specific aircraft; the ROCN-for seafaring forces to complete Jing Shi (Enhanced) training and Class A operational validation of combat preparedness.

4. Services Coordinated Training

(1) ROCA Tien Ma (Pegasus), Lei Ting (Thunderbolt), Shen Gong (Divine Bow), and Shen Yin (Divine Eagle) Drills

The ROCA Command Headquarters directs the 8^{th} Army to set up a command post (CP) to incorporate the 6^{th} Army, the 10^{th} Army, and ROCN Marine Corps units to conduct field air defense, joint anti-anchorage, joint anti-vessel waves, and onshore combat live-fire drills in a defensive operational setting, so as to enhance coordination between services and combat preparedness.

(2) Air and Naval Joint Drills

Following the guidance of joint operations, the ROCAF and ROCN shall conduct air and naval total tactical validation (TTV) drills joined by air and naval joint command and control, missile, EW forces. The TTV drills will be combined with routine training plans to enhance cross-service and cross-MOS joint defensive operational capabilities.

(3) Air and Naval Missile Launch Drills

Following annual training plans, the ROCAF and the ROCN Command Headquarters shall make use of the occasions of routine drills and combat preparedness validation drills to conduct live-fire exercise and improve the joint operational effectiveness of air and naval missiles forces.

Safeguard Airspace to Maintain Stability across the Taiwan Strait

Situated at a crucial geostrategic location with tremendous value, our nation, an indispensable partner to regional security, continues maintaining safe passage in our neighboring waters and airspace.

RESCUE
Mirage 2000-5

5. Joint Training

Instructed by the policy of "jointness in all battles and training." Joint operational training and drills of the ROC Armed Forces are centered on Han Kuang (HK) exercise, which holds the computer-aided wargame first and force-on-force exercise later. The force-on-force exercise is conducted in sync with operational drills in designated theaters. The Joint Operations Training Base Command (JOTBC) is responsible for "combined arms brigade and joint operations of three services" training and validation and "air and naval missile launch" drills, so as to establish a coordinated joint operations tempo among services and at all levels, and sharpen operational forces' responses in contingencies.

(1) Joint Landing and Anti-landing Operational Training

The ROCN Command Headquarters sets up a CP to conduct a three-dimensional assault landing operational drill, joined by marine brigades that have completed amphibious base training and corresponding air, army aviation, and naval forces, at a selected beach. Designated theaters shall coordinate their combat preparedness training with a joint anti-landing operational drill, so as to strengthen ROCN's amphibious landing and defensive capabilities in the theaters.

(2) Joint Airborne and Anti-airborne Operational Training

The ROCAF and the Aviation and Special Forces Command of the ROCA shall form a "joint airborne taskforce" as an aggressor unit to initiate a joint anti airborne/heliborne operation" to entice designated theaters to conduct joint anti-airborne, anti-assault operational drills, in order to validate joint operational competences in joint airborne, theater-wide joint anti-airborne/heliborne, and base defense operations.

(3) Combined Arms Brigade (Area Command) and Joint Operations of Three Services Training and Validation

Combine arms brigades (Area Command) of the ROCA shall finish base training at branch level and training at the JOTBC in a two-year cycle. During the timeframe, the brigades shall go through realistic operational scenarios, field maneuver, and live-fire validations on joint firepower, EW, and cyberwarfare capabilities. By so doing, the brigades can reap realistic combat and inter-services operational experiences, and enhance their joint operational capabilities.

(4) Joint Anti-landing Operations Training at Offshore Islands

Following the offshore island's operations concept, the ROCA and ROCN are in charge of the training, which is blended into their annual combat preparedness training plans. The training is jointly held and participated by forces from three services (as well as the Coast Guard) subordinated to Kinmen Defense Command, Matsu Defense Command,

and Penghu Defense Command, Dongyin Command, and Wuqiu Garrison Group, so as to enhance battlefield management and defense operation capabilities.

(5) Han Kuang Exercises

Held in the first half of the year, annual HK exercise is bisected into a computer-aided wargame and a force-on-force exercise. The primary scenario is having a simulated hostile landing operation by an opposing force in a 24hrs non-stop setting. Operations of force protection, joint ISR application, joint anti-blockade, joint anti-airborne/heliborne, and joint anti-landing are focal points of the wargame, in order to strengthen commanders' decision making and staff's administrative skills at all levels.

The force-on-force exercise that follows adopts a joint force-on-force model by three services, and the primary scenario is a simulated three-dimensional hostile assault and invasion by an opposing force. The defenseforce, supported by an all-out defense strength and commandeered civilian material resources, follows an ODC of "force protection, decisive battle in littoral zone, and destruction of enemy at landing beach" to conduct a force-on-force exercise lasted for 5 days at defensive operational locations in our territorial airspace, waters, and offshore islands.

The focus of the HK exercise of 2019 is placed on "force protection," to validate the ROC Armed Forces' competences in mobility, deception, camouflage, concealment, bombing resistance, jamming, diversified force allocation, and absorption of civilian resources in rapid repair activities, so as to sustain the combat power, and achieve the planned objectives.

II. Development of the Joint Operations Doctrine

The Joint Operations Doctrine is the tenet to direct the ROC Armed Forces to conduct joint operations. It is compiled through the guidance of the ODC and lessons learned in combat training and drills over the years, so as to optimize the "ROC Armed Forces joint operations doctrinal system" and offered to commanders of joint operational forces at all levels, to strengthen their concepts of command, control, and application of joint forces in a "joint operational command mechanism for three services," to establish a united operational tempo for joint operations, and enhance the total power of an overall defensive operations.

III. Training for the Reserve Force

1. Training for Reservists

Reservists who are recalled to top up the planned manning ratio of the regular force or the reserve force may receive 5-7 days of recall training once every two years. The training is focused on refreshing MOS, shooting, combat skills, combined skills, and disaster prevention.

2. Validation for Mobilization

To enhance the total power of our all-out defense and achieve the objectives of "prompt mobilizing to support operations in time," the MND has been following the principle of "smart mobilization, fast formation, and quick resilience" to conduct Tong Hsin (manpower mobilization) and Zi Chiang (material mobilization) exercises to validate the formation of reserve forces, quick resilience of combat power, command and control mechanism, backups of communications, expanded repair capacities of civilian construction companies, integration of medical resources, and homeland defense, so as to support military operations effectively in wartime.

Serving Experience to Buildup Expertise

Recommended by my instructor in school, I came to serve in the ROCN. In retrospect, my preparation for validation of military occupational specialty (MOS) was both tough and valuable. A novice at first, I worked my way up step by step, from learning mapping skills to mastering sonar operations. With my qualification validated, I can proudly say that I am now a professional sailor with "multiple skills and diversified talents." For myself, it is both a recognition and an achievement in my military career.

When I first stepped on board, I was assigned to an engine department. For a mission purpose, I once had to work from 5 pm to 5 am next morning in order to get the vessel ready to sail out at six o'clock sharp. Afterwards, I was recognized by my fellow sailors for enduring such a physical and stamina test. Aside from the growth in my professions, I met my soul mate, and we've reached a consensus to keep moving on our respective career tracks toward our destinations together.

Both my elder and younger brothers followed me to join the military to safeguard the nation after seeing my growth in experience over three years. My parents are proud of their decisions. I am once again assured by the right choice to sign up to lay a sound and solid foundation for my future, and based on that, I will continue my journey to attain my goals.

Petty Officer Third Class, Huang Ping-chun, Sonarman, Di Hua Frigate, ROCN

Skilled Paratrooper in the Dragon Team

Every high-altitude parachuting is full of excitement! When I became an instructor in the Dragon Team, my mind has always been tied with how to land safely and finish tactical actions to collect my chute in a mission. After combining the high-altitude parachuting demonstration with All-out Defense Exhibition Event, every moment of my landing was met with loud applause from the crowd with fervent eyes, the jump once again becomes an act of glory and proud.

The Dragon Team is not only famous for its high-altitude parachuting demonstration, but also good at coaching trainees to overcome psychological barriers in high-altitude parachuting, which is an important practical operational skill. Usually, trainees would act normally on the ground, but the key to successfully jump out and land is whether they can overcome the fear and resistance in high-altitude. Behind a successful demonstration, there is a tough and difficult training process, and every paratrooper has to master all the basics prior to a beautiful landing.

At the moment of jumping out, the sky is all yours. While I remain airborne, I can feel the serenity and hear blowing winds, and the feeling is quite unique in the Dragon Team. Especially, I was really excited to join the jump in front of the Presidential Office Building on the National Day Celebration in 2011, and the experience was thrilling and extraordinary. After touching down, I felt the warmth from the public and afterwards I even received pictures and messages posted on social media. I am very confident and proud of being a member of the Dragon Team, and will exhibit my best skills to the public in the upcoming demonstrations.

Sergeant Major Pan I-lung, Dragon Team, Aviation and Special Forces Command, ROCA

國防

Part 3: Self-reliant Defense

Pursuant to the guidance set forth in Article 22 of the *National Defense Act* and the "5+2 innovative Industries Plan," the MND, with technology trends and joint operations requirements in mind, has been diligently combining resources from intergovernmental agencies and the private sector to indigenously develop, produce, and maintain necessary weapons and equipment. The *Defense Industry Development Act* was thus formulated to provide legal basis and encourage viable domestic enterprises to join the defense industrial supply chain to achieve the goals of rejuvenating our defense industry, and constructing a self-reliant defense.

Chapter 5 Defense Technologies

Since the competency of defense technologies is vital to a self-reliant defense, the MND needs to collect, and has been collecting resources from intergovernmental agencies with capacities of industrial, academic, and research sectors to get around technological bottlenecks and develop advanced technologies from the ground up. We have been putting matured technologies into indigenous programs so as to steadily move toward a self-reliant defense. Taking patterns of emerging wars and our operational requirements into consideration, the MND has been leading defense-related industries to take part in R&D, design, manufacturing, and test efforts for our indigenous aircraft and vessels programs, aiming at broadening our self-reliant defense base and motivating our defense industry to upgrade.

Section 1 Broadening Technological Base

To broaden our R&D base for defense technologies, visualize long-term defense requirements, and overcome key technological hurdles, the MND has absorbed an innovative/asymmetric operational concept and has been studying trends in advanced technologies to intensively push for developing key technologies for new weapons.

I. Visualizing Long-term Requirements

According to ROC Armed Forces' "Ten-year Force Buildup Plan," the MND has visualized developing trends in defense technologies and future operational requirements. Subsequently, the MND has reviewed current technological gaps, and then completed defense technology plans and guidelines for developing weapons and equipment that best fit into our future requirements for defense operations.

From 2017 to 2019, the MND, in order to fulfill long-term defense requirements and R&D plans, has increased allocated budgets for programs of satellite, missile, aircraft, vessel, and information security from NT$7.7 billion to NT$12.2 billion. The budget for outsourcing programs has also grown from NT$23.4 billion to NT$46.4 billion. The overall budget for R&D and production programs has seen tremendous growth.

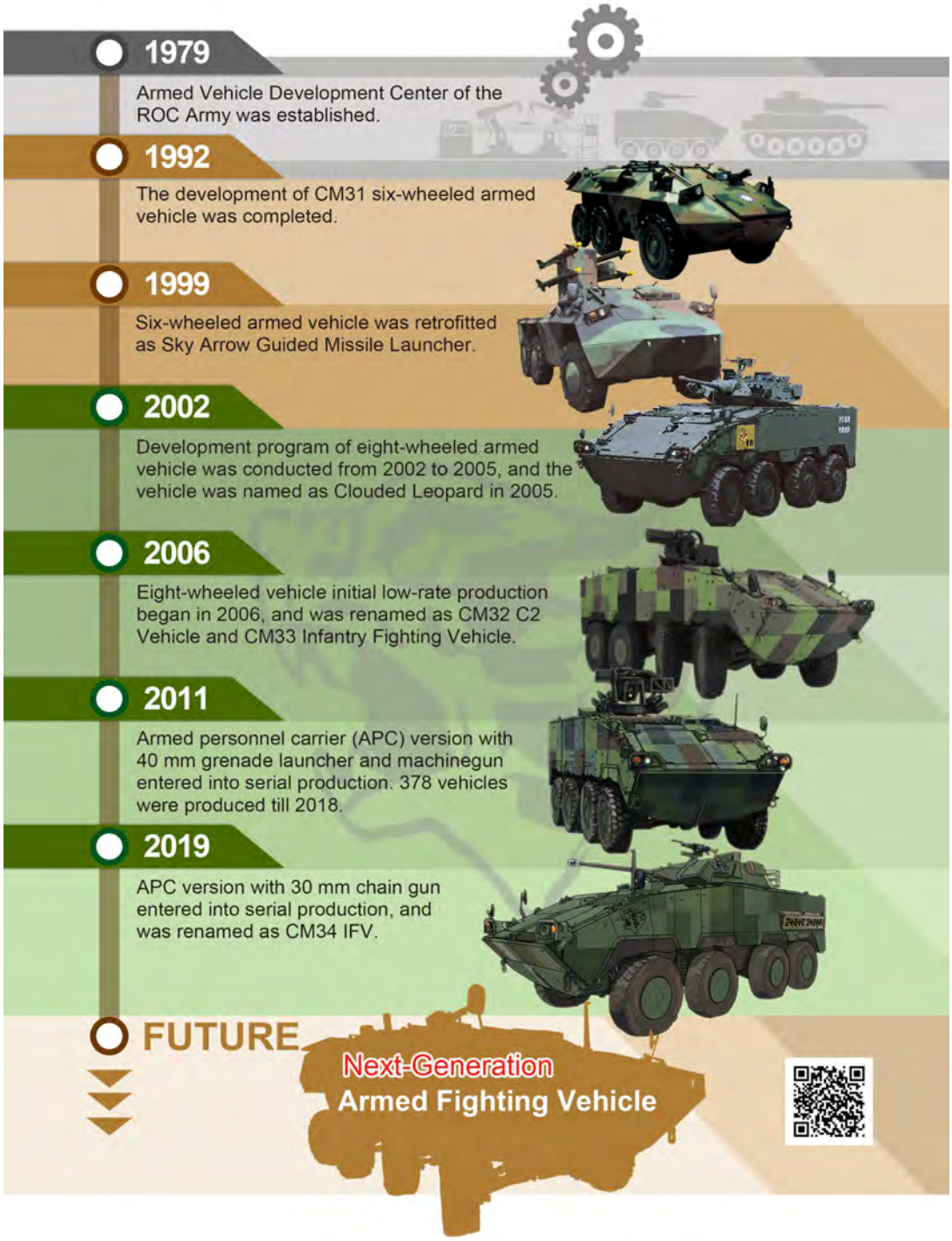
II. Acquiring Key Technologies

In order to get around the bottlenecks in our R&D efforts, the MND, following the "Guidelines for Developing Defense Technologies," has been developing key technologies for defense articles, lowering the risks of our self-reliant R&D efforts, and broadening the technological base for subsequent self-reliant R&D and production activities for weapon systems and equipment.

The MND has allocated NT$837.62 million in 2018, and NT$4 billion and 316.35 million, a dramatic growth, in 2019 for acquiring key technologies required by our R&D programs for indigenous aircraft, vessel and next generation weapon systems.

III. Developing Advanced Weapon Systems

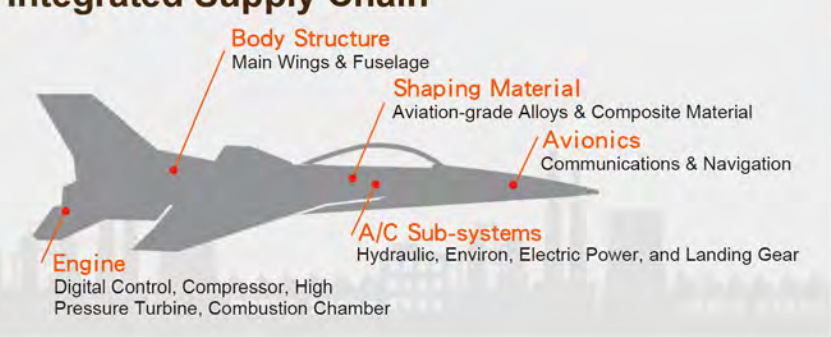
According to our medium and long-term R&D timelines for weapon systems defined by the "Guidelines for Developing Defense Technologies," the MND has combined technological capacities of industrial, academic, and research sectors, coupled with existed base of key technologies, to initiate advanced technology research on aviation, shipbuilding, telecommunications, information security, material chemistry, and high energy weapons, so as to lay a solid R&D foundation for developing innovative/ asymmetric weapon systems for future operations.

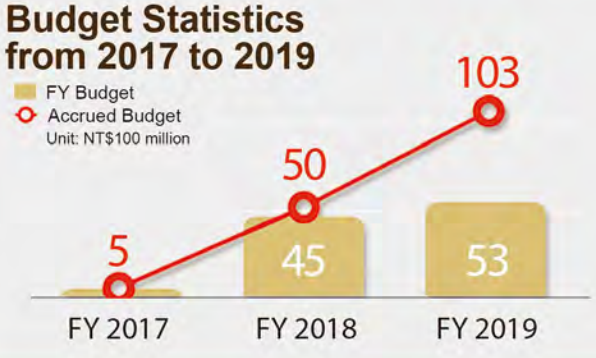


【Chronicle of Armed Vehicles of the ROC Armed Forces】

Section 2 Realizing Self-reliant Defense

Following the R&D timeline defined by the"Guidelines for Developing Defense Technologies," the MND is committed to establishing capacities for R&D, production, and full life-cycle support for modern weapon systems which will be fully self-developed and manufactured. Aerospace, shipbuilding, and information security are three core fields chosen by the MND to realize the self-reliant defense policy.





I. Indigenous Aircraft

To regain self-manufacturing capacities for military aircraft, the MND sequentially initiates programs of the Advanced Jet Trainer (AJT), as a kick-starter, Primary Trainer, and next generation fighter. The contract to develop the AJT was awarded and went ahead in February 2017, and now its design and activation phases have been completed. The program is on schedule, and the first prototype was rolled out on 24th September 2019 and its ground test ensued immediately. Its maiden flight is scheduled in June 2020, and a total of 66 AJTs will be built by 2026.

Since April 2017, the MND has been inviting domestic enterprises, advised by the National Chung-Shan Institute of Science and Technology (NCSIST) and the Aerospace Industrial Development Corporation (AIDC), to join AJT production activities. More than 160 companies joined the foray and have formed a supply chain. The total budget for the program is about NT$68.6 billion (NT$5.3 billion earmarked in 2019), and its industrial expansion effect can even reach NT$150 billion.

Narrative of Noted Personnel VOICE

R&D and Innovation Achievements Won Worldwide Acclaims

I was originally admitted to the Department of Psychology, the National Taiwan University during my early adulthood, but inspired by my father, decided to enroll in ROCAF's Air Technical School (ATS). After granted a master's degree by the graduate school of the Chung Cheng Institute of Technology (CCIT), I became immersed in R&D. During my 20 years of service, I have reached substantial results in various R&D fields, including aircraft engine design, missile design, bio-medical engineering, wind-power engineering, and artificial intelligence. I have attended national and international invention competitions, and won 18 gold medals, 12 silver ones, and 11 bronze ones. I was listed in the Hall of Fame for International Inventors, and my success are all attributed to my military service.

Speaking of my research activities for the ROC Armed Forces, I worked with the NCSIST to conduct simulations and analyses on Hsiung Feng III missile, and improved aerodynamic effects of its control surfaces and its appearance design. Furthermore, I applied my knowhow to help the ROCAF to self-produce fuel injectors for jet engines, which could save NT$200 million annually to increase available budget for more needed items.

I was influenced by my father with a R&D background, and have seen the progress of the ROCAF with an influx of new trainers and fighters. Now, I have become an educator to impart my knowledge to fledgling cadets to equip them with skillsets which can be applied both in the military and the society. By this way, I can help more promising youngsters to join the military, and allow them to grow their own "soaring wings."

Colonel Hsu Zi-gui, Dean, General Academic Studies Department,
Air Force Institute of Technology, ROCAF

New Milestone of Self-reliant Defense

The Progress of Developing Indigenous Vessels

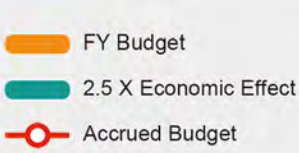
Right : Groundbreaking Ceremony for Indigenous Submarine Shipyard on 9th May 2019

Images of the Ceremony

Naval Shipbuilding Development Center	Contractor for Vessel design				Shipyard
Feasibility Study	Conceptual Design	Initial Design	Contractual Design	Detailed Design	Construction
Operational Requirements	Functional Requirements & System Spec.	Functional Spec.and R&D Spec.	Technical Spec. and Production Spec.	Shipbuilding Blueprints	Delivery

Submit Design Requirements and Spec.

Submit Construction Requirements and Spec.



- Amphibious transport dock
- High-performance frigate
- High-speed minelayer
- Indigenous submarine

II. Indigenous Naval Vessels

The MND has adopted strategic concepts of "planning for long-term results, shipbuilding by sequential batches, integrating relevant industries, and keeping sustainable operations" to meet our naval buildup requirements and develop our domestic shipbuilding industry capacities. From 2016 to 2019, the MND has successively initiated 7 shipbuilding programs for indigenous submarine, amphibious transport dock, high-performance frigate (based on the Tuo Chiang-class corvette), high-speed minelayer, new rescue vessel, Micro-class missile assault boat, and next generation guided-missile frigate. Among them, indigenous submarine program began in March 2017, and now its 4 phases, "program preparation," "conceptual design," "initial design," and "contractual design," were concluded with "detailed design" phase underway. The bidding for the submarine construction was done in April 2019, and a groundbreaking ceremony for a related new shipyard was held in the following May. The prototype submarine is due to be delivered in 2025.

The MND will continue augmenting local industrial clusters, expanding related supply chains, and pushing for joint R&D efforts between military educational institutions and civilian universities to achieve industrial and academic cooperation. It is estimated to increase NT$27.5 billion generated by these programs for the total production value of shipbuilding industry in 2019, and the scale and overall production value in shipbuilding industry can thus expand substantially.

III. Information Security

Following the "Action Plan for Developing Information Security Industry" of the Executive Yuan and the "Initiative for Developing Defense Industry" of the MND, the NCSIST has been outsourcing declassified military cyber security programs, with a total value of NT$996 million, to interlink with domestic supply chain of cyber security industry. We also established a system of field trial, quality assurance, and service level certification for cyber security, aiming at motivating the cyber security industry to upgrade.

We continue improving our information security mechanism to protect our classified R&D data of defense technologies. Moreover, we have been pushing for industrial and academic cooperation and exchanges to enlarge our talented personnel pool, and increase our overall information security capacities. In 2019 alone, a total of NT$2 billion 257 million was earmarked for cooperation programs of industrial, governmental, academic, and research sectors, to propel information security industry to upgrade.

Indigenous Naval Vessel Patrolling to Defend Territorial Waters

By getting around technological bottlenecks and enhancing shipbuilding capacities, the MND is building indigenous naval vessels to secure our territorial waters.

Cutting Edge and Agile Clouded Leopard IFV to Defend Sovereignty

Envisioning ever-evolving requirements, the MND has been accumulating R&D capacities to bring about next generation weapon systems.

Chapter 6 Defense and Economy

To reach a balance between national defense necessities and economic requirements, the MND, following the defense and economic policies of the government, integrates resources of intergovernmental agencies and capacities of the private sector to improve its development and application of defense technologies. Then, by initiating indigenous aircraft and vessel programs, the MND can motivate overall defense industry to thrive, and generate advantages that can satisfy defense requirements and create economic growth.

Section 1 Development of Defense Industry

In order to broaden the defense industrial base to support our force buildup, the MND has been legalizing relevant processes, optimizing industrial environment, and constructing a perfect industrial cooperation mechanism, so as to enhance the technological base and scale of the defense industry. Furthermore, the MND, following the policy of releasing defense resources to private enterprises, has been sharing R&D results with the private sector to improve our economic vitality, and boosting up long-term demand for them in order to motivate the defense industry to thrive.

I. The *Defense Industry Development Act*

The purpose of the *Defense Industry Development Act*, formulated by the MND, is to widely expand our self-reliant defense capacities to develop defense related industries so as to dually satisfy national defense necessities and economic development requirements and effectively combine resources of the government and the private sector. By formulating topic-centered rules and regulations, the MND can attract domestic enterprises to our defense supply chain and legally protected them, expand the market scale of defense industry, and sustainably develop the defense industry. Then, we may reap a win-win result of "meeting defense and security demands" and "generating economic benefits for industries."

II. Outsourcing to the Private Sector

Three categories of defense resources, "acquisition of weapons and equipment," "sustainment of weapons and equipment," and "general matériel," can be outsourced to the private sector. The MND is holding a principle, "Do not acquire items that can be offered domestically, from foreign sources; provide assistance to contracted enterprises if their capacities are insufficient," to outsource general-purpose matériel in our R&D, production, maintenance, and combat training activities to the private sector. The MND supervises this progress by conducting an annual performance audit on those units in charge of outsourcing.

We outlaid NT$101 billion 647 million and 170 thousand in 2017, NT$118 billion 478 million and 370 thousand in 2018, and are planned to outlay NT$130 billion in 2019 to acquire items from domestic sources. By outsourcing defense items, we may encourage domestic enterprises to join the defense industry, and by the same token, it will stimulate domestic demands and economic vitality, steadily improving our self-reliant defense capacities.

【Diagram of Various Efforts Set forth by the *Defense Industry Development Act*】

Section 2 Civil-military Dual-use General-purpose Technology

Based on its current R&D capacities in defense technologies, the MND has been releasing matured dual-use general-purpose defense technologies to domestic industries for upgrading their technological level. The releasing initiatives can be seen as a two-way channel between the military and the private sector to exchange capacities with one another, so as to generate benefits bilaterally.

I. Releasing Defense Technologies to the Private Sector

The MND has been intensively transforming selective defense R&D results into the ones with civilian application, and releasing them to the domestic industries. Furthermore, the MND has been applying for the intellectual property rights (IPRs) for its defense R&D results, and flexibly using IPRs (or patents) to generate benefits for defense industrialization. In 2018, the MND initiated the "Mega-sized Aerospace-grade Additive Manufacturing Technology Development and Validation Program" to set

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1.2.3.4. By developing dual-use general-purpose technologies, the MND can transfer selective defense technologies to the private enterprises to raise their technological level, and benefit bilaterally. Furthermore, by outsourcing activities, the MND can increase the capacities of the defense industry, and achieve the goal of a self-reliant defense.

up a demonstrative production line, for the whole related supply chain, to manufacture and validate additive manufacturing technological items ranging from the source material (additive powder) to the end products of mega-sized aerospace-grade. In the future, this production line can be used to make sophisticated and light-weight parts with dual-use applications. In addition, the MND initiated the "Application and Development Program for Industries Producing High-power Modules" to establish a supply chain for gallium nitride (GaN) based power devices, which can be applied in dual-use fields of high-power modules for radar, 5G communications, green energy, and electric vehicles.

From 2017 to 2018, the MND has invested more than NT$1.3 billion to develop dual-use general-purpose technologies, and applied for 220 patents (with 137 patents approved). Proceeds generated by their initial R&D results and transferring technologies reached above NT$300 million, and the MND

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1.2.3.Taking patterns of potential wars and our operational requirements into consideration, the MND has been leading defense-related industries to take part in R&D activities of our indigenous aircraft and vessels programs with an aim at broadening our self-reliant defense base, motivating our defense industry to upgrade, and further developing our economy.

is going to expand their application of patents and technical authorization so as to create the benefits from industrializing defense R&D results.

II. Industrial Base to Support National Defense

The MND proposed the "Governmental Science and Technology Development Plan" to establish a long-term cooperation channel with domestic educational institutions, legal entities, and governmental research institutions capable of doing R&D for industrial technologies. By so doing, the MND can incorporate defense related technologies beyond its reach, to shorten its R&D timeline and reduce incurred cost. In addition, during the production phase for weapon systems, the MND can also

outsource generic items to the private sector to make the best of industrial base and lower production cost.

From 2017 to 2018, through cooperation of industrial, academic, and research sectors, the MND has helped a total industrial investment of NT$7.6 billion, effectively integrated defense technology and capacities to lead our domestic industries toward developing core system assemblies and high-value products. Therefore, the MND may dually reap the effectiveness of domestic industries and their capacities to support the readiness of national defense.

Narrative of Noted Personnel VOICE

Professional Validation Done by Skillful Hands

I am now a professional test gunner, originally serving in the Special Services Company (SSC). My past experience becomes indispensable in my current position. During the flood on August 8th 2009 caused by Typhoon Morakot, I was assigned to the distress area in Namasia District, Kaohsiung to conducting a HA/DR mission, and my elder brother was also trapped there. I was fully committed to my mission, and was fortunate enough to know that my brother was saved. I concluded my mission without letup because an SST member has to carry out one's mandate.

Then, I took a chance to become a candidate for test gunner of the Armaments Bureau, and was selected to switch my career track to this armament manufacturing and logistic system. I know that every firearm has to endure vigorous tests before shipping out. I have to finetune every firearm from a gunner's perspective, and then give an honest and justifiable feedback to firearm R&D personnel.

A soldier shall master the skills to operate sidearms, rifles, and submachine guns by pulling the trigger, completing the firing sequence, and spotting the projectile to hit its target. Before pulling the trigger, a test gunner must observe the gap between the bolt carrier and the chamber wall to see how big it is. There is a saying, "There are no lousy firearms but lousy gunners." Along the path to develop firearms, a test gunner with practical experience and expertise can really maximize their performance to the extreme.

Staff Sergeant Zeng Jian-zai, Test Gunner, 205th Arsenal,
Materiel Production Center, Armaments Bureau

風呂

Part 4: National Defense Governance

Facing a complex security environment, the MND visualizes the progress of defense affairs by paying equal attention on reform and pragmatism, and works with social media to rapidly communicate with the public and disseminate policy decisions. With such visualization and the feedback from the public, the MND can thus finetune its policy implementation efforts, provide better care for personnel, protect personnel human rights, enhance connections with global security circles, and enforce values of cleanness and integrity. By keeping a quality governance in this way, the MND hopes to increase its performance on the implementation of defense affairs, and strengthen overall operational capabilities.

Chapter 7 Performance of Policy Implementation

The ROC Armed Forces are committed to a variety of defense programs and reforms, including refining recruitment system, providing better care for personnel, expanding financial resources for defense, improving military medicine, and perfecting defense legalization activities, so as to optimize the quality and performance of defense policy implementation.

Section 1 Recruitment System

Recruitment is one of the major governmental policy implementation efforts. The MND has been recruiting and retaining concurrently to cultivate "long-serving, determined, and experienced" voluntary manpower, so as to create a "fit, elite, and robust" modern combat force. Currently, the manning ratio of volunteers in the services is climbing steadily, and it is anticipated to reach 90% in 2020.

I. Policy Goal of Recruitment

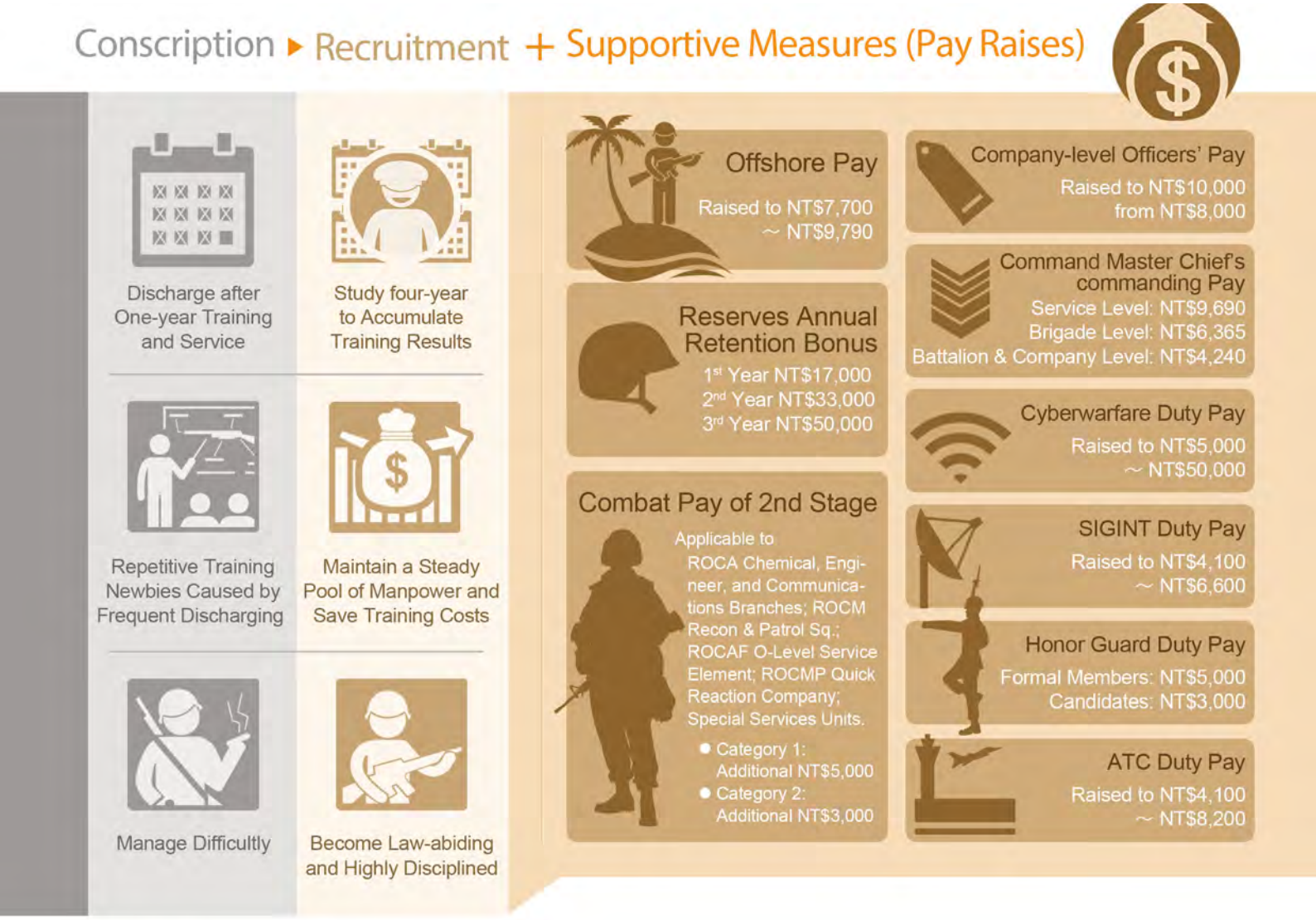
The goal of our recruitment system is to carry out a lean force policy. Recent field training and drills have revealed that voluntary service members have several positive traits, such as serving longer, being more experienced, adaptive, and skillful in operational settings, and being psychologically stable. Their presence is positive to fulfill our recruitment policy and strengthen our overall operational capabilities. The MND will spare no efforts to take effective actions to accomplish this policy goal.

II. Practical Measures

Following the policy of the recruitment system, the MND continues proposing complementary measures in a roll planning way, to meet actual needs and status in manpower supply, and help provide incentives to recruit and retain talented personnel, including :

1. Well-designed Supportive Measures

(1) To push the recruitment system ahead, the Executive Yuan has approved to raise 9 pay and bonus rates, including "location pay (for military/civilian personnel stationed at offshore islands)," "retention bonus (expanded to cover reserve officers/NCOs)," "combat pay of 2nd stage for volunteers (expanded to cover personnel in quick reaction and special services teams of the 202nd Military Police Command)," "volunteer duty pay (company-level officers)," "Command Master Chief's commanding pay," "cyberwarfare duty pay," "signal intelligence (SIGINT) duty pay," "honor guard duty pay," and "air traffic controller (ATC) pay." In order to retain quality service members, proposals for 10 more pay raises are planned, including "operational unit pay grade," "aviation duty pay," "ATC duty pay," "firefighter duty pay," "location duty pay," "cyberwarfare pay," naval duty pay," "honor guard duty pay," "paratroop/special services duty pay," and "counter-intelligence duty pay."



(2) In addition to pay raises as incentives, there are more supportive measures underway as an integral part of the government policy to create a better environment for service members, such as optimizing internal management, offering more opportunities for higher education, improving living conditions, refining consultation for civil occupation while retiring, attending to the welfare of personnel, and enhancing care for military dependents.

2. Setting up a Sustainable Mechanism

Aiming at recruiting young adults in academic and educational campuses, the MND has sign "Reserve Officers Training Corps (ROTC)" agreements with 129 out of 139 universities nationwide. Moreover, the MND has signed agreements with 313 out of 506 senior high and vocational schools to offer "Defense Cultivation Classes." The MND also signed an agreement with National Chiao Tung University to provide accredited courses (Bachler's Degree) for 285 CCIT cadets, and with National Tsing Hua University to open "Defense Elite Class for Bachler's Degree). The MND is planning to cooperate with domestic top universities to provide ROTC classes for Master's Degree in 2020. By the above recruitment drives, we hope to form a sustainable mechanism in campuses to secure source and assure quality of needed manpower.

1 2 3

1.2.3. Through supportive recruiting measures like pursing multiple recruiting channels, raising selective pays and bonuses, optimizing internal management, offering more opportunities for higher education, improving living conditions, and attending to the welfare of personnel, we may construct a quality combat force that can meet our national security requirements and fulfill policy demands.

3. Encouraging Life-long Learning

To retain service members, we encourage them to study for higher education during off hours. The MND has sponsored "Accredited Classes for Academic Degrees (ACAD)" spreading around 4 geographical locations of Taiwan, namely northern, central, southern, and eastern areas. Since the beginning of 2019, the MND has signed agreements of strategic alliance with 38 universities and colleges, and set up 88 classrooms in military installations to provide courses (for degrees of two-year associate, two-year technical associate, bachelor, and master). So far, a total of 3,223 attendees joined ACADs and 604 joined "Classes for Skill Certificates" (in 6 different categories of skillset and 18 classrooms). Based on our ongoing progress, we will keep improving the quality of our service members.

4. Constructing a Recruiting Net

In August 2019, the MND established battalion and company-level recruitment teams in three services, in order to create specific recruiting teams at rank-and-file level as the 3rd recruiting layer. By this way, the MND has constructed a layered and well-defined recruiting net with existing 3 Recruitment Centers in northern, central, and southern areas as the 1st layer, and at army-level (including equivalent level in other services) recruitment teams as the 2nd layer. The purpose is to reach out local communities, villages, schools for recruiting, and to reveal the policy and its implementation are interconnected and mutually complementary.

5. Equally Developing in Quality and Quantity

Since we have adopted multiple channels to steadily pour in needed voluntary manpower, we have achieved 85% manning ratio till August 2019, and expect to reach 90% in 2020. After 2021, we will follow a policy of "striking a balance between supplementing and retiring" and "emphasizing equally in quality and quantity," by taking 90% as an annual benchmark, to maintain a constant ratio of supplementing and retiring. Therefore, the required number of new recruits annually can be gradually decreased from 29,000 to 12,000. It will not only greatly relieve the burden on recruitment, but will also help us to divert more resources to supportive measures like increasing more higher education opportunities, attracting professionals for cooperation, and providing technical training to improve the quality of service members and strengthen capabilities at rank-and-file level.

6. Envisioning Future Manpower

Facing a tendency of low birthrate and constraints of domestic demographic structure, the MND has been using a rolling review process to align national defense organization, force structure, and recruitment policy with a multi-faceted thinking of "a flattened command and control structure," "using technology to replace labor," "using firepower to replace manpower," "cultivating personnel with multiple skillsets," and "upgrading weapons to next generation" to ensure the quality and quantity of service members to maintain the status of our readiness.

III. Performance of Policy Implementation

With support from the government, the MND has been going full steam ahead with all recruitment drives and supportive measures, and has driven up to 85% volunteer manning ratio in August 2019 from 77% in 2016. So far, the retention ratio is 75%, and the manning ratio for voluntary enlistees arises to 84.91% from 78% in the same timeframe. Currently, the manning ratio for officers is 89.04%, and for NCOs 82.4%. Obviously, our voluntary manpower is steadily growing.

In 2019, we have admitted 1,796 new regular cadets in service academies with a recruiting ratio of 111.3%, 902 individuals in ROTC programs with a ratio of 128.9%, 600 cadets in senior high department of the Chung Cheng Armed Forces Preparatory School (CCAFPS) with a ratio of 100%, and 250 cadets in junior high department of the CCAFPS with a ratio of 100%. The number of voluntary enlistees reaches 11,076, and these statistics bode well for overall recruitment drives.

Section 2 Attending to Service Members

To ease on-duty service members' concerns, aside from enhancing counseling assistance, the MND tests-run a "non-profit kindergarten" to help relieve their burdens as parents. In addition, the MND has been pushing for renovating personnel living quarters, providing better uniform supply, and offering protection for personnel rights and privileges so as to better attend to service members, win the trust and support from their dependents, and maintain their morale.

I. Improving Counseling Assistance and Effectiveness of SIGs

To keep mental health for all service members, "prevention of self-injury" is considered by the MND as an important topic of concern. In recent years, along with existing multiple counseling channels, the MND awarded contracts for the first time in 2018 to 20 civilian counseling institutions, which provided assistance (in 485 manhours) to 249 service members in the same year. This combination of military and civilian counseling resources is highly recognized and supported by service members and their families; therefore, in 2019 there are 21 contracted civili an institutions, which provide assistance (in 261 manhours) to 127 service members up to 31st August. Additionally, the MND encouragessetting up special interest groups (SIGs) by units to host activities and events, aiming at assembling members with a shared interest, to foster a positive atmosphere and increase interactions between different ranking levels. By doing so, the MND can better attend to service member's mental health, improve internal management, and strengthen a sense of unity in units at all levels.

II. Carrying out Childcare Policy

Following the governmental guidance of "setting up public childcare services, optimizing childcare environments, and increasing female labor force participation rate and fertility rate," the MND planned to revitalize selective vacant military facilities to provide childcare services, and the first test-run was inaugurated in Shi Jian barracks in Dazhi District, Taipei as a "non-profit kindergarten," co-sponsored by Taipei City Government. Furthermore, the MND has been making "strategic alliances" with qualified childcare providers at local governmental level to meet the needs of service members. Till August 2019, there are 395 providers in the pool to offer complete childcare services at favorable rates.

These childcare services will first be provided to qualified dependent children who are "mentally or physically disabled, living in hardship areas (rural mountains and offshore islands), raised by single parent, or having parents both in the service or parents who are voluntary enlistees." After reviewing the test-run results, the MND will consider expanding the scale of childcare, and may ask all units to check the availabilities of their facilities for this purpose through existing "Xing An Program" in order to satisfy future needs.

III. Optimizing Living Quarters

1. Renovating Living Quarters

   According to the annual plan, the MND has been renovating military living quarters and facilities on the principle of "centralized budgetary allocation, renovating those in need." The focuses are placed on repairing and replacing dated tables (desks), cabinets, air conditioners, and toilets, so as

1	2
3	

1.2.3. Aside from a test-run of "non-profit kindergarten" to help service members as parents, the MND has been optimizing living quarters and providing better uniform supply to attend to their needs; therefore, service members can perform their duties with less worries.

to form a nicer living environment. In 2018, the MND had completed 411 renovation projects of living quarters and 72 replacement projects of facility furniture for units in hardship areas and rank-and-file units. The MND has allocated NT$3.2 billion for similar projects in 2019 to continue improving the quality of living quarters for service members.

2. Reconstructing Military Installations

To improve living environment and reconstruct dated living quarters, the MND has been conducting 27 reconstruction projects. Starting from 2017, the MND has been focusing on pouring funds on reconstructing permanent and special-purpose military installations, which would be remodeled by applying a concept of "standard exterior makeover and modularized interior design" and using fixed systems furniture. To date, 42 reconstruction projects have been concluded out of a total of 99 in the "Xin An Program," The 2 reconstruction projects for ROCA barracks in Hukou 3rd Base, Taoyuan and a living quartersin Hsinchu AFB are due to complete by the end of 2019.

Fostering a Feeling of Family with Satisfaction

By a touching guidance from President Tsai, the MND is optimizing living environment and quality for service members to sense a satisfying feeling of family.

IV. Satisfying Housing Needs

1. Resuming Reconstruction for Military Housing Complex

Following the principle of "prioritizing renovation of vacant housing units and standardizing facilities," the MND, concerning the optimization of housing quality for service members and their families, has been pushing for reconstruction of military housing complex units. From 2017 to 2018, 1,000 units in 49 complexes have been either reconstructed or renovated. Another 338 units in 13 complexes are planned in 2019. In addition, the MND is building 605 units in 3 complexes in metropolitan areas: Fu Hsing Kang barracks of Taipei, Ping Yi Training Range of Taichung, and Cheng He Naval Station of Kaohsiung. These units will be completed by 2023, and will satisfy those in need of housing.

2. Transacting Vacant Units in Rebuilt Dependent's Village

(1) Following the *Act for Rebuilding Old Dependents' Village* and the *Regulations for Vacant Units in Rebuilt Dependents' Village*, active voluntary service members, after 4 years of service, are qualified to purchase vacant units in rebuilt dependent's villages at cost price. Considering actual demands from service members in need of housing, the MND has prioritized those with "higher number of dependents," and "no possession of housing" during selection processes, in order to attend to those in need.

(2) From 2014 to present, the MND has hosted four transaction activities to sell 1,678 units. The fifth are due to announce in public on 25th October 2019, and there are 281 units in 16 complexes in different locations, like Reconstruction Site at Administrative Center of Yilan County.

V. Providing Better Uniform Supply

1. Acquiring Combat Gears

The MND has developed 21 personnel combat gears, such as ballistic helmets, ballistic plates, plate carrier which are customized and a distributed to combat units, combat support units, and logistic support units sequentially. From 2017 to 2019, we have supplied more than 80,000 sets of gears to phase out obsolete ones, and to provide better protection for service members in operations.

2. Setting up Post/Base Exchanges for Uniforms

To cater the needs of wearing specific uniforms in specific terrains or missions, the MND, instead of past practice of supplying "in designated time, with designated items, and in designated quantities," has been setting up post/base exchanges for service members to use prepaid cards with regulated values to buy required uniforms. On 1st October 2018, Army Command Headquarters (CHQ) set up 2 post exchanges in Longkang and Hukou barracks respectively as a test run. Both will allow service members to "choose freely, have tailored uniforms, be able to place orders online, and have door-to-door shipping service." The results of this test run will be shared with all branches of services in the hope that everyone can enjoy this convenient and quality service.

VI. Protecting Rights and Privileges

1. System of Rights and Privileges Protection

(1) To fit into a management hierarchy and protect rights and privileges of service members, the MND has revised the "Guidelines of Appeal Deliberations and Establishment of the Rights and Privileges Protection Committees (RPPCs)," and set up 2 more RPPCs in the National Defense University (NDU) and the General Staff Headquarters (GSH), aside from existing ones in Army, Navy, and Air Force CHQs, and the Political Warfare Bureau at service level, to deliberate appeals from service members. If one deems a verdict improper in these RPPCs, one can file another appeal to a RPPC at ministry level.

(2) A RPPC is composed of 11 to 15 members who are prestigiously impartial civilians, scholars, and legal experts from the public, joined by some selective and related officers-in-charge. A RPPC will periodically gather members to deliberate appeals, and the deliberation process is done collectively as in a collegial (panel-hearing) system.

2. Substantive Results of Rights and Privileges Protection

(1) From 2018 to August 2019, the RPPCs have ruled 568 out of 625 appeals and second-appeals with remaining 57 under deliberation. During the timeframe, they also have examined the decisions to provide legal aids for 37 lawsuits involving on-duty service members, and the results were 26 approved, 4 overruled, and 7 under deliberation.

(2) The MND has hosted 7 Legal Workshops for Rights and Privileges Protection, National Compensation, and Appeal and 3 Leadership Forums and Visits in northern, central, southern, and eastern area of Taiwan. All the question and answer (Q&A) discussions are published in written form and distributed to all services to satisfy service members' needs-to-know. In addition, the MND has been doing various ways, like revising dated regulations, compiling pamphlets of legal cases, gathering opinions via questionnaires, editing related video clips, and hosting legal quiz contests, all aiming at promoting the role of the RPPCs.

VII. Promoting Gender Equality

Following the governmental guidance, the MND has been diligently promoting gender equality. By hosing "Gender Equality Promotion Taskforce" meeting periodically, the MND has been inserting views of gender quality into policy discussions. The number of female members has grown to over 23,000 now from a little more than 15,000 in 2012, amount to 12.4% of the total force. With the climbing trend of female participation, the MND continues improving their living quarters, providing nursery rooms, and offering childcare assistance and information, in order to create a gender friendly environment.

To improve service members'understanding of gender and human rights, push initiatives of promoting gender equality, and enforce their sense of gender equality, the MND has been adopting a variety of measures, such as broadcasting "Juguang Park" TV episodes with targeted contents, circulating legal training sessions, and a total of 55 "circulating seminars with photo presentations of gender violence prevention." In 2018, the MND has hosted 10 training sessions on the *Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)* for personnel in the Ministry for them to be aware of its subject contents while drafting up policies, plans, initiatives, educational arrangements, and legal regulations, so as to truly realize the protection for gender and human rights.

Section 3 Defense Finances

The MND's planning for defense finances has to take comprehensive economic development of the nation, financial resources of the government, threats to national security, and national strategic goals into consideration, and then the MND may ask for necessary increase and make reasonable allocation. Defense finances will be firstly used to satisfy personnel expenditures bound by legal obligations, then maintain operational readiness of main battle equipment, improve personnel living quarters, and realize the policy goal of a self-reliant defense. At the same time, the MND will maintain sound management accounting activities, and maximize the effectiveness of limited defense financial resources.

I. Defense Financial Analysis

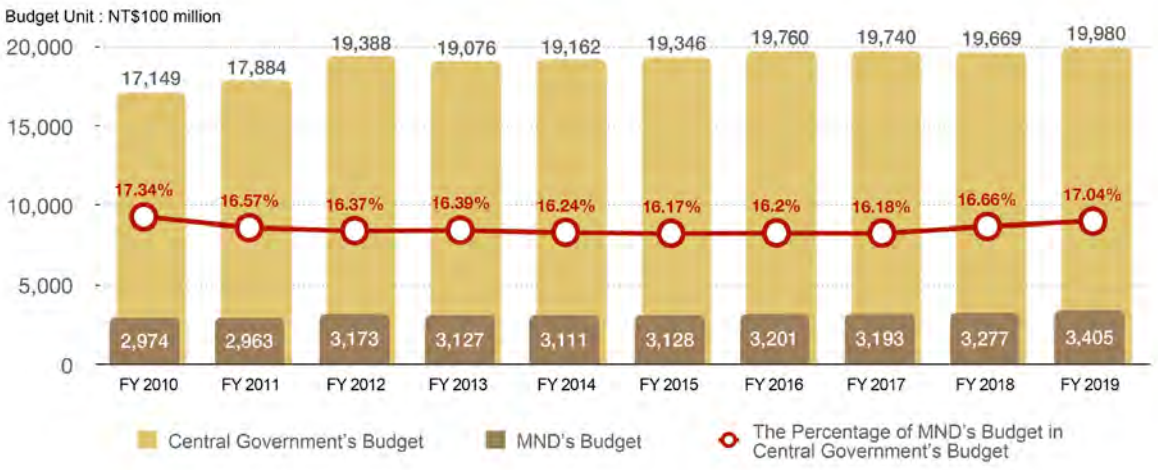
1. Percentage of Defense Budget in Central Government's Total Budget

   To propose a defense budget, the MND has to take adversarial status and threats, the progresses of "force establishment" and "force buildup," and "program requirements," burdens of "governmental finances," and "public opinions" into consideration in a meticulous and scrupulous way.

   In a recent decade (from 2010 to 2019), our defense budget is roughly between NT$296.3 billion and NT$340.5 billion, equal to a percentage between 16.17% and 17.34% of Central Government's total budget. From 2017 onwards, it has been growing steadily.

2. Planning for Future Defense Finances

   With "vying for larger share of the budget, allocating it rationally, and applying it effectively," as goals, the MND has to visualize its operational requirements and financial margins, incorporate performance evaluation of budgetary application, and examine acquisition



【Comparison Chart of MND's Budget and Central Government's Budget】

programs with performance, priority, and life-cycle costs of target items to allocate defense budget rationally. The MND follows 3 principles below to plan for future defense finances:

(1) Defense budget shall grow with GDP proportionally.

(2) On principle, annual defense budget increase shall not go below 2% of that of previous fiscal year (FY) with a flexible cap of 1%.

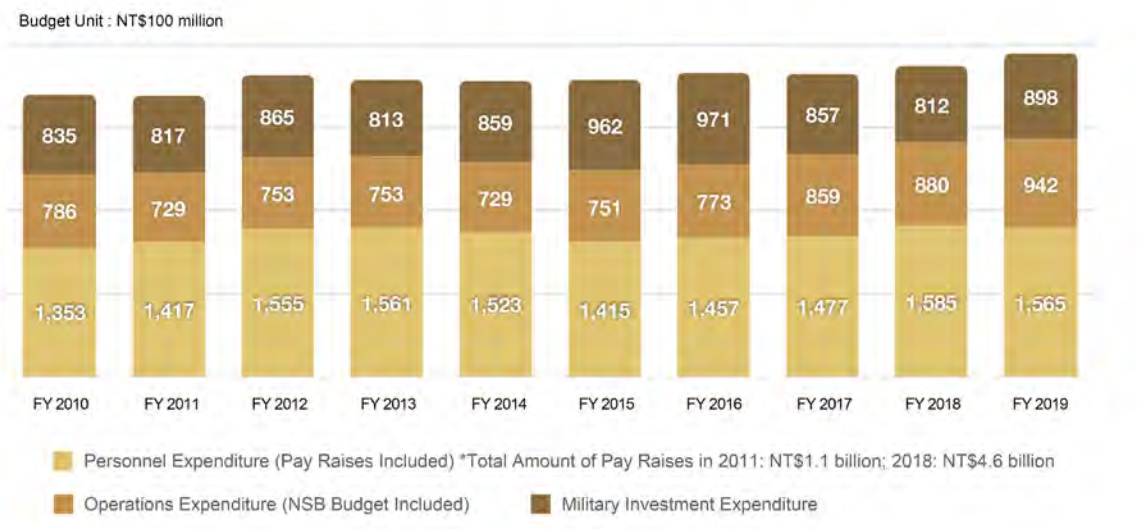
(3) If a major acquisition is pending, the MND shall demand an additional special budget from the government.

In the future, with a steady increase of defense budget and a foreseeable decrease of personnel expenditure after the voluntary force is adequate, the MND may annually increase the budget for acquiring modern weapons and equipment. Consequently, the MND may have more resources to plan its force buildup with a more integral and long-term perspective, and strengthen overall defense capabilities.

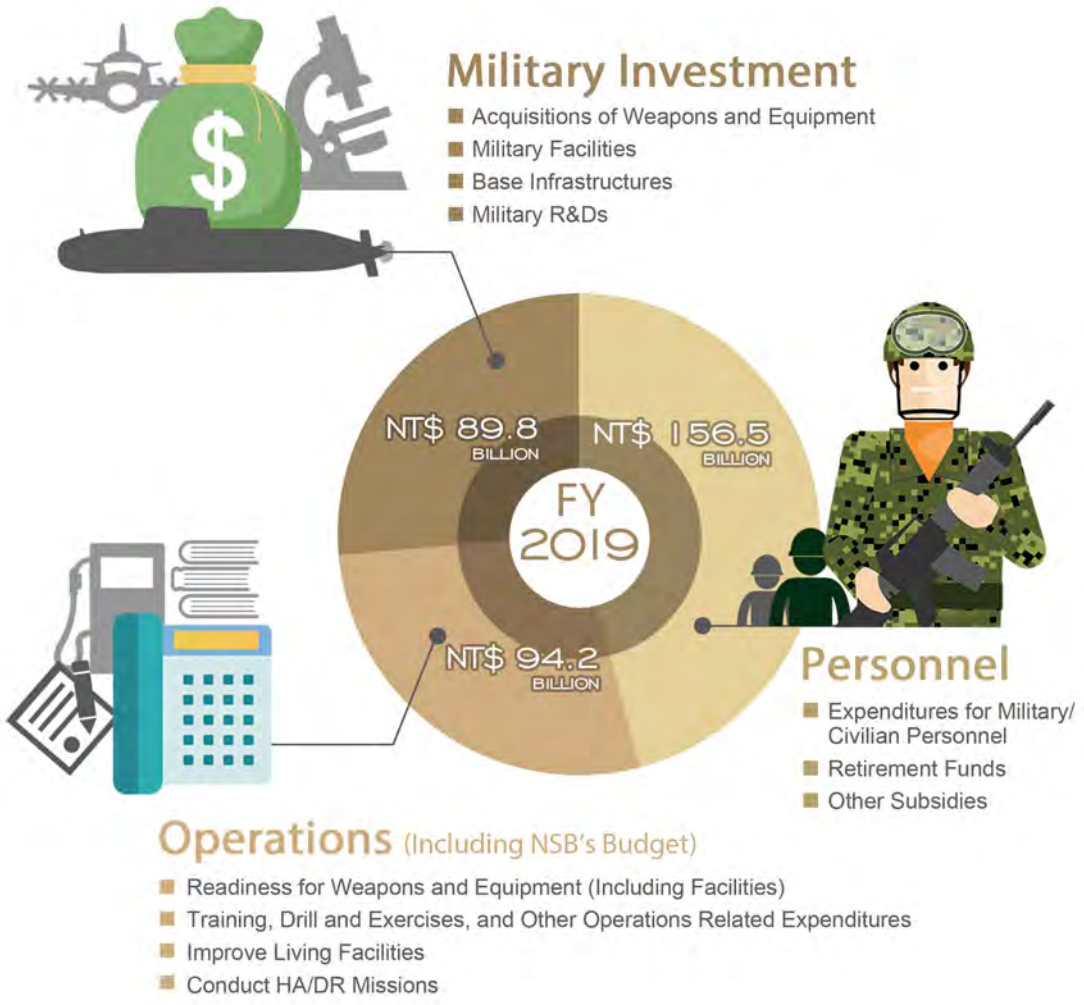
II. Allocating Budget

1. The MND's Principle of Allocating Budget

The government reviewsits financial status and appropriates defense budget to the MND. Principally, the MND properly divides it into 3 portions in 3 categories: personnel, operations, and military investments (acquisitions). When defense budget is appropriated, the MND will first satisfy personnel expenditures bound by legal obligations, then those for military investments and operations. In FY 2019, appropriated defense budget is NT$340.5 billion, an increase of NT$12.8 billion from that of FY 2018 with a 3.9% growth.



【General Chart of MND's Budget Allocation】



【Diagram of MND's Budget Allocation in FY2019】

2. The MND's Focuses of Allocating Budget and Financial Policy Implementation

Facing ever-growing adversarial threats and readiness requirements, in order to expedite the processes of force buildup and strengthening capabilities, the MND has laid the focuses of allocating budget and financial policy implementation of FY 2019 on realizing a self-reliant defense, expanding internal demands, developing asymmetric capabilities, acquiring advanced weapon systems, maintaining readiness for main battle equipment, and improving personnel living quarters. The budgetary details of FY 2019 are as follows:

(1) Personnel

NT$156.5 billion, allocated to pay for salaries, bonuses, insurance policies bound by law, and expenditures mainly for recruiting voluntary personnel, force retention, and on-call training for reserves, so as to provide more incentives to recruit and retain personnel.

(2) Operations

NT$94.2 billion (including the sub-budget for the National Security Bureau), allocated mainly to maintain readiness for main battle equipment, strengthen battlefield protection for service members, improve their living quarters, and meet basic operational requirements

of all units. Optimizing better care for service members and conducting combat training and drills together with HA/DR missions are also listed as focused expenditures.

(3) Military Investments (Acquisitions)

NT$89.8 billion, allocated to pay for contracts of the AJT Program, production of Tuo Chiang-class frigates, indigenous submarine program, 2nd phase of shipbuilding of next generation guided-missile frigate prototype, etc., so as to realize a self-reliant defense, expand domestic demands, and substantively exhibit our will and power of self-defense.

III. Financial Management

1. Keeping a Sound Accounting Management

Following the strategic goal for national defense and accounting laws and regulations, the MND has been carefully doing accounting and financial management of defense budget in close coordination with all policy-implementation efforts for force buildup, and utilizing a defense financial management mechanism and accounting analyses to validate the overall performance of defense finances so as to ensure an effective allocation of all defense resources.

2. Applying Cost Analysis

Following the policy for a self-reliant defense with indigenous aircraft and vessels, the needs of recruitment, and governmental accounting and corporate management principles, the MND has been constructing with scientific methodologies a database for defense financial costs as a reference for decision making. In addition, the MND has been monitoring its financial activities to efficiently manage costs and improve resources management efficiency.

3. Refining the Management of Defense Funds

By absorbing corporate management concepts, macro-planning for defense funds, and expanding domains of financial investment, the MND amplifies its financial resources that can be used to speed up reconstructions on old living quarters and military hospitals, and improves living quality for service members. Moreover, by providing thorough financial assistance, more leisure activities, better food supplies for service members with additional funds, their welfare and worries can be taken better care of.

Section 4 Military Medicine

The MND's military medicine, covering undertakings in applied medicine like physical and mental health promotion and emergency medical attention for military personnel, is categorized as battlefield medicine, aviation medicine, naval operations medicine, underwater and submarine medicine, and combat psychiatry. In peacetime, as part of preventive medical undertaking, service members are required to manage their own health status while the MND is doing occupational risk management in all military installations and improving their mental fitness in combat scenarios. In wartime, the focuses are shifted to tactical medical evacuations (MEDEVACs) and field hospitals' capacity for large number of wounded personnel, so as to allow the available force to exert its maximum strength.

I. Improving Health Services

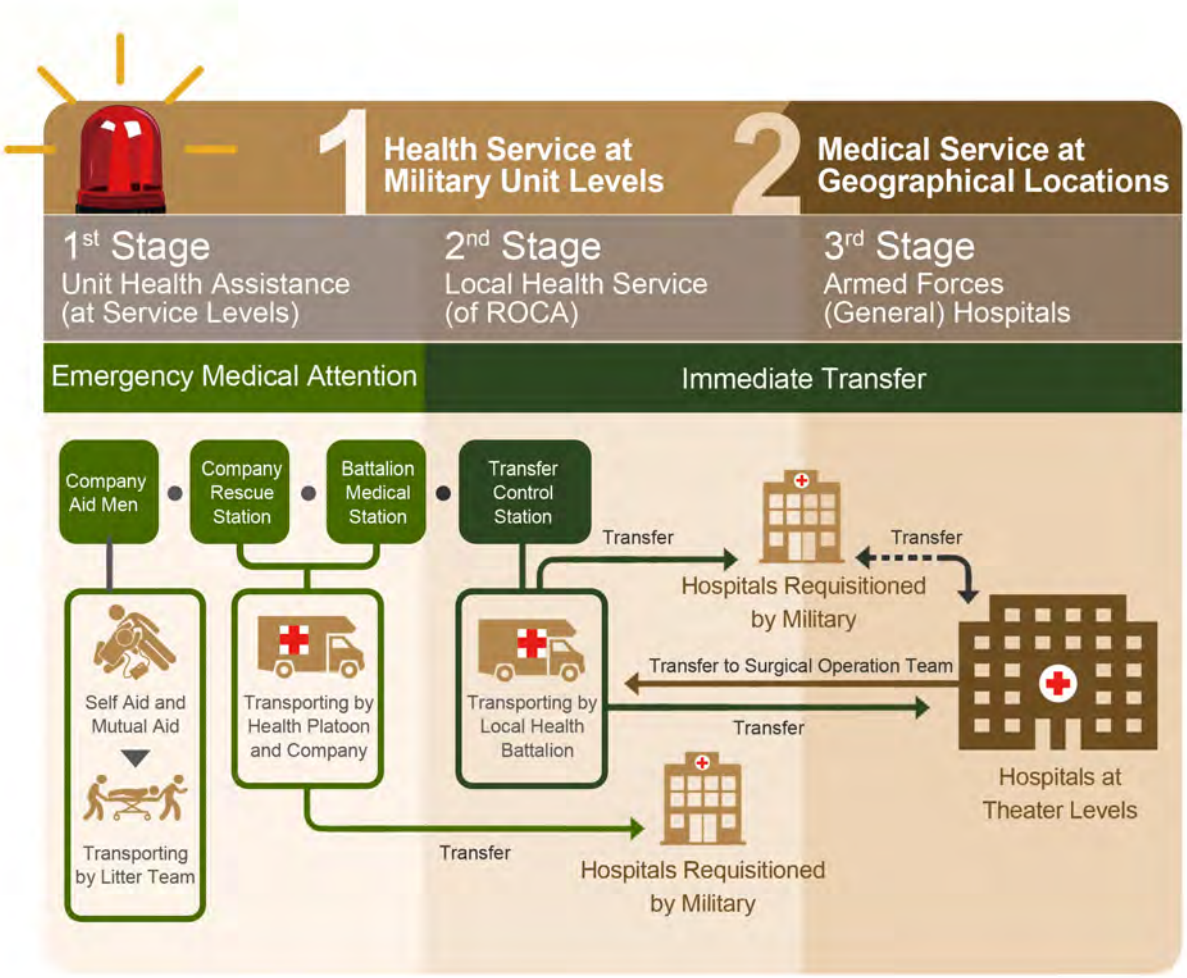
1. Providing Peacetime/Wartime Emergency Medical Care

To lower the number of deaths on arrival, the MND's emergence medical care, following the guidance of "providing medical attention swiftly, MEDEVAC without delay, and medical treatment at closest location" and *Guidelines for Prehospital Emergence Care*, is divided into 3 phases: care under fire (CUF), tactical field care (TFC), and tactical evacuation care (TACEVAC). As requested by *Emergency Medical Services Act*, the MND has initiated a certification system for military emergency medical technicians (EMTs), and more than 10,000 personnel have been certified at different levels till August 2019, sufficient to handle emergency cases in peacetime/wartime. Moreover, in order to improve the efficiency of emergency medical care, the MND has signed memorandums of cooperation with fire departments at city/county level, working in unity, to provide well-arranged prehospital emergence care for both military and civilian patients and victims.

2. Military Preventive Healthcare and Health Promotion

To enhance service members' understanding toward preventive healthcare, the MND has hosted seminars at rank-and-file level to disseminate the information on "prevention of infectious diseases and heat injury," "control of smoking and chewing betelnuts," and "urine tests for anti-drug." Furthermore, to strengthen immune system for all personnel, the MND, in coordination with the Ministry of Health and Welfare (MHW), is offering vaccinations against influenza at public expenses to all service members, and prioritized to administer to personnel in 5 specialized professions: medical service, aviation, diving and submarine, food service, working in confined space.

In 2018, aiming at rendering working environment a quality and healthy one, the MND published and disseminated the *Manual for Health Promotion* to impart a new thinking in getting better health for all units. By following the manual, rank-and-file units can do their preventive related works on topics like "food management," "keeping physical fitness," and "maintaining health under pressure."



【Diagram of Emergency Medical Attention in Peacetime (Wartime)】

3. Epidemic Prevention and Prior Activities

To effectively prevent epidemics and control their spread, the MND revised the *ROC Armed Forces' Guidelines for Cautionary Bulletins of Epidemic Eruption and Group Infection*, in order to request all units to do their best to carry out epidemic prevention works, and we have now seen a decreasing number of cases of group infection. In addition, to close monitor the spread and developing trends of epidemics, the MND is keeping contact with the MHW and Centers for Disease Control (CDCs), and actively participating in related meetings so as to better initiate epidemic prevention and prior activities.

The statistics have revealed that densely populated military installations like "military academies and educational institutions" and units of "military (basic) training camp" are commonly seen as locations of group infection. The MND combines theater commands with Mutual Aid System existed at city/county level, coupled with a horizontal connection with all services, so as to improve all epidemic prevention efforts.

II. Improving Service Quality of Military Hospitals

1. Advanced Studies and Innovative Results

Because medical technologies are evolving rapidly, we selected 12 medical personnel in 2018 to attend overseas short-term studies in order to interact with foreign medical experts for potential cooperation and paving the way for improving the quality of our medical service. To broaden our academic R&D base for military medicine and enhance performance and service quality of our military health services, we have reviewed and then integrated all fields and resources in "military medicine" and "basic and clinical medicines" to initiate a National Defense R&D program accordingly.

Furthermore, to offer better quality medical service, Tri-Service General Hospital (TSGH) established "Innovation Incubation Center," "Center for Precision Medicine and Genomics," and "Cell Therapy Center" to introduce advanced medical equipment, such as positron emission tomography (PET) and magnetic resonance imaging (MRI), 3T MRI, da Vinci® Surgical System, Cyberknife, and 3D printing, and has acquired almost 100 patents of expertise and research results over the past 5 years, including drugs of targeted therapy and regeneration of neural and blood vessel tissues. In addition, we have collected relevant resources with the Ministry of Science and Technology (MOST) and the Ministry of Economic Affairs (MOEA) to join hands to improve the quality of medical services, so as to generate a win-win result for both industrial and academic sectors.

2. Upgrading Medical Information System (Hui Yi Program)

Current medical information systems used by military hospitals are having issues of using outdated programming languages, high upkeep cost, and incompatibilities with different versions. To solve these issues, the MND has been implementing Hui Yi Program to upgrade "the medical report system," to construct a next generation medical information system in military hospitals that can meet the needs "centered on patients" and "in clinical care."

3. Information Security on Medical Data

To catch up with evolving technological advances, services of military hospitals are accessible through long-distance medical treatments, mobile applications, internet of things (IoT) and digitization of medical equipment. In order to prevent sudden shutdowns to take a toll on medical services, the MND has initiated the "Outsourcing Security Operation Center (SOC) for Military Hospital Information Program," to setup 4 SOCs in northern, central, southern, and eastern geographical areas in Taiwan to decrease risks on information security through precautionary notices, collecting real-time data on information security incidents, and periodical vulnerabilities scans.

Medical Officer from Special Forces Committed in Volunteer Works

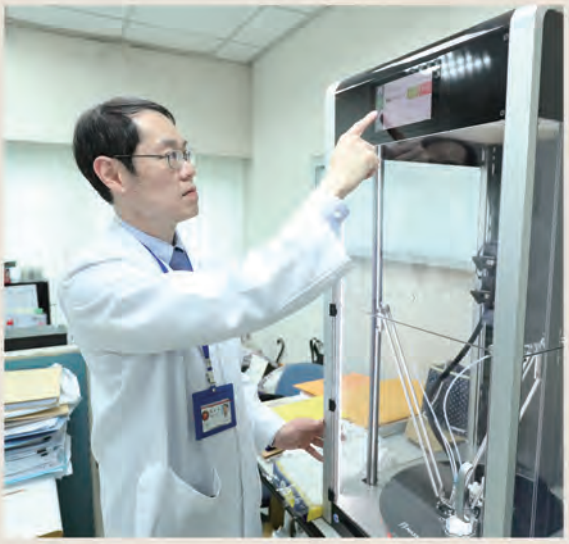
I was admitted to the CCAFPS in Fengshan District, Kaohsiung at the age of 12, and learned to be independent. I formally entered military service as a non-commissioned officer (NCO), and underwent various challenges steadily along my career track in ROCA's Amphibious Reconnaissance Battalion. While serving in the military, I have accumulated several skillsets, including EMT certified medical attention. I took volunteer works in local communities to share my medical knowhow, and have gained some fruitful results and inspirations aside from my current career in special operations.

Then I took the opportunity of switching career tack to be a commissioned officer through a test and subsequent training provided by the MND, and became a medical officer. The most unforgettable experience to me after my commission happened to be a recent accident involving a paratrooper, named Ching Liang-feng, who plummeted to the ground with a failed chute. With a background in special operations, I rushed to scene in reminiscence of possible results when the chute doesn't open, gave the first aid, and transferred the victim back to the hospital. To reflect the process, I thought it may take miles of experiences in dealing with real cases to make medical personnel like myself cool and calm to face a moment of life and death.

As a medical officer, aside from daily routines, I would go to military hospital as a volunteer during off-days. During sessions to help patients with critical illnesses, I have realized the irregularity and frailty of life, and deeply aware that one shall make the best of the moment, maintain composure, make right judgement, dedicate fully to the tasks at hand with no regrets no matter how high one's rank is.

Senior Lieutenant Zhu Shi-ming, Medical Officer, Aviation and Special Forces Command, ROCA

3D Printing Benefitting Patients



The quality of medical services is highly improved by recent rapid progress in 3D technologies; therefore, the TSGH introduced 3D imaging simulation and printing, first applied on treatments on fractured pelvis and acetabulum. 3D imaging simulation software can be used to reproduce a recovered pelvis virtually, and then a 3D model of that pelvis can be built in 1:1 scale by a 3D printer. Through this model, the surgeon may find the best angle to insert a customized steel plate to best fit the original curvature of the pelvis. Afterwards, he may simulate fixation of the plate, and decide the length of steel nails to be used, in order to provide the best treatment for the suffering patient.

The operation on fractured pelvis is highly complex. By introducing innovative 3D imaging simulation and printing on treatments on fractured pelvis and acetabulum, we can successfully reap a variety of benefits: shortening operation time greatly, decreasing hemorrhages, lowering patent's pains, customizing accurate plates, speeding up recoveries, etc

As a military surgeon, I led a team to study the "Application of 3D Imaging and Printing Technologies on Treatments on Complex Fractured Pelvis and Acetabulum" in 2017, and was awarded a "Symbol of National Quality (SNQ)." In the future, I and my team will continue refining our medical practices, with core values of "Caring, Quality, Discipline, and Innovation," enthusiastically caring, maintaining high discipline, and working with a daring and innovative thinking, to provide patients from all circles with the best medical services.

Lieutenant Colonel Ye Zu-de, Director of the Orthopedics Department, TSGH

Section 5 Revitalizing Land Use

To align with its force structure and revitalize its vacant properties, the MND reviews its land use to retain those shall be operated sustainably, and release those no longer in use, so as to achieve a win-win for satisfying the needs for operational readiness and the push for national economic development.

I. Reviewing and Planning Military Properties

1. Reviewing Usage of Military Properties and Releasing

   The priority of the management and application of military properties is to satisfy the requirements of military training, drills and exercises. The MND periodically hosts "Review Meeting for Transferring Ownership and Releasing Military Properties" to carefully review, in coordination with the needs of governmental policy implementation and economic development, its current uses of properties and consider releasing possibilities. Till August 2019, the MND has agreed to release more than 2,707 hectares of military properties.

2. Revitalizing Military Properties for Local Development

   Concerning recent deep-rooted sense of environment protection in the public, the MND has been reviewing and releasing vacant properties with no pending applications to local governments. Till August 2019, over 48 hectares of 57 military properties have been released without profits to local governments for the purposes of greening, enlarging vegetation coverage, and creating a better leisure environment. In addition, the MND has been reviewing and revitalizing those vacant military properties located in areas of high real-estate value, in concert with local governments' urban renewal plans, by marketing them in real estate sector, and the revenues generated are used as the "Funds for Rebuilding Military Living Quarters and Facilities." A total of 1,159 hectares of 451 military properties is marketed and generates NT$97.9 billion for the Funds, which will supplement the budgets for rebuilding old and dated military installations.

II. Preserving Culture of Dependents' Villages

To care for housing needs of service members and dependents, the MND formulated the *Act for Rebuilding Old Dependents' Village* and enforcement rules, and, starting from 1997, has been following government's comprehensive national land development policy and the needs of urban renewal and public infrastructures to rebuild old and dated military dependents' villages. So far, the MND completed rebuilding of 86 sites, housing 69,574 dependent households.

Dependents' villages are melting pots for diversified cultures of multiple racial groups and centers of patriotism, collective memories and living experiences for all residents. When rebuilding projects went ahead, the MND decided to preserve their culture concurrently. Also, from 1997, the MND revised the *Act* with additional review instructions for the purpose of preserving culture of dependents' villages, and selected 50 of them as cultural assets and among those 13 as "cultural preservation parks." Then local governments where these parks fall under their jurisdiction have to complete legal processes of transferring property, supplemented by the Funds. The Funds contributed NT$400 million for these parks, and so far, there are 9 preservation projects, including the one for "Sanchong First Village," authorized to kick off.

【Diagram of Dependents' Villages for Cultural Preservation】

For the remaining 37 identified as cultural assets, the MND has been negotiating with local governments to operate jointly or maintain on the MND's behalf. Currently, "Le Qun New Village," "Mingchien New Village," "Whampoa New Village" in Kaohsiung, and many others were revitalized this way, so as to preserve and sustain the culture of dependents' villages.

To maintain a sustainable preservation of the culture of dependents' villages, protect and revitalize their cultural assets, the MND organized a taskforce to propose the *Regulations on Preserving and Developing Culture of Military Dependents' Village* of 12 articles, and after 18 seminars and interagency meetings, the Executive Yuan concluded their review on 17th April 2019. Then, the *Regulations* were submitted to the Legislative Yuan for final deliberation.

Revitalizing Military Dependents' Villages and Preserving Memories

Military dependents' villages are microcosms and legacies of military personnel's living in Taiwan over half of a century. By preserving these villages, we may merge multiple racial cultures, and concentrate the people's patriotism.

Section 6 Defense Legal System

To carry out legalization on defense activities and follow the principle of administration by law, first the MND has to screen out and amend inapplicable laws and regulations, then improve legal services, and maintain a liaison mechanism with judicial system so as to maintain a law abiding and highly disciplined military. Additionally, operations shall be bound by law to constrain the military to conduct operations and missions legally to the best interest of the nation and meet the requirements of laws and regulations.

I. Screening out Inapplicable Laws and Regulations

Following the "Plan for the Executive Yuan and its Subordinate Agencies to Comprehensively Screen out Inapplicable Laws and Regulations," the MND has sifted through and found out 122 laws and regulations that shall be amended, abolished, or suspended. Whenever defense related laws and regulations are stipulated, amended, or abolished, those changes will be uploaded to a web-based defense laws and regulations database for personnel to access conveniently.

II. Improving Legal Services

The MND's judicial units at all levels can provide timely legal services to protect rights and privileges of service members and dependents, or help them to deal with lawsuits. From 2018 to August 2019, these units have taken care of 41,192 various cases of legal consultations, interpretations, being advocates for litigations, preparing pleading papers, and settling disputes. Moreover, to increase the functions of our judicial officers, they are requested to be advocates to deal with litigations involving military units. In the same timeframe, they have won 88 and settled 44 out of 419 litigations, with 240 cases in process, and saved NT$184 million 990 thousand otherwise paid for civilian attorneys.

III. Legalizing Military Operations

Aside from obeying international laws and regulations as well as the spirits of humanity, military operations shall be legitimate and justified to win the support from international communities. To ensure legality of all military operations, the MND has collected all provisions concerning international laws and the law of war for all officers to refer to.

IV. Multiple Selection Channels for Judge Advocates

According to the 11th amendment on the *Law of Military Trial* promulgated by the President on 3rd April 2019, the ones certified as attorneys, officials for judicial affairs, and prosecutors, or passed Senior Civil Service Examinations in legal professions, are qualified to receive defense legal training and then the commission as judge advocates (judicial officers). The examination for judge advocates remains to be hosted by the Examination Yuan according to the *Law* above. To keep the progresses in defense legal affair, the MND formulated the *Regulations on Selection and Trainings for Judge* Advocates on 25th June 2019 to adopt multiple channels to maintain a sufficient pool of judicial personnel.

Narrative of Noted Personnel VOICE

Gave up High Pay as Civilian Chef and Chosen Working in Mess Hall

Before enlisted, I worked in renowned hotels, such as "In One City Inn," and was awarded the 3rd place in 12th FHC international culinary competition. So far, I have served 5 years in military culinary service, and was selected by Marina Bay Sands of Singapore as Chef de partie while my term was due in August 2018. But I gave up this offer of a NT$70,000 monthly pay, decided to stay put for another 3 years in my current career. I am willing to challenge myself in military kitchens with scarce resources, and believed that "The greatest challenge is to serve every meal with a cuisine of various designs and new ideas for 300 fellow soldiers."

I am convinced that "A sense of friendship and family cannot be bought," and have signed another 3-year term to serve with my fellas in a culinary squad because I enjoy the atmosphere of being together with buddies. I will continue dedicating myself to serving great meals with a refined culinary art and diversified cuisines, so as to fully exert my culinary potential.

To advance my expertise, I've headed to Japan and Singapore at my own expenses to learn culinary arts and exchange ideas with culinary experts. Through observations on creative preparations on different food materials and sharing experiences, I have gotten a glimpse over the culinary levels in world famous hotels and restaurants. After coming back, not only do I improve my culinary skills, my fellow soldiers also enjoy more tasteful and healthier meals. Then, my fellow soldiers can be more energetic both mentally and physically to take challenges in their daily combat training.

Culinary Specialist 3rd Class Liu Shi-yu, the 58th Artillery Command, ROCA

Narrative of Noted Personnel VOICE

Pursuing Excellence in Legal Services

From studying in Taipei First Girls High School to being certified as an attorney, the most important decision I ever made was to join the military. Because my father and elder sister are in the service, I came to realize that military career is not only about responsibility, but also symbolizes an honor and glory. In addition, I am aware that setting the goal correctly precedes reaching the goal effectively. Therefore, I followed this saying to acquire the certificate as an attorney within the first year after graduation from Management College, NDU, and for myself, it was indeed a hard-earned inspiration.

As a legal officer, providing legal assistance for units or staff concerning details of contracts and agreements with contractors is my daily routine, and sometimes I have to physically present on-site to criticize the contents of the contract for pros and cons, and prevent any wrongdoings. For a legal officer, this is not merely one of the most important responsibilities, and is also a moment to show one's legal expertise to hold the fine line of justice.

In the field of military legal system and my career track, I decide to expand my horizon on practical cases and broaden visions other than studying fundamental theories. Therefore, I am hoping to join international exchange programs to learn foreign legal practices. Furthermore, I continue to keep my physical fitness during off-hours, and even join marathon races. In each race I took part, I continued to improve my previous records, and said to myself that, by sticking to the goal, doing it all out, and reaching the destination on time is the best reward I can have.

Captain Xiong Shi-yu, Legal Officer, ROCAF HQs

V. Exchange between Military and Governmental Judicial Systems

Following the *Court Organic Act* amended and promulgated on 14th June 2017, the MND, concerning legal cases involving service members, has assigned 15 judge advocates to local prosecutors' offices to help handle those cases. To allow governmental judicial agencies to know the special nature of military service, and establish an exchange channel in between, the MND has hosted workshops with governmental judicial members and paid visits and courtesy calls on judicial officials. Moreover, the MND co-chaired "Coordination Meetings between Prosecution Agencies and Military Counterparts" (held in the middle of every year) with Taiwan High Prosecutors Office in June 2018 and July 2019 respectively, hoping to reach consensuses with the Agencies on passing verdicts with considerations on national security and military discipline, so as to help maintain a strong-willed and highly disciplined military force.

VI. Diversified Legal Education

The MND revised the *Instructions on Military Legal Education* with emphases on "offering timely education," "hosting legal seminars by leadership," "providing legal lectures for staff personnel," and an additional "routine legal education," centered on using multimedia and diversified channels, such as displays on corridors/galleries, radio broadcasts in military installations.

From 2018 to August 2019, the MND has hosted 4,927 legal lectures and lessons, and applied 4,430 supportive measures, such as disseminating legal educational literatures (pamphlets, posters, and memorabilia), radio programs of legal topics, and electronic messages on military internal networks.

VII. Assisting in Ruling Progress on National Compensation Cases

1. A new tab of "National Compensation Case" was attached to the column of "Administrative Remedy" on a web-based defense laws and regulations database to allow concerned service members to enhance their legal understanding and awareness, and disseminate concerted legal opinions on national compensations cases overseen by the MND or command headquarters of all services, to avoid inconsistent opinions.

2. The MND hosted a meeting to review national compensation cases in September 2018, and requested attendees from all command headquarters to manage their progresses effectively. To realize the purpose of administration by law, protect claimants' rights, and increase people's faith and trust on defense affairs, they shall provide timely legal assistance, consultation, and opinion on filing compensation claims to facilitate settlement and reviewing progress on those cases.

Section 7 Anti-drug

To carry out government's anti-drug policy, the MND established the "ROC Armed Forces Anti-Drug Taskforce" to liaise horizontally and integrate vertically within internal organization, and participates in "Anti-Drug Action Meeting" of the Executive Yuan as well as sub-meetings in the Ministry of Justice, the Ministry of Education, and the MHW, to initiate full-scale anti-drug activities.

I. Rejecting Drug Users to Serve

As written on the general regulations of enrollment for military educational institutions and of enlistment for voluntary service, individuals having criminal records of drug-abuse or administrative sanction records of class 3 or 4 drugs will not be admitted. In July 2017, the MND set up an inquiring and reporting mechanism with the National Police Agency of the Ministry of Interior. From 2017 to August 2019, the MND has requested data on 76,356 individuals, and 174 among them were rejected for drug-related records.

II. Expanding Drug Abuse Testing Scope

Considering active service members are obligated to safeguarding the nation, the MND proposed to amend the *Regulations of Urine Tests on Specific Personnel*, approved by the Executive Yuan on 24th August 2018, to apply drug abuse testing on personnel in operational and logistical units, and all cadets in military educational institutions. The *Regulations of Urine Tests for Drug Abuse on Specific Military Personnel* was also amended on 20th December 2018 to define the subject personnel and the time of choice for such tests.

III. Increasing Capacities to Conduct Drug and Sampling Tests

Following the guidance of the Executive Yuan, the MND has been expanding the testing capacities of the Forensic Science Center of the Military Police Command, and has set up "Clinical Toxicology Testing Centers" in the TSGH in Taipei, Kaohsiung Armed Forces General Hospital, Taichung Armed Forces General Hospital, and Hualien Armed Forces General Hospital to conduct drug related tests in the military. In addition, the MND can entrust such tests to judicial agencies, and cooperate with drug enforcement agencies to combat narcotics.

IV. Setting up Sniffer Dog Squads

Following the "Guidelines for New Generation Anti-Drug Strategic Actions" of the Executive Yuan, the MND has set up "Sniffer Dog Squads" in Shilin District Military Police Office in Taipei, Taichung Military Police Office, and Hualien Military Police Office to support their anti-drug activities, enhance security checks in military installations, and keep drugs away from the military.

Section 8 Cleanness and Integrity

In order to project an image of cleanness and integrity for the ROC Armed Forces, the MND has decided to clean up inside out in three ways to curb corruption: "prevention, countering, and eradication." To rid of corruption and maintain discipline, the MND is fully committed to its internal control system and providing lessons on cleanness and integrity for all personnel.

I. Strengthening Risk Control Mechanism for Cleanness and Integrity

To refine actions for cleanness and integrity, the MND has been hosting action meetings on the topic every half a year to monitor their progresses. From July 2018, civilian experts were invited to join the meetings for the purpose of civil participation and transparency.

As a dual-track supervision in the MND's management design, units at all levels, following the focuses of policy implementation and patterns of potential risks,have to improve their self-management and concurrently hold accountable for supervising those under their jurisdiction, so as to maintain operational efficiency, realize the goal of administration by law, and exhibit their determination to keep cleanness and integrity. Furthermore, the MND periodically initiates audit programs for potential risks, then conducts precautionary measures to curb corruption, and tracks unearthed shortcomings till they are corrected. Consequently, units at all levels are assisting in supervision vertically and coordinating anti-corruption works horizontally within the MND's organization, to examine all activities whether they are justifiable, appropriate, and effective. Coupled with additional performance audits as precautions, the MND can thus maintain operational efficiency, curb corruption, and maximize the effectiveness of its internal management.

II. Designing a Systematic Education for Cleanness and Integrity

The MND formulated the "2018 Action Plan for Promoting Education for Cleanness and Integrity," to foster a culture of cleanness and integrity with proper education, and design a systematic framework to provide such education. Following the plan, 90 instructors were certified to impart the norms of cleanness and integrity. The MND began to offer online courses with the topic in 2018, and so far, has accumulated 124,822 viewers.

Since the beginning of 2019, lessons for cleanness and integrity have been incorporated in general curriculums in military educational institutions with a first of its kind textbook, *Clean Administration: from Concept to Practice*. The MND has hosted two "Camps for Seed Instructors of Cleanness and Integrity" in northern and southern areas in Taiwan respectively, hoping that by improving instructors' teaching skills as a "dot," then extending their exposure to observational learning and lesson-plans discussion to connect dots as a "line," the military education for cleanness and integrity can thus be greatly enhanced as a "surface" formed by lines. It is hoped that the MND can become the first governmental agency to set up a systematic education for cleanness and integrity.

Section 9 Environmental Protection and Green Energy

Following the policy of environmental protection and green energy of the nation and taking national security and combat readiness into consideration, the MND has been promoting initiatives of environmental protection and green energy, to maintain sustainable power and environmental resources.

I. Energy Conservation and Carbon Reduction

In concert with the policy of sustainable development, environmental protection, and energy conservation of the nation and the "Energy Conservation Action Plan among Government Agencies and Schools" approved by the Executive Yuan, the MND has been implementing a variety of energy conservation and carbon reduction measures, and publicize them on assemblage occasions. In addition, in a way that the performances of military units are "overseen by their direct superiors" through auditing and guidance, they may unearth root causes and find out adequate solutions.

Moreover, the MND has formulated the *Regulations on Energy Conservation and Control*, and training uses of aircraft, vessels, and combat vehicles will be reviewed for their adequacy on the principle of no interference with "combat readiness and training expectations" and "combining uses if it is possible." At initial training stage, simulators are used to increase trainees' familiarities with reality, so as to provide training more efficiently. Aircraft, vessels, and combat vehicles are carefully chosen to use in non-combat or non-urgent missions for the sake of economic efficiency. Dated weapons and equipment with declining performance because of their obsolescence or insignificance are to be phased out or kept in storage, and technicians' skills are to be improved to keep equipment in good shape, so as to decrease gas consumption and carbon emissions.

II. Green Energy

Following the "Policy on Installing Solar Energy Devices (Panels) on Rooftops of Public Buildings and Properties" by the Executive Yuan and a measure called "Sale and Lease Properties for Solar Energy Applications," the MND, considering acquiring multiple sources and autonomous supply of energy, has done surveys on military installations and forwarded the results (127 buildings in 31 installations) to the Bureau of Energy, MOEA to decide proper sites for sale or lease, in order to create an environment of green energy and low carbon emissions. Under conditions of no interference with combat missions, tendering processes for those installations which can be sold or leased according to the MND's rolling surveys, have been concluded in 2018, and 22 military installations, including "Tzi Guang 28th Village," have been installed with solar energy devices by awarded contractors to generate power (estimated 11.2 Megawatts, reduced annual carbon dioxide emission volume of 12,599 tons, equal to 32 times of the amount absorbed by Daan Forest Park). Another 8 installations will be completed by the end of 2019.

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3	

1. The Military Police Command coordinates with drug enforcement agencies to carry out anti-drug missions, and goes all out to ward off the ravage of drugs.

2. To realize the goal of administration by law and exhibit its determination to keep cleanness and integrity and curb corruption, the MND continues to rein in shortcomings, and asks units to assist in supervision vertically and coordinate horizontally, so as to increase the effectiveness of its internal management.

3. Following the "Policy on Installing Solar Energy Devices (Panels) on Rooftops of Public Buildings and Properties," the MND leased out the rooftops of personnel living quarters of the 269th Mechanized Infantry Brigade to civilian contractors to install solar panels.

III. Airbase Noise Control

To reduce noise impact of airbases on local residents, the MND provides annual subsidies for them to install noise-control products at 12 airbases. Since 1998, subsidies have been distributed to schools, libraries, hospitals, public facilities, and households adjacent to airbases for installing such products. Till the end of 2018, NT$2 billion and 686.77 million had been allocated for installing soundproof doors and windows, sound absorbing ceilings and walls, etc. In 2019, NT$202 million was set aside for airbase noise control as subsidies, which are to be provided according to schedule.

In addition, the MND, in order to meet the needs to maintain combat readiness and improve the practicality of subsidies, continues to consider steadily raising subsidy level, shorten time intervals for subsidies, improve noise control, lower noise impact, study similar domestic and foreign subsidized programs, and maintain good relations with local residents.

Chapter 8 Partnerships

By adhering to the comprehensive diplomatic policy of the government and integrating diplomatic resources, the MND has been pushing for military exchanges and cooperation pragmatically with foreign countries. In addition to seeking opportunities of strategic dialogues and security partnerships with countries having the same values of freedom and openness, and shared security interests, the MND continues strengthening exchanges in defense affairs with allies and friendly countries, so as to jointly maintain the peace and stability across the Taiwan Strait and in the region.

Section 1 Defense and Military Cooperation

Our nation is located in the Indo-Pacific geostrategic region as a critical node and at its forefront to defend ideology and value of freedom and democracy. The MND, on the principle of meeting our national interests, improving defense capabilities, and maintaining regional stability, has been moving toward the goals of maintaining military diplomatic relations, participating international cooperation initiatives, and safeguarding the peace and stability across the Taiwan Strait and the Indo-Pacific region, through various military exchanges and cooperation with allies and friendly countries.

I. US-Taiwan Military Cooperation

Our nation is an important security partner to US's "Indo-Pacific Strategy." The US continues providing us defense articles and setting up multiple military exchange channels with us in accordance with the *Taiwan Relations Act* and "Six Assurances" to Taiwan, so as to enhance capabilities of our military, the ROC Armed Force.

1. US Congressional Support

In the past two years, the US Senate and House of Representatives have paid great attention to our bilateral security cooperation.

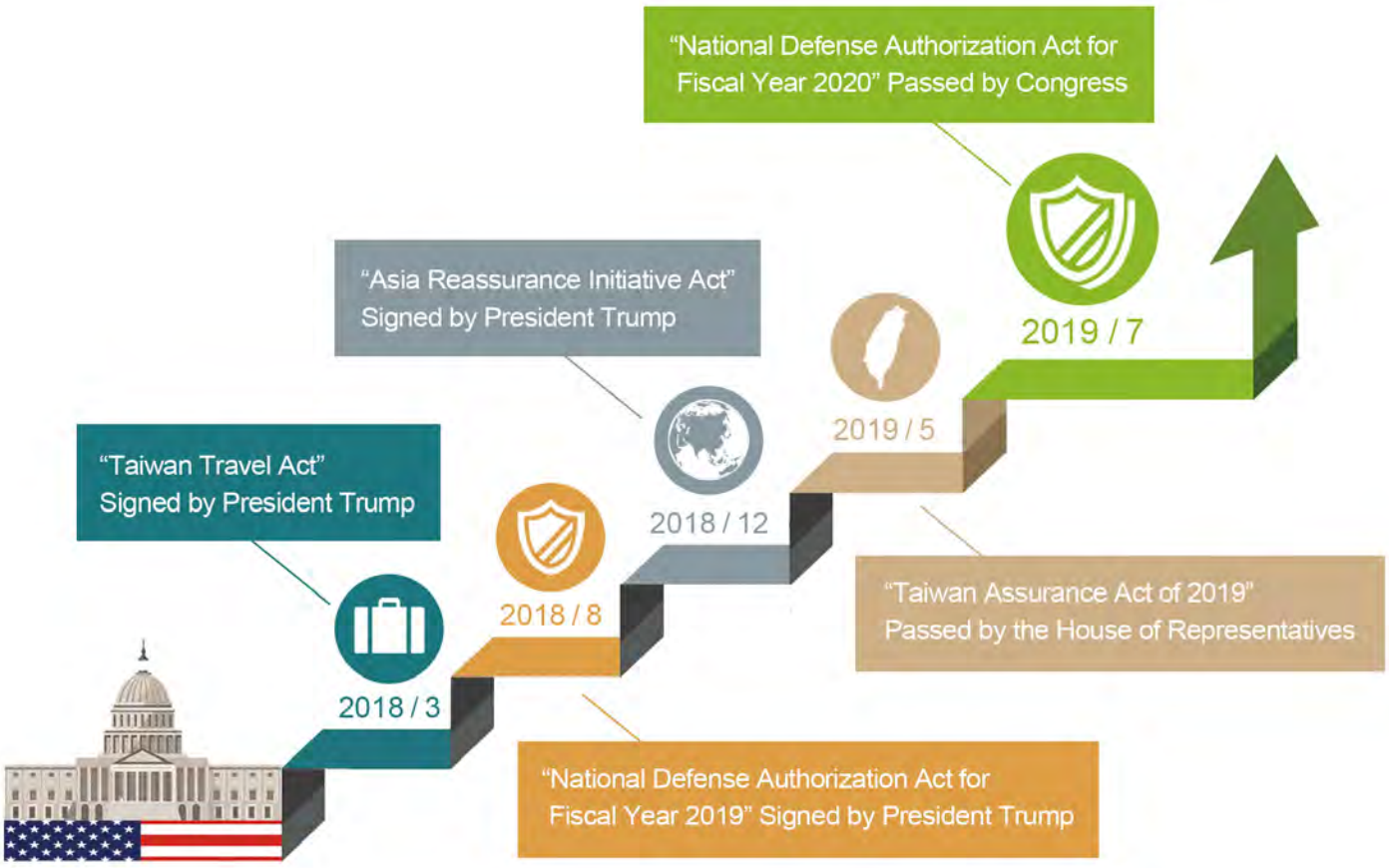
In March 2018, *Taiwan Travel Act* was passed to encourage government officials at all levels between our two countries to start mutual visits. In August of the same year, *National Defense Authorization Act for Fiscal Year 2019* was approved with articles supportive to strengthening Taiwan's force readiness. Then in December, *Asia Reassurance Initiative Act of 2018* was authorized to conduct regular transfer of defense articles to Taiwan and encourage the travel of high-level US officials to Taiwan.

The year of 2019 marks the 40th anniversary of the *Taiwan Relations Act*. Then, the US Congress proposed the *Taiwan Assurance Act of 2019* and a concurrent resolution "reaffirming the US commitment to Taiwan and to the implementation of the *Taiwan Relations Act*." These gestures of goodwill have once again demonstrated an attitude of steadfast support to normalizing military sales to Taiwan and improving our self-defense capabilities; therefore, the security cooperation and military exchange between our two countries will be more closely knitted.

2. Foreign Military Sales (FMSs)

Deliveries of the defense articles previously approved by and purchased from the US are ongoing. Newly acquired weapon platforms to form a next generation of strong force to safeguard Taiwan Strait's security include P-3C anti-submarine aircraft commissioned in December 2017, AH-64E attack helicopters commissioned in July 2018, and Perry Class frigates commissioned in November 2018.

In addition, the US approved the following major FMSs to Taiwan: (1) In September 2018, a sale of standard spare parts in support of the F-16, C-130, F-5, and IDF Fleets; (2) In April 2019, CONUS based F-16 training; (3) In July 2019, M1A2T tanks, Man-Portable Air-Defense (MANPAD) Stinger missiles, Javelin anti-tank missiles, and TOW 2B anti-tank missiles; (4) In August 2019, F-16V Block 70 aircraft. With these new weapon systems and equipment, fundamental and asymmetric capabilities of the ROC Armed Forces will be greatly strengthened.



【US Passed Acts and Bills Friendly to Taiwan in Recent Two Years】

3. Military Exchange and Cooperation

The MND continues to expand the depth and width of bilateral military exchange and cooperation with the US in the following areas: "strategic dialogue," "management of FMS and commercial sales," "R&D for weapons and armament," "evaluation on defensive posture," "defense professionalism," "education and training," "intelligence exchange," "combat training and readiness," "logistics and maintenance," and "communications, information, and command and control," etc. From 2018 to August 2019, the MND has done more than 380 official visits to the US, and hosted over 250 official visits (partially invited by the MND) from the US with above 2,700 persons going through these military exchanges.

II. Exchange with Allies and Friendly Countries

In concert with the comprehensive diplomatic policy of the government, the MND has been doing exchanges with military personnel and civilian defense officials of our allies and friendly countries in the following areas: bilateral high-level visit, intelligence exchange, educational and training, thinktank

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1.2.3.4.5. The US approved the sales of Javelin anti-tank missiles, MANPAD Stinger missiles, TOW 2B anti-tank missiles, M1A2T MBTs, and F-16V Block 70 aircraft in 2019. With these 5 weapon systems and equipment, fundamental and asymmetric capabilities of the ROC Armed Forces will be greatly strengthened.

Source: US Department of Defense and Lockheed Martin Corporation

workshop, military observation, alternative training, midshipman cruise training, etc. From 2018 to August 2019, the MND has done more than 160 foreign visits, hosted over 120 visits of foreign guests, with above 2,900 persons going through these military exchanges.

Facing PRC's military expansion, the MND inaugurated the "Graduate Institute of China Military Affairs Studies" in the NDU in December 2016 to study PRC's strategic intentions and military activities, and arouse international communities' awareness of PRC's behaviors.Till August 2019, 53 delegations of foreign research institutions and thinktanks have come here to exchange views.

Furthermore, the MND has invited ranking officers and civilian officials in our allies and friendly countries who are foreign graduates from the "National Development Course (NDC)" sponsored by the MOFA, to attend the "NDC Refresher Course," and "International Ranking Officers' Course" in 2018 and 2019, so as to increase interactions among them. Till August 2019, 14 courses have been concluded with over 500 graduates from 11 countries.

財團法人
國防安全

Broadening Horizon by Strategic Communication

The INDSR, the first national thinktank for defense studies, is dedicated to political and military studies for defense and security with diversified angles of professional, objective and visionary thinking. It is acting as an international network and platform of interaction to expand strategic communication and exchange with foreign thinktanks.

Section 2 Strategic Dialogues via Thinktanks

To tackle the challenges of our strategic environment and meet the needs of defense reform, we have to enhance strategic communication and competency on policy studies. After pondering the development of major thinktanks worldwide, the MND inaugurated "Institute for National Defense and Security Research (INDSR)" on 1st May 2018. The INDSR is dedicated to political and military studies for defense and security with diversified angles of professional, objective and visionary thinking. Through this international platform of interaction, we can greatly extend the horizon of our strategic communication, exchange, and cooperation with international thinktanks.

I. Bilateral Academic Visits and Exchanges

So far, the INDSR has initiated 15 academic visits for strategic communication to major thinktanks from the US, Japan, Australia, India, and Europe, and sponsored 114 visits of prestigious foreign thinktanks to Taiwan. The INDSR was successfully admitted to the Quantum Alliance Initiative to share our views on global quantum technology indicators. It hosted "2018 Regional Security and National Defense Forum" and a conference for "Taiwan's New Southbound Strategy," and has signed several memorandums of cooperation to construct mechanisms for exchange. The INDSR, after its inauguration, has attended 15 international conferences to share views, including "Global Security Summit," "Challenges and Prospects of Geopolitical Evolution in the Indo-Pacific Region," "Annual People's Liberation Army Conference: The People in the PLA 2.0," "Cross-Strait Relations: Present Challenges and Future Developments," "Monitoring Cross-Strait Balance: Taiwan's Defense and Security," "China's Defense and Security," and "Berlin Security Conference." The INDSR has been intensively, through international thinktanks, reaching out to former or current defense officials, ranking officers, and renowned academics and experts in foreign countries to increase the overall effectiveness of its thinktank exchanges.

II. Refining Policy Studies

To help the government to keep an eye on international security situations, the INDSR has been issuing bilingual publications as follows: daily *Defense Security News*, and periodically *Defense Security Weekly*, *Defense Security Monthly*, *Defense Strategy and Assessment Journal*, and *Defense Security Brief*. So far, 86 issues of these publications have been printed. Around the same timeframe, the INDSR has issued annual reports, such as *Annual Assessment of PRC's Political and Military Developments*, *Annual Assessment of the Security Environment in the Indo-Pacific Region*, and *Annual Assessment of Trends of Defense Technology*. Moreover, it has done topic-oriented studies: *Study on Increasing Domestic Employment Opportunities and Raising Economic Effectiveness by Developing Indigenous Vessels*, *Protection on Critical Infrastructures Vital to National Security by Military Police*, *Assessment on 2018-2020 Development of New Indo-Pacific Strategic Environment, Practices of and Review on HA/DR Mechanism between the ROC Armed Forces and Local Governments, and Comparative Study with International Sources: Manning for Officers at General/Admiral Levels*. The INDSR has also taken part in political-military wargames, from an angle and a vantage point of comprehensive national development, to refine its defense policy and security strategy studies, and contribute its professional views and advices to the government for decision-making.

Section 3 International Linkages and Exchanges

Aside from the focus on routine training and combat readiness, the ROC Armed Forces have been actively establishing linkages with international communities through midshipman cruise training, assessments of the Government Defense Anti-Corruption Index (GDAI), and HA/DR missions and observations, to increase our international visibility, and earn international recognition.

I. Midshipman Cruise Training

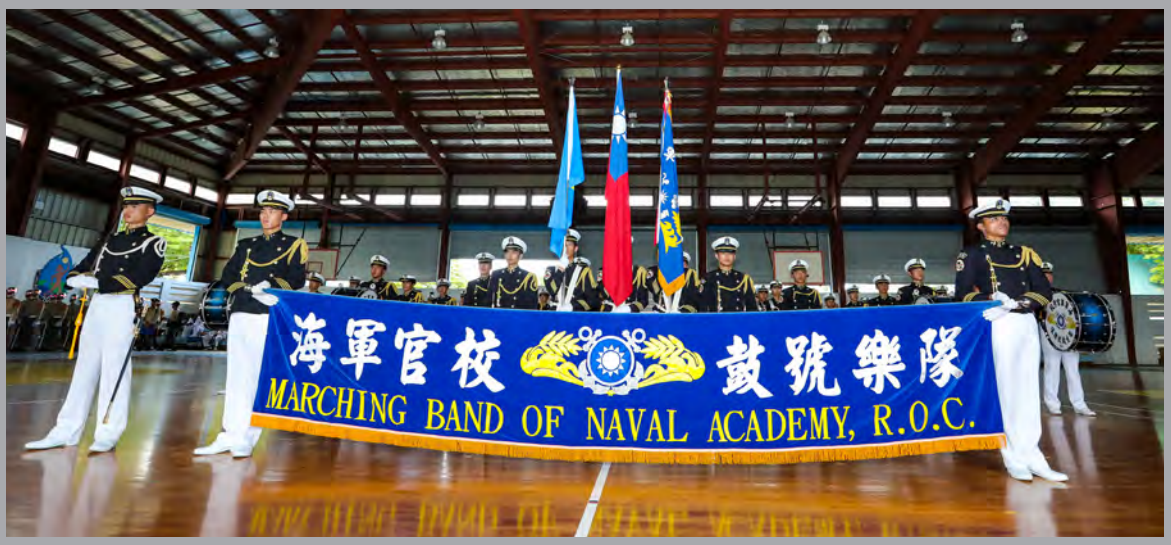
In order to be familiar with operations at sea, learn seafaring skillsets, and expand horizons, midshipmen of ROCN Academy and cadets of naval career track of Fu Hsing Kang College in the run up to their graduation may board a task force with selective naval vessels to pay port calls on our allies as part of a cruise training. During the training, long-distance naval operational capabilities of the task force are to be validated. Therefore, this voyage can serve three purposes: long-distance cruise training, strengthening diplomatic relations, and building up solidarity with our compatriots in host countries.

1. Round the Island Cruises (RICs)

   Through RICs, midshipmen may hone their seafaring skills and increase their tolerance on board by merging academic knowledge with practical experience, to equip them with competencies to serve as deck/watch officers and effectively handle works in a fleet after graduation. During port calls, recruitment drives and open visits to the vessels are to be held. On-deck gallery acts as a venue for exhibitions of defense technologies, art and culture, boutique, and cultural and creative products. The events are open to all citizens for them to eyewitness the status and readiness of our force buildup efforts, burgeoning progress of our "defense, democracy, technology, and culture and creativity," and our achievement for establishing a self-reliant defense. Accordingly, our people will understand our determination for a self-reliant defense, and support the government's programs to develop indigenous aircraft and vessels.

2. Out of the Island Cruises (OICs)

   At the time of OIC port calls, personnel of the task force pay courtesy calls on government leadership and ranking officers of the host country. Goodwill events, including joint flag-raising ceremony, open visit to the vessels, exhibition of art and culture, military tattoo, donation of supplies, and friendship dinners are held to build up solidarity and patriotism with our compatriots, strengthen diplomatic relations with foreign officials, and maximize our military diplomatic efforts.



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1. The Honor Guard of the ROC was invited for the first time to attend a national celebration of our ally in September 2018, and their attendance was very beneficial to solidifying the relations between our two countries by presenting a highly disciplined and valiant façade.

2. The Honor Guard of the ROC selected elite members to attend "Solo Exhibitions of World Drill Championships" in 2018 and 2019 to show their outstanding display skills, and they had achieved great results in the competitions.

3. Through cruise training, midshipmen and cadets may hone their seafaring skills and increase their tolerance on board by merging academic knowledge with practical experience, to equip them with competencies to serve as deck/watch officers and effectively handle works in a fleet after graduation.

During the cruise, all vessels of the task force count on their own to maintain readiness for all equipment. Drills of refueling at sea, highline underway replenishment, and combat readiness exercises are carried out to validate capabilities of withholding routine combat readiness, long-distance maneuverability, and force projection of the task force. Furthermore, taking the opportunity of naval exercise of the host country if any, the task force would establish a code of conduct for bilateral interactions, so as to deepen and substantiate military exchanges between both sides.

II. Defense Cleanness and Integrity

Our government accepts GDAI assessments, and won a "B" rating (in the first 16% of assessed countries for low risk of corruption) consecutively in 2013 and 2015. The Transparency International (TI) hosted the third global assessment initiative in 2019, and the MND, according to its pass experience of being assessed, had done its best to project an image of cleanness and integrity of our nation on the world stage.

From July 22nd to 26th 2019, the MND hosted the "Global Defense Integrity Forum," inviting the Director of Defence & Security Programme (DSP), assessors, and specialists from the Transparency International (TI) UK, and TI members from the US, Lithuania, and South Korea, joining together with our academics and experts in related fields, to exchange professional views, and improve our understanding on "New Methodology of Government Defence Anti-Corruption Indices," and "Promotion of TI Assessments." After reviewing professional views from foreign attendees, the MND decided to formulate a "systemic model supportive to GDAI assessment," and consider the possibility of setting up a "Military Integrity Research Center," to help our drives of cleanness and integrity to catch up with the international trend.

III. International Medical Exchange

Following the guidance of the national medical and health policy and diplomatic policy, our military medical service has been actively participating in international medical activities, such as providing medical assistance to 6 allies including Solomon Islands and sponsoring medical personnel from international hospitals under cooperation agreements to come to Taiwan to receive clinical education and training. By so doing, we may expand the width and visibility of our international medical exchange initiatives, and carve a niche in internationalized medical service circles.

IV. International HA/DR

To meet the needs of international HA/DR missions, the MND has organized a medical team for international HA/DR according to its disaster relief mechanism, and modularized man-portable equipment (including medical equipment, material, tent, generator, and lamp) by referring to lessons learned over the past medical assistances in disaster relief efforts. When disaster strikes, our military medical service follow orders to provide medical support. In recent years, the ROC Armed Forces have assigned medical resources in overseas HA/DR missions, including: "Medical Team to Macedonia," "Medical to Haiti," "Medical Material Support to the Philippines," "Medical Material Support to Palau," and "Medical Assistance to Nepal." All the above missions were concluded successfully to fulfill our obligations and dedicate our substantial efforts in HA/DR.

V. Sharing Lessons Learned

In concert with the fiscal year schedule of "All-out Defense Mobilization and Disaster Prevention" exercises of city and county governments, the MND invites representatives from our allies and non-governmental organizations (NGOs) to Taiwan as observers and shared with them our lessons learned in disaster prevention. Furthermore, following our national policy, the MND has been building up its supportive capabilities in the air and at sea, and strengthening interaction and cooperation via military diplomatic channels so as to enhance its effectiveness in relief operations, and acquire more opportunities for medical support cooperation.

VI. Honor Guard Exchange

1. Training Police Color Guard of Allies

   In May 2018, the MND assigned the color guard of the ROC Armed Forces, officially titled as the Honor Guard of the ROC, to the Republic of Kiribati, our ally, to perform "drill and demonstration" and "practical operation," host "meetings and Q&As," and provide training for Kiribati National Police Forces Color Guard to prepare for a parade to celebrate Kiribati Independence Day. It was the debut for the Color Guard in the parade, and a successfully joint drill performed by both teams had won a high recognition from Kiribati government officials and the public. This diversified exchange and interaction with our ally have definitely solidified the diplomatic relations between us.

2. Attending Celebration Event of Allies

   The Honor Guard of the ROC was invited to attend the celebration parade for the 35th Anniversary of Independence of Federation of Saint Christopher and Nevis in September 2018. During the parade, the Honor Guard did a zero-defect performance with highly disciplined and valiant façade, and had won a united acclaim from the government officials and the people, and our compatriots in the country.

3. Attending WDC

   The Honor Guard of the ROC selected elite members to attend "Solo Exhibitions of World Drill Championships (WDC)" in 2018 and 2019 to show their outstanding display skills blended with difficult elements of Taiji and martial arts. The performance of our participants did not only demonstrate their professionalism and quality training of the Honor Guard, but also was paid off with great results, which further increased our international exposure.

Sailing to Cut through High Waves

I decided to apply for the ROCN Academy with a strong will burgeoning in my young adulthood, and became one of the first midshipwomen when the Academy began to admit female applicants. After years of service, I became the first female commander of ROCN's combatant vessel. Speaking of leadership, I have three principles or guidelines of being a commander that gleaned from my military experience: giving subordinates sufficient time to voice their concerns, believing in them without cutting in, and giving timely orders without a rush.

The character of a female at the helm tends to be more moderate in management than that of a male, but I insist spotlessness and punctuality at work. In retrospect, if time could be rolled back, I would have still believed in myself to make the same decision. As my mother once mentioned, I shall not ask what the Navy has done to me, but have to dedicate myself to the Navy and the nation. That is the right thing to do.

After my father's passing, I, as the eldest siblings in the family, had to sustain my family. Later on, my brother became vegetative after suffering a serious accident. Going through these afflictions, I am especially compassionate whenever a sailor is hurt on duty and sent to hospital. I take sailors as my siblings and feel their families' agitations. Therefore, as a commander, I will try my best to ease their families' concerns and worries while the sailors are serving on board because I understand the ROCN holds all hands together with a spirit like the naval symbol of anchor and chain.

Captain Huang Shu-ching, Commander of Wuchang (Kang Ding/La Fayette Class) Frigate

Dramatic Skills Won Ally's Acclaims

I concluded my compulsory service as a Petty Officer Third Class from the rank of seaman, and then was reenlisted because I could not shake off the memory of serving in the Honor Guard of the ROC and its everlasting value of honor and glory. While serving in the Honor Guard, I learned drill skills, kept physical fit, and went to an ally to train its color guard because of my maturity and experience in drill performance.

In our national day celebration, I performed with the Honor Guard in front of the Presidential Office Building, and felt the sense of glory does not only ascend from my ability alone, but also from a sense of honor as a member of the ROC Armed Forces. To exhibit the best performance to the public, I had to show my strength, sense of responsibility, and courage to challenge myself to carry out the mission.

When I became a drill sergeant, I knew, "It takes tremendous efforts to excel," and it takes more practices to master a difficult skill, like "catching rifle behind-the-back," which one shall let go worries and do no panic. I said to myself, "Have faith, and every toss will be just fine."

I was fortunate to be selected to go overseas to train a color guard of our ally. I taught them how to do trick rifle maneuvers, marching, and switching formations, and sensed and inspired by the patriotism of these foreign trainees. This kind of patriotism was transformed into a guidance for me to lead my fellow sailors. "With the best performance of rifle maneuvers as the image of our nation, I have built up my self-esteem, which represents my utmost loyalty and faith to the nation.

Petty Officer First Class Fang Gang-je, Drill Sergeant of Guard Company, General Services Group, ROCN

國防

Part 5: Heritage of Honor and Glory

The ROC Armed Forces have inherited a glorious history, and maintained the core values of "safeguarding the nation and protecting the people" to achieve force buildup and combat preparedness. By upholding the spirit of "the people and the military are supportive of each other" the ROC Armed Forces have been realizing the concept of all-out defense and proactively saving the people in need. In addition, to amplify the sense of honor and patriotism among service members, military education and training are being refined continuously, and personnel care for retired/discharged service members are being enhanced incessantly, so as to shape both active and retired/discharged members as the true guardians for peace to continue contribute their efforts to the society.

Chapter 9 Ingraining Defense Concept

To instill the concept of all-out defense to the people, the ROC Armed Forces have been proactively promoting the education of all-out defense, enhancing civil-mil interactions, shaping their image of professionalism, and solidifying patriotism of the people. Furthermore, when disaster arises, the ROC Armed Forces shall swiftly deploy personnel and applicable assets to disaster inflicted areas under the command of the Executive Yuan. Based on the notion of "compassion to those suffered" and the spirit of "devotion to and caring for the people," the ROC Armed Forces carry out practical relief efforts to restore the social order, and soothe people's worries.

Section 1 All-out Defense

Safeguarding the nation is a common responsibility shared by the government and the people. Consequentaly, the ROC Armed Forces are fully engaged in promoting the education for all-out defense and increasing people's awareness of national defense and determination to self-defense by planning long-term efforts to incessantly instill the concept of all-out defense, so as to build up our national comprehensive defense power.

I. Education of All-out Defense

In order to realize the concept of all-out defense, which is "cared, supported and participated by all,"the MND has been following the instructions of the Executive Yuan and coordinating with intergovernmental agencies, municipal and local governments, to plan and implement various educational activities in 4 major categories: "school education," "on-the-job training (OJT) in governmental agencies," "social education," "preservation, promotion, and educational activities for defense-related historical items."

1. Ingraining in School Education

   The MND continues hosting diversified events, including color guard competitions for senior high schools, Spratly Islands study camps, summer/winter combat camps, and national defense experience tours. In addition, it shall sponsor "walk into campus" activities in coordination with schools' club hours to sort out exchange channels between young adults and military educational institutions, improve their understanding and support to defense affairs, recruit promising candidates for military service, and ingrain the concept of all-out defense among them.

2. Refining On-the-job Training

   According to the all-out defense educational demands from related units, the MND shall arrange instructors to offer OJT courses in governmental agencies, municipal and local governments, and public schools. In 2018, 164 OJT courses for 16,223 persons were provided. In addition, to work with web-based "eLearn" and "eLearn Center" established by the Directorate-General of Personnel Administration of the Executive Yuan, the MND has designed an "All-out Defense

Classroom" to provide e-learning courses for government employees, so as to provide an efficient OJT on all-out defense for all civil servants.

3. Improving Awareness of Defense

In order to reach a consensus on all-out defense among the people, create a positive image for the military, and win the public support to defense policy implementation, the MND shall select sizable military installations to host open house and visit events on the occasions of major festivals, commemoration of important historical campaigns, anniversaries of units, or large scale activities sponsored by local governments. Furthermore, the MND shall also host Armed Forces Gold Statues Awards for Literature and Arts to invite civil participation, increase interactions with the public, and foster the sense of patriotism.

4. Promoting Military Legacy and Heritage

The MND has produced "Discover Military Legacies" TV episodes of "Juguang Park" program, and has been working with the Ministry of Culture to push for management, conservation, and studies of cultural items and relic sites of military significance, and provide guided tours and promotional

Type of Events	Names	Results
Combat Camp	Kinmen, Matsu, Penghu, Aviation, Iron Guard, and Pioneer	40 camp events held with 9,283 participants Website of All-out Defense Education
Visit Camp	Naval Vessels, Air Force Bases (Tainan, Hsinchu, Taichung, Chiayi, Pingtung, Taitung), and ROCAF Academy	
Experience Camp	Battlefield Stress Resistance (held in northern and southern Taiwan), ROCAF Weather Wing, Performance Arts, Broadcasting, Science and Technology, Honor Guard, Military Band, Life at Sea, Aviation Tech, and Reservist's Life in Yilan	
Study Camp	News Media, News Editing, Medical Science, Fundamental Defense Science Hands-on (Summer/Winter), Arts, Spratly Islands	
Challenge Camp	Amphibious Warrior, Iron Guard	
Shooting Camp	Xunlei, Shijian, Zhentung, Chenggongling, Huilan	
Special Forces Camp	Parachuting	
National defense Experience Tour	Hualien Defense Command (ROCA), Aviation and Special Training Center (ROCA), Suao Naval Base, Zuoying Naval Base Museum, ROCAF 3rd Wing and 5th Wing, ROCAF Academy, Forensic Science Center (MP Command)	200 events with 23,579 participants

【Overview of 2018 and 2019 military summer camp events and National Defense Experience Tours in 2018】

events. Furthermore, the MND has been cooperating with tourism organs at the local government level to incorporate those sites into their database of local tours to promote our military history.

5. Awarding Outstanding Contributors

According to the *All-out Defense Education Act*, the MND shall present awards annually to commendable units and individuals that have made great contributions to all-out defense education, and encourage all units and individuals to actively participate in promoting the concept of all-out defense.

II. Maintaining Civil-mil Interactions

1. Enhancing Communication with Media

In a new digital era, with regard to the news of concern to society, the MND has to react

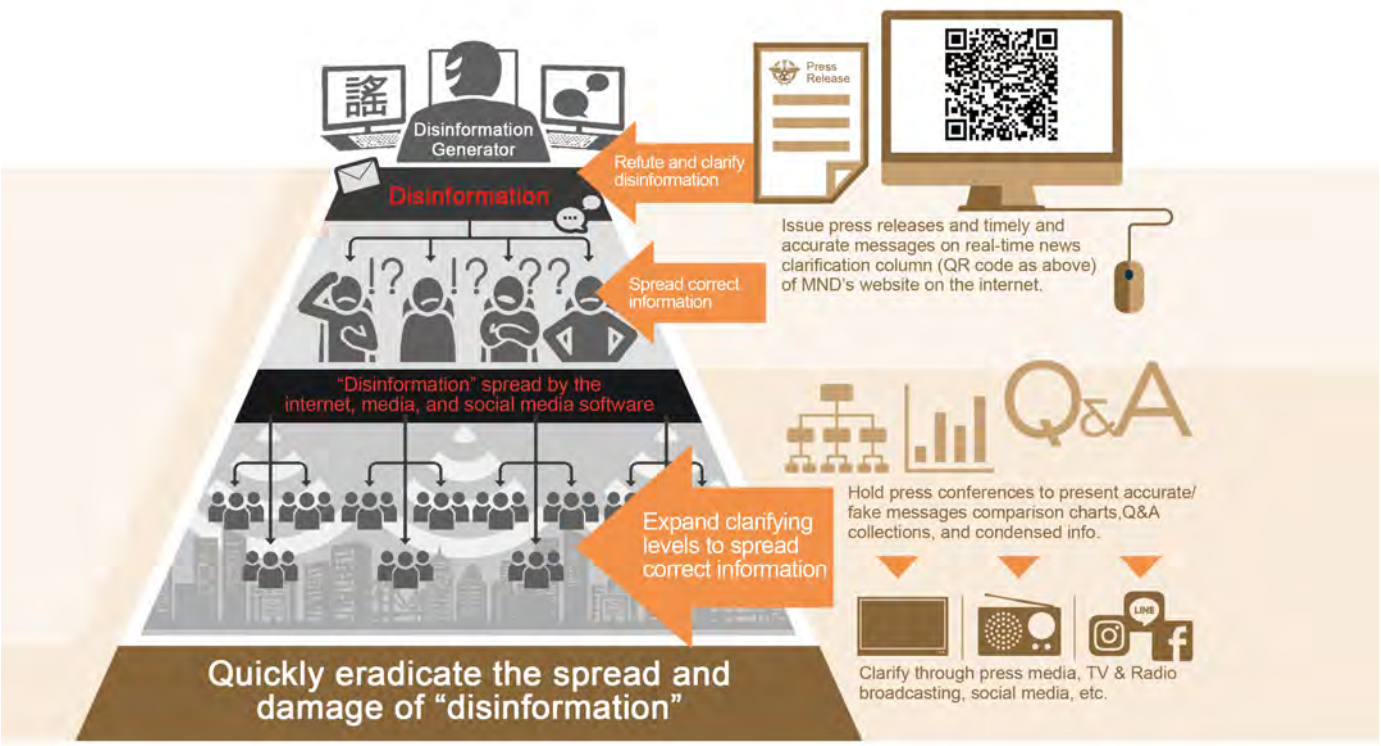
1	3	4
2		

1.2.3.4. To relate all-out defense education to youngsters, the MND continues sponsoring diversified events, such as Spratly Islands study camps, summer/winter combat camps, and demonstrations in opening ceremonies for Chinese Professional Baseball League (CPBL), to increase their understanding and support to defense affairs, recruit elite personnel, and allow the all-out defense concept to take hold.

and clarify in a timely manner to deal with the news in question, and disseminate positive discussions widely to win the public trust and support.

The MND continues enhancing competences in information gathering and analysis, public communication, and getting hold of defense-related information circulating on the internet at all times, so as to take responsive and appropriate actions to communicate quickly and effectively with the news media to curb the spread of rumors. Especially for countering disinformation, the MND follows the instructions of the "news clarification mechanism" of the Executive Yuan to unite all capacities of related units to verify the contents of the messages in question, and makes timely responses to curb the spread and damages of disinformation.

Concerning related rumors circulating on the internet, the MND will issue real-time and rectified news release through its website. Considering the impact of the disinformation and trends in public opinion, the MND will host a press conference to present references, such as



【Diagram of counter-disinformation campaingn】

"true-and-false comparison chart," "Q&A," and "portfolio of abridged news," and disseminate the recording or news releases through printed media, TV channels, radio programs, the internet, and social media to maximize its clarification efforts.

In addition, the MND has been actively unearthing the stories of good deeds and positive reports of HA/DR, combat preparedness, and training of the service members, and holding press conferences, press interviews, and interactions with social media to spread positive reports of the military in a flexible and diversified marketing fashion, to portray a people-loving image of the ROC Armed Forces.

2. Making Use of Social Media

To enhance its advertising effectiveness on the internet, the MND has been using new social media, Facebook (FB) and Instagram (IG) pages of the "MND Spokesperson," and command headquarters of three services, to release the information on its defense policy implementation and military training status, so as to increase people's understanding on defense affairs and demonstrate the hard work and success in combat preparedness the ROC Armed Forces have done. The MND has been actively engaging in interacting with viewers through these pages. Currently, the "MND Spokesperson" FB page has more than 340,000 likes, and its IG page has over 40,000 followers. To pull the viewers closer, the MND will invite followers to attend the "open house events" in major military installations, so as to solidify the concept of all-out defense.

Item	Name of the Film
1	"We Thank You and Unite in Happiness" on New Year's Day of 2018
2	"Embrace Happiness and Share the Best" on Lunar New Year Day of 2018
3	"New Youth, A Generation of Heart" on Youth Day of 29th March 2018
4	"My Haofuqing (Great Dad), Steel Heroic Dad of A Blood Type" on Father's Day of 2018
5	"My Haofuqing (Great Dad), Great Air Traffic Dad of B Blood Type" on Father's Day of 2018
6	"My Haofuqing (Great Dad), Romantic Mirage Dad of O Blood Type" on Father's Day of 2018
7	"My Haofuqing (Great Dad), Dream Maker MP Dad of AB Blood Type" on Father's Day of 2018
8	"Glorious 823" commemorating 60th anniversary of 823 Battle of 2018
9	"First Intention" on Armed Forces Day of 2018
10	"Double Tenth: A Day of Glory" on National Day celebration of 2018
11	"Military and People Work Together in Taiwan" on National Day celebration of 2018
12	"Break Boundaries to Create Infinite Possibilities" on New Year's Day of 2019
13	"Embrace Happiness and Protect Unity" on Lunar New Year Day of 2019
14	"Faith" on Youth Day of 2019
15	"Mother Knows 'Protection' the Best" on Mother's Day of 2019
16	"HanKuang to Safeguard the Nation" for HK exercise of 2019
17	"Salute You" on Father's Day of 2019
18	"To Serve Never Late; Military Promises Never Fade" on Armed Forces Day of 2019

【Image Promotional Films of the ROC Armed Forces in 2018 and 2019】

Concurrently, to expand the advertising effectiveness, the MND is disseminating positive topics of discussion of the ROC Armed Forces through the Military News Agency, Youth Daily News, Voice of Han Broadcasting Network, the MND official website and Twitter page as well as well-known internet portals, such as Yahoo, Yam, Hinet, PChome, and LINE TODAY. Furthermore, it has been producing "one-minute newsreel" and releasing photos through Flicker album page to achieve the same results.

3. Innovative Advertising

To improve its advertising efforts, the MND continues producing image-shaping advertisements and microfilms for the ROC Armed Forces and broadcasting them through various domestic media channels. The films were conceived in combination with social trends and the most favorable contents for viewers, and presented in creative and skillful forms, such as short stories, semi-dramas, and animations so as to touch the hearts of the public and effectively shape a positive image for the ROC Armed Forces.

Carrying forward and Shaping up Exemplary Military Ethos

The core value of the military personnel is to safeguard the nation and protect the people. "Country, Duty, and Honor," are their basic beliefs, and the ROC Armed Forces will carry forward this exemplary military ethos.

1 2 3

1.2.3. To disclose and illustrate the glorious history of the ROC Armed Forces in safeguarding the nation and protecting the people, the MND continues holding exhibitions in the Armed Forces Museum, the History Exhibition Hall of the MND, and the ROCA Historical Museum in Fengshan, Kaohsiung. These events are held to display all hardships and challenges along with the developments of the ROC Armed Forces and their subordinate units to the public for the people to know the importance of national defense in sustaining the nation's survival.

III. Promoting Exemplary Military Ethos

To promote exemplary military ethos and forge a force of steel with loyalty and honesty, the MND hosts a series of events to commemorate the Armed Forces Day to establish correct values, develop a sense of decency, solidify patriotism, grow an innate righteousness, and portrait an appearance of sturdiness for all service members.

1. Events for the Armed Forces Day

   To commemorate the Armed Forces Day, the MND hosts assemblies to award exemplary service members, and a series of events, such as skill demonstrations in opening ceremonies for Chinese Professional Baseball League (CPBL), tribute events, flashmob events, reporting on honorable units, military image-making films, and tribute events co-sponsored by civil enterprises. It is hoped that these events may boost up the confidence and prestige of being service members.

2. Academic Seminars

   The MND hosts academic seminars of "all-out defense" and "military ethos and individual characters," to gather research studies for practical recommendations and conclusion on carrying out military ethos education in all military institutions. The electronic forms of the seminar material will be uploaded to the internet to all military institutions, units, and libraries, and many others alike to share their study results.

IV. Inheriting Glorious Military History

The compiling undertaking of military historical literature is mainly to document and promote significant legacies of the ROC Armed Forces in safeguarding the nation and protecting the people, and enhance the military expertise for service members. In line with defense policy implementation, the MND continues holding specific exhibitions in the Armed Forces Museum to display all hardships and challenges along the developments of the ROC Armed Forces, Moreover, the MND is planning to establish a National Military Museum in Dazhi to exhibit historical facts of our forerunners to defend against foreign aggressions, and glorious historical and valuable items of the ROC Armed Forces, so as to allow the people to understand the importance of defense to our national survival and demonstrate the contribution of the ROC Armed Forces to "safeguard the nation and protect the people."

1. Military Historical Publications

   From 2018 to August 2019, the MND has published 4 military historical literatures: *Military History Review #25 and #26, An Oral History of ROCAF C-119 Unit, United in Weal and Woe: 60th Anniversary of the 823 Battle, and An Oral History of Air Rescue Group* to completely reserve the glorious history and noble deeds of military personnel's sacrifice and struggle, and encourage service members to follow the steps of their predecessors to dedicate themselves to combat training, ensuring security of the nation, and protect people's well being.

2. Exhibitions of Military Historical Relics and Documents

   The MND has been hosting a series of exhibitions in the Armed Forces Museum and the History Exhibition Hall of the MND to present its collections of historical relics and documents in various periods of establishment of the ROC Armed Forces, to demonstrate their sacrifice and contribution to force buildup, combat preparedness, and the development of the MND.

(1) Armed Forces Museum

The Armed Forces Museum was inaugurated on 31st October 1961, and is used to exhibit historical relics and documentsin categories, including founding of Whampoa, the Eastern Expedition, the Northern Expedition, encirclement campaigns against communists, War of Resistance against Japan, suppression of communication communist rebellion, and safeguarding the Taiwan Strait, and present the achievements of force buildup and combat preparedness of the ROC Armed Forces. From 2018 to August 2019, the Museum has held 3 special exhibitions: "Glories of MP-Historical Facts of the Military Fidelity of Military Police," "Cherishing Peace-Commemorative Exhibition of the 60th Anniversary of the 823 Peace Must be Cherished-The 60th Anniversary Exhibition of 823 Battle," and "Charging Ahead-ROCA Infantry Exhibition," and attracted more than 81,000 visitors.

(2) History Exhibition Hall of the MND

The MND Historical Exhibition Hall was established on 19th September 2016 to present the chronological changes of ROC defense organizations, roster of incumbent and former MND ministers, evolution of defense policies, and items of military exchanges. For the first time,the hall was first open to the public without prior bookings in March 2018 on the occasion of a singing contest of patriotic songs and open house event of the MND building in Bo Ai installation. From 2018 to August 2019, the Museum has hosted visits for 4,538 domestic visitors, and foreign visitors, individuals of visiting groups for them to eyewitness

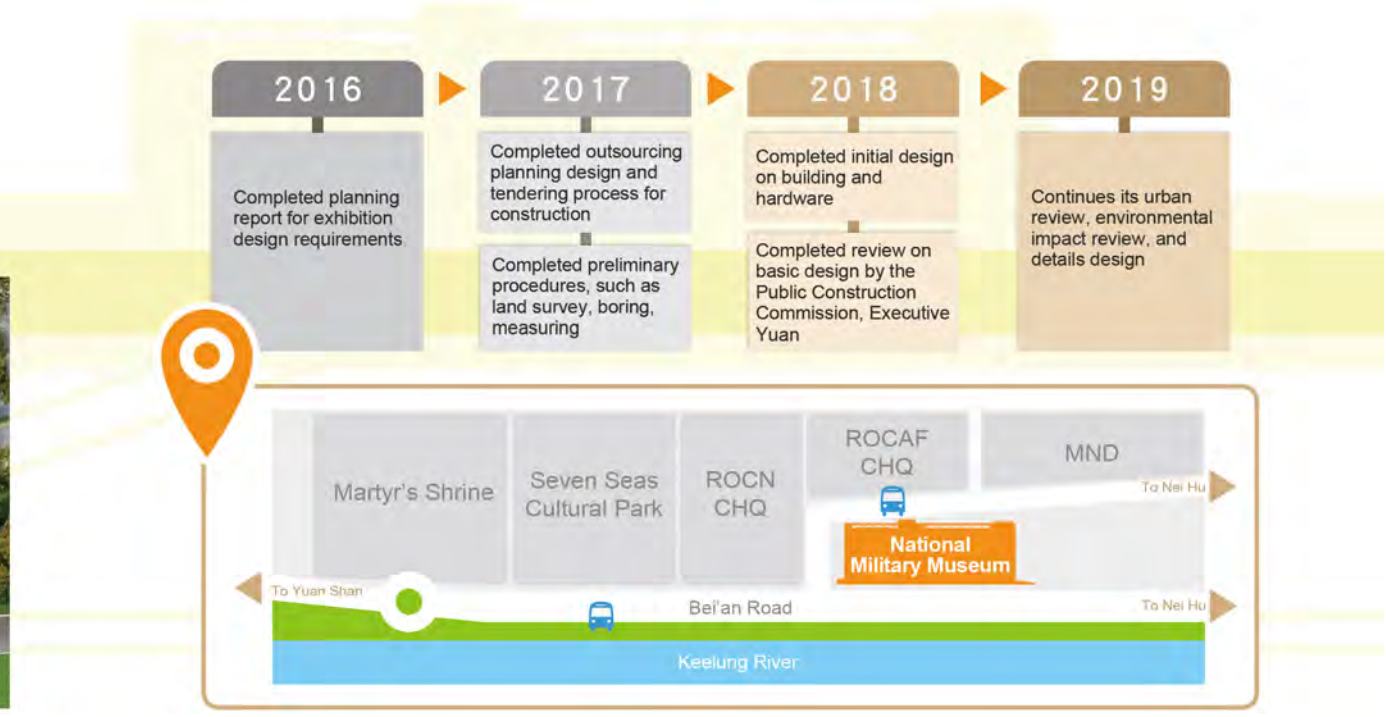
【Planned Diagram of the National Military Museum】

these precious historical relicsand documents, and to experience interactive facilities so as to increase the effectiveness of all-out defense education.

3. Constructing a National Military Museum

In line with Executive Yuan's revitalization policy of the property at "San Quan (Officers' Club of Three Services) installation," and the relocation plan of the Armed Forces Museum because of its limited space and a dated building, the MND is planning to construct the first National Military Museum in the cultural and educational park at Dazhi, Taipei to demonstrate the glorious military history and accomplishments of the military modernization.

Following the demands for exhibition and visitors' possible needs, the Museum is designed to establish a main building and a secondary one next to it. Currently, the MND is recruiting professional staff, reviewing its urban construction design, survey on environmental impact, and exhibition design, and acquiring new equipment and facilities for the Museum, which is planned to open in 2024.



Military History Publications

Original Military Publications

Military History Review #26

The journal collects reviews and theses of Chinese and foreign military organizational histories, service branch histories, chronicles of units, military educational institutions of the ROC Armed Forces, battle histories, annals of arts of war, to reveal the historical development of the ROC Armed Forces from multiple angles.

An Oral History of ROCAF C-119 Unit

The book interviews 11 former members of C-119 units, and complied the chronicles of C-119 operations and missions to present their sacrifice and dedication for the military personnel to follow.

United in Weal and Woe: 60th Anniversary of the 823 Battle

The book uses bilingual (Chinese-English) illustrations to depict the unity between military and civilians to fight in the epic battle, trying to raise the people's awareness to cherish the hard-won democracy and peace, and ensure security and prosperity for the nation together.

An Oral History of Air Rescue Group

The book records the sacrifices and contributions of this SAR unit, and the heroic deaths and disaster relief efforts of its members, showing ROC Armed Forces' unflinching actions to protect the people, and their dedications to safeguard the nation.

Translated publications

PLA Influence on China's National Security Policymaking (Chinese Ver.)

From the perspective of the PLA and party-country rule, and PLA's role in decision making and crisis, the book offers objective analyses to portrait a clear picture of the PLA in this subject.

Practice to Deceive: Learning Curves of Military Deception Planners (Chinese Ver.)

By using deception cases, the book analyzes deceptive levels of confronting parties to see which one prevails in a battle. This book is a key to triumph for military intelligence personnel and specialists.

Terrorism in Cyberspace: The Next Generation (Chinese Ver.)

By collecting contents of terrorist websites, the book analyzes major online terrorists' activities in recent years, and uses perspectives of communication studies to summarize the latest trends of online terrorists' activities.

A New Strategy for Complex Warfare: Combined Effects in East Asia (Chinese Ver.)

By reviewing contemporary strategic and security cases via dual perspective of security and culture, the book offers realistic, workable, and well-rounded recommendations for strategists and decisionmakers.

By All Means Necessary: How China's Resource Quest is Changing the World (Chinese Ver.)

The book studies PRCs worldwide activities in search for petroleum, irons, water resources, and arable lands, to see how it is speeding up deploying economic, political, and military clouts with timely aligned strategies and measures to secure its necessary supply of resources.

Margin of Victory: Five Battles that Changed the Face of Modern War (Chinese Ver.)

All the campaigns discussed in the book are historical turning points in the 20th century. The book systematically connects the dots together, and concludes, "Changes never end," and that "responses to changes" are of utmost significance.

八二三戰役60周年紀念

Noble Merits and Exemplary Righteousness

Glorious fighting feats of the ROC Armed Forces to safeguard the nation and protect the people are unveiled by exhibitions of historical items, to show our military forerunners' noble merits and fighting spirits.

Carrying forward the Cause and Assimilating Forerunners' Glories

The MND has established the History Exhibition Hall to present the glorious past of our forerunners and their contributions to defense affairs, so as to allow us to carry forward their cause to continue strengthen our operational preparedness.

戰略任務調整時期的國防部
Adjustment Period (1970-2001)

V. Translating International Military Publications

To improve the military expertise of service members and tap the latest information of international military developments, the MND has been selectively translating and reprinting foreign publications and periodicals with authorizations in 9 categories: "national security, international and regional security, military theory, reform in military affairs, military operations, leadership, politics and strategies, public opinion and media, and crisis management and risk control" in expectation of promoting the popularity of reading for improving the military expertise of service members, and raising attentions in military affairs for the people to support the force buildup and combat preparedness efforts of the ROC Armed Forces.

1. Publications of Translated Foreign Military Translation of Foreign Military Publications

   To expand the academic knowledge of military leaders, the MND has been translating and reprinting selective foreign publications on new military thoughts and trends with authorizations. From 2018 till now, it has translated and reprinted 6 military publications:*PLA Influence on China's National Security Policymaking, Practise to Deceive:Learning Curves of Military Deception Planners, Terrorism in Cyberspace: The Next Generation, A New Strategy for Complex Warfare: Combined Effects in East Asia, By All Means Necessary: How China's Resource Quest is Changing the World and Margin of Victory: Five Battles that Changed the Face of Modern War.*

2. Periodicals of Translated Military Articles

   The MND has been regularly releasing the *National Defense Digest* with translated visionary military articles. With new defense knowledge and current military affairs in mind, the periodical has been choosing articles from over 10 authorized foreign military journals and magazines, and compiling translated articles in 8 categories: "Special Topic," "Strategic and International Relations," "Services Operations," "Military Affairs," "PLA's Development," "Regional Status," "Military History," and "Technology and Weapons." The MND will try to expand the pool of foreign military publications, so as to increase their popularity among military and civilian personnel.

Narrative of Noted Personnel VOICE

Embracing Choices and Realizing Goals

When I was conscripted after graduation from a university, I was encouraged by my uncle who retired from the ROCAF, and decided to switch to voluntary service. Then I had experienced several positions prior to my assignment in a field combat unit. In this assignment, I began to realize the importance of teamwork from a perspective of artillery operations. Every shell fired is critical to human life and safety, and all assemblies shall be setup correctly to prevent from malfunctions. I remembered the gunners in my team had acted in unity to complete the artillery's operational sequence of firing, measuring, observing, communicating, and operating. When we accomplished with higher marks, I could feel a sense of pride and glory as a soldier, and would be more than confident about my wise decision to serve.

The major push to keep me in the service is my concerns for my mother who got a job injury which worsened into a lung fibrosis. I knew from my childhood that it was sad to see my mother exhaust herself to take care of the family, and made up my mind to do my best to attend to her when I grew up. Whenever I am at home on vacation to see a table with delicious dishes prepared by my mother, that kind of happy atmosphere is exactly the push to drive me forward.

Aside from my life in the military and family, I also contribute my part in the society. Running is my hobby, and I won the first place in my age group during an ultramarathon last year. I have also donated my blood and even my bone marrow to charity organizations because I was groomed by the society and the nation and shall contribute my part whenever I can. Now, I am doing my best at work and to serve the society and the nation, and that is a practical realization of my value and goals.

Sergeant Major Kao Zheng-zhong, Administration, Southern Area Reserve Command

Section 2 Protecting the People

To protect people's lives and property, the ROC Armed Forces continue enhancing HA/DR and anti-terrorism capabilities, and in coordination with the Coast Guard protecting our fishermen's freedom of legal maritime operations. Under the instruction of the Executive Yuan, the MND shall work with governmental agencies, and municipal and local governments to conduct cloud seeding, emergency evacuation, and medical service missions, to demonstrate ROC Armed Forces' spirit and contribution to "safeguarding the nation and protecting the people."

I. HA/DR

Facing threats of composite disasters, the ROC Armed Forces have been following the *Disaster Prevention and Protection Act* and the *ROC Armed Forces' Regulations on Assistance in Disaster Prevention and Protection* to initiate preparations for HA/DR efforts, and, under the command of the Executive Yuan, will mobilize forces and assets to disasterare as in coordination with governmental agencies and local governments to assist in HA/DR operations, and to minimize the diaster damages.

1. HA/DR Manpower

The ROC Armed Forces have routinely prepositioned an HA/DR force (for natural disasters, such as typhoons and floods) of 1,844 personnel in 99 locations of 19 geographic areas situated in northern, central, southern, and eastern parts of Taiwan. Furthermore, there is a standby force of 39,000 more personnel deployed in each area of operations.

Category \ Theaters of Operations (TOs)		3rd TO (Northern)	5th TO (Central)	4th TO (Southern)	2nd TO (Eastern)	1st TO (Penghu)	Kinmen Defense Command (Kinmen)	Matsu Defense Command (Matsu)	Total
Pre-positioned Forces	Location (Disaster prevention areas)	Yilan Taipei Longtan Hsinchu Wufeng	Miaoli-Houli Xinshe Nantou Chongnan Changhua-Yunlin Chiayi	Tainan Xinhua Gangshan Qishan Pingtung Hengchun-Fenggang	Hualien Taitung				1,844 Personnel in 99 locations of 19 Areas
	Number of Personnel	528 Personnel	278 Personnel	589 Personnel	449 Personnel				
Medical Taskforces	Medical Teams, Military Hospital	12 Personnel in 2 teams	12 Personnel in 2 teams	54 Personnel in 9 teams	36 Personnel in 6 teams	12 Personnel in 2 teams			525 Personnel in 154 teams
	Rescue Teams, Health Units	24 Personnel in 8 teams	18 Personnel in 6 teams	117 Personnel in 39 teams	87 Personnel in 29 teams	78 Personnel in 26 teams	36 Personnel in 12 teams	39 Personnel in 13 teams	

【Statistics of ROC Armed Forces Disaster Prevention Deployments】

2. HA/DR Assets

The ROC Armed Forces have routinely maintained the readiness for 2,000 more wheeled vehicles, 300 more tracked vehicles, 11 aircraft, 107 rubber rafts, and 1,500 more light and heavy machineries (multi-functional engineering vehicles, excavators, water pumps, and life detectors) that can be deployed instantly in a major disaster.

3. HA/DR Instructors' Training

Since 2010, the MND has been selecting qualifiable officers and NCOs to attend the "ROC Armed Forces' seed instructors' general courses for major disaster prevention," and so far 1,807 personnel have completed the training to fill in the slots of HA/DR instructors and enhance the HA/DR skills and capacities of the ROC Armed Forces.

4. HA/DR Drills

Planned by the Executive Yuan, the ROC Armed Forces are assigned to join 21 HA/DR drills hosted by municipal and local governments annually. In 2019, the ROC Armed Forces have assigned over 1,200 personnel and 379 various vehicles to join 11 HA/DR drills hosted by Taipei city government and 10 other municipal and local governments, so as to improve the coordination with them in HA/DR efforts.

5. Assisting in HA/DR Missions

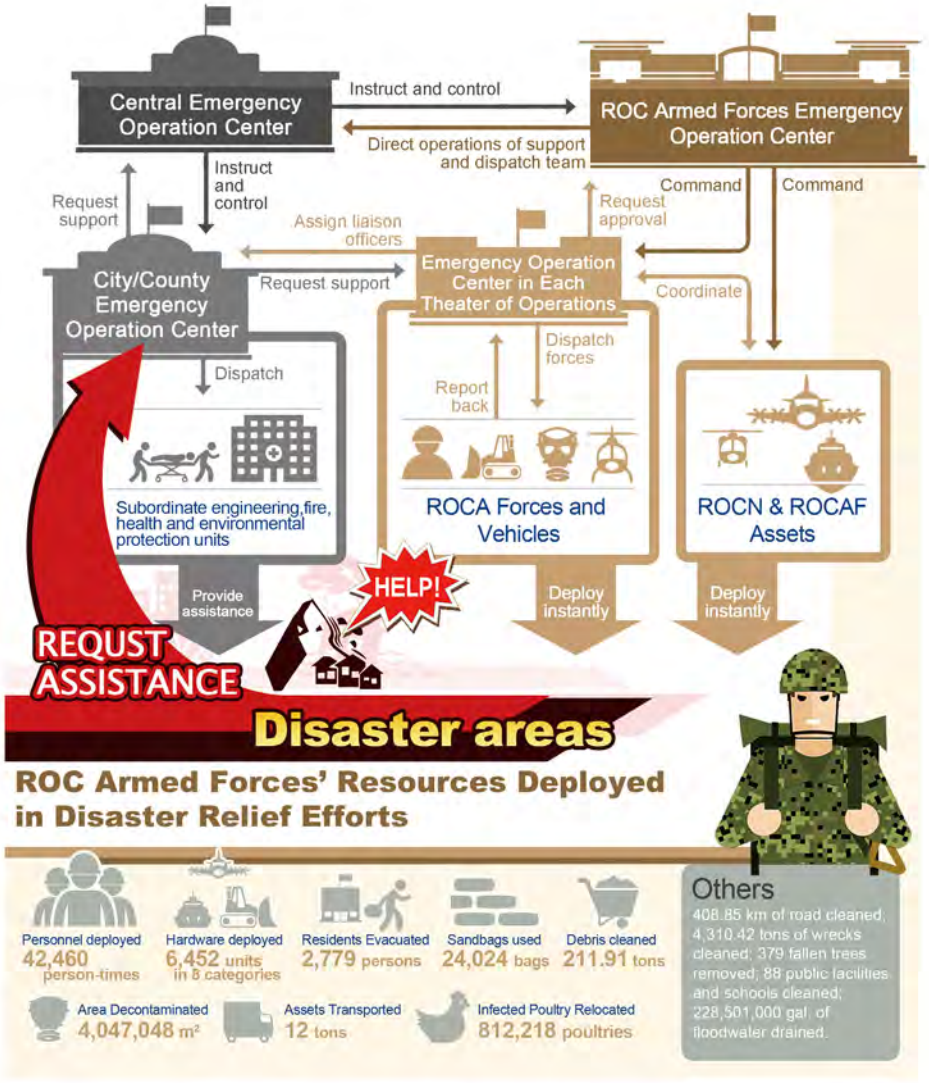
Since January 2018, the ROC Armed Forces have accomplished HA/DR tasks and mitigated losses to people's lives and property in a number of major events, including in 2018 the Hualien earthquake on 6th February, torrential rains on 13th June, Typhoon Maria, floods caused by tropical pressure on 23rd August, train derailment accident on 21st October; and in 2019 dengue fever prevention efforts, Typhoon Danas, Typhoon Lekima, and Typhoon Bailu.

6. Emergency Medical Services

In accordance with the *Emergency Medical Services Act*, the ROC Armed Forces maintain a regular pool of over 11,000 EMT certified personnel, integrating national firefighting and rescue systems to improve the overall emergency medical service capacity. In peacetime, the Armed Forces health service work with firefighting and rescue units of local governments to improve their real medical experience and hence can rapidly join HA/DR efforts when a major disaster strikes. From 2018 to August 2019, 79 Armed Forces medical personnel provided 17 patients with medical treatment and 9 medical evacuations.

7. Epidemic prevention and Decontamination

The Chemical Corps of the ROC Armed Forces routinely maintains 462 epidemic prevention equipment in 6 different categories, including heavy decontamination vehicles, light decontaminators, backpacked decontaminators, and personnel decontamination carts. From 2018 to August 2019, the Chemical Corps carried out decontamination tasks in events, e.g., the flooding caused by the tropical pressure on 23rd August 2018, the National Jamboree of



【Disaster Prevention and Contingency Reaction Mechanism and Statistics of the ROC Armed Forces】

Scouts of China (Taiwan), and local governmental African swine fever prevention efforts. To timely control the spread of dengue fever, the Corps has attended 38 meetings on vector control and epidemic prevention hosted by the Executive Yuan and followed the MHW's epidemic prevention policy guidance to reinforce inspection and disease source removal efforts on military installations, vacant barracks (lands), dependent and retiree residence with join efforts to ensure people's health and safety.

II. Escort Operations for Fishing Activities

Following the Executive Yuan's policy of "fishermen and fishing vessels operating legally shall be protected by the Coast Guard," the ROC Armed Forces have been routinely assigning air and naval

1 2 3

1.2.3. The ROC Armed Forces continue improving anti-terrorism and contingency response capabilities as well as medical capacities. Furthermore, under the guidance of the Executive Yuan,they also conduct cloud seeding in working with government agencies and local governments in places in need as a way to show their care for the people and protect our homeland.

assets coordinating with Coast Guard vessels in conducting joint escort missions for fishing activities within our EEZ, so as to show the strength and determination of the government in safeguarding the fishing rights and territorial sovereignty of the nation.

In addition, the Armed Forces validate the communications mechanism, share information, participate in joint escort drills, and conduct regular exchanges and visits with the Coast Guard to improve their collaborations. During fishing seasons, the Armed Forces will monitor fishing grounds in our territorial waters, properly assigning naval vessels in coordination with Coast Guard's escort deployment to maintain a routine posture of joint escort for legal fishing activities. From 2018 to August 2019, the Armed Forces assigned over 2,400 sorties of CAP aircraft and over 7,500 voyages of patrol vessel for routine joint escort.

Every Second Counts to Protect the People in Need

Whenever a major disaster strikes, the ROC Armed Forces are always the first responders to provide timely relief efforts and will continue to be so in places they are needed the most.

III. Anti-terrorism Responses

Abiding by the *Regulations of Homeland Security Reaction Mechanism to Contingencies* and the *ROC Armed Forces Regulations on Peacetime Contingencies Responses*, the Armed Forces strengthen crises awareness, counter-contingency responses, and damage control, while maintaining readiness for on-call missions to support local anti-terrorism responses, such as counter-kidnapping, counter-sabotage, and counter-hijacking. Furthermore, organized chemical corps, engineer corps, and explosive ordnance disposal (EOD) units also conduct chemical, biology, and nuclear (CBN) detection and disposal activities, as well as major infrastructures repairs and EOD missions in support of local governments.

The Armed Forces preplan responses to possible terrorist attacks predicating means and patterns of international terrorism while keeping training and cooperating closely with relevant units in optimizing anti-terrorism responses. Over the past two years, the Armed Forces assisted in security operations for large-scale events, e.g., the 29th Summer Universiade Taipei 2017, annual nationa athleticl games, flag-raising ceremonies on New Year's Day, and Double Tenth Day celebration with 9,726 person-times employed from MP, Chemical Corps, and medical services.

IV. Cloud Seeding

Due to global warming in recent years, the level of water storage and precipitation have both been declining annually. Prior to drought seasons, the Water Resources Agency of the MOEA would convene government agnecies, including the MND on cloud seeding measures for drought mitigation. The Armed Forces will accordingly assign aircraft sorties for cloud seeding tasks. From 2018 to August 2019, 14 aircraft sorties, 210 person-times, and 84 vehicle-times were employed in accomplisheing the assignments.

Year	Resources Deployed			
	Days used	Aircraft Sorties	Clean Water (tons)	Air Crew Assigned (Person-times)
2018	5	10	40	164
2019	2	4	1.6	46
Total	7	14	41.6	210
Administrative Assistance	14 vts of fire engine, 28 vts of forklift, 14 vts of liquid oxygen cart, and 28 vts of administrative vehicle (bus, follow-me jeep). (vt: vehicle-time)			

【Statistics of Aerial Cloud Seeding Missions Conducted by the ROC Armed Forces in 2018 and 2019】

V. Emergency Evacuations

In adverse weather conditions or on the eve of major festivals when civilian transport supplies cannot meet offshore transportation demands,the Armed Forces assign aircraft to carry out emergency evacuation for travelers to and from offshore islands on the premise of combat preparedness unaffected. From 2018 to August 2019, 55 sorties of C-130 air lifters were sent to transport 3,809 travelers who could go back to their home towns timely.

VI. Medical Services

In line with "localization of medical services," the ROC Armed Forces set up military hospitals and medical centers in every theater of operations (TOs) to offer the public and service members medical services, such as outpatient treatment, emergency care, inpatient treatment, and physical checks. From 2018 to August 2019, 11.83 million person-times were treated with military medical services.

Moreover, military hospitals are equipped with a complete medical information platform and constantly improve medical personnel training, hospital management, and service quality. Medical services, including air MEDEVAC and remote medical treatments for active members on offshore islands are also being improved. Engagements and seminars on medical techniques, promotion of health education, and TO-level meetings on military medicine are held regularly as an effort to have sound mechnisms for cultivating talented medical personnel and better integrate medical equipment and resources.

The Armed Forces continue promoting quality medical services. From 2018 to 2019, TSGH, Kaohsiung Armed Forces General Hospital and Taoyuan Armed Forces General Hospital respectively set up

Identity Category	Outpatient and Emergency (Patient-time)	Hospitalization (Patient-day)
Service members (including civilian employees)	595,436	170,248
Dependents	462,606	89,613
Civilian	7,875,032	2,642,435
Total	8,933,074	2,902,296

Since 1st May 2019, police, fire department, coast guard personnel and aircrew can enjoy the same medical privileges as service members. Active service members are exempt from "registration fee" and "copayment of health insurance" in hospitals owned by Veterans Affairs Council and Ministry of Health and Welfare.

【Statistics of Patient-time of Emergency Care and Hospitalization in all Armed Forces Hospitals in 2018 and 2019】

1 2 3

1. As transportation demands overwhelm civilian airliners capacity in bad weather conditions, the Armed Forces will carry out emergency evacuation in line with MOTC policy to timely transport the public to their destinations on the premise that military combat preparedness maintains operational.

2.3. Facing natural disaster threats, the Armed Forces actively engage in a variety of disaster prevention efforts so as to quickly deploy forces to hit areas as a way to care for and protect people's safety.

a "hybrid operating room" to offer military and civilian patients of acute illness and trauma a better operating environment. Furthermore, to improve the quality of medical services on offshore islands, TSGH Penghu Branch also introduced the 1.5T Magnetic Resonance Imaging (MRI) Scanner and Computed Tomography (CT) Angiography Scanner to provide civil and military patients with advanced treatment.

To promote innovative medical services of Armed Forces hospitals and demonstrate the capacities of R&D in military medicine, the MND participated in the 2018 Taiwan Healthcare Expo in November 2018 to exhibit its innovative medical technologies and advanced equipment, such as virtual navigated neurological surgery, 3-dimensional virtual image application on surgical operations, dengue virus (DENV) non-structural protein 1 (NS1), smart medical robots, cardiac status monitor, and new tactical tourniquet.

Time is Critical to Save People in Need

Growing up in a farmer's family, I had a longing to fly warplanes since childhood. Then, I was influenced by an elder neighbor who happened to be a flight instructor, and subsequently made up my mind to serve in the ROCAF. When I graduated from junior high school, I was admitted to the CCAFPS. After that, I successfully entered ROCAF Academy. My family gave me the support along the way, which allowed me to have faith in this career track.

To be at the controls of a C-130H, I certainly understand flying is not a piece of cake at all. When I graduated from the Academy, got my wings, headed to Zhi Hang Air Force Base for conversion training, and became an instructor for a cargo plane with multiple aircrews on board, I have learned to lead my crew to take challenges in every mission, absorb experiences, and impart the lessons learned to all the crew. In February 2018, a Black Hawk helicopter of the National Airborne Service Corps, MOI crashed a day before Hualien earthquake. I received the order at a very short notice to conduct a search and rescue (SAR) mission for the mishap, and my plane endured a very exhaustive process prior to final return. But not before long the tremor shook Hualien, my team had to bring SAR personnel to the location at dawn the next day. Urgent and imminent are adjectives that can be best described as the nature of my missions, which are significantly meaningful to protect all the people.

Different from a fighter jet's high-altitude interception mission, over the transportation routes to Taiwan's offshore islands, we can usually spot C-130Hs flying over to provide much needed services to the people. When there is a major international disaster, we are more than glad to provide assistances. Over 23 years of service, I have seen numerous flight safety mishaps, understood how fragile a human life can be. However, I am insisting to do everything as perfect as possible so as to bring the plane to its destination smoothly and safely. My faith never ceases.

Colonel Wu Jing-min, Political Warfare Director, 10th Air Transport Group, 6th Combined Wing, ROCAF

Special Services Elites Do Deliver

Before my military service, I was just a sports-loving guy. Then I signed up, and gradually increased my physical fitness to a professional level. My professional skills were further sharpened after I was selected to join the Special Services Team and attend professional training courses. In the dynamic shooting training, I had to learn to keep bodily stability, and in the close quarters battle (CQB) training, I had to learn to remain calm to aim the target while reacting to the next possible move. To accomplish the mission, I know that strengthening psychological quality is more critical than having good combat skills and physical conditions.

Aside from mastering weapons, CQB skills, including Judo, Taekwondo, and kick boxing, are also indispensable to MP special services personnel, who may perform the skills for foreign dignitaries, or exchange with current national champions to learn more tactics and skills. Moreover, some personnel in the team have attended relevant competitions, and have undoubtedly won several awards. To compete in a real setting to keep improving oneself is the essence of so-called training by fighting.

I have been serving with my fellow soldiers over a decade, and has formed a family-like unity, which makes us close and reliable to one another both in peacetime and wartime. Every mission we took is a vivid evidence of our faithful relationship because one shall need these buddies to cover, charge, and seize the target in a real battle. Consequently, we all have to take the most rigid and tough training to make sure we can accomplish missions successfully.

Sergeant Major Huang Jhih-lung, Special Services Team, Military Police

Chapter 10 Nurturing Competent Personnel

In order to maximize the efficiency of defense manpower, the MND has conceived near-, medium-, and long-term manpower development plans to optimize the military educational system, and promote cultivation of personnel of multiple MOSs, so as to groom talented military personnel with professionalism of defense leadership, force buildup, and combat preparedness. In addition, retiring military personnel will be offered with multiple consultation services and information for retirement, so as to connect them with the private sector seamlessly to exert their expertise and continue their contributions to the society.

Section 1 Developing Manpower

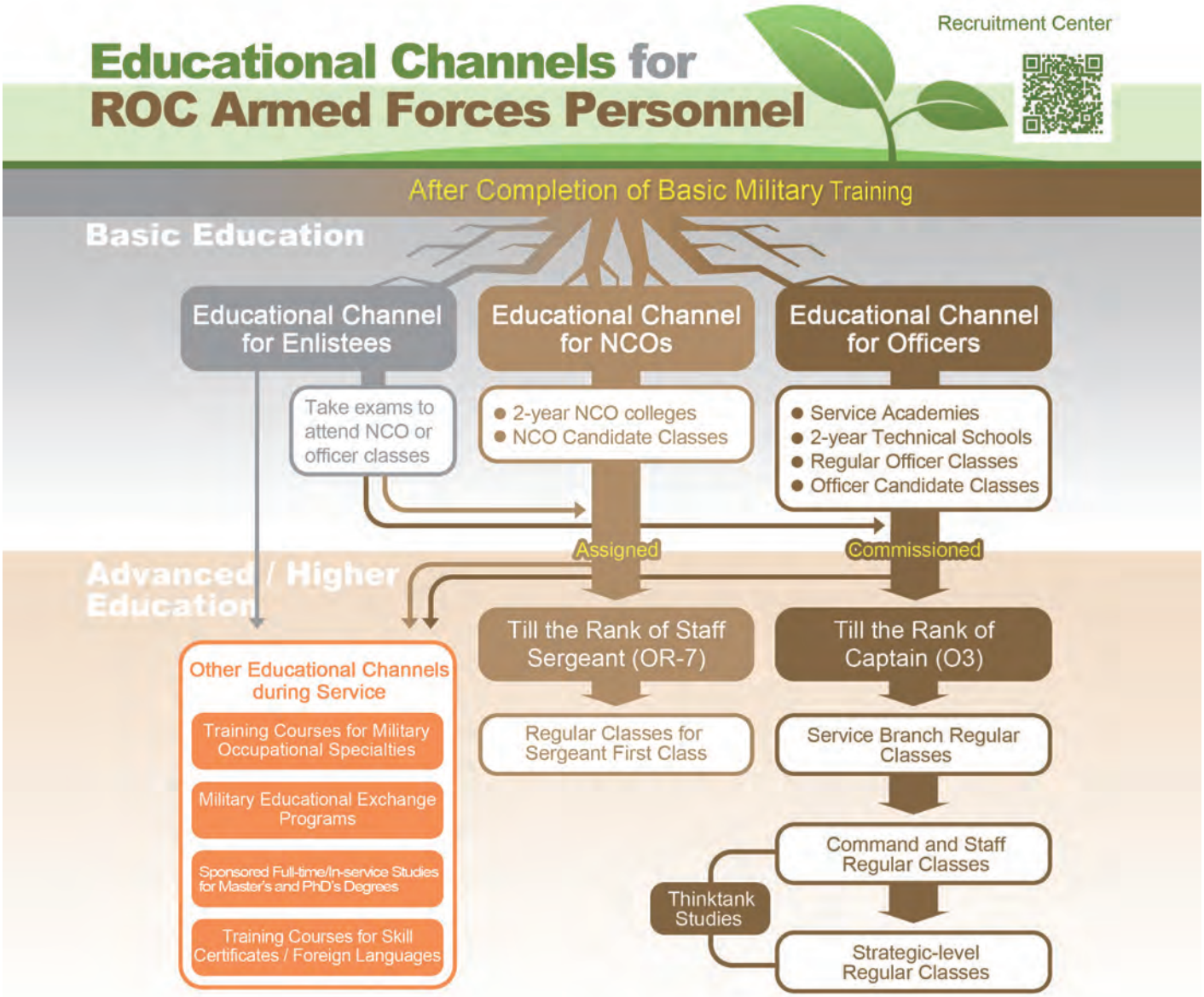
To achieve a "purposeful education" and follow the guidelines of "bettering military professionalism," "developing diversified military education," "realizing professional military education," and "combining military education with combat preparedness," the MND continues refining basic, advanced, and higher levels of education, promoting civil-mil educational exchanges, optimizing personnel system for civilian officials, and attempting to extend the career tracks for service members, so as to retain competent military personnel in the services to dedicate their professionalism in defense affairs.

I. Basic Education

The basic education for officers is mainly to groom cadets as "officers in commanding positions"having staff and operational skills and qualifiable academic level and military ethos. On the other hand, the basic education for NCOs is mainly to nurture cadets as "highly skillful NCOs" having sound and strong characters and professional skills. Two practical ways for basic education are as follows:

1. To encourage candidates to have prior understanding of defense education and select viable ones to enter military educational institutions, the MND has been working with the Ministry of Education (MOE) to implement the policy of "diversifying admission channels" and "focusing on physical fitness" and therefore added an additional test of "all-out defense" on top of the military entrance exams. The test is offered in 23 locations, and qualified candidates shall have extra points for admission.

2. Under the policy of promoting bilingual education, since 2019, services academies, ROCA Academy (for NCOs), and the Air Force Institute of Technology (AFIT) have established "applied foreign language department" to boost up language educational capacities at basic education level. The MND has set up 20 "classrooms of multi-language setting" in units at various levels. The classes are taught by professional language experts. Service members with qualified language levels shall be first considered for overseas graduate studies or as research fellows in renowned thinktanks, so as to nurture first-rate military personnel.



II. Advanced Education

The MND has co-sponsored the "in-service master's program of leadership and decision making" with the National Chengchi University, and shall assign qualified trainees from command and staff colleges to dually enroll in such a program, so as to combine advanced military education with graduate studies. In the future, the program will be further extended to include a "strategic educational level (war college)," so as to cultivate future military decision makers.

III. Higher Education and Specialized Training

1. Full-time Graduate Studies and Short-term Studies

   To improve the professionalism and skillsets of military personnel, the MND has been sending qualified officers to attend master's and PhD's degree studies in foreign graduate schools to fulfill the needs of talented professionals in defense technology, strategic studies, education, military medicine, and foreign languages.

2. Accredited Programs and Training during Off-hours

As a complementary channel to improve the professionalism of service members, the MND has been encouraging voluntary service members, on the premise of no impacts on combat preparedness, to enroll in accredited programs in domestic universities or receive training in public/private vocational training institutions for acquiring degrees or certificates during their off-hours. Such enrollments shall be partly sponsored by the MND.

3. FMS Training

The MND has been assigning qualified officers to attend FMS training related to "force buildup planning" and "command and operations," qualified NCOs and enlistees to attend FMS training relevant to "maintenance skills" and "execution and operations," so as to enhance officers' planning and leadership skills and NCOs' and enlistees' technical and maintenance skills.

Cultivating Youths and Grooming Future Professionals

The MND reinstated Junior High Department of the CCAFPS and adopted "bilingual education" curriculums to attract brilliant youngsters to join the military, and extend military education to younger age groups, so as to groom our future military professionals.

4. Exchanges with Foreign Military Educational Institutions

Based on a mutually beneficial principle, the MND has increased the slots of cadets and trainees at "basic and advanced military educational levels" in the exchange programs with our alliesto improve the depth and breadth of military education. Those selected for the programs will first go through a 6-month preliminary language training provided by the home country. The MND would assign Chinese language instructors to the counterpart country to assist in the language training .

5. Research Fellows to Thinktanks

Following related national policies and its overall personnel cultivation plan, the MND has been cooperating with renowned domestic and foreign thinktanks through channels of "defense thinktanks," "strategic forums," and "thinktanks fellowship programs" to send its qualified military personnel and civilian officials to foreign prestigious thinktanks and the INDSR as research fellows, so as to accumulate research capacities in national security, defense policies, military strategies, and cross-Strait affairs, and build up relations with friendly academic circles.

IV. Career Management for Personnel Stationed or Studying Overseas

In order to retain the pool of service members who have received overseas basic or advanced educations, or have been awarded master's or PhD's degrees, or have stationed overseas, they are required to serve two years at a minimum after their return, and shall be prioritized to fill in a commanding position on a career track of "command system." Their career tracks shall not be limited by their MOSs, and shall be assigned to positions of operations, planning, and armament, etc., so as to tap their language competencies, international perspectives, and practical knowledge of foreign affairs to assist in force buildup and combat preparedness.

V. Reinstating Junior High Department of the CCAFPS

To strengthen the base of military education, in 2018, the MND reinstated the Junior High Department of the CCAFPS, which adopts "bilingual education" curriculums and is planned to admit 250 cadets annually to broaden the source for future service members and attract excellent young students to join the military.

VI. Exchange between Services Academies and Domestic and Foreign Universities

To tap resources in the universities and foster innovative and flexible thinking, services academies and the National Defense University (NDU) have established strategic alliance with prestigious universities, and they have been maintaining routine short-term academic exchanges. The MND continues arranging cadets to attend short-term studies of 3 to 6 months in western renowned universities to broaden their international perspectives.

VII. Developing Civilian Defense Officials

The "personnel system of defense officials" is confirmed by the *Organization Act of the Ministry of National Defense* promulgated in 2002. Since then, the MND has been selecting first-rate civilian officials through various public service examinations or open selections. These civilian officials will be working with military personnel on defense affairs. To professionalize civilian officials from different backgrounds, they shall receive orientation training, OJT for major MOSs, command and staff education (for middle level officials), and strategic education (for high level officials), so as to enhance their defense knowhows.

1. Improving Orientation Training

(1) Providing Prep Training for New Officials

To quickly familiarize new civilian officials with the MND's organization and defense affairs, the MND shall provide orientation training for them with practical curriculums. In 2018, there were 25 attendees. Moreover, a web-based E-learning system is set up in MND's intranet to facilitate self-studies.

(2) Promoting Mentoring System

The MND shall appoint senior personnel as mentors to new officials for half a year to share lessons learned to equip the newcomers with necessary skills and knowledge to handle their undertaking smoothly.

【Diagram of Coupling Retiring Military Personnel with Civilian Careers】

Narrative of Noted Personnel VOICE

Serving and Running in Tandem

Admitted to the Army Academy ROC (AAROC), I began to exhibit my passion for running. Then I joined the track and field team in the Academy, running became a part of my daily routine, and I even won the first place in a 5,000-meter run of the open athletics competition in the National Intercollegiate Athletic Games. After graduation, I was assigned to attend a physical training course to learn close-combat tactics, such as Taekwondo, and certified as a swimming coach and a lifeguard. After acquiring needed skillsets, I was reassigned to the Reserve Command to be a seed instructor to dedicate myself to physical training.

Aside from greatly improving physical fitness in the military, I remain committed to learn new skills. I am currently a switchboard operator in a communications squad, and have to grasp the knacks for switching and connecting communications seamlessly that are crucial for command and control in training, drills, exercises, and operations.

For myself, to serve is not merely to fulfill my dream, but also to take care of my beloved family. My grandmother had a joint replacement surgery recently. She asked me to stick to my dream, no need to worry about her limping condition. When I recalled my granny's words, my eyes would become wet, but my mind was firm and strong. In the future, I continue improving my physical fitness, and will try to excel my records in running competitions. Furthermore, I will pursue higher education by using off-hours to prepare, and acquire more certificates to become more competitive and make my family proud.

Corporal Lin Guan-yin, Communications Maintainer,
Services Group, Southern Area Reserve Command

2. Strengthening Military Knowledge

(1) Attending Command and Staff and Strategic Studies

In order to instill military knowledge in middle and high level civilian officials, the MND has been sending them to receive command and staff and strategic in-service classes. The MND has stipulated a civilian officials promotion system in which those having higher level MOSs shall be given extra points during evaluation process for promotion, so as to encourage them to pursue higher positions to serve the nation. In 2018, 3 officials participated in strategic in-service classes, and 6 in command and staff in-service classes; while in 2019, 1 official attended in strategic in-service class, and 2 in command and staff in-service classes.

(2) Cultivating Personnel through Thinktanks

To cultivate strategic experts for the nation, the MND borrowed the practice of the US military and started assigning middle- and high-level civilian officials to the INDSR since October 2018 for studies on defense affairs and military strategy.

(3) Improving Core Professionalism

To retain competent civilian officials for longer service, since the beginning of 2019, the MND has been hosting courses of core military functions for civilian officials to improve their military knowledge, enhance their competences and performance, and maximize their potentials.

VIII. Career After the Military

In order to help career transition of discharged service members, the MND has been encouraging them, on the premise of no impacts on combat preparedness, to acquire a secondary skills and the certificates related to their current positions during off-hours. The MND has been working with the VAC and relevant governmental agencies, to co-host diversified job training courses in vocational training institutions and co-sponsor a series of services, such as "introductory meeting for benefits and privileges of discharged voluntary service members," "occupational aptitude evaluation and career consultation service," "survey on demands of studying, career training, and job-seeking," "introduction to resources of job training," and "seminar on career tracks."

Among them, courses in management category (such as international logistics management course, international trade and marketing course, and digital marketing planning course) and courses in operations category (such as aircraft maintenance course and computer-assisted mechanical drawing course) can help trainees in job-seeking and to acquire a certificate. From 2018 to August 2019, 7,421 service members have taken aptitude evaluations during "introductory meetings for the benefits and privileges of using integrated employment resources," and 2,583 have taken job-seeking consultations. The MND has hosted 111 events in which 4,996 companies (including Kuo-Kuang Motor Transport, and many others) have offered 159,017 job vacancies to provide employment services for service members, and help them to reconnect with the job market when discharged.

Section 2 Exemplary Models

The men and women in uniform are stationed in every corner of our territories to conduct their missions-on mountain tops, out on the ocean, high in the sky, or deep underwater. Their MOSs span across a variety of professions. They have experienced a variety of positions and received necessary education and training to become military professionals. They have outstanding performances in their respective positions, and some of them even have won prizes in international competitions. Moreover, the MND selects the best performing service members and units as exemplary individuals and units, so as to boost up the morale of the ROC Armed Forces.

I. International Awards

1. A medical research team from the TSGH attended the 12th International Warsaw Invention Show 2018, and presented two patented inventions of "insulin injection memory pen" and "removable two-in-one protective gloves" in the invention contest. Their inventions won the "Platinum Medal," "Gold Medal," and "Special Award," which is the highest honor of the contest to recognize TSGH's innovative inventions and contributions to healthcare quality.

2. Professor Colonel Hsu Zi-gui of the Air Force Institute of Technology attended the 12th International Warsaw Invention Show 2018, and presented two inventions of "AI performance- and tendency-oriented monitoring and diagnostic system for aero engines" and "wind power generator activated by breeze" in the invention contest. He won the "Gold Medal" and "Special Contribution Award." Then, he participated in 2018 Prague International Exhibition of Inventions, and won the "Gold Medal" by presenting "all-weather propeller tail jet stream induced wind power generator," which is teamed up with research fellows, including Principal Dai Chang-xian,of the National Pingtung University of Science and Technology.

3. Rear Admiral Xi Wu-qiao, commander of Zuoying Logistic Support Command of the ROCN, PhD Captain (Ret.) Ou Zhao-hui, and a research team from the National Kaohsiung University of Science and Technology co-developed the "smart device to enhance stability of vessel propulsion system" and "aircon system using recycled vessel exhaust," which won 2 gold medals and a "Golden Award" for international inventions of technology in new era in the 22nd Moscow International Salon of Industrial Property "Archimedes" in 2019, and have contributed greatly to our indigenous vessel program and the implementation of self-reliant defense policy.

4. Captain Chen Jiun-jiun, press officer of the Military News Agency, has taken a photo, titled "On the way," of ROCA special forces on a long-march drill to depict their toughness and high morale using a special exposure technique. The photo won a "Silver Award" in the Prix de la

Photographie Paris of 2018 and a "Honorable Mention" in the 2018 International Photography Awards (IPA). Another of his photo, titled "Guardian," of marching soldiers to show their silhouette of sturdiness, toughness in the face of hardship, and tenacity in rigorous training. The photo was shot from a bird's eye view with a special composition of light and shadow. It won 2 "Honorable Mentions" in the 2019 IPA, bringing international spotlight on the image of the ROC Armed Forces in safeguarding the nation and protecting the people.

II. Exemplary Models of the ROC Armed Forces

To praise and recognize the best performing role models, the MND has been evaluating the performances of service members and units at all levels annually to select the exemplary individuals and units of the year, the most honorable role models of the ROC Armed Forces, in the following categories: combat preparedness missions, force buildup, education and training, equipment maintenance, HA/DR, and R&D. The President shall host the awarding ceremony on the occasion of the Armed Forces Day and confer the awards in person to the recipients, so as to encourage all service members to follow their steps and solidify the unity between them and their families. From 2018 to 2019, the exemplary service members and units are as follows:

1. SGM Liang Yi-sheng from the Aviation and Special Forces Command, ROCA accomplished a successful mission as a sniper and sniping instructor in the "Joint Anti-landing Operations Drill," and demonstrated his excellent skill of "one shot one kill."

2. Colonel Zhong Zheng-fu, deputy commander, 234th Mechanized Infantry Brigade, 10th Army, ROCA, led the Brigade to conduct HA/DR mission during the flood caused tropical low pressure on 23rd August 2018. The Bridge under his command cleaned up the debris on the streets, implemented decontamination efforts, and assisted in transporting supplies during the whole length of the HA/DR mission in Dongshi and Budai Townships, to join hands with local people to heal and recover the homeland.

3. The crew members of Hai Hu (Chien Lung Class) Submarine of the 256th Submarine Squadron, ROCN, under the command of Captain Wang Tien Yao-zong, keep a splendid record in combat preparedness training and operations. On vacation, the crews have organized a charity group to donate supplies or attend charity events to care for underprivileged people to demonstrate the benevolent side of the ROC Armed Forces.

4. Colonel Wu Jing-min, 10th Air Transport Group of the 6th Combined Wing, ROCAF, piloted a C-130H to transport supplies to distress areas during Hualien earthquake in February 2018 and conduct cloud seeding operations, and is truly a guardian angel to the people.

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3	

1. SGM Liang Yi-sheng from the Aviation and Special Forces Command, ROCA has been awarded as a ROC Armed Forces' exemplary service member in 2018 for the mission success as a sniper during a "Joint Anti-landing Operations Drill" and his achievements in training and combat preparedness.

2. Captain Chen Jiun-jiun, Press officer, Military News Agency, has taken a series of photos centered on our military activities in safeguarding the nation and protecting the homeland, and has won many international photography awards in 2018 and 2019 to bring international spotlight on the ROC Armed Forces.

3. Hai Shih (Cutlass Class) submarine of the ROCN has been serving over 45 years to defend our waters, and was assigned a primary role in Hai Qiang Drill of 2018, to exhibit the unity in weal and woe and the spirit of anchor and chain to safeguard the nation. Therefore, the crew of the submarine was awarded as a ROC Armed Forces' exemplary unit in 2019.

5. Lieutenant Colonel Lee Mao-yang, commander of the Keelung MP Squadron of the 205th MP Command, was responsible for Chun An (Spring Safety) operations, and successfully integrate and coordinate local military police efforts. Furthermore, he led the MPs under his command to track down a drug-trafficking activity via postal packages during the period of the An Ju (Safe Residing) Anti-drug operations, and has made a sound reputation for protecting the people.

6. Hai Shi (Cutlass Class) submarine is the first commissioned submarine in the ROCN, serving over 45 years to defense our waters, and its crew members are fully devoted to their combat preparedness missions and safeguard the maritime frontlines of the nation. Hai Shi was assigned a primary role in Hai Qiang Drill of 2018 which was successfully concluded, and it was awarded as a ROC Armed Forces' exemplary unit in 2019.

Being a PhD Company Commander and Exemplary Medical Officer

I entered the military as a compulsory reserve officer, and after getting accustomed to military lifestyle and my undertaking, I began to realize that if my goal could be accomplished in the service, I would stay. Afterwards, under my parents' support, I decided to switch to voluntary service, and built up the necessary expertise to reach my goal. The most serious promise I ever made was "to be a leader, a sibling, and a teacher" for my subordinates, and I guided them to complete a series of missions with lesson learned during my PhD studies and develop their career tracks with my personal experience.

After joining the military, I knew, as an officer, one has not only to shoulder the responsibilities for a unit's operations by one's necessary leadership, preparation, and execution skills, but has to take chances to maximize its value. Therefore, when the Health Training Center, MND held Tactical Combat Casualty Care (TCCC) courses last year, I encouraged my subordinates to attend. Currently, 1/3 of the personnel in my company completed the courses. Training adds up to one's expertise, which increases one's capabilities. With new skills learned, the personnel could be more assured about their values in the unit; therefore, the training purpose of cultivating personnel with "multiple skills and diversified talents" could be better served.

Being a teacher before, since I assumed the company commander, aside from getting jobs done, I have been leading my men the way like teacher and students, and would share my knowledge without letup. Leading from an educator's perspective, rather than from an "individual's" angle, can better unite the company. Some issues with individuals can dissipate quite easily. I was awarded Exemplary Medical Officer last year, and came to a conclusion based on my experience for the award that step by step, one will get to the destination in the end. I realized that, with a determined mind, one shall conquer.

Captain Huang Jun-huang, Commander, Health Company, 5th Area Support Command, ROCA

Academic Studies Won International Applauds

Leaning brings about confidence, expands our vision, and extends our horizons. I was admitted to Fu Hsing Kang College, NDU after graduation from the CCAFPS. Afterwards, while studying in the Graduate School of Journalism, I went to the U.S. to attend the International Conference on Communication & Media Studies to share my dissertation with international scholars and won an "Emerging Scholar Award." I then was invited to chair a session of the Conference, and it was indeed a great experience for me to open my eyes and to deeply appreciate the diversified and colorful international exchanges.

At the time of presenting my dissertation, I realized that a foreign language is an important tool to explore the world. Even though the language barrier did exist, I still received true and sincere feedbacks from the audience, and learned to observe things from different angles. Furthermore, when I was chairing the Conference, I had to be fully prepared for the subjects of the dissertations in order to facilitate the progress. Through these training experiences, I can thus perceive more innovative ideas to explore more possibilities to better perform my undertaking.

I am very thankful for the education the nation has provided. My most memorable reflection so far is that promising young adults can go through military education, under a highly disciplined lifestyle, to learn and grow, to take more challenges by accumulating academic knowledges, and to embrace a more brilliant future. In addition, by having exchange opportunities, I can peel my eyes wide open, and am willing to share my personal experiences with my fellow airmen for them to step on their respective journeys to success.

Captain Lu Cong-lin, Political Warfare Officer, Song Shan AFB, ROCAF

Unflinching Determination to Embrace Honor and Glory

The ROC Armed Forces continue professional training and maintaining combat preparedness day-in-and-day-out, with consistent steps and sturdy determination to write their chapters for safeguarding the nation.

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