中華民國110年國防報告書

ROC National Defense Report 2021

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Resilient New Armed Forces Provide All-Directional Protection

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Foreword

The national defense of the Republic of China on Taiwan is an all-out defense aiming at preventing war. The Ministry of National Defense (MND), pursuant to Article 30 of the *National Defense Act*, publishes this National Defense Report (NDR) to convey to the people the general international situations and security environment, our defense policies, progress of force buildup, combat readiness, and condition and allocation of defense resources. The NDR is part of the effort to promote the concept of all-out defense and consolidate comprehensive national power. It also facilitates our defense transparency and strategic communication. This iteration of the NDR is titled as "Resilience: ROC Armed Forces" to report on the relentless effort over the past 2 years in defense reform, force buildup, credible capabilities development, and optimization of policy implementation.

Regional security situation has been dominated by the ongoing strategic competition between the United States (U.S.) and the People's Republic of China (PRC) and the PRC's leveraging its comprehensive national power to expand geopolitical influence. The PRC also attempts to unilaterally alter the international order of freedom and openness through the manipulation by gray zone activities. When the world is dealing with pandemic, the People's Liberation Army (PLA) is intensifying military activities in the Western Pacific and conducting incursions in the Taiwan Strait to harass Taiwan. The PRC's military preparations, realistic combat training and exercises, intimidations and actions targeted at Taiwan are expected to be intensified, posing a grave threat to the security in the Taiwan Strait.

Given the rapid advancement of military technologies and platforms and the intensifying threats from the enemy, the Armed Forces has been forward-looking in our force buildup and combat readiness and prioritizing efforts that strengthen our capabilities rapidly and in a joint manner, while also reforming reserve mobilization mechanism. The goal is to build the Armed Forces into a multifunctional, mobile, and swift fighting force and build a robust and resilient national defense to deter the enemy's intent to wage war.

The acquisition of new weapons and equipment and the realignment of military organization are important efforts that have to be matched by stringent troop training so that warfighting capabilities can be effectively strengthened. Facing the enemy's escalating coercion, the service members have to undergo "strict, realistic, and challenging" combat preparation training. Our training has to faithfully simulate the real battlefield. Certain risks might entail. We do not lower training standards simply due to such risks. We exercise caution to eliminate potential risks while improving the training efficiency and are dedicated to battlefield management to maximize the effect of our defensive power.

The reform of reserve mobilization is a major defense undertaking. The all-out defense is a fundamental defense concept. The MND, based on the principle of "incorporating mobilization factors into policy implementation drives and reserving combat power in the general public," will inaugurate the All-out Defense Mobilization Agency (ADMA) next year. To integrate reserve and regular forces, combine reserve force with mobilization resources, and promote interagency cooperation, the ADMA is set to reform the mobilization readiness mechanism to improve the strength of our reserve force in terms of its organization, force scale, career management, training, and equipping. The purpose is to effectively support military operations and attain a "strategic sustainability" for our defensive operations.

Self-reliant defense is an integral part of a self-reliant country. It has been a consistent policy goal of our government. After years of detailed planning and hardworking, we have had many accomplishments, such as the rollout of the Advanced Jet Trainer (AJT), the delivery of follow-up vessel of High-Performance Vessel (HPV) program, the activation of building phase of the Indigenous Defensive Submarine (IDS), and the research and development (R&D)

of wheeled armored vehicles and various ground equipment. By implementing measures and initiatives based on the *Defense Industry Development Act*, we seek to promote growth in both the economy and defense capabilities and bring our self-reliant defense to maturity.

The MND is committed to refining its defense governance and enhancing performance of policy implementation to accommodate social evolution and management trends. We continue to maintain high quality manpower and a stable turnover of volunteers through the improvement of internal troop management and caring services. We will forge the Armed Forces as a rock-solid modern combat power in a culture of "humanity, caring, integrity, and professionalism."

The military and the people in Taiwan have always been united by destiny and shared values. Our military is a force of humanity and justice that safeguards the people and the nation. Taiwan situates on a seismic belt and has suffered from severer composite disasters caused by climate change. In this past year along, there have been a serious drought rarely seen in decades, rampant spread of COVID-19 pandemic, and floods from torrential rains in July and August. During these natural disasters, the Armed Forces have performed humanitarian assistance and disaster relief (HA/DR) efforts as in military operations and pool resources for epidemic- and drought-control tasks. The appearance of our chemical troops in personal protective equipment (PPE) performing disinfection in possible infected areas is comforting in the minds of the people. Our policy is to merge HA/DR with combat readiness undertakings and construct ourselves as a force that can provide disaster relief in peacetime and defend against the enemy in wartime.

The development in the Taiwan Strait is interlinked with the peace, stability, and comprehensive interests in the region and has attracted worldwide attentions. We have inherent the duty for our national security and have demonstrated our unquestionable determination and ability to defend our nation. However, it is up to a collective power in the region to maintain regional stability and prosperity. Therefore, it is hoped that regional partners and like-minded countries can jointly promote security cooperation and shoulder the responsibility to maintain a sustainable development in the region.

As stipulated in the *Constitution*, safeguarding the nation and maintaining world peace are the purposes of our national defense and the solemn mandate of the Armed Forces. But we all know that it requires tremendous efforts to maintain security and the road to peace is not without tribulations and difficulties. Facing multiple threats from the enemy, the pandemic, and the extreme weather conditions, the Armed Forces are holding the crucial line of defense to safeguard the nation and the people. We will not waver under or succumb to pressure, but will be strong, determined, resilient, persistent and dedicate ourselves to maintaining combat readiness as an indestructible fortress of national defense.

Minister

Chiu, Kuo-cheng

October 2021

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Introduction

Facing fast-changing and complex security situations in the Taiwan Strait and the region, the ROC Armed Forces are determined, by holding the belief of "our country can only be saved on our own" and Master Sun Tzu's saying that "do not rely on the enemy's not coming, but one's ability to meet it," to maintaining combat readiness at all times and carrying out rigorous training activities, so as to go all-out to safeguard our sovereignty, our people, and our beloved homeland.

This is the 16th edition of National Defense Report for the MND, as requested by Article 30 of the *National Defense Act*, to elaborate changes in the current security environment, and provide an update on ROC Armed Forces' combat readiness and the implementation of our national defense policies to the people. Under the current strategic environment and PRC's mounting military threats towards our nation, this edition with "Forging a Resilient and New Armed Forces" as the theme, is aimed at manifesting the ROC Armed Forces' dedication to developing asymmetric capabilities, maintaining combat readiness, carrying on training activities, advancing a self-reliant defense, and reforming reserve affairs and mobilization, to enhance their overall combat power and transform them as a resilient combat force, so as to safeguard our nation and win the recognition from our people to support and look upon the undertakings of national defense.

The report covers the period from October 2019 to August 2021, and is divided into 5 parts: Regional Posture, National Defense Capabilities, Self-reliant Defense, National Defense Governance, and Heritage of Honor and Glory.

Part 1 Regional Posture

The comprehensive security environment in the current Indo-Pacific region is developing toward a complex and intricate strategic posture. Among others, the United States is actively strengthening cooperation with allies and partners to maintain the security in the Indo-Pacific, whereas the PRC is attempting to dominate the regional development by its political and economic clouts and expansion of military power. In addition, a deadlock of denuclearization on the Korean Peninsula, persistent disputes over sovereignties of certain islands and territorial waters, unrelenting arms competition, and non-conventional security threats, such as COVID-19 pandemic, are all impacting security situations in the region, and even in the Taiwan Strait. Our nation is located at the critical position in the Indo-Pacific, and we are keenly working with like-minded nations by leveraging our geo-strategic importance and sturdy insistence on the values of freedom and democracy to jointly maintain regional peace and stability.

Part 2 National Defense Capabilities

In accordance with the *Constitution of the Republic of China*, and the *National Defense Act*, the ROC Armed Forces continue safeguarding our territory, keeping our sovereignty away from aggression, and carrying out combat preparations. After pondering over the threat from the enemy and a rapidly changing strategic environment, we have formulated the national defense and military strategies as the basis to lead our various defense undertakings with "innovative and asymmetric" thinking of operations, such as speeding up force buildup, strengthening joint operational mechanisms, carrying through rigorous training and combat preparations, and reforming reserve mobilization, so as to construct the ROC Armed Forces as a credible defense force.

Part 3 Self-reliant Defense

Pursuant to Article 22 of the *National Defense Act* and following the principle of "Acquisition shall first pursue self-manufacturing sources and if foreign sales are chosen alternatively, technology transfer shall be included and realized, so as to construct an independent and self-reliant defense establishment," the MND has been consistently pushing for development of advanced technologies. We have consequently made breakthroughs on key technologies progressively, and are speeding up self-reliant R&D and manufacturing endeavors to support our force buildup efforts. In addition, the MND has been leading defense industries to prosper and helping them to enter international supply chain, so as to create a favorable environment where national defense and industries are mutually supportive.

Part 4 National Defense Governance

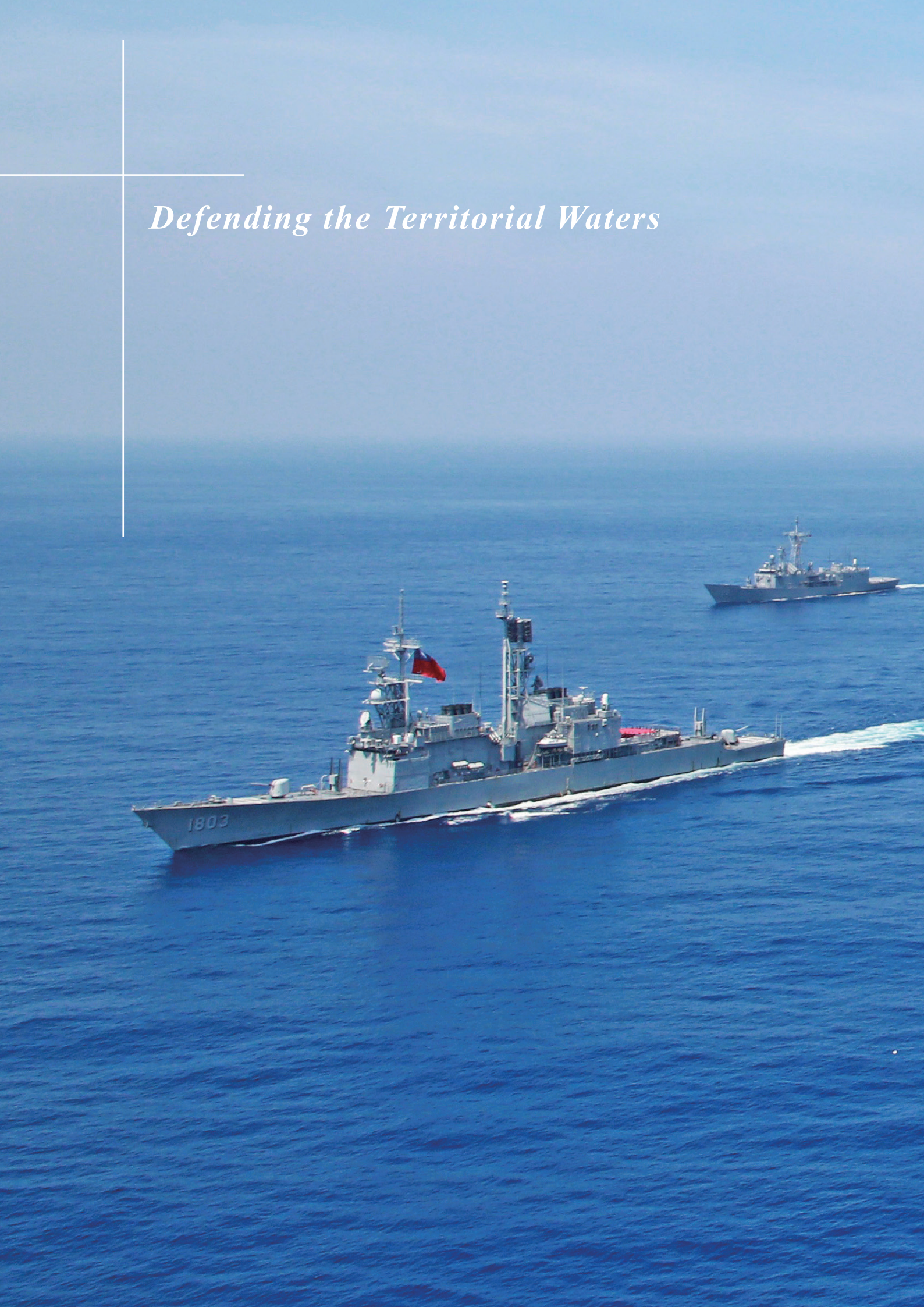
Facing future complex security situations and emerging trends of management, the MND has been treading on a fine line on its governance by meticulously taking reform and pragmatism into account. To magnify our effectiveness in dealing with defense affairs and boost up the comprehensive combat power of the Armed Forces, we have been making major endeavors of governance, such as full integration of resources for recruitment, well-conceived care for personnel, trustworthy defense legal system, refined force management, force buildup with cleanness and integrity, and deepening military exchanges.

Part 5 Heritage of Honor and Glory

The ROC Armed Forces had written a history of glory and sacrifice in the past with souls perished and blood dried up in the battles for safeguarding the nation and the people, to bring about the freedom and democracy of our nation and the peace across the Taiwan Strait. To inherit this heritage of honor and glory, we continue the pursuit for combat readiness, force buildup, and civilian-military unity to achieve an all-out defense, glorify the distinctive culture of the military, and perform HA/DR operations for the people in need. In addition, we remain committed to refining the grooming efforts to develop our military personnel with multiple skillsets and helping them to join the work force after discharge from the service, to carry on their contributions to the society.

Patrolling the Airspace

Defending the Territorial Waters



Safeguarding the Homeland

Fighting Draughts and Epidemics

消 除 兵
消 除 兵

Supporting the Armed Forces

especially
Best Wishes
FOR YOU
Enjoy every moment of your life
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Part 1
Regional Posture

The current security development in the Indo-Pacific region is complicated. Among others, the United States is actively strengthening cooperation with allies and partners to maintain the freedom and security in the Indo-Pacific, whereas the PRC is attempting to dominate the regional development by its political and economic clouts and expansion of military power. In addition, a deadlock of denuclearization on the Korean Peninsula, persistent disputes over sovereignties of certain islands and territorial waters, unrelenting arms competition, and non-conventional security threats, such as COVID-19 pandemic, are all impacting security situations in the region, and even in the Taiwan Strait. Our nation is located at the critical position in the Indo-Pacific, and we are keenly working with like-minded nations by leveraging our geo-strategic importance and sturdy insistence on the values of freedom and democracy to jointly maintain regional peace and stability.

CHAPTER
01 Security Environment

The strategic competition between the U.S. and the PRC is impacting the geopolitical and security situations in the Indo-Pacific region. On the one hand, the U.S. continues pushing for cooperation with regional allies and partners; on the other, the PRC is vigorously leveraging its comprehensive national power to expand its geopolitical influences, and make use of its economic clout and gray zone tactics in an attempt to change the international order. In addition, mounting non-conventional threats coupling with more pervasive cross-regional and composite impacts require all countries in the regions to join hands and react.

Section 1 Security Posture of the Indo-Pacific

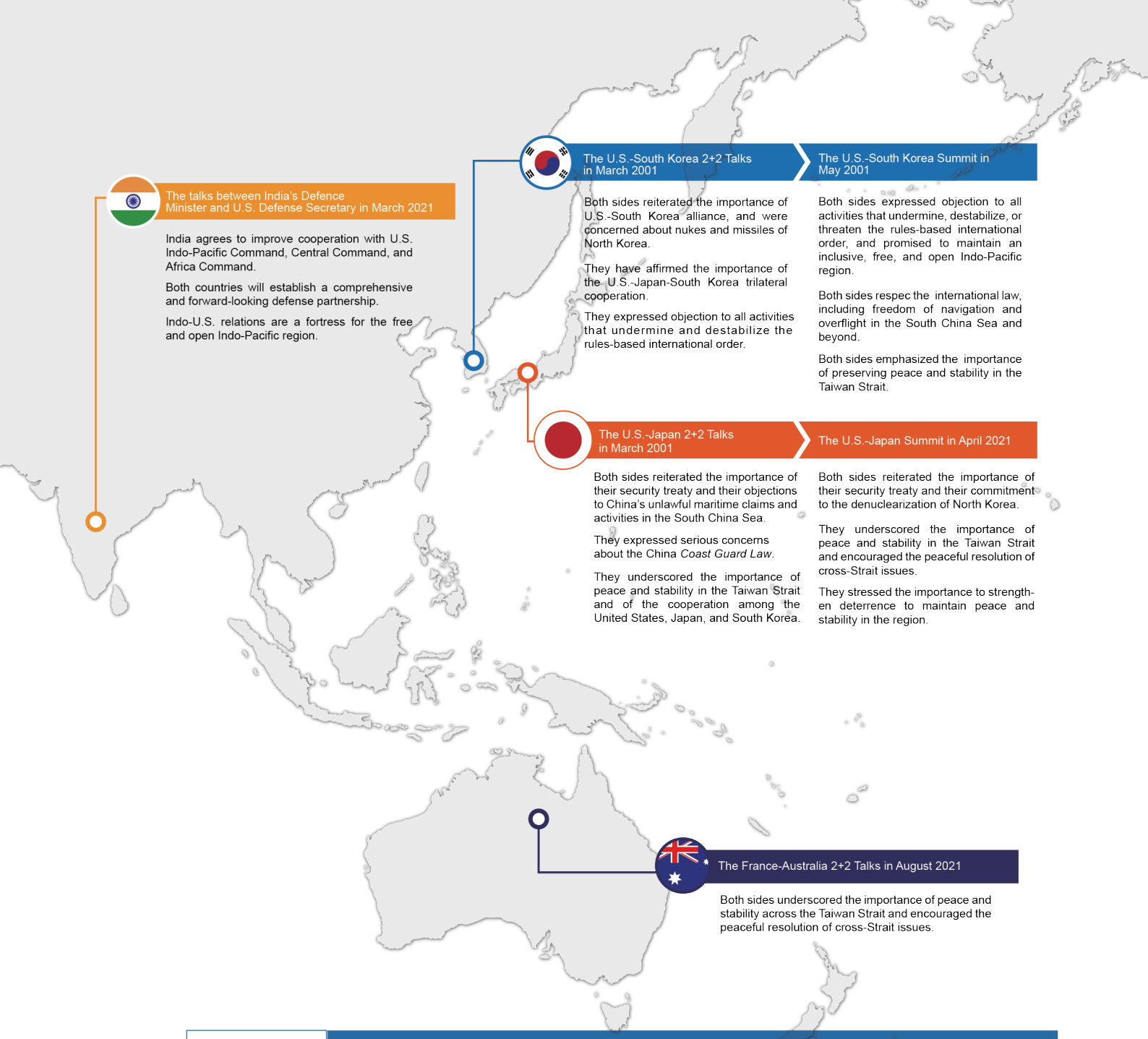
While the U.S., upholding the idea of a Free and Open Indo-Pacific, is trying to confront the PRC through multilateral means, the security posture in the region is being directly impacted by the following issues: the nuclear weapons of the Democratic People's Republic of Korea (DPRK, also known as North Korea), disputes over maritime rights and privileges and territorial sovereignties, and concerns about technological advances, such as artificial intelligence (AI), and unmanned aerial vehicles (UAV).

I. The U.S. Strengthens the Security of the Indo-Pacific

The former U.S. Trump administration defined the PRC as a revisionist power and a strategic competitor, and was helping its allies and partners to improve their adaptabilities toward the challenges posed by the PRC. As the *United States Strategic Framework for the Indo-Pacific* of 2018 pointed out, the U.S. will enhance diplomatic, economic, and military cooperation with allies and partners, and promote a liberal economic order in the Indo-Pacific region. Meanwhile, the U.S. Indo-Pacific Command (INDOPACOM) routinely conducts Freedom of Navigation Operations (FONOPs) in the East and South China Seas, and frequently holds joint exercises with allies in the region as a gesture to demonstrate U.S. commitment to a free and open Indo-Pacific. At the same time, the U.S. is fortifying the Quadrilateral Security Dialogue (Quad) with Japan, Australia, and India, and sending more assets over to ensure security and stability in the region.

As the *Interim National Security Strategic Guidance* of the Biden administration has revealed, the PRC "is the only competitor potentially capable of combining its economic, diplomatic, military, and technological power to mount a sustained challenge to a stable and open international system" built by the U.S. and the biggest challenge to the geopolitics in the region. Based on the guidance, the U.S. will work with allies and partners to advance common interests and values, and counter current and future threats to the collective security. Moreover, it will continue to negotiate with the PRC pragmatically to lower any risks of misunderstanding and misjudgment. Consequently, the relations between the U.S. and the PRC will be characterized as a coexistence of "competition, confrontation, and cooperation."

In March 2021, the U.S. Secretary of Defense Lloyd J. Austin III expressed, facing a pacing challenge like the PRC, the U.S. Department of Defense (DoD) will develop the right operational concepts, capabilities, and plans to bolster deterrence and maintain its competitive advantage. In the same month, the U.S. INDOPACOM requested a higher budget for the Pacific Deterrence Initiative (PDI). Around the same time, during the hearing of his nomination before the U.S. Senate, Admiral John C. Aquilino, Commander of the U.S. INDOPACOM pointed out, the U.S. shall sustain "a forward deployed, credible deterrence force," continue "military sales to Taiwan," and "assist Taiwan in maintaining a sufficient self-defense capability." His statements have shown that the Biden administration will maintain the security and interests of its allies and partners in the Indo-Pacific, and will react proactively to confront the PRC.



The talks between India's Defence Minister and U.S. Defense Secretary in March 2021

India agrees to improve cooperation with U.S. Indo-Pacific Command, Central Command, and Africa Command.

Both countries will establish a comprehensive and forward-looking defense partnership.

Indo-U.S. relations are a fortress for the free and open Indo-Pacific region.

The U.S.-South Korea 2+2 Talks in March 2001

Both sides reiterated the importance of U.S.-South Korea alliance, and were concerned about nukes and missiles of North Korea.

They have affirmed the importance of the U.S.-Japan-South Korea trilateral cooperation.

They expressed objection to all activities that undermine and destabilize the rules-based international order.

The U.S.-South Korea Summit in May 2001

Both sides expressed objection to all activities that undermine, destabilize, or threaten the rules-based international order, and promised to maintain an inclusive, free, and open Indo-Pacific region.

Both sides respec the international law, including freedom of navigation and overflight in the South China Sea and beyond.

Both sides emphasized the importance of preserving peace and stability in the Taiwan Strait.

The U.S.-Japan 2+2 Talks in March 2001

Both sides reiterated the importance of their security treaty and their objections to China's unlawful maritime claims and activities in the South China Sea.

They expressed serious concerns about the China *Coast Guard Law*.

They underscored the importance of peace and stability in the Taiwan Strait and of the cooperation among the United States, Japan, and South Korea.

The U.S.-Japan Summit in April 2021

Both sides reiterated the importance of their security treaty and their commitment to the denuclearization of North Korea.

They underscored the importance of peace and stability in the Taiwan Strait and encouraged the peaceful resolution of cross-Strait issues.

They stressed the importance to strengthen deterrence to maintain peace and stability in the region.

The France-Australia 2+2 Talks in August 2021

Both sides underscored the importance of peace and stability across the Taiwan Strait and encouraged the peaceful resolution of cross-Strait issues.

QUAD

Quadrilateral Security Dialogue in March 2021（2021.03）

- Leaders expressed support for the rule of law, freedom of navigation and overflight, peaceful resolution of disputes, democratic values, and territorial integrity.

G7 United Kingdom 2021

G7 Summit in June 2021（2021.06）

- Leaders underscored the importance of peace and stability across the Taiwan Strait, and encouraged the peaceful resolution to cross-Strait issues.
- They were seriously concerned about the situation in the East and South China Seas and strongly opposed any unilateral attempts to change the status quo and increase tensions.

SUMMIT2021 **EU-US** BRUSSELS

The EU-U.S. Summit in June 2021（2021.06）

- Leaders underscored the importance of peace and stability across the Taiwan Strait, and encouraged the peaceful resolution to cross-Strait issues.

【U.S. Remarks on Strengthening the Security in the Indo-Pacific and International Friendly Remarks on the ROC (Taiwan)】

II. The Rise of the PRC Impacts Regional Security

Since his ascension to power in 2012, Xi Jinping, the leader of the PRC, has affirmed the "Chinese Dream" and the "Strong Military Dream" as the national strategy. Afterwards, he continues to solidify his power and position by announcing his aspirations, such as a set of goals in the so-called "Two Centenaries" in his report to the 19th National Congress of the Chinese Communist Party and the 2027 Goal of "PLA's Centennial" set forth in the "14th Five-year Plan" and the "Long-Rang Objectives through the Year 2035," as well as a series of anti-corruption and deepening reform initiatives.

Under the rule of Xi, the PRC has been making inroads in the region by signing the *Regional Comprehensive Economic Partnership* (RCEP), negotiating the *China-EU Comprehensive Agreement on Investment*, applying to join the *Comprehensive and Progressive Agreement for Trans-Pacific Partnership* (CPTPP), and kicking off the Belt and Road Initiative (BRI), to further broaden its national interests and geopolitical and economic clouts.

Nevertheless, facing the ravaging COVID-19 pandemic with more than 200 million confirmed cases and a death toll beyond 4.5 million, anti-epidemic has become the primary undertaking of every nation. The PRC, on the one hand, has been actively pursuing multiple means, such as "telephone diplomacy," "video diplomacy," "anti-pandemic diplomacy," donating anti-epidemic supplies, and deploying medical experts overseas, in an attempt to reverse its international image. On the other, it continues causing disturbances by regularly assigning air and maritime patrols,

1 2

1. The U.S., the UK, Australia, and some other allies have been constantly executing FONOPs in the South and East China Seas, and conducting combined exercises in the region to express their promise to maintain a "free and open Indo-Pacific."
2. The U.S. is going to cooperate with allies to promote collective interests and values, to cope with current and future security threats.

holding military drills and exercises, and performing gray zone tactics in the East and South China Seas and the Taiwan Strait, to challenge the international status quo and exhibit its power projection in the Western Pacific.

III. Unresolving Disputes of Territorial Sovereignty

Disputes and conflicts of territorial sovereignty are taking a toll on the regional security. In the Indo-Pacific. Such disputes are primarily seen on the borders between the PRC and India, in Diaoyutai (Senkaku) Islands, and among islands and reefs in the South China Sea. In May 2020, the PRC and India engaged in a confrontation with casualties on both sides at Galwan Valley of Ladakh, Kashmir. The incident escalated again the tension along their shared borders. Even though the tension died down after several rounds of talks, both sides remain expanding their deployments along the controversial borderlines. The territorial dispute between them is unlikely to be resolved anytime soon.

Since Japan "nationalized" the Diaoyutai Islands in 2012, the PRC has been actively assigning its government vessels cruising over the waters in the vicinity of these islands. When its *Coast Guard Law* came into effect in February 2021, these vessels have become more visible ever since, and triggered concerns on the part of Japan. As *Defense of Japan 2021* pointed out, the PRC attempted to alter the status quo in the region unilaterally and could further escalate the tension because relevant articles in its *Coast Guard Law* were vaguely defined.

In the South China Sea, the PRC continues discussing with member states of the Association of Southeast Asia Nations (ASEAN) to pass the Code of Conduct (COC) in the South China Sea, but there is no substantive progress. However, the PRC can now authorize its Coast Guard to use arms against foreign vessels, strongly enforce its patrols, or even summon paramilitary vessels for specific purposes because of its promulgated *Coast Guard Law*. PRC's determination and leverage to expand its control over the South China Sea is obvious.

Seeing PRC's relentless military expansion in the South China Sea, Australia, France, Canada, and the United Kingdom in recent 2 years have begun assigning vessels to sail through the South China Sea or hosting joint military exercises to show their objections within the domain of international law. The HMS Queen Elizabeth carrier strike group from the United Kingdom sailed through the South China Sea in July 2021 to exhibit its support and attention to the freedom of navigation on the open seas. In the meantime, the U.S. continues performing FONOPs and declaring that PRC's sovereignty claims over the South China Sea is illegal. The U.S. will go through a mechanism to cooperate with allies and partners in the Southeast Asia and collectively deter PRC's militarization activities on the islands and reefs in the South China Sea.

IV. The Stalemate on the Korean Peninsula

The development of nuclear weapons and missiles of North Korea remains swaying the security situations in Northeast Asia. The denuclearization goes nowhere despite multiple negotiations over the years. Former U.S. President Donald Trump met with Kim Jong-un, leader of North Korea, 3 times in 2018 and 2019, and made little progress to resolve the stalemate and discrepancy over denuclearization. North Korea even showcased its newest intercontinental ballistic missiles (ICBMs) in the parade for the 75th anniversary of the Worker's Party in October 2020, attempting to use nuclear weapons to boost up its strategic deterrence.

The Biden administration has expressed willingness to negotiate, but the move does not go any further because North Korea has claimed the U.S. is prepared for both "dialogue" and "confrontation." Even though it has not done many test-launches of missile lately because of the spread of COVID-19 and its economic downturn, North Korea, as Kim Jong-un announced at the 8th Congress of the Worker's Party in January 2021, remains committed to strengthening the development of compact and light nuclear weapons and supersonic glider warhead, and submarine-launched and solid fuel ballistic missiles. Consequently, it is hard to see any progress to advance the denuclearization on the Korean Peninsula.

V. Propelling Military Reforms by Technologies

Rapid technological developments of big data, 5G, quantum computing, AI, and unmanned equipment have been applied in military operations and even altered the forms of warfare. Among them, AI technologies have been most widely applied.

Recently, the U.S. adopted the Third Offset Strategy to use innovative concepts to develop disruptive technologies, and apply AI technology in the field of defense, so as to ensure the leading edge of its military power. At present, AI has rendered into many new types of operations, such as swarm operations and UAV coordinated operations.

PRC's State Council issued a notice on the *New Generation AI Development Plan* in 2017 to clearly define strategic goals in 3 steps to develop a new generation of AI, and expects to reach a leading level on the world stage. In the meantime, the PRC has been applying AI in developing its unmanned systems, precision strike capabilities, war gaming, and Deepfake technologies, in order to greatly enhance its capabilities to conduct joint operations. The development could seriously impact the security in the Taiwan Strait and the region.

Section 2 Defense Policies of States in the Indo-Pacific

The states in the Indo-Pacific are adjusting their defense policies against the strategic competition between the U.S. and the PRC that are influencing security in the region, so that they enhance their own military power and assets to cope with a myriad of security threats.

I. The United States

Through the *National Defense Authorization Act for Fiscal Year 2021*, the U.S. Congress appropriates US$2.2 billion for activating the PDI, while the DoD earmarks more than US$ 5 billion in its budget request for FY2022 to strengthen U.S. defensive and deterrent posture in the Indo-Pacific. The purpose is to improve the operational effectiveness of its forces and deepen its cooperation with regional allies and partners.

When U.S. President Joe Biden was inaugurated, he instructed the DoD to set up the China Task Force, strengthen the network with allies and partners for stronger deterrence effects, and speed up developing new operational concepts to confront the PRC. In addition, the U.S. proactively realigns its military deployment, withdraws its military from Afghanistan, and plans to end its operations in Iraq, so as to handle the security challenges in the Indo-Pacific.

Moreover, to compete with the PRC and Russia, and strengthen cooperation with allies and partners, the DoD has set up the Space Command to vigorously integrate capabilities in the domains of space, cyberspace, deterrence, transportation, electromagnetic spectrum, and missile defense, as a comprehensive power to perform All Domain Operations (ADO), in order to overcome a complex operational environment in the future. Notably, the U.S. Department of the Navy (DoN) issued a strategy, titled the *Advantage at Sea: Prevailing with Integrated All-Domain Naval Power* in December 2020, calling for integrating naval, marines, and coast guard forces as an ADO naval power, to tackle PRC's maritime expansion and challenges in the Indo-Pacific region.

II. Japan

As the *Defense of Japan 2021* pointed out, current international order has repeatedly been challenged and gray zone activities will be a long-term phenomenon. It went further to warn that the PRC is expanding its leverage towards the international order and the region in an attempt to create an international order to its own favor. The paper for the first time mentioned the security situation in the vicinity of Taiwan. It stressed that PRC's routine military patrols surrounding Taiwan are affecting the security of Japan as well as the stability of the international community and require Japan to be more alert to this situation.

In addition, according to its *National Defense Program Guidelines*, Japan shall actively establish a truly effective "multi-domain defense force" to integrate capabilities in conventional and non-conventional domains across regions and services, so as to perform diversified missions from peacetime to emergency situations and maintain its sustainability. The force can strengthen the U.S.-Japan alliance and their bilateral cooperation across the board to overcome any impending threats.

To construct true capabilities across domains, Japan continues improving its new domain capabilities in space, cyberspace, and electromagnetic pulses (EMP), and planning to set up "space operational groups" and "cyber defense forces." Moreover, in order to enhance its missile defense and "standoff defense capabilities," Japan is going to build another 2 Aegis destroyers, develop standoff missiles, and fortify its defenses on the Ryukyu (Nansei) Islands, so as to deter PRC's military expansion.

III. South Korea

The 2020 *Defense White Paper* of the Republic of Korea (ROK, aka South Korea), like its 2018 version, didn't include any characterization of North Korea as the enemy, but noted that weapons of mass destruction (WMDs) are threatening the peace and stability on the Korean Peninsula. On the other hand, the relation between South Korea and Japan does not improve because of their historical grudges and trade disputes.

South Korea continues implementing the program of 2018 *Defense Reform 2.0*, to fulfill its 3 objectives: making all-directional responses to security threats, employing advanced technologies to strengthen military power, and

developing armed forces to a developed country's level, so as to accomplish its defense reform mission. Based on the program, several initiatives are taking place, such as overall troop drawdown, force realignment, increasing budget requests, and establishing a 3-axis operational system. Furthermore, in order to enhance its intelligence, surveillance, and reconnaissance (ISR) capability, South Korea is introducing unmanned recce drone, RQ-4 Global Hawks, and planning to deploy recce satellites. According to its *2021-2025 Mid-term Defense Plan*, South Korea's Ministry of National Defense is planning to have an average annual defense budget growth of 6.1% for the next 5 years, and it continues improving ISR capability and missile detection and interception capabilities against North Korea. It will initiate programs to build a light aircraft carrier and a 4,000 ton-class submarine, to realize a self-reliant defense for its nation.

IV. India

During his second term at the helm, Indian Prime Minister Narendra Modi is dedicated to strengthening bilateral or multilateral relations with the U.S., Russia, European countries, and the rest of the world, and paying more attention to maritime security, especially by deepening cooperation with countries having common interests in the Indian Ocean. Former U.S. President Donald Trump went to India in February 2020 as his first state visit to the country, and the relation between India and the U.S. was then upgraded to the level of the Comprehensive Global Strategic Partnership.

A border confrontation erupted in 2020 forced the Indian government to align its foreign policy with situational changes. To begin with, in October 2020, India signed the *Basic Exchange and Cooperation Agreement for Geo-spatial Cooperation* (BECA) with the U.S. to pave the way to share imagery information from U.S. satellites. Then in November 2020, India, the U.S., Australia, and Japan held the Malabar 2020 exercise to strengthen their joint operations. In August 2021, while 4 vessels assigned by the Indian Navy were heading for Guam to attend the Malabar 2021 exercise, they performed bilateral maritime drills with neighboring countries along their route in the South China Sea, so as to expand its nation's cooperation with other friendly countries. All these activities above have shown that India is intended to play a more active role in the Indo-Pacific region.

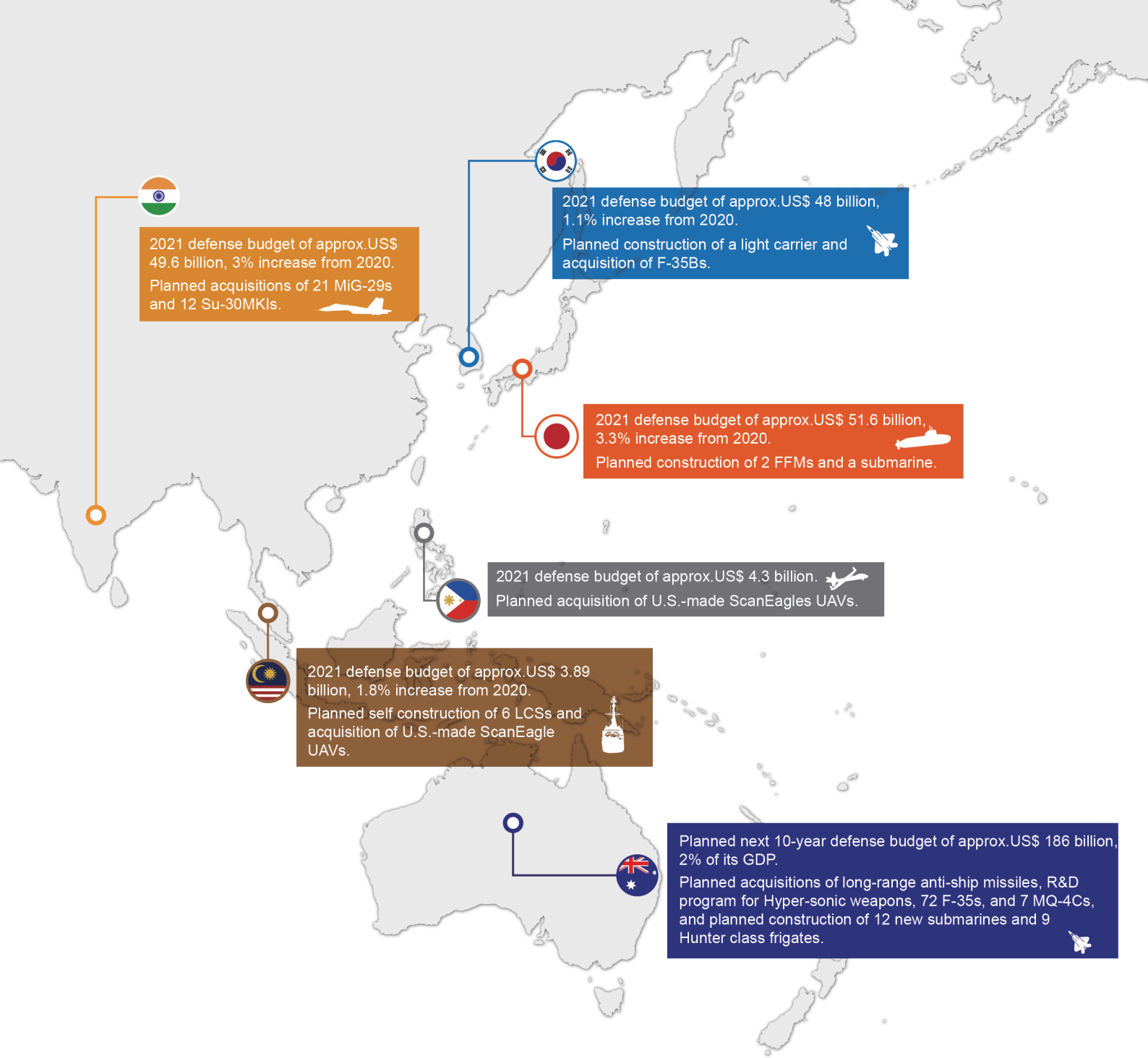
Through foreign military sales (FMS) and joint ventures, India has been steadily pushing for its naval and air force modernization, and it now has become the second largest arms importer. In 2020, India reached major progresses in arms development by successively accomplishing the test launches of BrahMos extended-range cruise missile, laser-guided anti-tank missile, and new Shaurya tactical missile, having a range of 800 km. Moreover, its first indigenous aircraft carrier, INS Vikrant, went on a sea trial on 4th August 2021, and fully demonstrated India's capability and intention to sustain a self-reliant defense.

V. Australia

Australia promulgated the *2020 Defence Strategic Update* and the *2020 Force Structure Plan* in to reveal its intention to solidify coalition with the U.S., and establish a credible combat power. According to the plan, its defense budget will reach as high as AU$ 575 billion (approximately US$ 186 billion) in the next decade.

Furthermore, concerning PRC's power expansion to the South Pacific, Australia upgraded its RAAF Base Tindal, located in the south of Darwin of the Northern Territory. It has purchased from the U.S. 200 long-range anti-ship missiles, which can reach as far as several hundred kilometers, to extend its strategic reach to the East Indian Ocean and the Pacific. Then, Australia will join hands with the U.S. to develop hypersonic missiles. In September 2021, Australia, the U.S. and the United Kingdom have signed a trilateral security partnership abbreviated as the "AUKUS" in which the latter two countries will provide technical assistance to Australia to build nuclear submarines. Based on the AUKUS, they will strengthen trilateral security cooperation, and collectively maintain the peace and stability in the Indo-Pacific region.

In order to enhance its relations with allies in the Indo-Pacific, Australia has established the Comprehensive Strategic Partnership with India, and signed th *Mutual Logistics Support Agreement* with it to strengthen military cooperation. In addition, Australia signed the *Reciprocal Access Agreement* (RAA) with Japan to allow forces from both sides



【Defense Policy Trends of Major Countries in the Indo-Pacific】

to visit one another to conduct joint training and operations. Concerning its strategic cooperation with countries in the Southeast Asia, during the first Australia-ASEAN Informal Defense Ministers' Meeting held in Hanoi, Vietnam in 2020, Australia strongly pushed for communications and cooperation at all levels between both sides, so as to collectively confront the threats to the regional security.

VI. Southeast Asia

Seeing the geostrategic competition between the U.S. and the PRC in the Indo-Pacific, majority of Southeast Asian countries maintain a balanced relation with each side, prevent themselves from "choosing sides," and improve their foreign strategic initiatives to protect their own interests. The ASEAN Summit in June 2019 released the *ASEAN Outlook on the Info-Pacific* (AOIP), showing an open and inclusive attitude of all member states, to stress that the

Indo-Pacific region shall be viewed with ASEAN playing a central role to promote peace, stability, and prosperity, and as a region of dialogue and cooperation instead of rivalry. During the ASEAN Defense Ministers' Meeting-Plus held online in June 2021, attendees reiterated their support for the *ASEAN Charter* and the *Treaty of Amity and Cooperation in Southeast Asia* (TAC) and insistence on the *Declaration on the Conduct of Parties in the South China Sea* (DOC) and t*he United Nations Convention on the Law of the Sea* (UNCLOS), and stressed the importance of maintaining and promoting peaceful, safe, and stable flights over the South China Sea and the freedom of navigation.

In line with the changes of regional security situations, Vietnam issued its *National Defence White Paper* in 2019, which emphasizes that disputes shall be resolved through peacefully means, and Vietnam will consider developing necessary and appropriate defense and military relations with other countries. Malaysia published its first ever *Defence White Paper* in 2019, stressing that Malaysia is a maritime country, worrying about the situational changes in the South China Sea, and will be dedicated to Malaysian Armed Forces (MAF) and defense transformations and developing defense industries in the coming decade. The Philippines is being at odds with the PRC in the South China Sea. Delfin N. Lorenzana, Philippine Defense Secretary, mentioned recently, the military will send planes to conduct patrol and surveillance over the Spratly Archipelago. The Philippines has reinstated the Balikatan exercise with the U.S. in April 2021, and has resumed the programs as stipulated in the *Visiting Forces Agreement* (VFA) between their two sides, to convey a message that the Philippines-U.S. alliance is rock-solid.

Section 3 A Resilient Island: Taiwan's Strategic Value

The Republic of China (Taiwan) has always been a regional paradigm of having a system of democracy and freedom, a vibrant and open economy, a highly developed base of information technology, and abundant experiences in HA/DR. Facing a complex and intricate international situation and the spread of epidemic, we shall fully exhibit our power of goodwill against all odds to make contributions to protecting collective security interests and prosperity in the region.

I. Taiwan's Geostrategic Advantage

Taiwan is located at a key node of strategic importance on the first island chain of the Indo-Pacific, linking sea lines of communication (SLOCs) between the Western Pacific, the South China Sea, and the Indian Ocean. The Bashi Channel in its south and the Miyako Strait in its north are major waterways for the PRC to access to the island chains. Any changes to the situation in the Taiwan Strait will affect the security of international communication and the economic development of the region. The PRC's intention to dominate the region is getting obvious over the years, coupling with its intensifying military threats to our nation, and consequently, current security situations in the Indo-Pacific and the Taiwan Strait have drawn worldwide attentions. As an important security partner in the region, our country remains committed to strengthening our defense establishment, safeguarding our system of democracy and freedom and the peace and stability of the Taiwan Strait by our robust defense power, and maintaining security cooperation with like-minded allies and friendly countries, to demonstrate the importance of Taiwan's irreplaceable strategic position.

II. Key Player to Regional Peace and Stability

1. Model to Uphold Universal Values

   The ROC (Taiwan) is a paradigm of freedom and democracy in the Indo-Pacific region. From the Democracy Index 2020 report, published by the *Economist* in February 2021, our country is listed as the 11th place, a leading title in the East Asia, moving forward from 31st place in 2019. In the *Freedom in the World 2021*, issued by the Freedom House, our country won the 2nd place in Asia. Our country continues being dedicated to working with all democracies in the world to safeguard the universal values of democracy, freedom, and human rights, so as to realize the ultimate prosperity and security of the Indo-Pacific region.

2. Important Partner in the Indo-Pacific Strategy

   The U.S. is the most important strategic partner of our country. It continues pushing for various military sales and forms of cooperation to help us strengthen our overall defensive power in accordance with the *Taiwan Relations Act* and the Six Assurances. Furthermore, the U.S. Congress has proposed several pro-Taiwan bills in recent years to show its concrete support to our country. After his inauguration in 2021, U.S. President Biden pointed out in his *Interim National Security Strategic Guidance* that Taiwan is a critical economic and security partner with the U.S., and the U.S. will assist Taiwan in its self-defense and international participation. All above have well demonstrated that the exchange and cooperation between the two sides have been steadily moving forward.

3. Assuring Stability Surrounding the Taiwan Strait

   It has become an international consensus to maintain the peace and stability in the Taiwan Strait, and consequently, every country is keeping a close eye on the development of security situations in the Strait. Taiwan is located at the forefront of curbing the expansion and incursion of a totalitarian regime, while the ROC Armed Forces, as its staunch guardians, are combat ready and continue building up self-defense capabilities so as to construct a credible shield for Taiwan. At the same time, the ROC Armed Forces continue monitoring PRC's military activities and movements at all times, sustaining a robust defense power to maintain the security in the surrounding areas of the Taiwan Strait and free passage of both air and sea lines of communication, and working as the peacekeepers in the Indo-Pacific to contribute substantially to the security and stability in the region.

4. Abiding by Norms for International Security

Upholding the ideal of preserving the peace, The ROC (Taiwan) staunchly supports and abides by all international security norms of non-proliferation and counter-terrorism. Regarding the issues of the South China Sea, we firmly stand by our position of maintaining our sovereignty, and call for the compliance of international law by all involving parties, so as to maintain the freedom of navigation in the South China Sea and the collective peace and stability in the region. In addition, we continue striving for the participation in meetings or activities within the domain of the United Nations and the security framework and dialogue mechanism in the Indo-Pacific, so as to perform our duties as a member in the international community.

5.Strengthening Joint Capacity for Information Security

Information security represents not only a challenge, but also an opportunity for our country. Especially, our semiconductor industries are playing a critical role in the global supply chain, and we have professionals and expertise in advanced information technology (IT) with abundant practical experiences in cyber defense. As instructed by the government's comprehensive policy of "information security equals national security," we are combining endeavors in organizations and legal system from both public and private sectors to create a trustworthy information security system and related industry supply chain. In the future, we will strengthen the joint capacities for information security to exchange and share information with allies and partners in this domain, so as to prevent and international hacking and malicious attacks in the cyberspace.

6. Participating Non- conventional Security Cooperation

Currently, non-conventional security issues, such as transnational infectious diseases, natural disasters, and terrorism, are taking their toll on governance in those suffering states. During the COVID-19 pandemic, our nation has been sharing anti-epidemic experiences with various countries, and donating medical supplies overseas. Reciprocally, we have received vaccine donations from the international community. In the future, we continue expanding exchanges in the fields of prevention of transnational infectious diseases, international HA/DR, and anti-terrorism, so as to collectively maintain and promote the global security.

【 Diagram of Taiwan's Strategic Value 】

CHAPTER

02 Security Threats

The PRC raised a "one-country; two systems" scenario for Taiwan and did not renounce the option of use of force against Taiwan in the *40th Anniversary of the Message to Compatriots in Taiwan* in January 2019. It continues stepping up military preparations and making incursions by gray zone tactics against our nation, signaling a mounting threat to our national security. Furthermore, non-conventional security threats, such as transnational infectious diseases are more alarming, and have to be dealt with through mechanisms of international cooperation.

Section 1 PRC's Military Development and Threats

The People's Liberation Army (PLA) has been steadily pushing for its defense establishment and military reform, and has generally achieved reforms on its organizational leadership and force structure in 2020. It continues verifying functions of joint command and control (C2), cultivating leadership of joint operations, and procuring new weapons and equipment. The PLA is hoping to generally accomplish defense and military modernization in 2035, and obtain superiority in possible operations against Taiwan and viable capabilities to deny foreign forces, posing a grave challenge to our national security.

I. Development of PRC's Military Strategy

The PRC's military strategic guideline is the paramount guidance to all planning activities and operations of the PLA, and it may be aligned with international situations, internal changes, transition of leadership, and development of weapons and equipment.

During the reign of Xi Jinping, its military strategy remains centered on "active defense." In the 19th National Congress of the Chinese Communist Party, Xi raised the "three-step development strategy for modernizing national defense and armed forces," expecting to (1) "generally achieve mechanization and with significantly enhanced informatization infrastructure by 2020," (2) "basically complete modernization on defense and military by 2035, " and (3) "fully transform the people's armed forces into world-class forces by the mid-21century." In his "14th Five-year Plan," Xi proposed the Goal of "PLA's Centennial": "advancing integrated development of mechanization, informatization, and speeding up the development of an intelligent army." All above have shown that the development of PLA's military strategy has merged with its latest weapons in its inventory, and the PLA now has the strategy and capabilities to initiate "preemptive strikes."

1. PLA Army (PLAA)

   As instructed by the principle of "maneuver operations and multi-dimensional offense and defense," the PLAA is transforming itself as a force focused on informatization, aviation, special operations, multi-functions, and unmanned technologies, to transition itself from a "regional defense force" to an "all-dimensional combat force."

2. PLA Navy (PLAN)

   As instructed by the principle of "near seas defense and far seas protection," the PLAN is enhancing its capabilities to initiate strategic deterrence and counterattack, maritime maneuver and joint operations, and comprehensive defensive operation and logistic support, to speed up transitioning itself from a "near seas defense force" into a "force capable of far seas protection."

PRC Military Strategic Guidance in Different Eras

【PRC Military Strategic Guidance in Different Eras】

3. PLA Air Force (PLAAF)

As instructed by the principle of "integrating air and space capabilities, and coordinating offensive and defensive operations," the PLAAF is improving its capabilities in strategic awareness, air strikes, air defense and anti-missile, information confrontation, airdropping operations, strategic projection, and comprehensive logistics, to transition itself from a "homeland air defense force," into a "force dually capable of offense and defense."

4. PLA Rocket Force (PLARF)

As instructed by the principle of "possessing nuclear and conventional weapons, and having all-dimensional deterrence," the PLARF is expediting missiles R&D and renewing missile inventory, strengthening realistic training and joint strike capacities with firepower from all service branches, so as to accomplish the goal of "all-dimensional denial against foreign forces."

5. PLA Strategic Support Force (PLASSF)

As instructed by the principle of "integrating existing systems and merging civilian-military (civil-mil) resources," the PLASSF is integrating forces in the domains of aerospace, cyberspace, and electronic confrontation," advancing efforts to transform experimental forces under R&D into a fully capable combat force with new capabilities, and transitioning itself into a critical force to win an informatization warfare.

6. PLA Joint Logistic Support Force (PLAJLSF)

As instructed by the principle of "achieving a trinity of joint operations, joint training, and joint logistics," the PLAJLSF is stepping up to merge itself with the PLA's joint operational system, so as to materialize the concept of "logistic support in close proximity to basing locations and being easily mobilized, and integrated with strategic projection and prepositioning," so as to strengthen its centralized joint logistic support capability.

II. Status and Directions of PLA's Reform

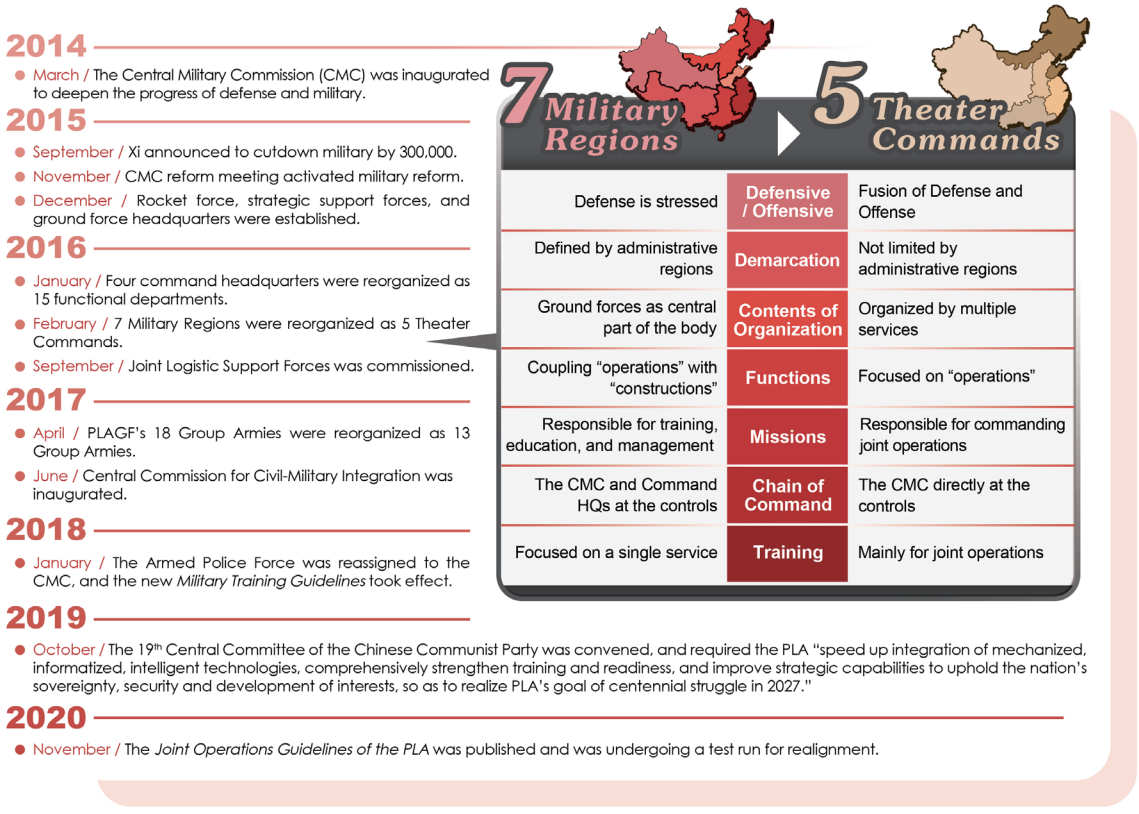
Since the start of military reform in 2015, the PRC has successively completed flattening of leadership hierarchy and realigning its organizational structure. Currently, it is replacing obsolete weapons and equipment and transforming military training regimes, so as to strengthen its joint command and comprehensive capabilities. In the future, the PRC continues pushing for military transformation to meet the demands in a modern warfare that is characterized as rapid changes.

1. PLAA

The PLAA has reorganized its forces below the army-level to form "combined arms brigades and battalions." Currently, it has "three-dimensional offensive and defensive, multi-domain and multifunctional, long-range expeditionary, trans-theater maneuver" capabilities, and is performing initial validation of its realignment for joint operations. In the future, the PLAA continues optimizing its brigade-level forces and the organizations of newly-established forces, performing comprehensive mechanization and informatization endeavors, so as to construct itself as an all-dimensional and highly maneuverable combat force.

2. PLAN

The PLAN has completed realignments of its North Sea, East Sea, and South Sea Fleets. Its newest generation of assets, such as the 2nd aircraft carrier, Shandong, destroyers of 10,000 tons class, amphibious assault vessels, and replenishment vessels have been commissioned while it continues expanding the scale of naval aviation forces and developing new UAVs and carrier-based aircraft. In the future, the PLAN will develop its capabilities of global force projection and multipronged force application, so as to transform itself as a credible naval power with strategic defense capabilities.



【Diagram of Xi Jinping's Defense and Military Reforms】

3. PLAAF

The PLAAF has completed realignment of its organization and flattened its leadership hierarchy, and it is now capable of acquiring local air superiority over the first island chain and striking high-value targets (HVTs) in the second island chain. The PLAAF will carry on converting its vintage fighters to enhance its counter-air capabilities, and speed up commissioning new large-sized cargo planes to improve its joint operational effectiveness of "strategic projection" and "all-dimensional reaction."

4. PLARF

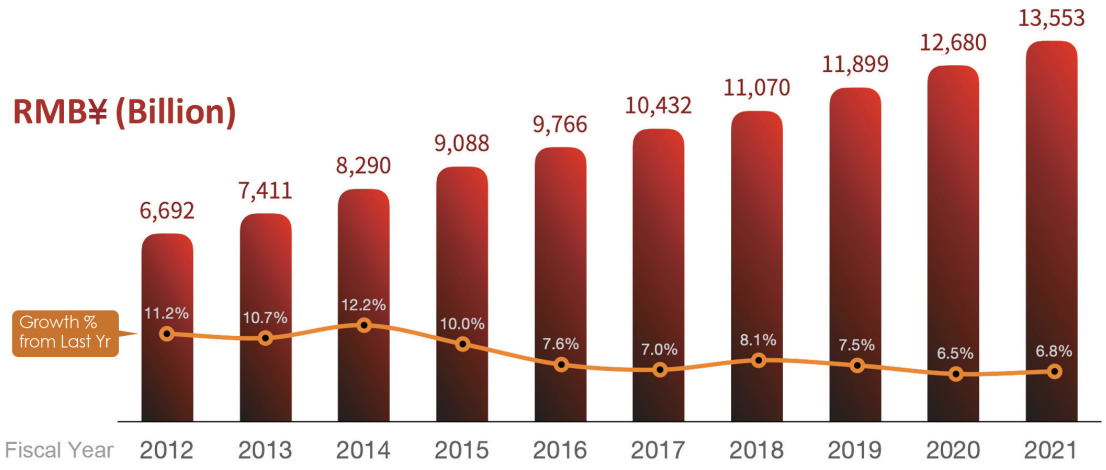
The PLARF has successively been realigning its organization, speeding up deployment of new missiles, and strengthening its trans-theater joint operational capabilities. At the same time, it is constructing a counterbalance capability to confront multipronged strategic threats, and sharpening its standoff precision strike capabilities by conducting realistic firing drills. In the future, the PLARF will be able to deter moves of a nuclear-capable nation, and develop a counterstrike power that achieves the "unity of multiple domains," including the land, maritime, air, and space.

5. PLASSF

After the military reform, the primary mission of the PLASSF is to obtain operational edges in the space, cyberspace, electromagnetic space domains of battlefield, and provides information and strategic support to joint operations. In the future, the PLASSF will focus on constructing new operational capabilities, and strengthening PLA's information advantages on the battlefields.

6. PLAJLSF

The PLAJLSF has realigned its organization as requested in the military reform to construct a centralized control of individual logistic systems in every service branch and logistical capacities in former Military Regions (MRs), to transition from "decentralized logistics" to "unified logistics." In the future, it will move toward fulfilling the demands for joint operations and PLA's force buildup endeavors.



【Statistical Trends of PRC's Defense Budgets】

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

Despite of the impacts caused by COVID-19 epidemic, floods, and torrential rains, PRC's defense budgets for 2020 and 2021 have kept a steady growth respectively. Following its "14th Five-year Plan," the PRC continues developing and procuring new weapons and equipment, as well as promoting defense and military modernization.

1. PRC's Defense Budget

PRC's 2021 defense budget, remaining the highest in Asia and the second in the world, of RMB¥ 1 trillion and 355.343 billion (approx. US$ 208.47 billion) has increased 6.8% from RMB¥ 1 trillion and 268 billion (approx. US$ 178.16 billion) in 2020, roughly occupied 1.33% of PRC's GDP. The defense budget is mainly spent on sustaining defense and military modernization, pushing for deeper civil-mil integration, optimizing preferential treatments for military personnel, providing veteran services and personnel salaries.

2. PRC's Weapons R&D

As guided by the new *National Defense Law* in 2021, the PRC will be committed to R&D for advanced technologies in terms of developing weapons and equipment for defense purposes, and continues upgrading or replacing weapons and equipment for each service branch, commissioning new missiles, and employing UAVs, to improve its strategic deterrent, standoff strike, homeland defense, and information warfare capabilities.

(1) PLAA

Each group army continues to receive new helicopters, like Z-20s, and PHL16 long-range multiple launch rocket launchers (MLRSs). The PLAA will merge satellites and UAVs as its assets to perform maneuverable precision strike operations and comprehensively strengthen its overall combat power.

(2) PLAN

The PLAN is commissioning Type 075 landing helicopter dock, YJ-18C land-attack missile, YJ-18A anti-ship missile, YJ-12 supersonic anti-ship missile, and continues a retrofitting program for carrier-based Z-20F helicopter and R&D programs for new catapult-launched carrier-based aircraft and new UAVs. In addition, the tests for JL-3 intercontinental submarine-launched ballistic missile (SLBM) and shipborne electromagnetic railgun are underway.

(3) PLAAF

The PLAAF is upgrading its fighters, bombers, airborne early warning (AEW) platforms, cargo planes, and UAVs, and continues to procure Sukhoi fighters from Russia to improve its air combat capabilities. Its air defense missile systems include self-made HQ-9, HQ-22, Russia-made S-300, and S-400 missiles, and they are deployed in critical locations to form a complete air defense net. Moreover, the PLAAF continues constructing surveillance radars and radar intelligence processing and dissemination systems, and refining its C2 efficiency.

(4) PLARF

The PLARF has developed a new generation of missiles, such as DF-17, DF-41, and DF-100. These new missiles can carry multiple warheads and fly in hypersonic speed, so as to greatly enhance their penetration capability against missile interception systems. In addition, with Beidou Navigation Satellite System fully operational, the PLARF's capabilities to deliver precision firepower and strike mobile targets are greatly improved.

(5) PLASSF

After the Beidou-3 Navigation Satellite System is completed, the PLASSF is now capable of supporting other service branches to perform far seas and precision strikes by missiles, air defense, and anti-missile operations. It is speeding up deployment of JB series and Tiantong series reconnaissance and communications satellites to strengthen its supremacy in space and electromagnetic domains.

3. PRC's Arms Export

According to a report by Stockholm International Peace Research Institute (SIPRI) on 15th March 2021, the PRC is the 5th biggest arms exporter in the world from 2016 to 2020, with Pakistan, Algeria, and Bangladesh as its primary clients. Exported items are mainly tanks, air defense missiles, submarines, AEW platforms, and UAVs. Moreover, the PRC continues using Long March expandable launch system to help its client countries to launch satellites, so as to raise its competitiveness in the global space market and its regional leverage.

IV. PRC's Military Preparedness

As instructed by the strategic guideline laid out in the *China's National Defense in the New Era* published in 2019, the development strategy of "three-step modernization of defense and military," and its annual "mobilization order for the training of the armed forces," the PLA is focused on its preparedness for war, formulating a new military training system, ensuring the merge of operations and training, and transforming its force-on-force drills into realistic ones, so as to attain the goal of "being on alert at all times, and combat-ready as always."

1. PLAA

The PLAA continues receiving a variety of new tanks, MLRSs, and helicopters, and upgrading its battlefield command and information management systems. As guided by its annual "military training outline (MTO)," the PLAA continues holding various routine drills and exercises, and sharpening its capabilities of long-range maneuvering, in-depth strikes, rapid assault, and special operations through the "trans-theater" (Kua Yue) series and "firepower strike" (Qian Feng) series exercises, to make use of its effectiveness of joint operations and transform itself as a force capable of three dimensional offenses and defenses and maneuver operations.

2. PLAN

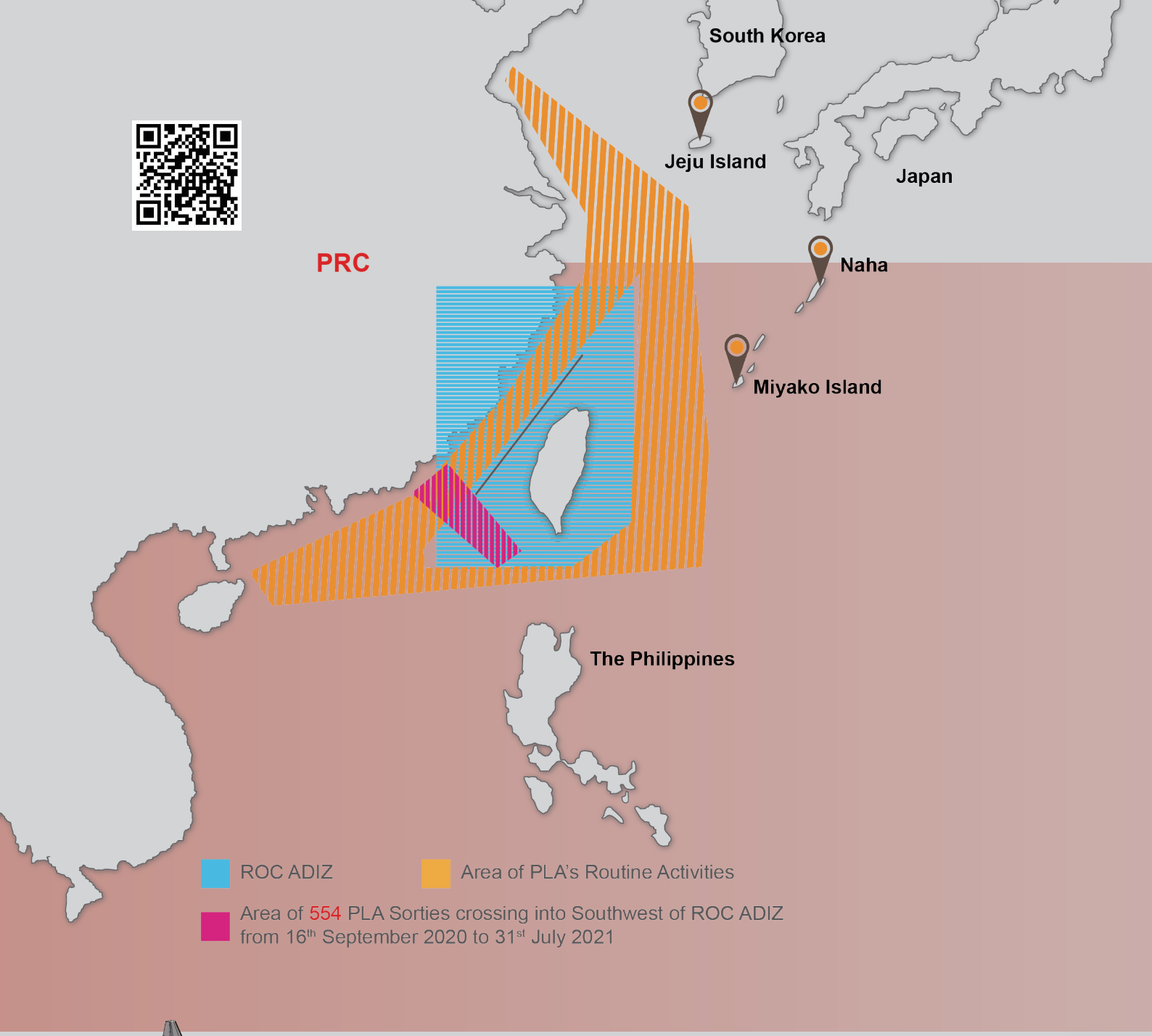
The PLAN continues holding a series of drills and exercises, such as "joint air and maritime drills," "live firing exercises," and "long-distance training" to verify its capabilities of performing joint operations, strategic deterrence and counterattack, and far seas operations. In addition, its flotilla of long-distance training has reached beyond the second island chain, to further expand its defensive strategic depth for maritime operations, and it begins to conduct deterring foreign forces and far seas maneuvering operations, in an attempt to develop itself as a regional and global navy.

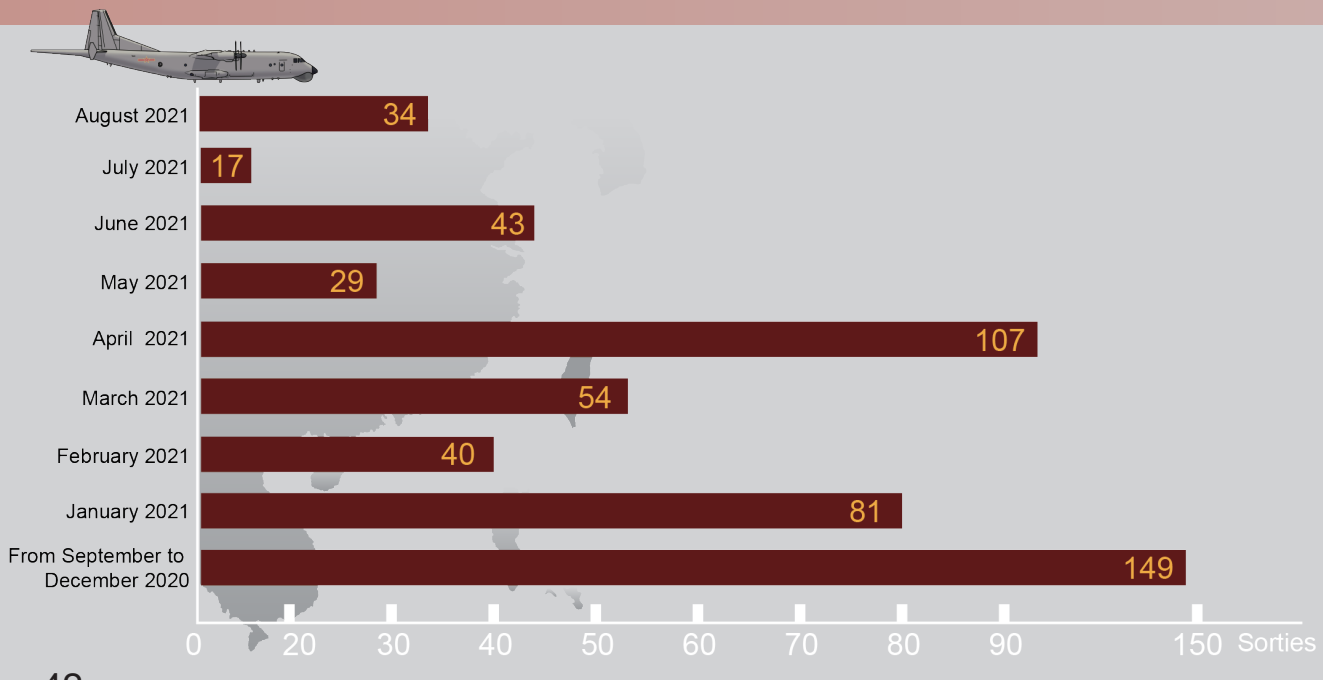
3. PLAAF

The PLAAF routinely conducts combat air patrols (CAPs) and long-distance training over the East and South China Seas to strengthen its all-dimensional combat capabilities. It holds competitions, such as "free air combat" and "penetration of air defenses and assault," to examine training performance of its forces. Furthermore, it carries out drills and exercises of "base-on-base offenses and defenses," "air defense and anti-missile," and "electronic warfare (EW) confrontation" to refine its joint operational capabilities.

4. PLARF

The PLARF continues R&D endeavors on DF-17, DF-26A, DF-26B, and DF-41 missiles to improve their counter-interception and precision strike capabilities. Furthermore, it continues conducting tests on hypersonic glider warheads, realistic and live-firing drills and exercises, and joint operations, to enhance its strategic deterrent and operational power.


South Korea
Jeju Island
Japan
PRC
Naha
Miyako Island
The Philippines
ROC ADIZ
Area of PLA's Routine Activities
Area of 554 PLA Sorties crossing into Southwest of ROC ADIZ
from 16th September 2020 to 31st July 2021


August 2021
34
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May 2021
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April 2021
107
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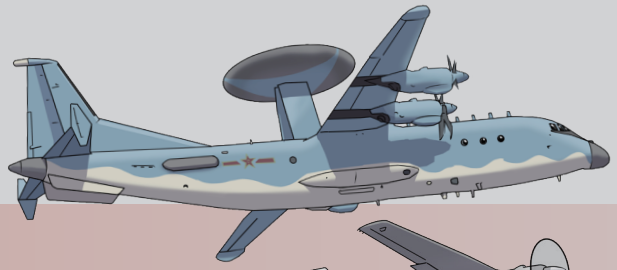
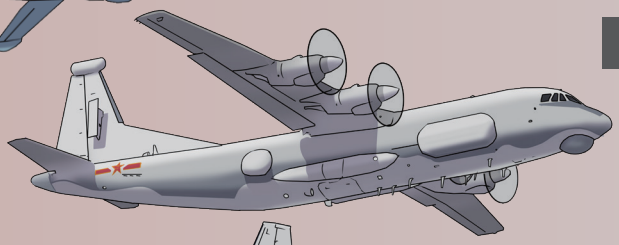


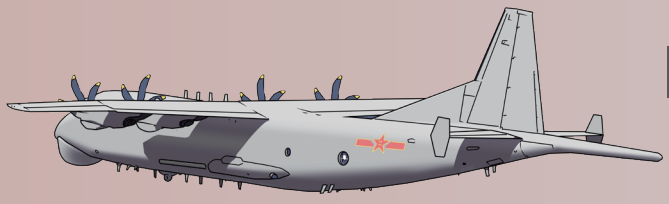
KJ-500 AEW

Service: PLAAF and PLAN
Capabilities: airborne early warning, surveillance, and command and control



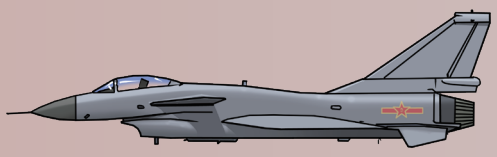
Y-8 EW

Service: PLAAF
Capabilities: signal intelligence (SIGINT) and interfering communications and radar



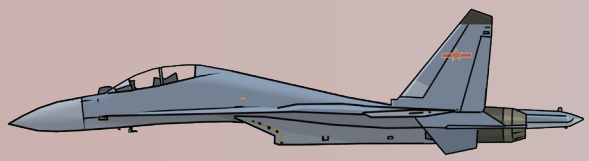
Y-8 ASW

Service: PLAN
Capabilities: maritime patrol, reconnaissance, and anti-submarine warfare



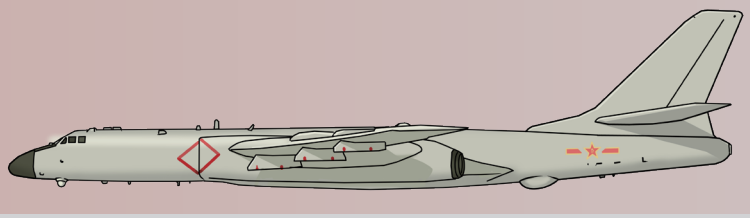
J-10 Fighter

Service: PLAAF and PLAN
Capabilities: air-to-air and air-to-surface attacks



J-16 Fighter

Service: PLAAF
Capabilities: air-to-air and air-to-surface attacks



H-6 Bomber

Service: PLAAF and PLAN
Capabilities: air-to-surface attacks

【Major Types of PRC's Aircraft Constantly Seen Harassing the Southwestern Corner of ROC's ADIZ】

5. PLASSF

The PLASSF is actively developing platforms for aerospace operations, and continues deploying navigation, reconnaissance, as well as communications satellites, and enhances global positioning system (GPS) navigation, and real-time and all-dimensional surveillance, and C2 datalink systems, so as to strengthen its capabilities of joint C2, ISR & Targeting, air and maritime blockade, and precision strike.

V. PRC's Military Threats towards Taiwan

The PRC has never renounced the option of the use of force against Taiwan, and it is using force-on-force confrontational drills, joint landing exercises, hacker attacks in cyberspace, and long-distance training to prepare itself for potential operations against or simply threaten Taiwan. In the meantime, with its growing modern military power, PRC's military actions against Taiwan are getting more intensified and rigid. According to its recent development, the PLA's operational capabilities against Taiwan are as follows:

1. ISR Capabilities

   The PLA is capable of enhancing its ISR capabilities by using multiple ISR assets, such as reconnaissance satellites with high resolution optics and radar surveillance, constantly deployment of spy and electronic intelligence (ELINT) boats in the neighboring waters of the Taiwan strait, and irregular patrols of reconnaissance aircrafts as well as UAVs. Furthermore, with its multi-domains means through land, maritime, air and space, its coverage of intelligence gathering will be amplified, and our military activities as well as intelligence preparation of the battlefield (IPB) will be monitored.

2. Joint Blockade Capabilities

   The PLA is strengthening counter-air, sea-control, and land-strike capabilities for the PLAN and the PLAAF, and speeding up deployment of new missiles for the PLARF to improve its precision strike and strategic suppression capabilities. At present, the PLA is capable of performing local joint blockade against our critical harbors, airports, and outbound flight routes, to cut off our air and sea lines of communication and impact the flow of our military supplies and logistic resources as well as our sustainability for operations.

3. Joint Firepower Strikes

   All PRC's ballistic missiles, cruise missiles, and air-launched land-attack missiles can reach beyond the Taiwan proper. These missiles along with the capabilities of PLAN and PLAAF will attack our political, economic, and military HVTs, and decimate our operational persistence as well as the potential for follow-on supportive operations.

4. Joint Landing

   The PLA is beefing up the PLAA's amphibious combined arms brigades and airborne assault brigades, strengthening training for its marines for joint landing operations, and constructing air and maritime strategic projection capacities. The PLA is expected after obtaining superiorities in counter-air, sea-control, and counter-electromagnetic operations, it is going to deploy organic amphibious vessels flanked by commandeered commercial container ships to conduct joint landing operations.

5. Denying Foreign Forces

   The PLA is deploying med-, long-range land attack and anti-ship ballistic missiles and cruise missiles, and regularly assigning PLAN's aircraft carrier and PLAAF's bombers to the Western Pacific to conduct joint air and maritime crossing-island chains operational training. All these activities, posing a military intimidation to the neighboring countries in the Indo-Pacific, are to deny any interventions by foreign forces across the first and second island chains.

6. Strategic Support Capabilities

   The PLA is developing aerospace operational platforms through "civil-mil integration" means, and speeding up deployment of reconnaissance, navigation, and communications satellites, to strengthen its advantages of battlefield information. In addition, with the Beidou Navigation Satellite System and C2 datalink systems in place, all service branches of the PLA can be assisted in performing offenses and defenses in information warfare, long-distance surveillance, far seas operations, precision missile strikes, air defense, and anti-missile missions.

Section 2 PRC's Gray Zone Threats

In recent years, the gray zone threats frequently posed by the PRC on us are highly diversified and orchestrated generally through military and non-military approaches. The military approaches can be explained by PRC military planes' frequent intrusions into the southwestern corner of our Air Defense Identification Zone (ADIZ) and areas in the vicinity of the Dongsha Island to conduct purposefully military drills, while the non-military approaches can be seen as PRC speedboats' ramming our coast guard vessels and its sand pump dredgers' illegal operations in our neighboring waters. These approaches have normally exploited the limbo between peace and war and on the brink of a war. The PRC is considered to gradually escalate the threat level by manipulating these salami tactics, and is using its political and military power to shape a posture to its advantage. Its intimidating behavior does not only consume our combat power and shake our faith and morale, but also attempts to alter or challenge the status quo in the Taiwan Strait to ultimately achieve its goal of "seizing Taiwan without a fight."

I. Means of Incursion against Taiwan

The PRC continues increasing its defense budget to pour more resources into defense and military modernization. With more diversified strategies and approaches towards Taiwan at its disposal, the PRC is undertaking a variety of military incursions to test our early warning and response system and carry on its military intimidation and pressure against us. These approaches of incursion are as follows:

1. Trespassing into Taiwan ADIZ

   The PRC has been frequently assigning aircraft to trespass the southwestern corner of our ADIZ, attempting to increase its patrol and surveillance activities to test and harass our awareness and responses of air defense. These infringing activities have compressed our reaction time and maneuvering space, and are deemed as threats to our ADIZ and the security in the Taiwan Strait.

2. Intensifying Training and Exercises in Taiwan's Neighboring Waters

   The PLAN and PLAAF continue assigning far-seas training formations and sorties or an aircraft carrier strike group to conduct joint operational training and cross-theater training in and over our neighboring waters and the Western Pacific, so as to sharpen the effectiveness of their chain of command and joint operations and build up their area denial capability. In addition, PRC's spy ships and oceangraphic research vessels are constantly showing up in the vicinity of our surrounding waters to strengthen its capabilities of battlefield management and sea control.

3. Strengthening Military Intimidation

   The PLA has built several tactical training bases with mockups of buildings in Taiwan, and demarcated specific no-fly zones for joint landing exercises to practice simulated offensive operations against Taiwan in order to strengthen its realistic combat training and military intimidation.

II. Threats of Cyber Warfare

Through organizational reform and realignment over the years, the PRC has been vigorously enhancing its cyber warfare capabilities. In peacetime, its cyber activities are centered on gathering or stealing intelligence, getting hold of key nodes of subject systems, and compiling a targeting list for cyber-attacks during the precision strike phase of future operations. In wartime, these activities are transitioned to sabotaging and destroying subject's national critical infrastructures and C2 systems to cause turbulence and chaos in its society and decimate the internal security kept by the military and law enforcement organs of the nation and its government functions.

To defend against cyber-attacks, the MND isolates its Military Net (MINET) from the internet, and sets up the Armed Forces Information Security and Protection Management Center, monitoring and identifying all real-time cyber malicious activities. From 2019 to August 2021, our cyber protection applications have detected approx.1.4 billion anomalies, which have been timely handled by the Armed Forces to prevent from potential hacking.

III. Harms of Cognitive Warfare

Cognitive warfare is used to sway the subject's will and change its mindset, and is not confined by time and space. Concerning its conventional applications, cognitive warfare is originated from the rationales of intelligence warfare, psychological warfare, and public opinion warfare. From the perspective of innovation, it can make use of highly efficient modern computing systems, the internet, and social media, to twist the subject's social ideologies, mentality, and the sense of law-and-order through cyber infiltrations and manipulation of mentality and public opinions. The PRC is exploiting the tactics of cognitive warfare, mixing with "Three Warfares," which are psychological warfare, public opinion warfare, and legal warfare, to disseminate indiscernible disinformation, and carrying out means of verbal attacks and saber-rattling in an attempt to create postures to its own favor.

1. Purposes of PRC's Cognitive Warfare

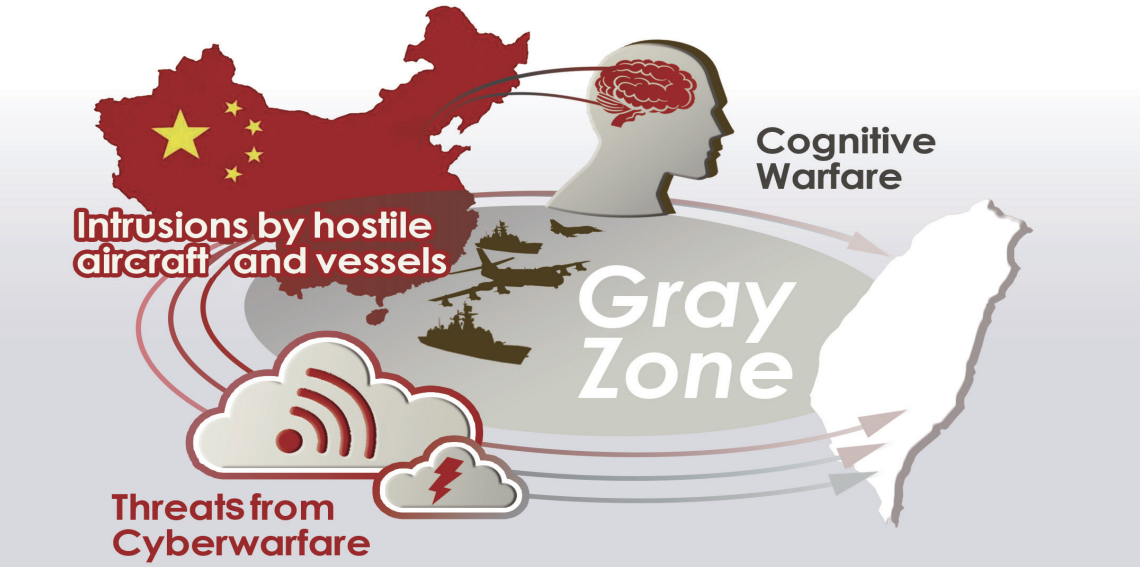
Politically, the PRC is trying to use the tactics of cognitive warfare to compress our international space, and force us to accept its political requests. Economically, it is using its economic leverage to solicit support from the business sector and the people in Taiwan. Militarily, the PRC is exhibiting its military power, increasing air and maritime incursions in the neighboring waters of the Taiwan Strait, and exaggerating its activities on the social media, so as to expand the effects of military intimidation on us. Psychologically, the PRC is trying to cause mental disarray and confusion, in order to weaken our fighting will, determination to defending ourselves, and seize the dominance of public opinions.

Source: Reproduced from the *Prospect Quarterly*

【Diagram of PRC's Approaches of Cognitive Warfare】

2. Approaches of PRC's Cognitive Warfare

In recent years, the PRC has been advancing the integration of traditional and emerging media to attain a cognitive dominance over the media. In the meantime, the PRC is using social media on the internet as a platform to execute its cognitive tactics, through a variety of popular portals to disseminate disinformation, which is cleverly embellished and hard to discern between right or wrong. According to articles published on the *Prospect Quarterly*, the PRC is using 4 attack modes (tactics) to carry out cognitive warfare against our country, including: (1) propaganda mode, such as PRC's official media; (2) pink mode, such as "wumao" (internet commentators), and "shuijun" (internet ghostwriters); (3) content farm mode, such as reposts of contents, and (4) collaboration mode, such as the collaboration efforts in the concept of the united front.



【Diagram of PRC's Gray Zone Threats】

Section 3 Non-conventional Security Threats

Non-conventional security threats inflict damages on a nation no less than those posed by a threat from military power. These threats, such as transnational pandemics, major disasters, terrorism activities, and threats to energy, can be transregional, and can expand their areas of impact, which are hardly be handled unilaterally. They are not only harmful to the governance and comprehensive economic growth of a nation whose suffering can be immeasurable hereof, but also hard to be contained and avoided. In this global village without geographic boundaries, non-conventional threats continue impacting our security and that of the world, and are critical issues that no country can ignore. They can only be prevented and controlled effectively through a mechanism of international cooperation.

I. Transnational Infectious Diseases

As we are living in the global village, people contacts are close and frequent, and consequently transnational infectious diseases can spread much faster with more pathogen variants. After the outbreak of COVID-19 in 2020, the disease has been spreading quickly across the world, and the situation remains dire. It does not only take lives, but also incites a sense of discrimination accompanying impacts on the economic order and security in the region. Other infectious diseases, like bird flu and African swine fever, are causing problems to agricultural production and food safety of suffering countries and even turning out to be zoonoses, which shall be treated carefully as focal points of anti-epidemic endeavors.

II. Major Natural Disasters

Due to numerous typhoons, global climate change and environmental damage, the Indo-Pacific region, where the Ring of Fire located, is having a growing number of composite disasters that are taking their toll gravely, and shall be dealt with a comprehensive HA/DR plan. Taiwan is located at the intersection of the Eurasian Plate and the Philippines Sea Plate, and at which typhoons in summers usually visit. Torrential rains, floods, landfalls, and landslides caused by typhoons, coupled with earthquakes, have been causing tremendous casualties and loss of properties. The Armed Forces continue supporting HA/DR missions so as to protect the lives and properties of the people.

III. International Terrorism

Despite of the collapse of the Islamic State of Iraq and the Levant (ISIL), terrorism activities around the world did not dissipate. There are several terrorist attacks reported in the Southeast Asia, New Zealand, and Australia. According to the *Country Reports on Terrorism 2019*, issued by U.S. Department of State in June 2020, the countries in the Indo-Pacific region are cooperating with one another more closely, and they are joining hands with the U.S. to defeat actions that funded and carried out terrorist attacks. As the *2020 Global Terrorism Index* (GTI), issued by the Institute for Economic and Peace (IEP) in Australia in November 2020, reveals that the decreasing impact of terrorism was spread across many countries. However, while the U.S. is pulling its military out of Afghanistan and some other countries, it remains to be seen whether extremist organizations in these regions may rise again.

Proud of Being Qualified and Suited as a Diver

A report of two siblings, Ren Yi and Ren Jie, serving in the Underwater Operations Unit (UOU), ROC Navy, as divers, similar to the ones depicted in the movie “Men of Honor,” was the most inspiring and motivating story for young people in all military-related news in 2020.

Growing up with athletic background, Ren Yi decided to become a diver after watching a Discovery program, introducing the underwater mechanic course, UOU, at the beginning of his volunteer service. He signed up for the course, and shared his expertise with other trainees during the training, so as to pass the final test altogether. Now, Ren Yi has been serving for 9 years, and is specialized at demolition and diving. During the time of his service, he has participated in Han Kuang and Lie Jing (whale hunting) exercises, port evacuation of shipping for drone boats, and HA/DR operations.

Ren Jie is an optimistic and highly motivated person. During her undergraduate years, she was admitted to become an international volunteer to teach children in poor countries. After graduation, Ren Jie went to Australia for part time work to broaden her views and dabble in a different culture.

Seeing her brother’s marvelous progress in the UOU, Ren Jie was inspired to serve. After a thorough discussion with her family, she decided to follow her brother’s steps, and ultimately became the first female sailor to complete the underwater mechanic course. Currently, they continue to excel themselves professionally, and are planning to acquire certificates of advanced mixed gas (helium and oxygen) deep depth diving and Level B technician for professional diving because they are hoping to dedicate what they have learned in the military to safeguarding the people and the country.

01

The Defense Sketch

Kaohsiung and Pingtung Operational Team, Command and Control Protection Group, Information, Communications and Electronic Force Command

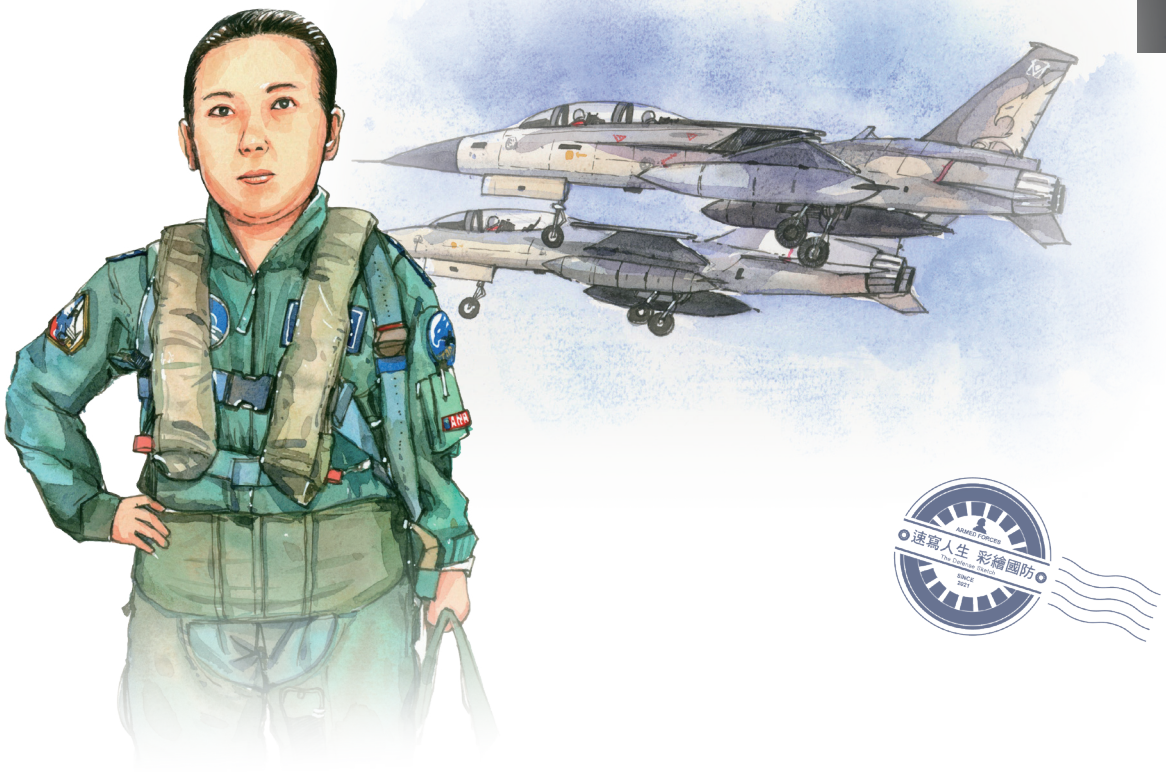
Keeping Communications Operational at Remote Locations

For ages, communications are a decisive element to win a war, and can be best explained by the saying that “Operations are directed by orders while orders are sent by communications.” Therefore, it is not only a mandate, but also an irreplaceable thinking and value to keep communications operational for all members of the Kaohsiung and Pingtung Operational Team, Southern Area Command and Control Squadron, Command and Control Protection Group, Information, Communications and Electronic Force Command.

The team is responsible for maintaining operations and providing technical support to military command and control systems under the jurisdiction of the 4th Theater Command, and shall, support the military information and communications system for disaster prevention and relief on demand, so as to keep it uninterrupted during operations.

Even though its members are shrinking and scattered in various posts from the mountaintop to the beachhead with their respective areas of responsibility, the team has been trying to maintain a good working atmosphere and environment for them. They have well executed all information and communications missions to support annual major exercises, and acquired good results in skill qualification exams and competitions. Consequently, the team was selected as one of the ROC Armed Forces exemplary units in 2020. Major Hong Rui-huang, Leader of the team, said, “Despite of having difficulty and hardship during the processes of the missions, the team has ultimately accomplished successes with all its members working as one.” Therefore, the honor and glory belong to them.

Working in posts inconveniently located and supported, The team, based on its belief of “keeping communications working even over the clouds,” remains undeterred to keep communications operational beyond all barriers. Moreover, Major Hong has not only promised himself to create a friendly working environment and improve his own expertise, but also led his fellow members to attend charitable events on holidays, like a service member of a new generation to dedicate to the service on duty and pay back to the society off duty.



Destined to Safeguard the Sky

Guo Wen-jing, transformed from a volunteer enlistee to the first female pilot of the Indigenous Defense Fighter (IDF), said, “Soaring high is not only a dream, but also a challenge that requires pulling out all the stops.” Facing recent intrusions by PLA’s aircraft, Guo has been confident and fearless during her alert missions. Her sturdy attitude was shaped by rigorous training in her career, and is the best representation of her journey of serving from the bottom to the sky.

In hindsight, from her enrollment in the advanced entry class for pilots, subsequent transitional training, solo flight to her completion of conversion training for the IDF by the end of 2018, her most unforgettable experience is a course of underwater survival in which the trainee pilot had to pass a test by escaping from a fully submerged cockpit. It was very difficult for her because she was not good at swimming. But she knew at the time, she had to overcome all obstacles in her way to success, and said to herself, “The only thing I must insist is persistence.”

After a series of rigorous training, she has proven her worth with her strength. Whenever she is tasked for an air combat training sortie or even a scramble, she would maintain a peace of mind to follow all procedures from the ground to the air as she constantly does on a daily routine. However, pressure does arise at times of training or being on alert. As a ROCAF pilot, she always tells herself, “Don’t give up but charge ahead, or all the sweat and toil before will be in vain.” Therefore, she is purposefully concentrated whenever she takes off, and every debrief she makes after return will be the best representation of her vow for safeguarding our skies.

Grooming Strategic Leadership with Theoretical and Practical Knowledge

The National Defense University (NDU) is the highest military institution of the ROC Armed Forces. The Graduate Institute of Strategic and International Studies (GISIS), aiming at nurturing service members with board strategic views and familiarity with international affairs, of the War College of the NDU, has now begun to accept middle- and high-ranking government officials to establish civil-military interactions and promote civil-military integration. In addition, in order to promote military diplomacy, the GISIS began to offer international courses in 2014 to increase international exchange opportunities.

Colonel Yuan Li-qiang, Assistant Professor of the GISIS with a PhD degree in War Studies, King's College London, UK, is specialized in international negotiations. While assigned as the Chief of Service Coordination Section (de facto Defense Attaché) in the UK, he was dedicated to the promotion of our military cooperation with European countries, and our academic exchanges with defense universities in the UK, Sweden, and Finland. Colonel Yuan had been invited multiple times to visit military exercises and attend international seminars to speak on behalf of the ROC Armed Forces.

Colonel Yuan noted that the ROC is located at a key location in the first island chain of Asia as a strategic choking point in the Indo-Pacific, and plays a pivotal role in the regional security. His overseas experience helps him greatly in his classes of the GISIS, allowing his students to know the situations and defense statuses of foreign countries and to see in a macro-perspective to contemplate our strategic environment and future defense development.

Huang Ai-wen, graduate student in the GISIS, works at the Taipei Customs, Customs Administration, Ministry of Finance. She applied for the program simply because she wanted to use up her spare time, but she was caught off guard that every course provided by the GISIS was rich in contents. She now enjoys a broader exposure to diversified perspectives from people with a variety of backgrounds, which are very beneficial for her to sharpen her independent thinking and judgement, as well as her abilities of communication and coordination.

Captain Chen Ming-hong was tasked to deal with an issue regarding maritime pollution while serving in a naval fleet. At the time, he understood deeply about the misunderstanding between the military and civil organizations due to their confusion against one another, and also believed there was a difference of mindsets between military personnel and government officials. Captain Chen knows that the military of a democratic nation shall be connected with its society, and it is essential to reach out to explain the importance of national defense. The first and foremost step, he noted, is to make the concept of national defense known to our fellow countrymen and win their support, and it has become his goal ever since. He is also hoping that his studies in civil-mil relations can help the reform and development of defense affairs and improve the overall implementation effectiveness of governmental policies.

ARMED FORCES
速寫人生 彩繪國防
The Defense Sketch
SINCE
2021

WE
CAN
DO IT

02

Part 2
National Defense Capabilities

We have formulated the national defense and military strategies after pondering over the threat from the enemy and a rapidly changing strategic environment around our country. Based on these strategies, we continue pushing for various defense undertakings, speeding up force buildup, strengthening joint capabilities, toughening training and combat preparations, and reforming reserve mobilization, in order to employ a rock-solid defense force, the Armed Forces, to safeguard the Taiwan Strait and our nation.

CHAPTER

03 Strategic Guidance

In accordance with the *Constitution of the Republic of China*, the *National Defense Act*, the national defense concept of the President, and the defense policy guidance of the Executive Yuan (EY), together with a thorough contemplation of the overall strategic environment and trends, the Armed Forces have formulated the national defense and military strategies as the basis to lead our force buildup, combat preparedness, advancing defense capabilities, and various defense undertakings, so as to construct us as a rock-solid defense force to ensure the security of our nation.

Section 1 Fundamental Concept of National Defense

To protect our national interests, safeguard the nation, and deter PRC's military threats, our current fundamental concept of national defense is expounded as follows:

I. Safeguard National Sovereignty and the Value of Democracy and Freedom

We shall keep a rock-solid defense to maintain the sovereign integrity and the system of democracy, freedom, and rule of law, and demonstrate our determination as shown by the saying, "absolutely no concession on our territorial and sovereign integrity; no backing away from democracy and freedom."

II. Construct a Threat-free Environment

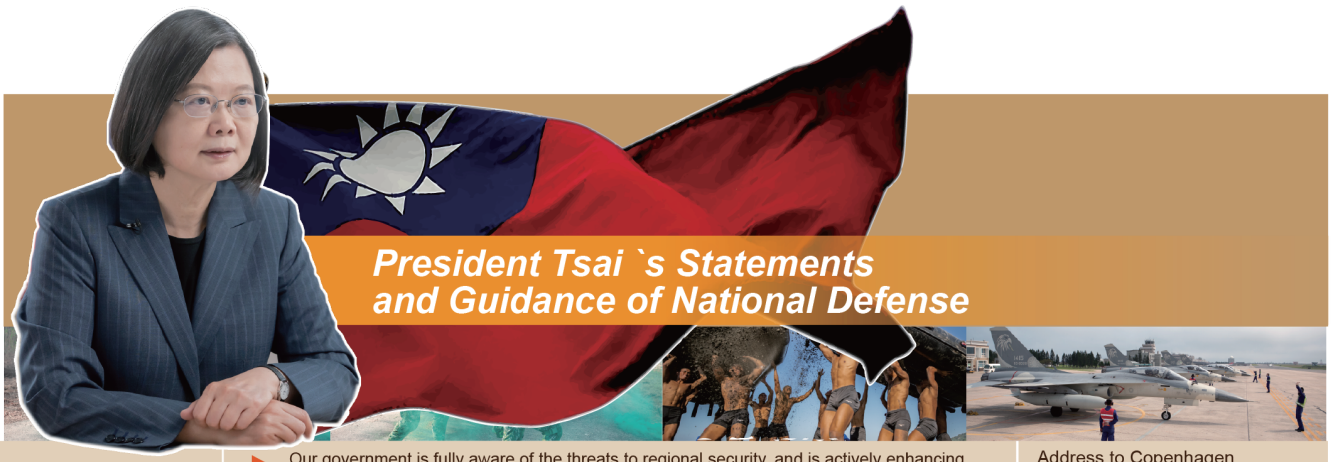
The first and foremost defense undertaking is to prevent war and deter any external military threats, and our overall defense power shall be employed to defend our homeland, magnify the costs and risks entailed by the PRC's invasion, and ultimately protect the lives and properties of the people.

III. Being the Shield for National Survival and Development

We shall formulate and carry out the objectives of our defense strategy, actively construct a credible defense power, merge defense technologies with civilian production capacities, speed up reform in defense affairs, so as to become a rock-solid shield for our society and nation to develop and prosper.

IV. Maintaining Regional Peace and Stability

As a staunch guardian for peace, the ROC (Taiwan) is committed to maintaining the peaceful status quo of the Taiwan Strait, and is cooperating with like-minded countries to shoulder more responsibilities and contribute more efforts for the peace and stability in the region.



President Tsai `s Statements and Guidance of National Defense

Collectively Assuring Regional Peace and Stability	Our government is fully aware of the threats to regional security, and is actively enhancing our national defense capabilities to protect our democracy. In addition, Taiwan is working with our global partners to ensure safety and stability in the region.	Address to Copenhagen Democratic Summit on 10th May 2021
	The PLA frequent military activities in the Taiwan Strait, South China Sea, and the East China Sea have impacted regional security. As a member of regional community, Taiwan will continue to faithfully fulfill our responsibilities to safeguard the security of our nation and in the region.	Remarks to the High-level National Security Meeting on 31st October 2020
Strengthening Self-Defense Determination	Faced with an evolving regional situation, we will continue to enhance our self-defense capabilities in order to respond to new military challenges.	Remarks at Entrance Hall of the Presidential Office Building on 9th February 2021
	Our faith and determination to safeguard our nation is “absolutely no concessions on sovereignty; no backing away from democracy and freedom.”	Inspection Tour to ROCAF Air Defense Missile Company on 11th September 2020
Exerting Strategic Value of Taiwan	We are very willing to work with like-minded countries, including the United States, to jointly safeguard the peace and stability of the Indo-Pacific region.	Talks with Senior Delegation Sent by U.S. President Biden on 15th April 2021
	As the strategic forefront of the Indo-Pacific region, Taiwan has become the first line of defense for democratic values.	Address to National Day Celebration on 10th October 2019
Reinforcing Responses to Gray Zone Threats	The rapid militarization of the South China Sea, increasing and frequent gray-zone tactics in the Taiwan Strait and East China Sea, coercive diplomacy used against countries and corporations, just to name a few, are all destabilizing the Indo-Pacific region.	Opening Remarks for Ketagalan Forum on 8th September 2020
	We shall accelerate our asymmetrical capabilities to defend against the threats of cyber warfare, cognitive warfare, and “unrestricted” warfare to achieve our strategic goal of multidomain deterrence.	Presidential Inauguration Address on 20th May 2020
Forging Robust Defense Power	While we are constructing our defensive power, we have to consider using the concept and efforts of asymmetric warfare to develop highly maneuverable weapon equipments with precision striking capabilities, so as to deter hostile aggressions.	Remarks for Handover Ceremony for High Performance Vessels on 15th December 2020
	While we work to bolster our defense capabilities, future combat capacities development will also emphasize mobility, countermeasures, and non-traditional asymmetrical capabilities.	Presidential Inauguration Address on 20th May 2020
Realize Self-reliant Defense	We are pushing for building indigenous vessels to garner a triple-win result of “improving military combat power,” “grooming future R&D professionals,” and “motivating local industries to prosper.”	Remarks for Handover Ceremony for High Performance Vessels on 15th December 2020
	We have to tap the defense resources to make industries prosper, and connect with the chain of defense industries, and use technology transfer to make fruitful results, so as to develop our comprehensive industries.	Remarks for Inauguration of the F-16 Maintenance Center on 28th August 2020
Making Reform in Defense Affairs	We shall upgrade equipment and provide better software and hardware to make the Armed Forces feel the support and attention from the government, and recruit more people to sign up.	Inspection Tour to Units (Including Air Defense and Missile Command) on 15th January 2021
	We shall accelerate the development of our asymmetric capabilities, substantive reforms to our military reserve and mobilization systems, and improvements to our military’s management institutions.	Presidential Inauguration Address on 20th May 2020

Section 2 Defense Strategy

The primary missions of the Armed Forces are force buildup, combat preparedness, and safeguard the people and the nation. Currently, following the President's concept of national defense, we have contemplated the situational developments across the Taiwan Strait and the threats to our national security, and formulated the objectives of our defense strategy as follows:

I. Hardening Security for the Nation

Defense is the cornerstone to our national survival and development, and consequently, the combat power of the Armed Forces has to be strengthened comprehensively, so as to build up the defense for our nation. Facing the direct and severe military threat from the PRC, the Armed Forces are actively developing effective combat power for defense, with asymmetric concept in mind, to deter the enemy's operational intents, nip the war in the bud, and protect peace.

II. Constructing Defense Professionalism

To have a manpower of quality and an organization of efficiency is critical to sustaining the combat preparedness and force buildup for the Armed Forces. Facing the patterns of modern high-tech warfare the request of defense undertakings, the MND continues to optimize the effectiveness of its organization, push for reform in defense affairs, and groom a manpower of quality for the Armed Forces to become a modernized, intelligent, and professional elite force.

III. Realizing a Self-reliant Defense

Our nation is actively endeavoring to accomplish a self-reliant defense, and has been accomplishing substantive results over the years. We continue advancing the civil-mil technological integration, acquiring new weapons and equipment, maintaining their readiness, and motivating related industries to upgrade with preferential conditions for domestic suppliers, and pushing for more defense technological developments, to fulfill our defense and security needs.

IV. Protecting People's Wellbeing

While the non-conventional security threats are intensifying, the Armed Forces are fully committed to protecting the homeland and wellbeing of the people, based on the principle of "HA/DR equals to an operation" and safeguarding our territorial sovereignty to secure our maritime rights and privileges by providing on-call support and assistance to the frontline on site.

V. Expanding Strategic Cooperation

Due to relentless globalization and technological development, transnational exchanges become more frequent, and matters of national security, international affairs, and regional situations are more intertwined. Indo-Pacific is a major region of political and economic development, all regional countries have to work together to cope with potential instabilities caused by PRC's military expansion in the region. Our nation is located at a key node of geostrategic importance in the Western Pacific, and continues enhancing international strategic cooperation with regional countries, to collectively maintain the peace and stability in the region.

Section 3 Military Strategy

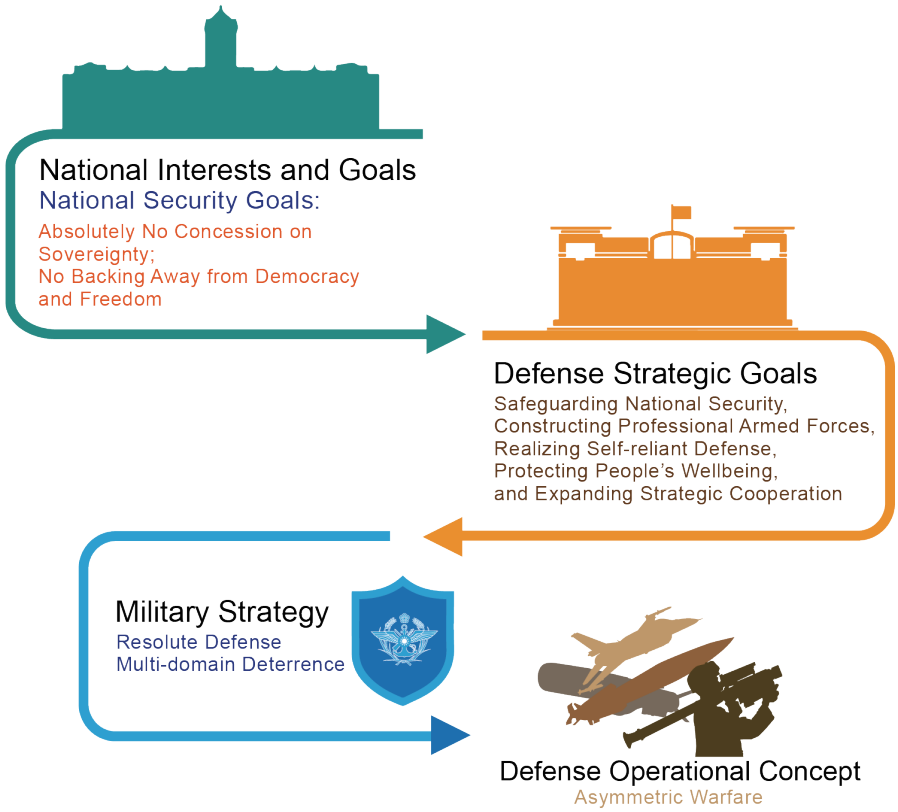
The military strategy of the Armed Forces is the "resolute defense and multi-domain deterrence," focused on constructing and employing the joint capabilities of 3 service branches, and integrating civilian resources based on the concept of all-out defense, to shape a posture in our favor by carrying out means of standoff and multi-domain deterrence, curb the enemy's intents of invasion, defeat its aggression, and ultimately ensure the security of our homeland.

I. Resolute Defense to Ensure Homeland Security

To construct a resolute defense, the Armed Forces shall enhance the capabilities in information, communications, and electronic (ICE) warfare, to ensure the security of operational C2, important assets, and critical information infrastructure, strengthen protection and preservation of combat power to improve our joint countermeasure and defensive capabilities. In addition, by merging with the people to form a comprehensive power of all-out defense and making use of favorable terrains and natural barriers, such as straits or canals, we shall construct a multi-layered defensive depth and improve our operational persistence to accomplish a posture of strategic perseverance to sustain our defenses and ensure ultimate security for our homeland.

II. Multi-domain Deterrence to Wield Joint Operational Capabilities

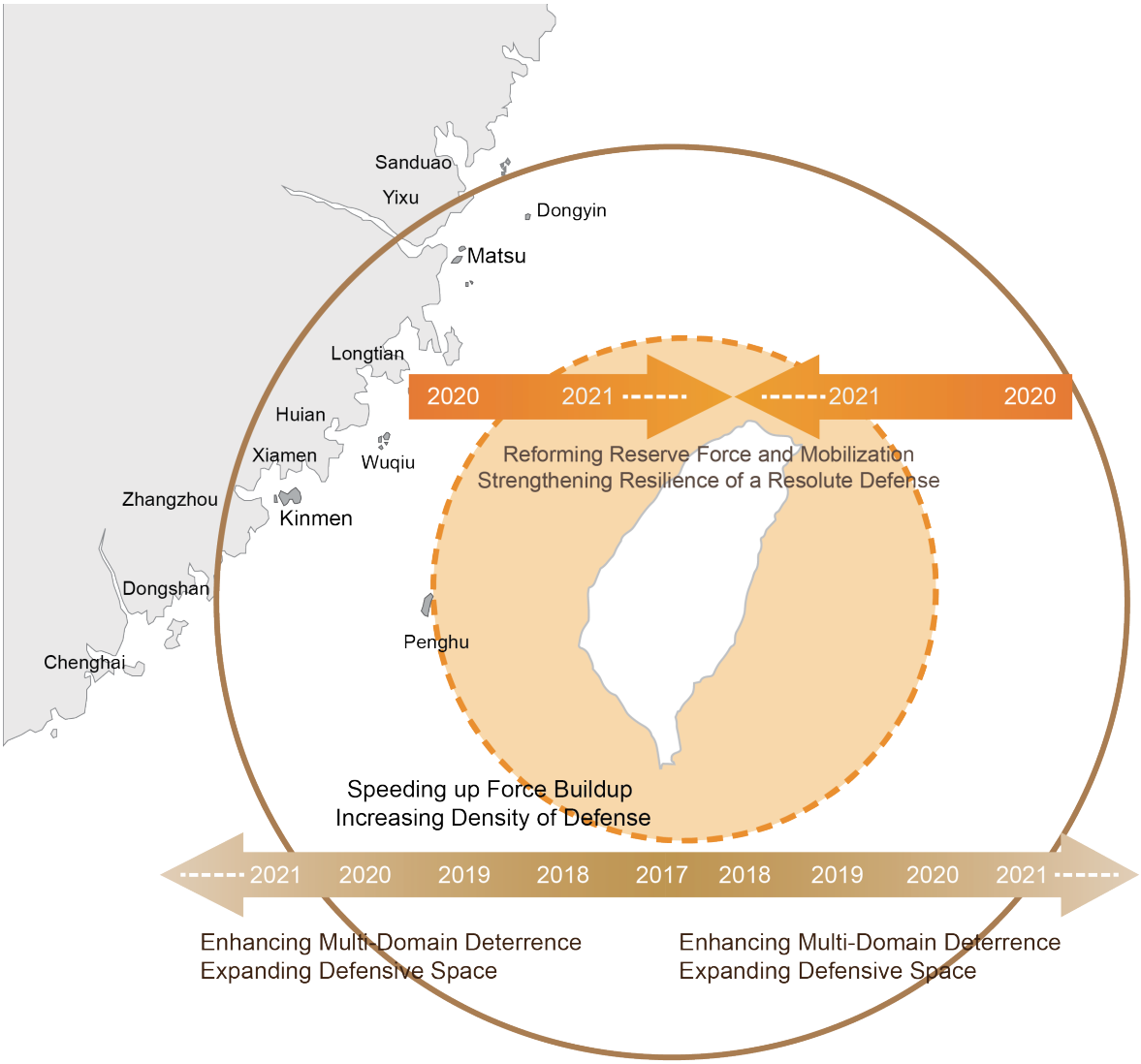
The Armed Forces shall employ means of multi-domain deterrence and joint operational capabilities with a thinking of asymmetric warfare to stretch the enemy thin or deter its intents to wage war. If it recklessly decides to invade, based on our concept of force application, "denial operations: hostile embarking phase; striking operations: hostile seafaring phase; attacking operations: hostile disembarking phase, and total annihilation operations: hostile landing phase," we are going to inflict multi-domain interception blows and joint firepower strikes to sequentially weaken the enemy's operational capabilities and dismantle its offensives, obstruct its landing, and ultimately thwart its aggression.



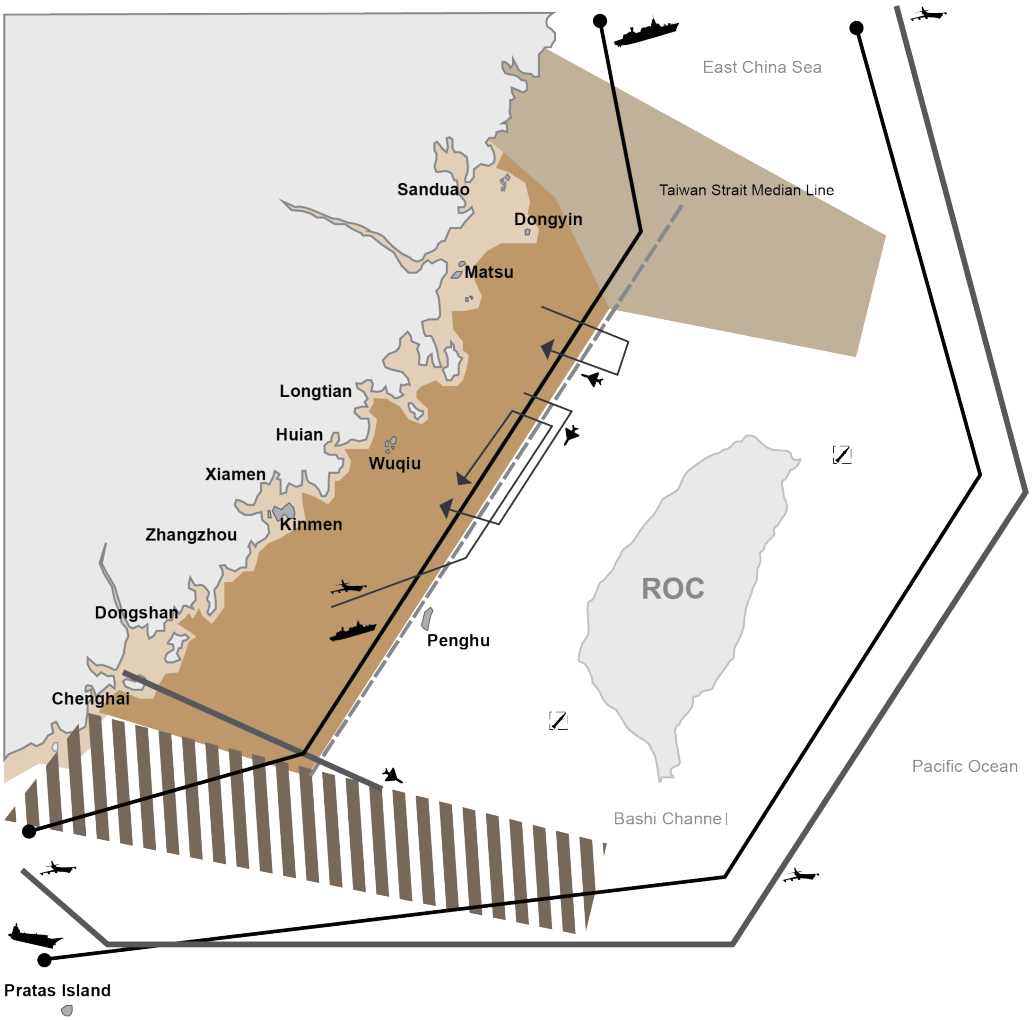
【Diagram of Strategic Planning】

Against the enemy's attempt to "seize Taiwan swiftly whilst denying foreign interventions," the current defensive operations concept of the Armed Forces is to ensure the integrity of our C2ISR capacities and combat capabilities through highly mobile, dispersed, and concealed deployment; standoff precision strike capabilities that disrupt enemy operational tempo and delay its advancement; concentrated air defense firepower, and a redundant C2 architecture, so as to create effective multiple waves of interception to increase kill ratio. We will also make use of coastal minefields and execute homeland defense with reserve force to initiate counterstrikes in depth and protect our HVTs, and ultimately carry though the guidance of our military strategy "resolute defense and multi-domain deterrence."

In view of the PRC's near completion of its buildup of capabilities of anti-access and area denial (A2/AD), maritime blockade, and swift 3-dimensional multi-offensive efforts against Taiwan, the ROC Armed Forces have to develop asymmetric capabilities using the geographic advantages of island defense. Capability buildup through military investments is an accumulative undertaking. With the existing foundation of littoral and coastal defense capabilities, we are expanding outward the coverage of our defensive capabilities. This will help us earn time for mobilizing all-out defense resources to construct a comprehensive national defense. The goal is strengthening the resilience of our resolute defense, extending our defensive depth, and maintaining our strategic endurance.



【Military Strategy and Concept of Defensive Operations】



Time	1949			1984	2013	2019	2021
Threatening Range							
Mainstream of Taiwan Policy	Armed Liberation	Peaceful Liberation	Peaceful United Front	Peaceful Unification, One Country, Two Systems (Never Giving up on Invasion of Taiwan with Force)		Taiwan Version of One Country, Two Systems (Never Giving up on Invasion of Taiwan with Force)	
Illustration of Military Threats	Activities of PRC's aircrafts and fleets were along its coastline.			The aircrafts flew away from the coastline and approached the Median Line.	PLA's military fleets conducted Cross-region Long-distance Navigation Training. (crossed the Taiwan Strait) PLA's military aircrafts routinely surrounded the island of Taiwan. (crossed the Median Line)		
Major Events	● Battle of Ku-Ning-Tou in 1949 ● Second Taiwan Strait Crisis in 1958 ● Establishment of U.S.-PRC Diplomatic Relations in 1979			● End of Martial Law in 1987 Missile Crisis in 1995 (Third Taiwan Strait Crisis) Missile Crisis in 1996 (Third Taiwan Strait Crisis)	● In 2013, PRC established the East China Sea ADIZ. Liaoning Aircraft Carrier and military aircrafts conducted cross-region drill for the first time. ● The aircrafts and fleets surrounded Taiwan in 2016 for the first time. ● PLA's fleets conducted Taiwan Strait Recon for the first time in 2018.	● Shangdong Aircraft Carrier crossed Taiwan Strait for the first time in 2019. ● The aircrafts harassed our southwestern ADIZ for the first time in 2019. It became a routine in 2020. ● Over 49 Sorties of PLA's aircrafts crossed the Median Line in 2020 .	
Crucial Weapon Buildup				Type 071 Amphibious Transport Dock X4	Type 071 Amphibious Transport Dock X4 Type 075 Landing Helicopter Dock X2 Liaoning Aircraft Carrier X1 J-15 Fighter Y-20 Transporter	Type 075 Landing Helicopter Dock X1 Shandong Aircraft Carrier X1 J-20 Fighter Z-20 Helicopter	

【Diagram of Evolution of PRC's Policy toward Taiwan and Analysis of Its Military Threats from 1949 to 2021】

CHAPTER

04 Development of Capabilities

The force buildup concept of the Armed Forces is based on "how we fight dictates what we equip, how we organize, what we acquire, and how we train" and the prospects of hostile threats and patterns of warfare. We continue advancing our joint capabilities, integration of capabilities, mobilization reform, organizational realignment with weapon upgrades, so as to construct the Armed Forces as a credible combat power.

Section 1 Defense Organization and Force Structure

Since the *National Defense Act* and the *Organization Act of the Ministry of National Defense* were promulgated on 1st March 2002, our nation has consolidated a democratic defense system of "civilian control over the military" and a "unified commanding and policymaking organ." The head of state is the Commander-in-Chief of the Armed Forces, 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 Armed Forces. The force structure is conceived after assessing adversarial threats and following the guidance of our military strategy, so that it is the fittest for operational effectiveness.

I. Defense Organization

1. Defense Organizational Hierarchy

The defense organizational hierarchy, structure, and authority of the ROC are as follows:

(1) President: The President shall assume the supreme command of the army, navy, and air force of the ROC as the Commander-in-Chief of the ROC Armed Forces. He or she exerts executive authority over the National Defense Minister, and the Chief of the General Staff (CGS) follows the leadership of the Minister to command the ROC Armed Forces.

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

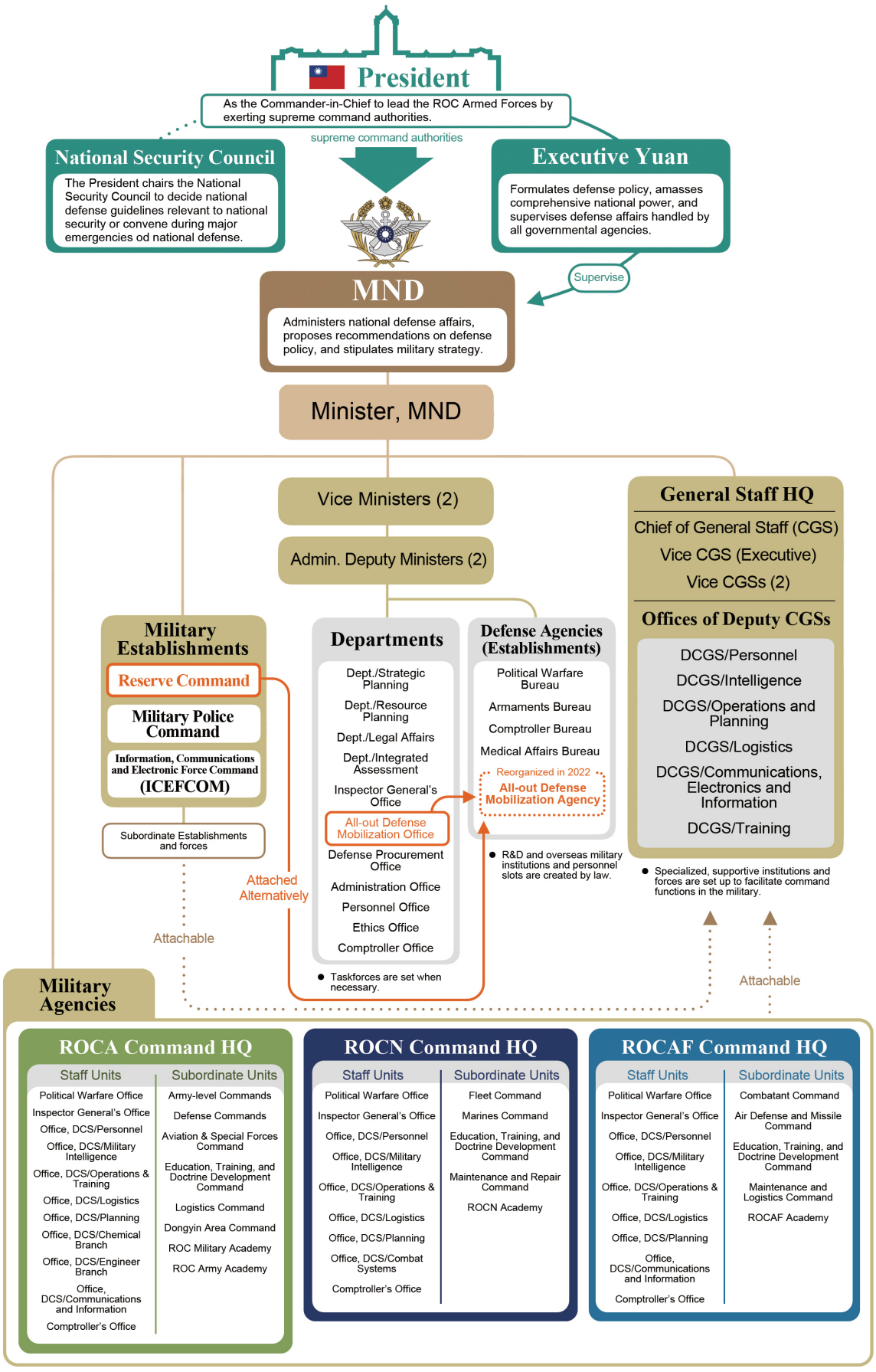
(3) Executive Yuan: The EY is responsible for formulating defense policies, consolidating overall national power, and supervising subordinate agencies to conduct defense relevant affairs.

(4) Ministry of National Defense: The MND is in charge of overall defense affairs, shall perform its policymaking, command, and armaments functions. Besides, it shall submit suggestions in defense policies and formulate military strategy accordingly.

2. Defense Organizational Structure

(1) Policymaking System

The policymaking system is composed of departments, offices, and direct affiliate staff units of the MND. The Vice Minister (Policy), MND, under the command of the Minister, is at the helm of the system, and supervises undertakings of defense policy, force buildup, resources planning and distribution, manpower planning, defense rules and regulations, overall capabilities assessment, defense policy implementation oversight, defense think tanks, mobilization, acquisition policy, history and translation, and other related to defense policy implementation.



【Diagram of Defense Organization and Authorities】

(2) Command System

The command system is composed of military agencies, institutions, and all units of the Armed Forces. The CGS, under the command of the Minister, is at the helm of the system and in command of the Armed Forces. The General Staff Headquarters (GSH) is a command staff unit to the Minister and a joint operational organ to exercise command over all 3 service branches. The GSH is responsible for proposing requirements for force buildup and combat preparedness, offering advice on defense and military resources distribution, overseeing readiness and training, formulating the order of battle, stipulating and executing operational plans, and other command functions.

(3) Armaments System

The armaments (acquisition) system is composed of divisions, offices, and direct affiliate centers of the Armament Bureau. The Vice Minister (Armaments), MND, under the command of the Minister, is at the helm of the system, and supervises undertakings of readiness and acquisition of armaments. The armaments system is responsible for planning for development of armaments, advancing defense technology industries, managing arms acquisition policies, exchange of civil-mil technologies, exchange and cooperation in the field of armaments, planning and executing defense construction programs, planning and offering advice for integrated logistics support (ILS), and other related policy consultations and reviews for armaments readiness.

II. Force Structure

After assessing hostile threats, following the aforementioned force buildup concept, and reviewing the timetables of weapons and equipment acquisitions and the allocation of defense resources, the total strength of the Armed Forces is capped at 215,000 under which, all the manning ratios of the 3 service branches and their force types, formations, and sizes, and the ratio of commissioned officers, non-commissioned officers (NCOs), and enlistees are adjusted in a rolling manner.

1. ROC Army

(1) The Command Headquarters of the ROC Army (ROCA) has specialized offices at staff level and oversees numbered-army commands; defense commands; an aviation and special operations command; an education, training and doctrine development command; a logistic command, and so forth.

(2) To meet the demands for defensive ground operations, the ROCA has established “combined arms battalions” in 7 combined arms brigades and an area command. These new battalions can fight independently in all mission types with tactical flexibility, so as to ensure the success of our joint homeland defense operations.

2. ROC Navy

(1) The Command Headquarters of the ROC Navy (ROCN) has specialized offices at staff level, and oversees a fleet command; a marine corps command; an education, training, and doctrine development command, and a maintenance and repair command, and so forth.

(2) Facing a future warfare pattern that requires flexible, multifunctional, maneuverable, and independent, the ROCN has been acquiring fast minelayers, Harpoon coastal defense system, and high-performance combatant vessels since 2020, to ensure the success of our joint sea control missions.

3. ROC Air Force

(1) The Command Headquarters of the ROC Air Force (ROCAF) has specialized offices at staff level, and has jurisdiction over the air operations command; air defense and missile command; education, training, and doctrine development command; maintenance and logistics command, and so forth.

【 Diagram of Organizational Realignment and Restructuring of the ROC Armed Forces 】

(2) To meet the demands for air defense operations, the ROCAF since 2017 has begun replacing vintage Hawk missiles with Sky Bow III missiles for joint air defense and missile defense operations and secure the airspace of Taiwan proper and Penghu Islands.

III. Continuing Organizational Realignment

Our force structure is being realigned based on the military strategy of "resolute defense and multi-domain deterrence" to transform the Armed Forces into a modern force that is maneuverable, compact, and integrated across domains. Enemy threats, allocation of defense resources, supply and demand of the labor market, acquisition of new weapons and equipment, military modernization, and low birthrate are also factored into the considerations as the Armed Forces seek to flatten C2 structure, replace manpower with technologies, replace troops with firepower, and integrate regular and reserve forces, combine reserve forces and mobilized resources, and promote interagency cooperation.

The ROCA is transforming its regular force to be a combined-arms type of force and also reinforcing the combat capabilities of the reserve forces. The ROCN and ROCAF continue realigning themselves along with the progress of the indigenous vessel & aircraft programs and arms acquisitions from the U.S. Under the digital development policy of the government to upgrade national ICE security, the ICE Force Command was placed directly under the MND and continues developing "cyber operations capabilities at the core and electromagnetic capabilities as a vision." The reserve forces will be operating with the regular forces both in peacetime and wartime, so all associated units' organizations are realigning accordingly to enhance our joint C2 effectiveness. Concurrently, we are reviewing our joint staff structures and C2 mechanisms at each numbered-army command (area defense command), which will be renamed as "theater of operations," so as to accomplish the goal of joint defense operations.

Section 2 Planning for Force Buildup

Facing a rapid military growth and intensifying threats from the PRC, the Armed Forces have to employ an innovative and asymmetric thinking without intentions to compete in an arms race to actively plan and acquire weapons and equipment that meet our demands for defensive operations, and build up our forces based on our military strategy of "resolute defense and multi-domain deterrence."

I. Asymmetric Warfare

Asymmetric warfare aims at attacking or capitalizing on the adversary's vulnerabilities and disrupting its operational center of gravity rather than attacking its principal strength. It leverages areas where the adversary has not adequately prepared for the threat or cannot fully defend given technological or quantitative constraints and, in wartime, use the natural barriers provided by the Taiwan Straits and our resilient capabilities to strike the enemy's critical nodes of operations, so as to thwart its war plans, disrupt its operational tempo, and paralyze its combat power. By maximizing our asymmetric advantages, we can frustrate the enemy's desire for a quick endgame.

1. To achieve deterrence, Taiwan must demonstrate an effective ability to target PLA vulnerabilities in ways that can overcome the PLA's advantages. The PLA's weakness is in the phase of sea transit. The Armed Forces must take full advantage of the natural barrier of the Taiwan Strait and fight in a resilient manner. We should not limit ourselves to waiting for the enemy's landing groups to sail through the Strait, but should also use measures to force the enemy to assemble forces at airfields or ports further away from areas opposite Taiwan.

2. Given the likely enemy course of action, an asymmetric strategy should be based on dissimilar responses to PLA capabilities. For example: countering hostile fixed-wing aircraft or airborne operations with mobile surface-to-air missiles; countering large surface ships with small, fast, mobile, and seaworthy resilient platforms, and, in wartime, incorporating Coast Guard assets equipped with anti-ship missiles; and countering the enemy's triphibious landing operations with mobile coastal defense cruise missiles, defensive naval mines, and landmines.

II. Major Endeavors of Force Buildup

Current capability buildup highlights 6 categories: 1) standoff strike; 2) counter-air operations; 3) sea control operations; 4) homeland defense; 5) information, electronic, and cyber warfare, and 6) joint C2ISR. Accordingly, we are reviewing and managing the development of our acquisition and R&D programs. The focus of the programs is as follows:

1. Standoff Strike

   (1) To procure long- range and precision fire launcher, the High Mobility Artillery Rocket System (HIMARS) to enhance our long-range fire support capability.

   (2) To procure the AGM-84H land-attack missiles, the AGM-88B high-speed anti-radiation missiles, the AGM-154C joint standoff weapon (JSOW) missiles, the Chien Hsiang anti-radiation UAVs, the Hsiung Sheng and the Wan Jian standoff precision missiles, which can be used to strike enemy's center of gravity and critical weaknesses, and obstruct its application of naval and air power.

2. Counter-air Operations

   (1) To procure the F-16V (Block 70) fighters and retrofit current the F-16A/B fighters to the same standard, so as to strengthen our overall air power.

   (2) To acquire the Sky Bow II (upgraded) missiles, the Sky Bow III land-based air defense missiles, the Patriot Advanced Capability (PAC)-2 (modified) missiles, and the PAC-3 missiles, to enhance our protection for HVTs.

   (3) To acquire mobile surface-to-air missile (SAM) systems to counter the threats of the enemy's fixed-wing aircraft or airborne operations.

(4) To increase rapid runway (taxiway) repair (RRR) capacities in airfields, so as to sustain the operations of our airpower.

3. Sea Control Operations

(1) To build a vessel which is compact, fast, mobile, and resilient in terms of seaworthiness, and can carry anti-ship missiles in wartime to join up with the Coast Guard and carry out maritime surprise attacks.

(2) To acquire mobile launcher versions of Hsiung Feng (HF) -2 and HF-3 missiles, and the RGM-84L Harpoon coastal defense system, so as to construct a joint sea control capability.

(3) To continue upgrading the combat systems for major surface combatants to strengthen our naval power.

(4) To acquire new generation of submarines and upgrade the combat systems for the Chien Lung-class submarines, to strengthen our underwater capability.

(5) To produce the naval version Sky Sword II surface-to-air missiles to effectively improve the area air defense of our surface combatants.

4. Homeland Defense

(1) To acquire defensive naval mines and landmines to counter the enemy's 3-dimensional landing operations.

(2) To acquire the M1A2T main battle tanks (MBTs) and the M109A6 self-propelled howitzers through FMS to enhance our ground strike and firepower support capabilities.

(3) To acquire additional TOW-2B and Javelin anti-tank missiles to strengthen our ground troops' mobile strike capability.

(4) To acquire new surface-launched Sky Sword II field air defense missile system and additional Stinger man-portable air-defense system (MANPADS) missiles, and upgrade field air defense radar systems, to effectively weaken enemy's threats of air attack.

(5) To procure light and heavy firearms, personnel combat gears, and facilities for training sites, to enhance reservists' overall combat power.

5. Information, Electronic, and Cyber Operations

(1) To acquire the field information and communications system (FICS) to integrate various information and electronic warfare approaches to maximize their effectiveness.

(2) To acquire mobile digital microwaves system to improve overall communications and information efficiency to support combat missions.

(3) To acquire new electronic warfare (EW) pods for the F-16s, and upgrade associated systems on the EW platforms to strengthen our EW capacities.

6. Joint C2ISR

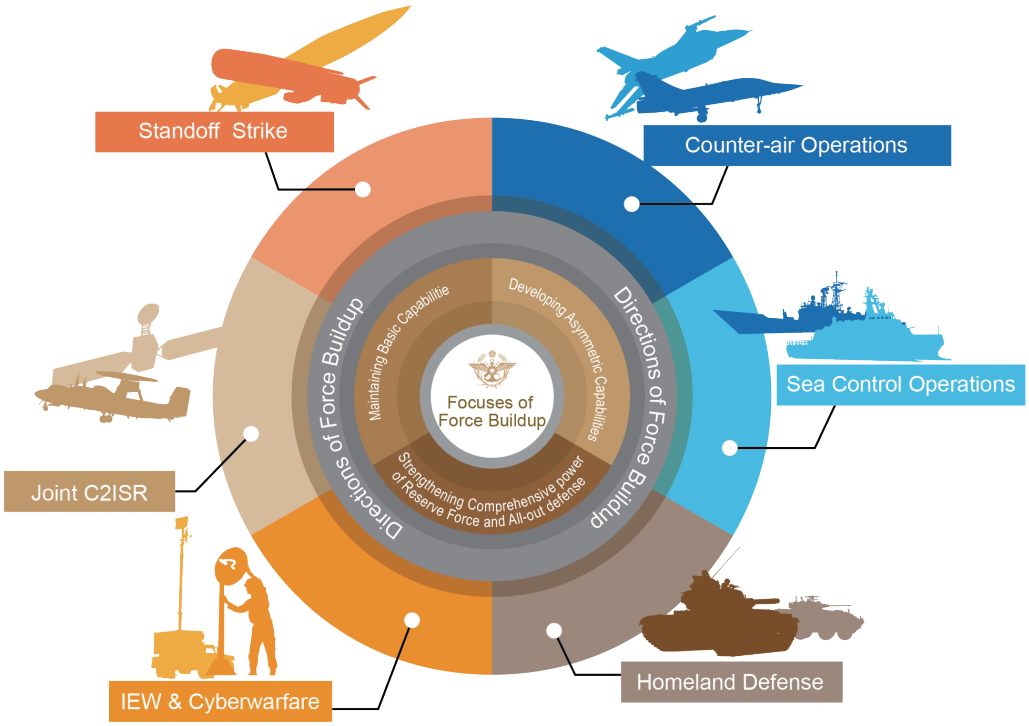
(1) To finetune our ground command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) systems and improve their protection, jamming, countermeasures, and backup capabilities.

(2) To acquire MQ-9B UAVs to extend our ISR coverage strengthen our long-range surveillance and early warning efficiency.

(3) To procure the new MS-110 reconnaissance (recce) pods for the F-16s, to monitor movements on the battlefield accurately and enhance our joint ISR efficiency.

(4) To develop short-range tactical UAVs to improve our monitoring over battlefield and ISR capabilities.

(5) To upgrade all maritime surveillance radars to extend their range and coverage, so as to effectively control all maritime movements.



【Diagram of Focuses of Force Buildup】

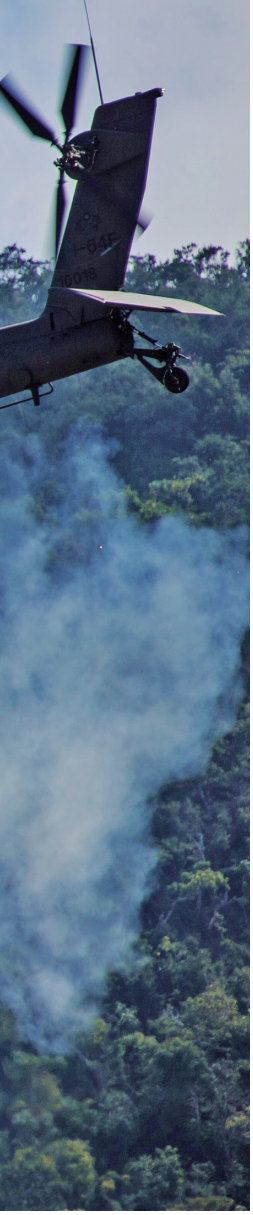
Section 3 Acquiring Capabilities

Facing PRC's rising military preparation against Taiwan, the MND has to appropriately allocate and manage available and limited resources to maximize their effectiveness to fulfill the demands for defensive operations, effectively support joint operations, and construct the Armed Forces as a credible power of deterrence.

I. Refining Weapons Acquisition Programs

Based on the following factors: long-term strategic environment, future threat assessment, long-term operational scenarios, future strategic concepts, and demands for capabilities, the Armed Force were able to visualize the patterns of potential wars, and have conceived our force buildup in the form of the Ten-year Force Buildup Roadmap. According to the Roadmap and the prescribed Planning Guidelines for Joint Capabilities, we have prioritized individual force buildup endeavors in our Five-year Force Buildup Plan in which the objectives of each endeavor are specified.

While waiting for the budget, the MND has completed all paper works for individual acquisition programs whose milestones have already been incorporated in MND's budgetary plan of each fiscal year. The budgetary plan is to be reviewed by the Legislative Yuan (LY) and approved by the President. When the approval is granted, the acquisition programs may proceed according to their schedules for each milestone, so as to meet our demands for defensive operations.



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	3

1.2.3. To strengthen our potential of a self-reliant defense and endeavor indigenous R&D and production for advanced weapons and equipment, the Armed Forces continue absorbing experiences and technologies by acquiring foreign weapons and equipment, so as to establish credible combat power to deter enemy's intent of aggression.

To improve the efficiency and quality of the processes involved and carry out the objectives of our self-reliant defense policy, the MND has assigned professional personnel to conceive the programs meticulously, and make their cost-effectiveness assessments rationally, and maintain a rigid and rigorous reviewing process, so as to optimize our planning undertakings. Furthermore, the MND has absorbed modern project management expertise to reach a coherence between our military strategy, acquisition programs, and their budgets, so as to help accomplish our missions for force buildup.

II. Speeding up Acquisitions for Vital Capabilities

At present, the Armed Forces remain prioritizing indigenous production as the primary source to supply weapons and equipment. However, for those necessary items that we cannot self-produce in the short term or can help us to drastically boost up our combat power, we may procure them through domestic or international commercial-off-the-shelf (COTS) channels or through FMS, to quickly acquire them to shape necessary capabilities, so as to respond to sudden changes of regional hostile threats or through a meticulous review of their urgency.

The Armed Forces may transfer experience and techniques of operating these weapons and equipment from foreign sources to strengthen our foundation for a self-reliant defense, and steadily advance our indigenous R&D capacities for modern weapons and equipment, so as to transform the Armed Forces as a credible combat power to deter the enemy's intent of invasion.

Section 4 Integration of Capabilities

The Armed Forces, aiming at rapidly strengthening capabilities, have been integrating the following endeavors to concentrate our combat power at enemy's operational center of gravity, critical weaknesses, and carefully chosen targets, create a battlefield to our favor, and ultimately accomplish operational objectives. These endeavors include: strengthening joint command mechanism, realigning planning for acquiring joint capabilities, sharpening tactics and combat skills, integrating information and electronic warfare capabilities, upgrading weapons and equipment, optimizing logistics and maintenance, raising mental readiness, and sustaining reserve power.

I. Planning for Acquiring Joint Capabilities

1. The Armed Forces have contemplated the hostile threats, regional developments, and the coherence and potential developments of capabilities, to draw up a "planning for acquiring joint capabilities" timetable, which is divided into 3 phases: near-term (5 years), middle-term (15 years), and long-term (25 years), to fulfill the needs for future defensive operations.

2. The joint capabilities to be acquired are focused on standoff strike; counter-air operations; sea control operations; homeland defense; information, electronic, and cyber operations, and joint C2ISR.

3. We have reviewed and incorporated items of weapons and equipment to be acquired and gotten our priority straight into the Force Buildup Plan, and will realign our organizational structure with these acquired or upgraded items to continue strengthening our joint capabilities.

II. Command Mechanism for Joint Operations

To construct a complete operational command system for the Armed Forces, the MND has integrated all datalinks to strengthen C2 efficiency and enhance countermeasures and response capability for joint ISR and C4ISR systems. At the same time, the MND has employed capacities in the private sector to provide better common operational pictures (COPs) at all levels and increase transparency in the battlefields, so as to allow all forces operate in synch, improve

1 2 1.2. The Armed Forces, aiming at rapidly strengthening capabilities, carefully choosing targets, and concentrating combat power at enemy's center of gravity and critical weaknesses, create a battlefield to our favor, and ultimately accomplish operational objectives.

their operational command capability, and facilitate the progress of joint operations of 3 service branches.

In order to strengthen the C2 efficiency of 3 service branches, the MND has established interoperability and redundancy for their command posts, and continues expanding their respective fleet of datalink platforms. To adapt to a future battlefield of "short alert time and high operational tempo" and obtain an upper hand in that battlefield, all of our C2 systems, weapon platforms, and surveillance and reconnaissance assets are connected to generate better COPs for the air, naval, and ground forces, so as to achieve the following results: strengthening C2 and intelligence sharing, providing automated operational assessments and recommendations for decision making, speeding up operational reactions, and shortening the C2 processes.

To enhance the C2 efficacy for joint operations and the protection for short-range air defense forces, the MND has completed the "integrated air defense concept" to combine short-range air defense forces from 3 service branches and give the headquarters of each theater of operations (TOs) C2 authority to employ COPs and a communications mechanism with air and naval assets to increase the reaction time for forces on alert and the efficacy of our joint operations. By this token, we may flatten our command hierarchy, and achieve cross-domain integration for these forces.

III. Information and Electronic Warfare Capabilities

To deal with cyber threats, the Armed Forces are dedicated to maintain cyber security by performing multiple approaches, such as cyber defense and cyber battlefield management. We have created a training site for cyber offenses and defenses with simulated scenarios for realistic cyber warfare drills in which the participants are divided into group A and group B to execute a force-on-force cyber operational training. We continue verifying the effectiveness of our cyber warfare gears and the quality of our specialists in cyber warfare by following the training requests of "being tough and difficult for achieving excellence and robust." The results of the drills are to be appraised online to sharpen participants' response capability for and familiarity with cyber warfare at strategic and tactical levels, and greatly improve their proficiency of cyber operations.

Facing the threats of PRC's stealth fighters, unmanned combat aerial vehicles (UCAVs), and the like, the MND has planned to acquire new surveillance equipment which are able to detect targets in multiple domains and provide

a complete COP, after a comprehensive review from comprehensive perspectives of operations, technologies, and systems involved. In addition, we have integrated all capacities to manage data of electronic spectrum and analyze electronic parameters to complete our database. At the same time, we continue maintaining the availability and security of our electromagnetic spectrum, constructing a sound electromagnetic barrier in the vicinity of the Taiwan Strait, strengthening our countermeasures against electromagnetic interference, and enhancing our real-time detection, analyzing, and interfering capabilities against the enemy's communications systems, datalinks, and advanced ISR and fire control systems.

IV. Integration of Maintenance Capacities

To maintain the readiness for all weapons and equipment, the MND continues integrating the logistic information management system (LIMS). The LIMS is working as a common operating platform for all levels of maintenance capacities, and the MND manages activities through the LIMS to build up capacities for all service branches, integration of maintenance capacities, interservice supports, and the statuses of our FMS cases and commercial sales. It can also help us to control our logistic costs, and review newly-established repair and maintenance capacities at field locations or bases for emerging units in the Armed Forces. The LIMS can effectively support our logistic service and maintenance efforts, sustain the readiness of our weapons and equipment, and strengthen our maintenance capacities for a self-reliant defense.

V. Improving Psychological Readiness

The MND continues to instill the military ethos, strengthen the patriotism, solidify a sense of unity, and assert the core value of the answers to "whom we fight for and why we fight" by using training and educational courses in military educational institutions, regular forces, reserve forces, and all-out defense educational sessions in external schools with a variety of propaganda channels, such as the Youth Daily News, the Military News Agency, Voice of Han Broadcasting Network, and the Facebook page of the MND Spokesman, and other new types of media, and hosting commemorative events.

1. Propaganda to Toughen Mental Strength

   The propaganda undertakings of the Armed forces are mainly to instill a tried-and-true awareness of "abiding by the *Constitution*, adhering to patriotism, maintaining loyalty and allegiance, and realizing nationalization of military forces," to active members, their dependents, and reservists. The contents of the propaganda may blend with policy requests, current missions, social atmosphere, events, and defense policy endeavors and are to be disseminated through Juguang Park TV episodes, specialized training sessions for mental strength, monthly gatherings, and academic seminars in the forms of topic discussions, news reports, and video clips. In addition, the MND continues hosting a series of commemorative events on days of significance to impart well-established military values and a sense of honor, foster a sense of unity, raise up morale, toughen mental strength, and ultimately accomplish the mandate of the Armed Forces.

2. Countering PRC's Cognitive Warfare

   To deal with PRC's cognitive warfare, the MND actively studies its possible means through our technological advantages without being forced to respond rashly. After that, the MND conceives viable approaches through our big data, a political and economic comparison analysis, and a deduction analysis by the game theory, and timely broadcast video clips or propaganda material in response, so as to solidify the mental defense of our people.

   Concerning its cognitive warfare in the military domain, the MND continues promoting the image of the sturdy and robust façade of the Armed Forces to strengthen the confidence of our people without resorting to provocation or showing a fear of war. We are hoping to employ positive propaganda initiatives to strive for international support to avert its cognitive warfare.

3. Tightening up Security

   Facing PRC's tactics of the united front and a variety of infiltration activities, the MND continues executing background checks on materiel suppliers and service providers and providing security educations for active members, dependents, and reservists, so as to maintain our internal security and prevent us from the enemy's espionage and intent to develop undercover organizations. In addition, we will cooperate with law enforcement agencies to investigate any traces of infiltrations, so as to harden the overall security of the Armed Forces.

Section 5 Training for Combat Preparedness

"To train as we fight to combine training and operations as one" is the guidance for Armed Forces to conceive the training objectives and preparations for major drills and exercises of the fiscal year, in a concept centered on combat preparedness with education and training as the means and missions of the participating forces as their features. These training activities will be rigorous, tough, strict, and difficult, and be supervised and redundantly evaluated through the military hierarchy, so as to carry through our combat preparedness and training undertakings.

I. Training for New Recruits

1. Military Training for Regular Conscripts

Regular conscripts have to go through 4 months of military training with the first 5 weeks of basic military training (BMT). After the BMT, they will be assigned to either regular or reserve units to serve and undertake another 11 weeks of unit training (UT). Those conscripts with better performance shall receive military branch training (MBT) to become cadre members with medium-level military occupational specialties (MOSs), meet our manning demands for specific MOSs in regular forces and reserve forces after mobilization, and beef up the defensive strength of these two forces.

(1) Basic Military Training

After being conscripted, regular conscripts will to receive 5 weeks of BMT, which is centered on physical fitness, combat skills, weapons practice, and individual combat practice. During the BMT, an enlistee shall learn the basic military courtesy, weapons operations, and basic combat skills, to become a "qualified rifleman."

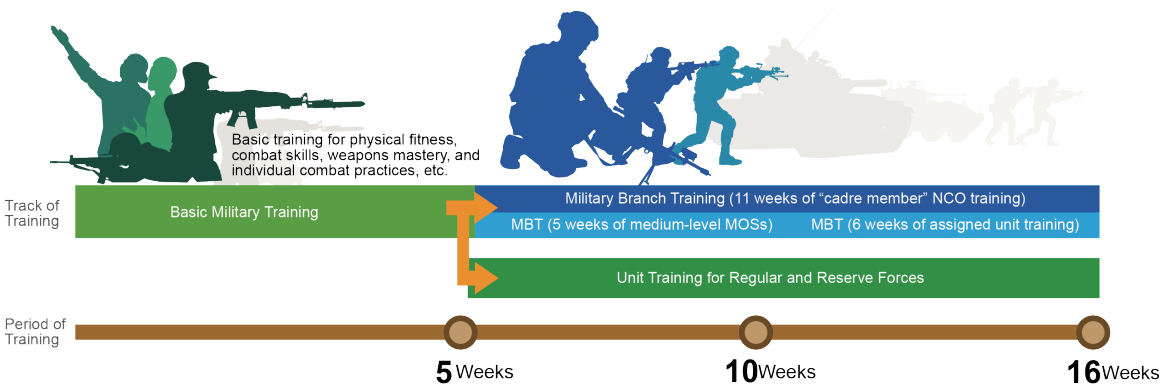
(2) Unit Training

A. Assigned Unit Training

To train them with practical unit experiences, maintain a constant manning ratio of the forces, and strengthen mobilization capacities, conscripts after the BMT are chosen by lot to serve in regular or reserve forces of designated service branches, such as the army, navy, air force, military police, or specific units, such as infantry brigades, recruits training centers, for 11 weeks of assigned unit training (AUT) and basic combat training.

B. Military Branch Training

According to the manning requests for specific MOSs in the reserve forces, conscripts after the BMT are chosen either "by performance or by lot" to serve in military branch training units of designated service



【Diagram of Military Training for Regular Service Members】

branches, such as the army, navy, air force, and military police, for 11 weeks of "cadre member" NCO training or "medium-level MOSs" MBT training. For conscripts who receive "cadre member" NCO training, they will be listed in the NCO candidate roster for reserve forces after the training. For those who receive "medium-level MOSs" training, they will first go through 5 weeks of MOS training, and then another 6 weeks of AUT in regular forces.

2. Military Training for Volunteer Enlistees

(1) BMT

A volunteer enlistee has to go through 8 weeks of BMT to become a "qualified rifleman." Before the BMT ends, each enlistee has to finish a test for combat shooting and 25 km tactical march.

(2) MOS Training

The purpose of the MOS training is to transform each enlistee as a qualified combatant. Its curriculum of 8 weeks or above is to provide MOSs according to each enlistee's designated specialty in his/her service branch. Enlistees are expected to have 2 to 3 MOSs after the training, so as to fulfill the demands for cross MOS training in the forces.

II. Station Unit Training

Currently the station unit training (SUT) is designed after a concept of "combining training and operations as one," and is centered on "MOS training and certification" and "fundamental training for forces" to prepare all recruits for realistic combat preparedness missions, so as to substantively strengthen our defense power.

1. MOS Training and Certification

Individuals' physical fitness, combat skills, and MOSs are cornerstones to form the strength of a unit. Assigned to a unit after the BMT, conscripts or enlistees have to pass an "MOS certification," and their statuses of qualification will be double checked during major drills and exercises by MBT instructors, and will be further validated in the base training. With this complete training and validation design, we are able to cultivate potential instructors and ensure the professionalism of our conscripts and enlistees.

2. Unit Initial Training

Conscripts and enlistees may receive unit initial training (UIT) at their designated units. The training curriculum is designed according to their individual service, unit, and mission, and is centered on combat loading, tactical maneuvering, mixed weapon shooting practices, combat scouts and patrols, contingency reaction, anti-terrorism, and HA/DR. Following the training regime, the UIT may entail the base training (BT) and joint operational drills and exercises.

III. Base Training

The BT is aimed at validating the results of the UIT and equipping enlistees with combat-ready skills to receive the next phase in the validation centers of military branch units. Based on the principle of "merging mission with training" and "training with realistic setting," the validation phase adopts a defensive operation as the scenario, using realistic hostile threats and environment, to validate all participants' unit coordination, joint operational tactics, and force-on-force (or live firing) performances.

IV. Joint Training

Following the instructions on each stage in our defensive operations concept, the MND, based on current training settings and structures, has been executing the "service branch coordination and joint operational training," linking with our joint operational command mechanism, to create a system of joint operational training loop and strengthen our overall defensive capabilities.

1. Precision Missile Launch Drills

Following annual training plans, the MND has been integrating counter-air, sea control, and ground forces of 3 service branches to execute "precision missile launch drills" at Jiupeng base, focusing on the specific stage with realistic settings in our defensive operations as simulated in drills and exercises, to verify the training and joint firepower coordination proficiencies and the precision strike effectiveness of the participating forces.

2. Air and Naval Joint Drills

To strengthen joint counter-air and sea control capabilities, the ROCAF and ROCN shall conduct annual air and naval total tactical validation (TTV) drills (codenamed Tian Long for the ROCAF; Hai Qiang for the ROCN) to integrate C2 mechanisms of participating forces from the TOs, ROCAF, and ROCN as a single mechanism. Participating ROCN fleets and ROCAF missile, anti-air artillery (AAA), and ICW forces, and wings are collectively directed by the integrated C2 mechanism to perform joint air defense, anti-submarine, interception drills with multiple scenarios of threats, so as to sharpen our joint operational effectiveness for composite forces and the mission commanders.

3. Joint Landing Operational Training

The joint landing operational training continues to be held for marine corps brigades after their completion of training in an amphibious training base. The participating brigades will be attached by proper naval, air, and army aviation assets to form a joint amphibious taskforce to perform drills of assault landing operations. The taskforce may lead the TO forces to practice joint anti-landing drills to verify the effectiveness of the supportive operations conducted by the taskforce, and joint homeland defense capabilities of the TO.

4. Joint Anti-landing Operational Training

(1) Theaters of Operations in the Taiwan Proper

Acting on a scenario of the enemy's regular landing operations at a stage of our defensive operations, the joint anti-landing operational training continues to be held in the TOs in the Taiwan proper. The headquarters of the participating TO is in command of all naval and air assets and ground combat, combat support, and service support forces, with the assistance of civilian resources based on the concept of all-out defense, to conduct joint anti-landing operational live firing drills, so as to sharpen our joint C2ISR and firepower coordination capacities and verify the effectiveness of our joint firepower strike.

(2) Defense Commands at Offshore Islands

By garrisoning at an independently location, the defense commands (headquarters and garrisoning groups) at offshore islands continue directing stationing forces and firepower from service branches to conduct joint anti-landing operational live firing drills by collectively on the occasion of combat preparedness training sessions, with scenarios that meet the characteristics within its area of responsibility (AOR) and the enemy's possible actions. The drill is focused on dissemination of intelligence, joint C2 operations, garrisoning operations, core zone protection, and joint firepower strike training, so as to pragmatically verify our joint defensive capability at offshore islands.

5. Joint Airborne and Anti-airborne Operational Training

During the training, a joint airborne taskforce, formed by a special operations unit and an attack helicopter group of the ROCA Aviation and Special Forces Command and the 6th Composite Wing of the ROCAF, are acting as the opposing unit to initiate airborne/heliborne operations to lead forces of the participating TO to perfom joint anti-airborne/heliborne operations, in order to verify the maneuverability and cross-TO support capabilities of the special ops unit and the counter-contingency and homeland defense capabilities of the ground forces.

6. Combined Arms Brigade and Joint Operational Training and Validation

Aiming at strengthening joint capabilities of our main ground forces, the Combined Arms Bridges of the ROCA and Marine Corps Brigade of the ROCN are merged as a joint taskforce after their completion of BTs, and

participate joint operational training and validation. As a result, the joint command efficiency and independent combat power of the forces shall be verified.

7. Han Kuang Exercise

Annual Han Kuang (HK) exercise is composed of two phases: a “Compound Command Post Exercise (CPX)” and a “Field Training Exercise (FTX)”. In the first half of the year, the MND holds a “Compound CPX” in a 24 hours non-stop setting. During the exercise, the opposing force will generate scenarios to simulate the most rigorous threats and all possible actions of the enemy in the “joint theater level simulation (JTLS)” system, while the defending force begins to debate and verify viable avenues for defensive operations through panel discussion, which shall involve all participating units to brainstorm possible solutions of tactics or techniques. The results of this collective wisdom can be rendered into guidance for force application, which may substantively enhance the staff corps’ professionalism and a commander’s decision-making efforts in wartime.

1 2 3 4

1.2.3.4. The Armed Forces continue to perform joint anti-landing operation drills, joint C2ISR drills, and missile launch drills in the annual HK exercises, so as to enhance the firing and overall air defense distribution, C2, and engagement capabilities of the navy and air force.

In the latter half of the year, the MND combines the results of the CPX with the prescribed plans to conduct a "FTX," which is divided into 4 stages: "force preservation, comprehensive counter-air, joint sea control, joint homeland defense." The HK exercise is held for 5 days in our territorial waters, airspace, and the AORs of all TOs, in a form of joint defensive operational exercise in which all participating units shall call for "all personnel in full gears with partially live ammunitions" to join. Moreover, civilian resources based on the concept of all-out defense will be integrated to validate the operational training results of all participating units. The HK exercise is expected to strengthen our "joint operational command mechanism," "effectiveness of joint capabilities," "the power of all-out defense," and the comprehensive defensive capabilities of the Armed Forces. The action items of the "FTX" are subject to changes, depending on the force majeure, such as the ongoing epidemic. The MND will follow the anti-epidemic instructions from the central government, to keep the exercise from the epidemic and maintain the overall combat power of the Armed Forces.

8. Combat Preparedness Training

Annual combat preparedness training is focusing on the "defensive operations." The TOs (including units at the same level) are in charge of the progress of the training for the forces from different services in their AORs. Following its prescribed plan, the training is carried out through "on-site scouts, war gaming, on-site tactical rehearsals and FTX" in a realistic manner, to allow all participating forces to understand their missions, familiarize with the environment of battlefields, carry out their operational plans and approaches of battlefield management, and ultimately strengthen the joint defensive capabilities.

V. Safety Control for Combat Preparedness and Training

Facing an escalating tension across the Taiwan Strait, the Armed Forces are getting more stressed to maintain combat preparedness. As a result, we are carrying out multiple safety control approaches from the perspectives of combat preparedness, military education and training, and logistic support, so as to eliminate potential risks.

1. Realizing Fundamental Education and Training

To manage risks in our training activities, the Armed Forces continue imparting the military personnel in fundamental education and training courses the importance of standardization and professionalism by following doctrines and technical orders. As a result, consciousness about risks and abilities to identify risk factors shall be raised, and correct understanding about risk management shall be established while carrying out the missions.

2. Maintaining Strict Oversight over Training

In line with the training tempo, the MND has constructed an oversight hierarchy in which each level has its individual authority and responsibility. The oversight can be done by carrying out the concept of the management by wandering around (MBWA) and a consultation mechanism of "supervision by direct superiors." For the safety of our training activities, we have been paying the closest attention to risk factors in the environment, weather, and equipment, so as to minimize the risks.

3. Improving Training Discipline

To maintain training discipline, we continue asking all units to deliver precautionary talks and safety instructions before the start of any training activities, and strictly follow "three no changes" of training location, schedule, and curriculums, "three no short counts" of personnel, weapons, and equipment, and the principle of "procedures, steps, and instructions." This code of conduct can help us manage, control, and oversee the progress of all training activities in a well-arranged mechanism and environment, so as to improve our overall combat strength.

4. Strengthening Professionalism and Awareness of Crisis

The MND continues executing all MOS certification activities to make sure that all personnel are familiar with the operations of designated weapons and equipment, enhancing their reactions to emergencies, and strengthening the survival and simulator training for them. We continue strengthening their awareness of crises and risks on the conditions of our current defense policy, weapons and equipment, and training environment, so as to optimize our military training.

VI. Development of Military Doctrines

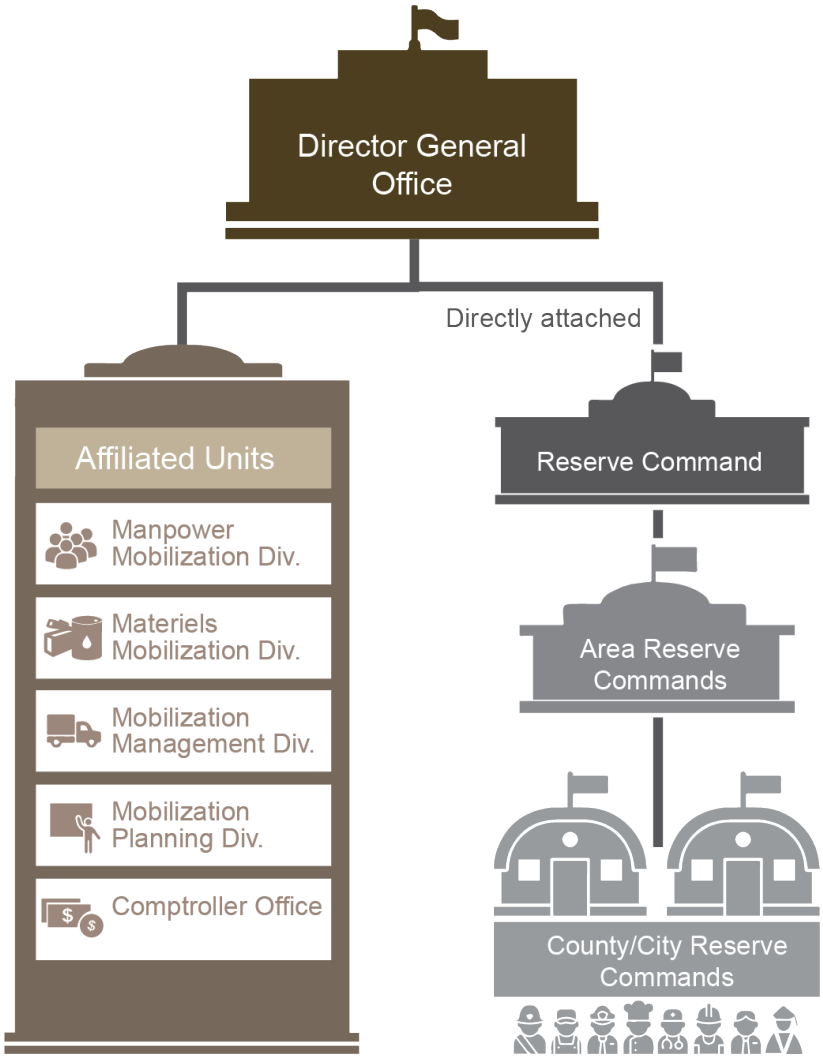
The development of doctrine of the Armed Forces is considering the following factors: 1) hostile threats, 2) the concept of military strategy, 3) operational requirements, 4) acquisition of new weapons and equipment, and 5) organizational reform. We are focusing on compiling "joint operations" doctrines to integrate all supportive doctrines of operations and expertise, so as to construct a complete doctrinal development system with distinctive levels according to the planned schedule. We are hoping to present a set of doctrines that is forward-looking, pragmatic, and revolutionized, so as to adapt to the current situation and the requirements for future operations.

Section 6 Strength of the Reserve Force

To effectively improve the combat power of the reserve force, the MND has begun the reform in mobilization, primarily focusing on 3 directions: 1) merging the reserve and mobilization managements systems as one, 2) achieving unity of regular and reserve forces, and 3) promoting interagency cooperation. In addition, concerning hostile threats and our transformation of military service system, the MND has been pushing for the following endeavors to boost up our mobilization capacity and the defensive capabilities of the reserve force. These endeavors include: 1) integrating mobilization organization, 2) promoting interagency coordination and cooperation, 3) reinforcing reserve forces, 4) strengthening recall training, and 5) providing proper preparation of equipment.

I. Integrating Mobilization Organization

To strengthen the implementation of "all-out defense mobilization" policy, the MND has set up the All-out Defense Mobilization Agency (ADMA) to which the jurisdiction of the Reserve Command was transferred, so as to integrate mobilization functions and "merge the reserve with the mobilization management systems as one." The ADMA can strength the coordination and integration with governmental agencies and local governments in mobilizing manpower, material, financial, and technological resources, so as to realize the purpose of "interagency cooperation" and improve the efficiency of mobilization.



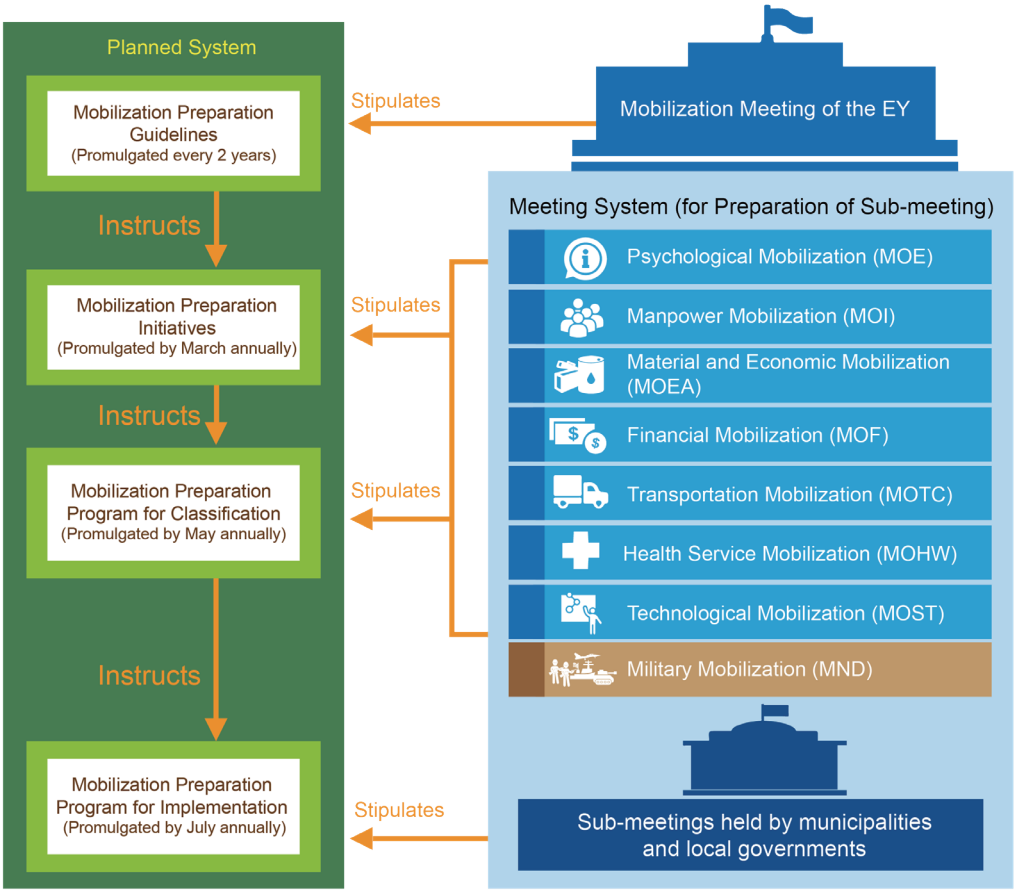
【Diagram of Organizational Structure of All-out Defense Mobilization Agency】

II. Promoting Interagency Coordination and Cooperation

The ADMA is responsible for conceiving policies for both “all-out defense” as well as “military mobilization” and supervising their implementation. It integrates mobilization capacities for manpower and material resources as well as strengthen coordination and cooperation with governmental agencies and local governments. During annual HK exercises, it holds the Min An and Wan An drills to verify the effectiveness of all-out defense civilian resources to support military and HA/DR operations.

III. Reinforcing Reserve Forces

After reviewing the status of our reserve forces from the perspective of overall defensive operations, the MND has set up 2 additional infantry brigades and 1 reserve force training center in 2021, and will set up another 3 infantry brigades and 2 reserve force training centers in 2024. We are hoping to increase our recall training capacity with the expansion of our reserve forces and realignment of the organization, so as to merge our regular with reserve forces to form a robust and sustainable defensive power.



【 Diagram of All-out Defense Mobilization Mechanism 】

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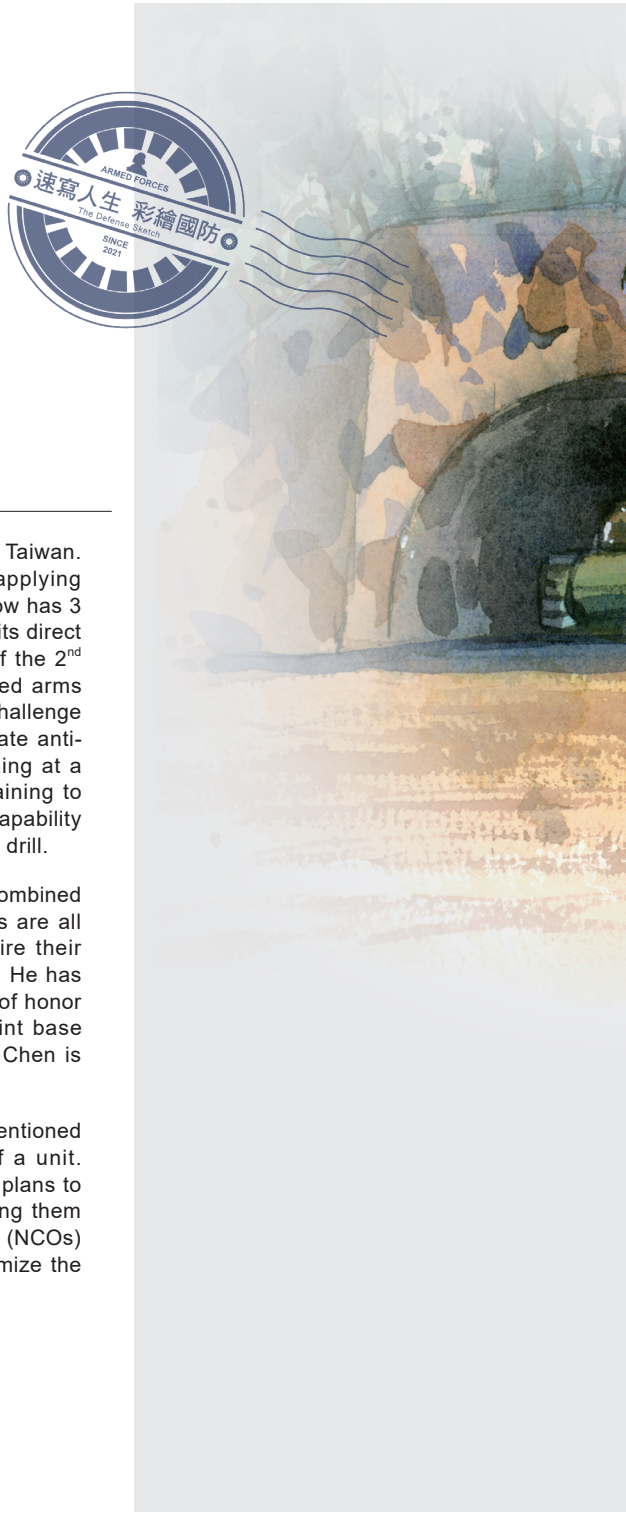
1.2. By taking hostile threats and our transformation of military service system into consideration, the MND, based on the current foundation of its mobilization system, has been pushing for "integrating mobilization organization," "promoting interagency coordination and cooperation," "reinforcing reserve force," "strengthening recall training," and "providing better equipment," so as to boost up our mobilization capacity and the defensive capabilities of the reserve force.

IV. Strengthening Recall Training

To rapidly refresh reservists' combat skills, the MND has raised the frequency from originally "5-7 days of recall training once every two-year" to "14 days of recall training every year." A test run will be initiated in 2022 to create a constant manning perimeter as a reference for relevant policy studies or training preparations.

V. Providing Better Equipment

To equip the reserve force with the same gears as the regular forces, the MND has incorporated the reserve force buildup requests into its acquisition plans for weapons and equipment and its construction plans for storage facilities, in order to reach the "unity of regular and reserve forces." Moreover, the MND is attempting to fulfill the requests annually by the following approaches: 1) evenly distributing supplies between regular and reserve forces, 2) withdrawing available items in the inventory to the reserve forces, 3) transferring excessive items from regular to reserve force, 4) repairing and retrofitting current items, and 5) proposing acquisition programs. All budgetary requests shall be split and earmarked annually, and related acquisition programs shall be annexed into our Five-year Force Buildup Plan, to acquire the needed items annually or at different stages as stipulate in the programs, so as to strengthen the combat power of our reserve force.



Grooming Rigorously as a Rock-solid Force

The 542nd Armor Brigade of the ROC Army is garrisoned in the north of Taiwan. To improve its independent operational capabilities and flexibility of applying tactics, it began to inaugurate “combined arms battalions” in 2020, and now has 3 combined arms battalions, 1 artillery battalion, and multiple companies at its direct command. According to Lieutenant Colonel Hsu Hong-lin, Commander of the 2nd Combined Arms Battalion, 542nd Armor Brigade, the concept of combined arms involves incorporation of multiple service branches, and has become a challenge to its the commander of the reorganized battalion, who needs to integrate anti-armor and mechanized infantry tactics altogether, and leads it for training at a joint base soon after its inauguration. After going through a year of training to establish the bond, his battalion has been verified of having substantial capability improvements by becoming a distinguished unit during a recent Lian-yong drill.

Captain Chen Kai, Commander of the 2nd Combined Arms Company, 2nd Combined Arms Battalion, 542nd Armor Brigade, pointed out that his fellow soldiers are all enlisted voluntarily, and that it is his responsibility to help them acquire their military specialties, realize purposes, and set goals for their career track. He has set up a range of evaluations and physical competitions to build a sense of honor and boost morale for his fellows, who would excel themselves in a joint base training. Then the bond of his company will be much stronger. Captain Chen is very proud of establishing this virtuous circle for his troop.

Sergeant supervisor Liao Jun-wu of the 2nd Combined Arms Company mentioned that enhancing physical fitness is necessary to build the strength of a unit. Currently, their fitness training regime is scientifically designed with meal plans to enhance the fitness of their fellow soldiers in a most efficient way, turning them into both “sportsmen and warriors.” He will lead non-commissioned officers (NCOs) to assist his commanding officer in a professional manner so as to maximize the potential for his unit.

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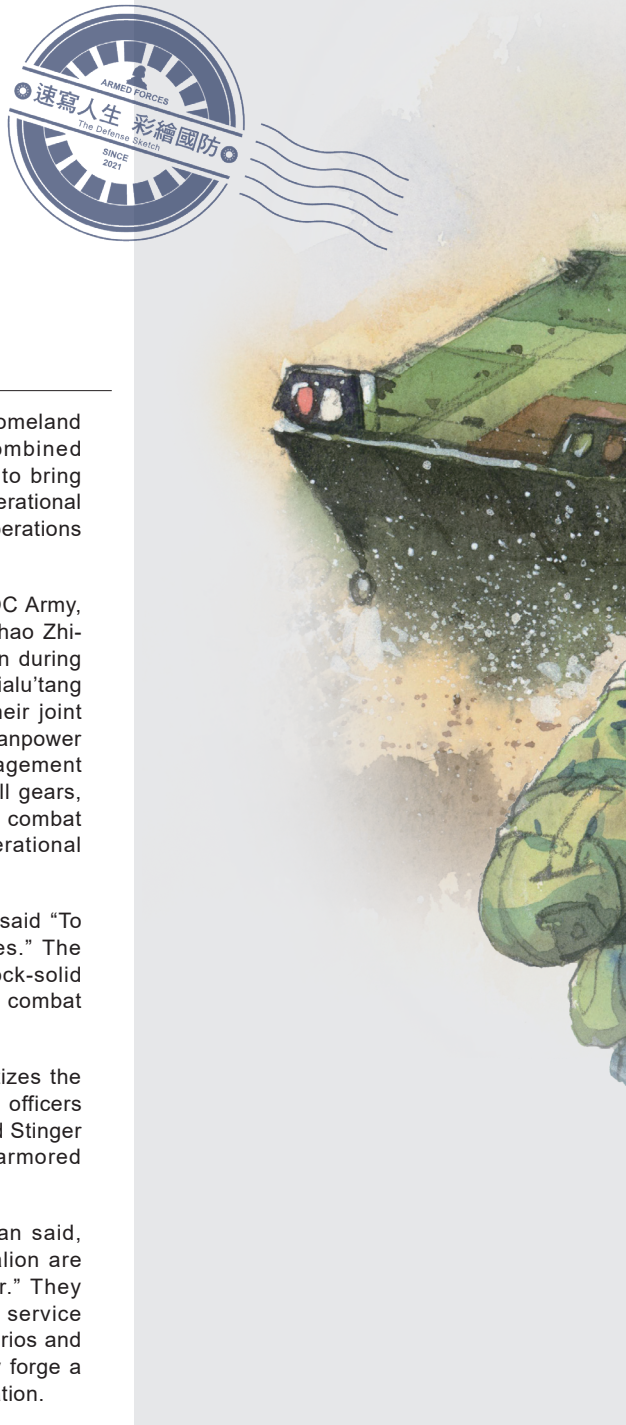


Being Independent and Resilient; Exerting Strikes Swiftly

To deal with current enemy threats and fulfill the demands for future homeland defense operations, the ROC Army has inaugurated a series of combined arms battalions since 2020. The goal of these ground striking units is to bring “coordination of branches” into play and strengthen their “independent operational capabilities” so as to swiftly react to contingencies and conduct strike operations at all dimensions.

The 2nd combined arms battalion, 333rd Mechanized Infantry Brigade, ROC Army, was established on 1st June 2020. Its commander, Lieutenant Colonel Zhao Zhi-wei expressed that his battalion was assigned to an anti-landing mission during a joint landing operational drill of the 36th Han Kuang exercise held in Jialu’tang of Pingtung, and they had to coordinate with aviation units to verify their joint command and control capabilities and the effectiveness of marshalling manpower and firepower. He mentioned that the capabilities and battlefield management skills of his battalion were verified through settings of force-on-force, full gears, actual terrains, and realistic operations in the 4th season force-on-force combat readiness drill of the same year. In 2021, they will receive a joint operational training in a joint training base, and then go through a test.

Facing missions and tasks that come one after another, Lt. Col. Zhao said “To bring safety to the people is the core value of the ROC Armed Forces.” The morale of his fellow soldiers is high, and they all recognized that a rock-solid defense to protect the people can only be built by their full devotion to combat readiness and training.

The most distinctive feature of a combined arms battalion is that it digitizes the battlefield. It contains a mix of infantry, armor, and artillery units; liaison officers from navy, air force, and army aviation units; specialists, such as UAV and Stinger missile operators and snipers; and Clouded Leopard eight-wheeled armored vehicles for increasing its mobility.

Company Commander Captain You Shi-hong and Private Chen Jia-yan said, “Fellow soldiers of the 1st Infantry Company, 2nd Combined Arms Battalion are a band of brothers and sisters that have the strongest combat power.” They mentioned that the perseverance, endurance, and physical fitness of service members can be strengthened by going through realistic battlefield scenarios and rigorous military training and patriotic education. They may consequently forge a robust combat power to exert their maximum potential to safeguard the nation.

速寫人生 彩繪國防
ARMED FORCES
The Defense Sketch
SINCE 2021

Up to Us to Defend Our Territorial Waters

Taiwan is surrounded by the ocean where our irreplaceable lifelines and lines of communication are placed. Especially, the strategic importance of our nation shows as the Bashi Channel to the south and the Miyako Strait to the north of Taiwan are important waterways to suppress PRC to gain access to the first island chain. Therefore, our nation plays a key role in the regional security. Facing the threat that the PRC has been expanding its maritime patrol over the years, the ROC sailors who are keeping close watch on the front line of defense for the nation have vowed to ensure our national security and people's wellbeing with their robust combat power.

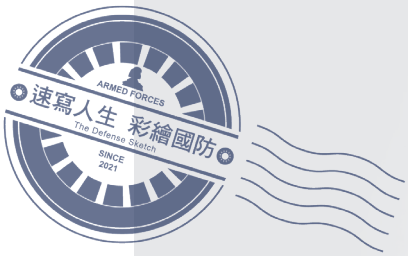
ROCS Tzu I of the 146th Fleet is a domestically built Cheng Kung Class frigate equipped with Standard surface-to-air missile, Hsiung Feng II and III anti-ship missile, naval gun, torpedo, radar, sonar, and electronic warfare suites. The combatant can perform all directional sea control missions in 3 dimensions: counter-air, anti-ship, and anti-submarine. All sailors onboard have been maintaining combat readiness and training with a belief that it is up to them to defend our territorial waters.

According to Captain Liu Zhe-wen, commanding officer of Tzu I, the combatant performs maritime patrols in peacetime, and based on the principle of "avoiding disturbances and escalation of disputes; no show of fear and timidity," it cruises on our territorial waters to safeguard our sovereignty. If the alert level is raised, ROCS Tzu I will act like a valiant clouded leopard, the insignia of the combatant, to hold the line of sea control and to deter any hostilities.

Major Liu Wei-chuan, Chief of Combat Systems of ROCS Tzu I, said "To be responsive shall be our first priority; therefore, we shall maintain situational awareness, carry out combat training, and raise sailors' consciousness of hostilities." When PLA naval vessels sail close to the middle line of the Taiwan Strait, the surveillance and reconnaissance system of ROCS Tzu I will instantly capture their movements, and respond towards any possible drastic moves of these hostile vessels.

Petty Officer 1st Class Zhong Ming-chang, a radar specialist onboard ROCS Tzu I, has served 12 years in the ROC Navy, and is in charge of collecting, analyzing, controlling, and issuing situational information symbols. He mentioned that the Cheng Kung Class frigate is responsive and highly maneuverable, and is nicknamed "maritime taxi" because it can be seen in all naval drills and exercises. The shipboard radar at his controls is the eyes of the combatant, and with its seamless scans, ROCS Tzu I can accurately "spot and strike" the enemy. Despite of high intensity of its missions, PO1 Zhong is neither intimidated by heavy workload nor afraid of taking challenges, and he believes every effort for the nation will be paid off.

Seaman Apprentice Hu Jing-zhu, a female radarman, said, "The country and the people come first in the mind of every service member. We shall maintain a spirit of taking risks and advancing bravely, withhold core value of service members, and maintain combat readiness and training at all times, so as to win the support and confidence from the people." Even though she has served onboard ROCS Tzu I less than a year, SA Hu keeps the same belief and value as her fellow sailors do to ensure the security of our territorial waters, and defend the democracy, freedom, peace, and stability of our nation.



Mobilization Training in Full Gears to Construct a Complete Reserve Force

Given ever-growing hostile threats, reserve mobilization is critical for the nation to take on the challenges and sustain its combat power. To create a robust reserve force, the Central Area Reserve Training Center has assisted the Central Area Reserve Command in routinely training reservists and providing has provided training for regular forces according to the policy guidance.

It is important for these reservists on call to refresh their specialties through short-term courses because it has been a long since they left the military. According to Colonel Chang Tian-kui, Director of the Center, recall training is one of his major missions, and it is also a time to examine the combat potential of the ROC Armed Forces because these reservists on call come from all walks of life. Therefore, he strictly demands that all instructors have to strengthen proficiency in their professions, including weapon handling and combat skills, and have to teach and act earnestly and professionally. He also asks for well-arranged amenities for reservists on call so as to show them the progress of the military.

Staff Sergeant Lee Zhi-wei, an instructor of reserve training course for T-75 81mm mortar, has been teaching for over 8 years, and trained more than 4,000 reservists. SSG Lee believes that because that it has been for a while since reservists left the military, instructors need to prepare for the training based on the doctrine, and train the reservists according to procedures, steps, and basic requirements. He also set goals for him to continue developing his professions and contribute to the reserve training courses.

Sergeant Xie Yi-fang has been serving as an assistant instructor for over 3 years, and she pointed out that there is no end when it comes to advancing one's profession. She has learned a great deal from her seniors, and hopes to impart her experience to her juniors. She believes the periodic recall training enhances combat strength of the reserve force, which can be coordinated with regular force to strengthen joint combat power for homeland defense and ensure national security and people's well-being.

02

The Defense Sketch

The 3rd Radar Squadron, Air Tactical Control Wing, ROCAF

Monitoring in All Weathers for Our Airspace Like a Screw that Works

Speaking of Yangmingshan (or Mountain Yangming), a favorite spot in the greater Taipei area, hiking, flower viewing, and hot springs may emerge in the minds of the most people. However, a group of service members are stationing atop in obscurity to keep an eye on our northern airspace.

The 3rd Radar Squadron of the Air Tactical Control Wing, ROCAF, resides on top of the Mountain of more than 1,000m in height, with a panoramic view of the mouth of Tamsui River and the coastline of northeast corner of Taiwan. It sits at a place of strategic importance, and is an important node of our northern air defense. The airmen of the 3rd RS rotate on shifts for 24/7 coverage to monitor the status of PLA aircraft activities.

The high altitude and northeast monsoon result in the humid, rainy and foggy conditions at the location for over 200 days a year. Snow may even cover the ground when cold spells hit. Despite the adverse weather and environment, the Squadron keeps its radar running without a pause.

The Squadron has a radar maintenance element, a communications and information element, and a supply service element under its command. Lieutenant Colonel Lee Wang-long, commander of the Squadron, has been maintaining communications equipment for more than 24 years in air tactical control units, and the Squadron that he holds dear was his first host station after commissioning. Lt. Col. Lee knows the Squadron shoulders a heavy command and control duty for joint air defense operations, and there is no room for error. Aside from his daily routine, Lt. Col. Lee pays extra care to his fellow airmen, providing proper heating and better facilities in their living quarters, so as to focus their attention on their duty and build up a sense of unity.

Master Sergeant Zeng Tian-zhi, Communications and Information Element of the 3rd Radar Squadron, normally maintains ground-to-air radios and datalink systems and provides support for air control tasks undertaken by various operations centers. He has served in the Element for 16 years and still thinks there is much to learn about communications. He tried his best to attend multiple training courses, and has acquired skillsets for maintaining Hsun'an system and wired/radio communications. Furthermore, he makes the best of his experiences and technical knowhow to train his fellow airmen for acquiring a secondary specialty and ensure equipment readiness. He believes even a small screw is critical for the whole system to function well. MSgt Zeng is wholeheartedly dedicated to his duty and doing his part to safeguard our airspace.

Unsung Heroes behind Soaring Eagles

"The fame aces attained in the air is not possible without supporting crew on the ground." Regarding the role the ROCAF is playing as the first line of air defense to safeguard our national security, it does not only need fighter pilots soaring high, but also a close coordination among units of air tactical control, communications, air traffic control, anti-air artillery, to construct a tightly-knitted net of air defense.

The airmen serving at the 1st Logistic Area Command, responsible for maintenance for various types of fighters, surveillance radar equipment, and avionics, and calibration for delicate instruments, are these unsung heroes, contributing their efforts to the operational effectiveness of the fighters and weapon systems to exert their precision strike capabilities.

Major Zheng Bo-ren, Chief of the Phase Array Element, Radar Maintenance Section, Ground Electronics Maintenance Workshop, 1st Logistic Area Command, pointed out, "Radar is considered to be our eyes in the sky." He noted, the Area Command provides depot-level maintenance, and is in charge of repairing critical components for active units, distribution and supply of spare parts and materiel, on-site radar calibration, periodic checks, emergency repairs, and timely restoring equipment readiness. To ensure surveillance functions of radar and maintain a credible air defense, they have to continue enhancing their technical training and doing R&D incessantly to improve their maintenance quality and expand maintenance capacities.

Staff Sergeant Chang Cheng-ting represented Taiwan and won the 4th prize in the aircraft maintenance category of the 2019 World Skills Competition (WSC) held in Russia. SSgt Chang noted, his on-the-job training experience made him appreciate more the importance of maintenance and he believes that aircraft maintenance requires a seamless teamwork of all airmen involved to perform their duties, such as airframe maintenance, and repairing components. Furthermore, he would share his lesson-learned, enhance his proficiency, and with zero accident in mind, perform as a guardian for aircraft.

Whenever an aircraft restores its readiness after maintenance, SSgt Chang feels a sense of honor and achievement because it is due partly to their efforts on the ground to allow it to soar high to protect our sky.

WE CAN DO IT

03

Part 3
Self-reliant Defense

Pursuant to Article 22 of the *National Defense Act* and following the principle of "Acquisition shall first pursue self-manufacturing sources and if foreign sales are chosen alternatively, technology transfer shall be included and realized, so as to construct an independent and self-reliant defense establishment," the MND has been consistently pushing for development of advanced technologies. We have consequently made breakthroughs on key technologies progressively, and are speeding up self-reliant R&D and manufacturing endeavors to support our force buildup efforts. In addition, the MND has been leading defense industries to prosper and helping them to enter international supply chain, so as to create a favorable environment where national defense and industries are mutually supportive.

CHAPTER

05 Defense Technologies

After contemplating our requirements for joint operations and developing trends of global military technologies, the ROC Armed Forces have conceived the R&D path for future weapon systems. Starting from sharpening fundamental technological research, we continue to focus on making breakthroughs on key technologies for advanced weapon systems. Then we are going to integrate industrial and academic R&D capacities in country to push for developments of missiles, indigenous aircraft and vessels, and wheeled armored vehicles, so as to demonstrate our determination to defend ourselves.

Section 1 Advanced Technological Studies

The MND is dedicated to conceiving meticulous near-, middle-, and long-term R&D objectives, and has been integrating domestic technological capacities to enhance our research endeavors, raise our level of defense technologies, and groom defense technology professionals.

I. Sharpening Fundamental Technological Studies

With developing trends of technologies for future weapon systems in mind, the MND has entrusted domestic academic and research institutions with fundamental studies on defense technologies, focusing on fighter planes, shipbuilding, ICE, armored vehicles, missiles, and unmanned aerial vehicles. We have earmarked NT$ 196.7 million from 2019 to 2020 for 130 research programs, and NT$ 127.4 million in 2021 for 81 programs, including an “analytical study on characteristics of new generation of anti-bullet material,” so as to effectively sharpen our fundamental technologies.

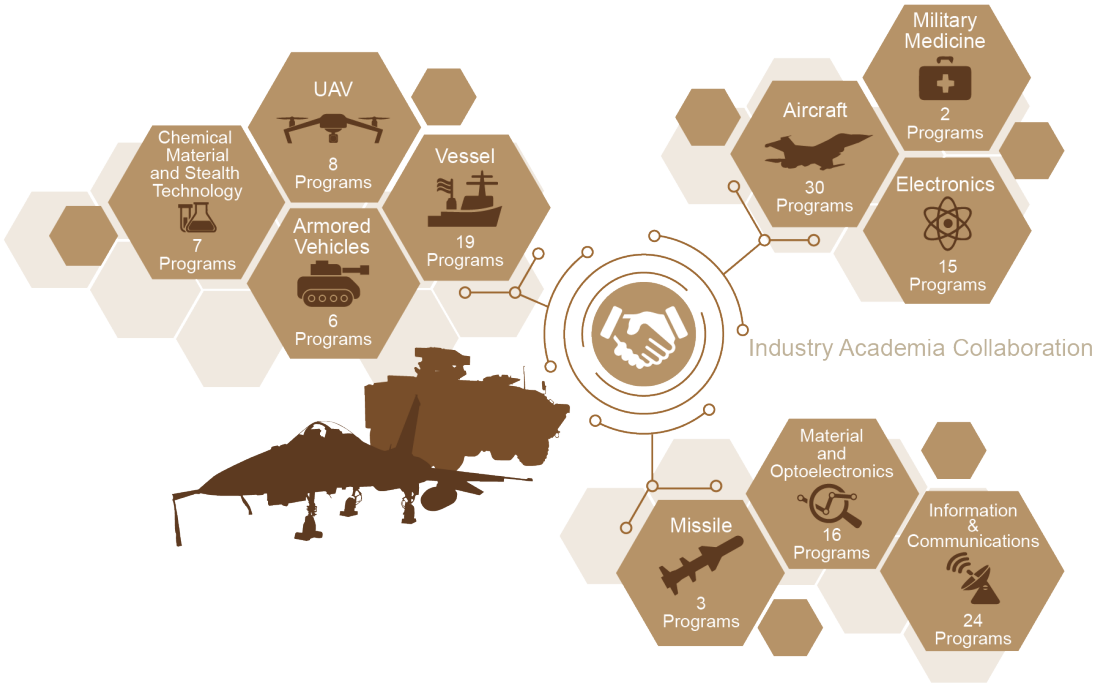
II. Making Breakthroughs on Defense Technologies

Following the guidance laid out by the Defense Technological Industry Development Review Commission of the EY, the MND has combined interagency resources, including those from the Ministry of Science and Technology (MOST), and the Ministry of Economic Affairs (MOEA), to speed up self-reliant R&D for weapons and equipment. In addition, by tapping research results from fundamental technological studies, the MND can develop advanced technologies systematically, and is hoping to expedite the process by using diversified “progressive” and “novel” R&D models, to overcome challenges and attain breakthroughs on key technologies.

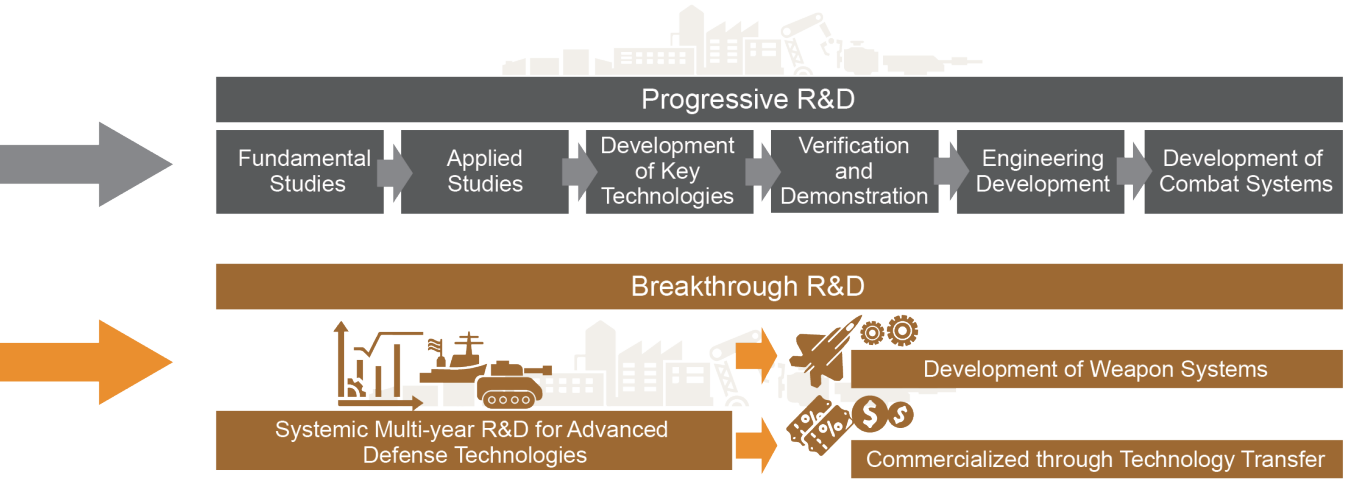
【Diagram of R&D for Defense Technologies】

III. Grooming Professionals for Defense Technology

The MOST inaugurated the Science and Technology Research Center for National Defense in 2021, to implement research programs on advanced defense technologies and absorb research capacities in universities. The Center is working with the National Chung-Shan Institute of Science and Technology (NCSIST) to provide sponsorships for master's and PhD's degrees, so as to attract young elites to join in our research endeavors for defense technologies. After their graduation, they will be prioritized to find employment in the NCSIST, to pursue their long-term studies on defense technologies, so as to groom them as future professionals in field of defense technology and enhance the qualities of our defense studies.



【Diagram of Defense Industrial and Academic Cooperation Accomplishments from 2019 to 2020】



Section 2 Self-reliant Developing and Manufacturing Weapon Systems

Envisioning technological trends and requirements of joint operations, the MND has completed a series of arrangements for near-, middle-, long-term R&D programs, such as indigenous aircraft, naval vessels, and ground weapons. At the same time, we have been strengthening information security and auditing activities, so as to keep these programs on schedule.

I. Realizing Production of Indigenous Aircraft

Beginning with the newly developed Advanced Jet Trainer (AJT), the MND has been accumulating R&D capacities for military aircraft, and progressively promoting for R&D programs of various models, concurrently hoping to motivate domestic aviation industries to thrive. The AJT prototype was rolled out in September 2019, and its maiden flight was in June 2020. The MND has provided advices to more than 210 domestic contractors for them to acquire qualification licenses in order to maintain a seamless logistic support for the program. After tests and assessments, it is planned that deliveries of new aircraft will begin in November 2021. The MND will supervise the acceptance phase, and accomplish the goal of having 66 of them in the inventory in 2026.

Aside from the ongoing AJT program, the MND, envisioning emerging mission requirements for the air force, has been endeavoring to develop key technologies, such as advanced onboard systems, stealth, and avionics, so as to augment R&D capacities for new primary trainers and next generation fighters.

II. Promoting Construction of Indigenous Naval Vessels

With efforts, such as a long-term contemplation with a strategy of building vessels in batches, taping domestic shipbuilding capacities, and making the use of grouping of similar industries, the MND has been moving programs forward to develop indigenous submarines and multiple vessels. Among others, the Indigenous Defensive Submarine (IDS) program reached a milestone to kick off a substantive construction phase in November 2020. The first High-Speed Minelayer was accepted in December 2020. Then, a new Landing Platform Dock (LPD) was commissioned on 13th April 2021 and christened Yu Shan (Mountain Jade). The first HPV follow-up vessel, christened as "Ta Chiang," was accepted in July, and then commissioned in September 2021. In addition, the construction of a new rescue and salvage ship began in August, and all shipbuilding programs are underway on schedule.

In addition to these ongoing shipbuilding programs, the MND, envisioning emerging mission requirements for the navy, has been working on developing key technologies, such as shipboard combat systems, electronic warfare suites, and sonar, so as to enhance our shipbuilding capacities, and strengthen our naval surface and underwater capabilities.

III. Developing Ground Weapons

Starting from the developments of 8-wheeled armored personnel vehicle (APC) with 40mm grenade launcher and the ones with 30mm chain gun, the MND has been developing an armored fighting vehicle (AFV) variant with 105mm gun to form a flexible long-short mix main battle tanks (MBTs). Currently, the integration of the AFV's chassis and platform and the development of its turret system were completed. The performance of armor-piercing projectiles used by the AFV was verified. The AFV continues to undergo integration tests in 2022.

In order to improve scout, alert, and maneuverable capabilities of military forces, the MND started to develop a tactical scout wheeled vehicle, with "light, compact, agile, and swift" features. Furthermore, to enhance the marksmanship of the forces, the MND began developing light and heavy sniper rifles in 2019. Now, light sniper rifles entered into serial production, while the certification for heavy ones was just completed, and will be deployed once their operational test and evaluation is concluded.

IV. Maintaining Information Security

Following the instruction by the President that information security equals to national security, the MND assembled a team of experts to perform information security checks and provide consultations on domestic suppliers that have

involved in our indigenous programs, such as the AIDC and the CSBC, Taiwan, from the perspectives of "strategy, management, and technology." Moreover, we have inserted major requests of our internal audits for information and communications security into the bylaws of the *Defense Industry Development Act*, so as to ensure and security of all the programs undertaken by the Armed Forces.

Timeline for Advanced Jet Trainer Program

Activation	Naming	Rollout	Maiden Flight	Delivery
2017 2/7	2019 1/2-2/1	2019 9/24	2020 6/22	2026
Activation of the AJT Program.	ROCAF Command HQ hosted an online naming event, and "Brave Eagle" was chosen.	The prototype rolled out at the AIDC, Taichung.	The first prototype successfully concluded its maiden flight in Taichung.	Delivery of 66 AJTs is planned by the end of 2026.

Timeline for Indigenous Defense Submarine Program

Open Tendering for Design	Signing of MOU and Program Initiation	U.S. Announced Marketing License	Construction
2016 December	2017 March	2018 April	2020 November
The MND hosted an open tendering for the IDS design, and CSBC, Taiwan was awarded the contract.	The MOU for IDS design was signed, and the Program was officially activated.	The USG announced the marketing license for the IDS.	The IDS program went into construction phase, and it is planned to begin the construction of the IDS's hull in 2021.

Timeline for Developing Armored Fighting Vehicle

2018	2021
Activation	System Integration
Development Personnel Carriers (APCs) with 30mm chain gun and 105mm gun was activated.	Integration of systems is underway, and planning for LIMS for these variants goes ahead.

Timeline for Developing New Light/ Heavy Sniper Rifles

2019	2021
Activation	OT&E
Development of new sniper rifles was activated.	OT&E is to be completed by the end of 2021.

【 Timelines of Indigenous Programs for Weapon Systems 】

Building Indigenous Vessels to Form Critical Combat Power

401
玉山軍艦

CHAPTER

06 Defense and Economy

Following the self-reliant defense policy and the government's goals to promote 6 core strategic industries, the MND has been combining resources from related governmental agencies and the production capacities of domestic industries, to help domestic companies to thrive, and develop defense industries. We assist in upgrading related industries and stimulating the economy through the defense R&D capacities. Furthermore, we are working as required by green energy and environmental protection policies, to maintain a sustainable supply of natural resources, not only for defense, but also for an ever-lasting development for the nation.

Section 1 Development of Defense Industry

To maintain national security and propel economic development, the MND has formulated the *Defense Industry Development Act*, as guiding principles to help and motivate domestic companies to upgrade themselves and encourage them to meet the goal of industry advancement. The MND has joined hands with the MOEA to host the Industrial Cooperation and Development Meeting, establish database of eligible commercial sources, and release defense resources/technologies, so as to solicit increasing domestic demands, boost up the economic dynamism, and progressively accomplish the goal for a self-reliant defense.

I. Legal Basis for Industry

To form an ideal environment for developing defense industries, the MND promulgated the *Defense Industry Development Act* on 19th June 2019, and it came into effect on 18th June 2021 as approved by the Executive Yuan. Consequently, domestic companies, as covered by the *Act*, are able to join the defense industrial supply chain and upgrade their technical levels as their favorable conditions, such as acquiring government's investment, technology licensing, financing with premium rates, and preferential purchasing privileges after verification of their productive capacities, so as to bolster the foundation for a self-reliant defense, demonstrate our determination to self-defense, and ultimately achieve a win-win in terms of defense and economy for the nation.

II. Industrial Cooperation

To push for the development of domestic defense industries with preferred conditions, the MND has joined hands with the private sector to establish qualified R&D, manufacturing, and repair capacities for military items. In addition, we have teamed up with public and private legal entities to establish a system to mobilize defense industries and, by following the *Government Procurement Act*, secure products and services from eligible legal entities, so as to construct a chain of defense industries that meet our defense needs and accomplish the goals for a self-reliant defense.

III. Outsourcing

Based on the principle of "We shall consider products supplied domestically rather than from foreign sources, and shall help domestic suppliers to upgrade their technical levels to fill their gaps in capacity," the MND may outsource general-purpose items for R&D, production, maintenance, combat training, and administrative activities to civilian companies, giving them opportunities to sharpen their skills. It is hoped that by this method, we may motivate domestic suppliers to join the defense industry and civilian companies to establish a self-reliant defense.

The items outsourced by the MND fall into 3 categories: Acquisition of Weapons and Equipment, Sustainment for Weapons and Equipment, and General-purpose Military Items, totaling at an annual amount of over NT$ 100 billion in the past 5 years. The practice successfully motivated domestic suppliers to join in the defense industry and helped generate demands, stimulate the economy, and progressively strengthen our self-reliant defense capacities.

【Diagram of Associated Regulations for Defense Industrial Development】

Section 2 Civil-Mil General-purpose Technology

Based on the current R&D capacities in defense technologies, the MND has conceived and carried out a R&D program to develop forward-looking defense technologies and dual-use technologies. Matured defense technologies will be released for civilian applications and to be employed by the industries, so as to form a favorable condition that national defense and industries are mutually supportive.

I. Releasing R&D Accomplishments

From 2019 to 2020, the MND has initiated 3 R&D programs for dual-use technologies, including the program of the Key Technological Upgrade for Power Electronics and Integrated Application and Development for Communications and Green Energy Industries. We are proactively releasing defense technological R&D accomplishments to the private sector for civilian purpose applications, so as to boost up industrial effectiveness for matured defense technologies.

1. The Program of Key Technological Upgrade for Power Electronics and Integrated Application and Development for Communications and Green Energy Industries aims to create R&D capacities for merging parts of radio communications systems with the green energy concept, and their application and integration were verified to be able to applied in dual-use fields, such as high-power radar modules, communications, green energy, and electric cars.

2. The Program of Development and Verification of Mega-Sized Aerospace-Grade Additive Manufacturing Technology has developed technologies of additive manufacturing for mega-sized material of aerospace grade. The production line of additive powder, material manufacturing, and final verification test that can be demonstrated to all industries is now completed. The products of the program can be applied in dual-use aerospace designs and the production of sophisticated and lightweight mega-sized material.

3. The Program of Development and Verification for Powered Exoskeleton System for Increased Muscle Strength and Endurance was initiated to develop technologies and associated research platforms for powered exoskeleton system that can increase individual's muscle strength and endurance. In the military, the system can be used in carrying equipment and ammunitions, operating heavy machineries, and medical evacuation mission in the battlefield. In the private sector, it can be used in manufacturing cars, shipping and warehousing, disaster relief, and medical care activities.

II. Technology Transfer

From 2019 to 2020, our R&D programs for dual-use technologies helped attract industrial investments of NT$1.269 billion, applied for 52 patents, and completed technology transfer for 22 cases. In the future, the MND will expand applications of their patents and licensing, so that the results of defense technology development could be effectively used by the industries.

【Diagram of Defense Industrial Development Cooperation】

Section 3 Environmental Protection and Green Energy

Following the environmental protection and green energy policy of the Executive Yuan, the MND has been implementing measures to conserve energy and maintain a sustainable utilization of environmental resources on the premise that national security and combat readiness is not compromised. The measures include energy saving and carbon reduction, green procurement, and airfield noise control.

I. Promoting Green Energy

Following Policy of Installing Solar Panels on state-owned property and the concepts of diversified energy sources and self-contained power supplies, the MND issued regulations on Bidding for Leasing Properties for Solar Optoelectronics and selected appropriate military installations for contractors to install solar optoelectronic devices (panels) on the premise of not affecting national security and combat readiness. Till 2020, the MND has completed solar panel installations at 41 sites (generating about 38.5 megawatts), and cut down annual carbon emission by 20,576 tons (equivalent to 52.9 times of annual carbon absorption at Da'an Forest Park). In 2021, another 13 sites (potentially generating 32.8 megawatts) are planned to complete, and we will continue pushing forward the Policy.

II. Energy Saving and Carbon Reduction

The ROC Armed Forces continuously promote the concept of energy saving and carbon reduction under the EY policy of the Efficient Management Plan of Electricity for Governmental Agencies and Schools and the MOEA program of the Routine Course of Actions for Water Conservation. Meetings and gatherings are often used to promote the idea of "using resources wisely." A stringent hierarchy of supervision is also established to guide and audit the progress of this undertaking and provide timely assistance.

As stipulated in the *Regulations on Energy Saving and Management of the Armed Forces*, we are adopting measures to conserve energy, such as expanding the use of simulators in support of readiness training enhancement, or decommissioning and mothballing weapons and equipment that are not applicable or obsolete. In addition, following the Governmental Appraisal Methods on Procuring Green Products of the Environmental Protection Administration (EPA), we have been prioritizing the purchase of Green Mark products, defined in the Appraisal Methods as having less impact on the environment. In 2020, we have met EPA standard by realizing 98.59% green procurement.

III. Noise Reduction and Prevention near Airfield

The MND has been granting annual subsidies for noise prevention and control facilities for 12 airfields. Starting from 1998, such subsidies have been earmarked in the annual defense budget, and offered to schools, libraries, medical installations, public facilities, and residential areas located in the vicinity of the airfields. The subsidies can be used on noise prevention items, such as air conditioners, soundproof doors and windows, and acoustic absorption ceilings and walls. Till 2020, a total of NT$ 3,144.077 million has been granted. In 2021, amount of NT$ 315 million was earmarked for subsidies on noise reduction, and the application process is underway on schedule.

The amendment to the *Noise Control Act* stipulated by the EPA of the EY was promulgated by the President on 20th January 2021. According to the amendment, the MND is authorized to draft up the Regulations on Distributing Subsidies for Noise Prevention and Control near Airfield. After the regulations come into effect, the subsidies offered to the residents in the affected areas can be used to help purchase noise prevention facilities, such as soundproof windows / doors and air conditioners, and, henceforth, can also be offered as compensations.

Military aircraft are precious assets that defend our airspace and safeguard our democracy, freedom, and security. The roaring sound of their engines represents reassuring protection for the people. However, it is necessary to fulfill both people's needs and the duty of defending the airspace. The MND will continue to budget for such subsidies and expedite the granting process.

Full Dedication to R&D with Major Progress in Indigenous Vehicle-making

The 209th Arsenal of the Armament Bureau is one of the armament production centers with distinctive contribution to our self-reliant defense, such as the multi-year development of an 8-wheeled armored vehicle with various derivatives. The development of a weapon shall aim to meet the operational requirements of its operating services or branches. Taking the CM34 IFV with 30mm chain gun in production as an example, it not only has a fire control system that targets accurately and initiates strikes effectively, but also a body with better performance. The 209th Arsenal and its critical technologies in domestic vehicle-making are credited for realizing major progress in our defense capabilities.

Given Taiwan's terrain, the focus of homeland defense will be urban warfare, said Colonel Su Ren-bao, program head for the 8-wheeled armored vehicle. The program's primary objective is to develop a vehicle that fits in such an operational environment. Without foreign technical inputs, the program teamed up with Taiwan's industrial and research sectors, such as Industrial Technology Research Institute (ITRI) and China Steel Corporation (CSC), in a concerted defense R&D effort and successfully developed the chassis for the 8-wheeled armored vehicle. It paved the way for the buoyant debut of the CM34.

As Master Sergeant Huang Wei-zhe and Specialist Shi Jian-zhi in charge of technological R&D for the program pointed out, R&D works require immersion and passion, and their team had a very clear goal to overcome all difficulties and reach milestones as scheduled. They successfully completed the performance test for the vehicle on the dried riverbed of the Zhuoshui River in 2017 and then the design of a six-wheel steering system in the following year. When the powerful façade of the armored vehicle emerged from the gate of its hangar and was unveiled, people at the scene were all carried away. This successful launch not only represents a great achievement of their career, but also great reward for their strenuous dedication.

Innovative Museum with Enthusiastic Volunteers to Deepen the Thinking of Self-reliant Defense

The Science and Technology Exhibition Center is the most visitor-friendly locale in the compound of the National Chung-Shan Institute of Science and Technology (NCSIST). The Exhibition Center offers multiple simulated interactive experiences, such as cockpit firing runs, touchpad-controlled interaction with missiles, and an operational command and control center. The visitors can quickly immerse themselves in this fascinating domain of defense technologies. Since its opening in 2017, it has received more than 40,000 visitors.

In order to expand public participation in defense-related activities, the NCSIST assembled the first volunteer group the Chung Shan Volunteer Team by hiring its retirees and those who have an interest in promoting R&D for self-reliant defense technologies to serve as tour guides.

Chang Chung-shing, founding leader of the Team after serving 25 years in the NCSIST, said that there were 30 members in the beginning, and now the Team has 50 members, who are all enthusiastic to lead visitors to know the chronicles of the R&D for our defense technologies by sharing their experiences and anecdotes. He was glad to make our strength in indigenous defense technologies known to the public after retirement.

His patented design of thrust-stopping charge for missile engines is also displayed in the Exhibition Center. Mr. Chang still feels the excitement and pride of this achievement whenever he introduces it to the visitors.

As Jian Ding-hua, Director of the Civilian-Military Industrial Development Center of the NCSIST, pointed out, the NCSIST has developed technologies in 10 areas from the bottom of the sea to outer space, including aerospace, mechanical system, information and communications, chemical engineering, material and optoelectronics, electronic system, system engineering, system manufacturing, system maintenance, and information management. The Center showcases our technological prowess through exhibits ranging from original R&D design to final production, from weapon systems to critical components, from military to civilian applications, and space technologies. It not only helps to recruit talented people in defense-related technologies, but also demonstrates our R&D capacities and achievements towards a self-reliant defense, establish an awareness of national security for the people, and strengthen the effectiveness of all-out defense education.

Teaming up to Safeguard Our Airspace and Establish Milestones for Force Buildup

Developing a self-reliant defense is a policy of paramount importance to our nation. Being responsible for developing aircraft domestically, the Aerospace Industrial Development Corporation (AIDC) has progressively conceived a roadmap, with lots of external attention and expectations. With the roll out of the Advanced Jet Trainer (AJT) Brave Eagle and the completion of its maiden flight, the AIDC has once again proved that building aircraft indigenously is not a fantasy, but an ongoing progress. Ma Wan-june, President of the AIDC, said, “Once the project of building aircraft domestically is activated, there’s only moving forward with no more intermissions.”

President Ma explained, the Project is facing multiple challenges as of human resources, materials, technologies and industries, and new challenges may arise on a daily basis. The Brave Eagle is a pilot product of the reactivation of indigenous programs, but due to time constraints, the systems required foreign technologies and materials. Even though it is not completely self-produced, the self-manufacturing rate of the aircraft is more than 55%, higher than those of international counterparts. The AIDC is proficient in R&D and design of airframes because of its experience in making civil airliners, and thus, skill is not a problem. They are moving toward self-developing and self-manufacturing systems to entire aircraft. In addition, they will develop a next-generation fighter aircraft according to the needs of the ROCAF.

Wu Chung-ren, Chief of the Structure Design Section, Engineering Division, pointed out, the success of the Brave Eagle is by no means fortuitous because the AIDC has done years of studies, sufficient analyses and preparations, for indigenous aircraft and has been waiting till the time is ripe. The biggest challenge was posed by the timeframe of the Project. Their team had to strike a balance between quality, risk, and schedule. During the Project, he felt a rising hope for indigenous aircraft as he saw the passion and potential from the new and young colleagues.

Lu Zhi-yuan, Test Pilot for the Brave Eagle, took over the position after his discharge as an IDF pilot. While in the service, he had to follow established standard operating procedures to fly, but now he has to test fly planes in unchartered realms, and discover potential problems during the flight by making attempts repetitively in extreme conditions to test its controllability and safety. In fact, every test flight is supported by an excellent team. In one instance, the team had notified him of an anomaly data reading and that he had to knock it off, but he felt nothing. He began to firmly believe in the team after he noticed the problem during the ground check after landing. Mr. Lu is confident that we will open the door to accomplish a self-reliant defense with the expertise and capacities in our aerospace industries.

Civilian and Military Work as One to Reach Milestone of Domestic Shipbuilding

With accumulated experience from building Cheng Kung-class frigates and missile boats, CSBC, Taiwan continues providing expertise for the ROCN. For instance, Hong Shun-xing, a member of the team for an ongoing domestic shipbuilding program, was also involved in the Kuang Hua VI program for the aforementioned missile boats.

Hong Shun-xing explains, outfitting is when the hull construction of the boat is completed, and all major assemblies, such as nautical instruments, generators, mechanical components, engines, rescue equipment, plumbing and pipes, and interior furnishing are installed and tested. In his career of 30 years, he has recognized the progress of naval vessels in design, weapon system, and capability, and is hoping the people have the same understanding and give their affirmations. “I felt very honored to witness the handover of the boat, and to be capable of contributing to the defense industry and the production of an important military asset.” From his smile, it is certain that Mr. Hong regards his participation in the outfitting of the naval vessels as the most important entries to his resume.

Tsai Jian-yu entered CSBC Corporation, Taiwan in June 1992, and began to work in the logistic section for software design, material supply, acceptance verification, outfitting, and retrofitting for the project of Kuang Hua I Cheng Kung-class frigate. Later, he was assigned as the on-site engineer and then the project engineer for the construction of the 500-ton Ching Chiang-class patrol ship. Afterwards, he was assigned as a project manager for the Kuang Hua VI-class missile boat, and was also dual-hatted in the Planning Division for material acquisition for the Panshih-class combat support ship.

When the Submarine Development Center of CSBC (SDCC) was inaugurated in August 2016, Mr. Tsai took over the position as its Chief of the Management Section to lead 30 members since its inception to conceive, plan, and lastly push for the project Hai Chang by steadily building up its foundation. Two years ago, he was promoted to be an assistant manager in the Shipbuilding Project Control Division, to handle project management for all naval surface vessels.

According to Tsai, the MND and the Navy have been giving the Corporation multiple opportunities to improve its ship design, planning, construction, and management efforts through every domestic shipbuilding project. It has not only helped expand the Corporation, but also led to the rebirth of CSBC’s framework for continuous growth and innovation. During the construction of Cheng Kung-class frigate, to shorten the timeframe for compiling all kinds of reports, Mr. Tsai had developed a handy program that he was especially proud of.

“We are delighted and proud to see a naval vessel coming into shape, undergoing sea trial, handing over, and being commissioned into the naval order of battle,” Yan Chun-mu, a manager in the Design Division of CSBC, said. Even though he is retiring, Mr. Yan will never forget the time he handled the challenges and attempts to build naval vessels.

“In terms of building commercial ships, the owner is mainly concerned about gas consumption, speed, and deadweight tonnage, but to build naval vessels has more to consider.” Mr. Yan noted, naval vessels demand higher speed and specific designs for weapon systems, equipment, and mission requirements that may vary in different models. Especially, concerning material acquisition, construction technology, and specifications, naval vessels requires more stringent criteria with which may become a challenge between CSBC and suppliers to agree. Mr. Yan stressed, CSBC has always been a major participant in the process to push for the policy of domestic shipbuilding, and is willing to be a bellwether and join hands with smaller shipbuilding companies to accomplish the mission of domestic shipbuilding, upgrade shipbuilding industries, and ultimately reach the goal of a self-reliant defense.

CSBC

WE
CAN
DO IT

PART 4

04

Part 4
National Defense Governance

Facing future complex security situations and emerging trends of management, the MND has been treading on a fine line on its governance by meticulously taking reform and pragmatism into account. To magnify our effectiveness in dealing with defense affairs and boost up the comprehensive combat power of the Armed Forces, we have been making major endeavors of governance, such as full integration of resources for recruitment, well-conceived care for personnel, trustworthy defense legal system, refined force management, force buildup with cleanness and integrity, and deepening military exchanges.

CHAPTER

07 Performance of Policy Implementation

To improve the quality and performance of our defense policy implementation, we have been making the best of defense resources of manpower, finance, and materiel in various defense and reform undertakings, including establishing a diversified and sustainable recruitment system, optimizing force management system and caring service for personnel, well-planned allocation of defense finances, and refined weapon acquisition process, so as to serve the purposes of force buildup.

Section 1 Recruitment System

Considering trends in future high-tech conflicts and distribution of human resources of our nation, the MND has been carrying out a policy to recruit elite personnel. We have been recruiting for and nurturing a "long-serving, determined, and experienced" volunteer pool. Moreover, we continue finetuning various associated measures to retain their service, so as to bring about a steady growth in both our manpower and combat power.

I. Policy Goal of Recruitment

After having a steady growth in manpower, the ROC Armed Forces continue pushing for the recruitment system and put it through trials in Han Kuang exercises and many HA/DR operations. The positive results in their wake have shown a substantive progress in our efforts to recruit elite personnel. In addition, when they are discharged from the service, volunteer members with experienced combat skills will be listed in the Reserve Force, to consolidate our strength once mobilization is activated, so as to meet our requirement for "having less manpower in peacetime, and more in wartime."

II. Practical Measures

The goal of 90% manning ratio for a volunteer pool has been accomplished after the transformation of our military service system. We continue finetuning our recruitment mechanism to improve the quality of military personnel, retain elite volunteer members, and seek connections with occupational demands in the society, so as to construct a modern combat force that represents a "new Armed Forces with a brand-new look."

1. Establishing Diversified and Sustainable Recruitment Mechanism

   (1) The MND has expanded a variety of diversified recruitment channels, and continues sponsoring programs of Reserve Officers Training Corps (ROTC) and Accredited National Defense Courses for Bachelor's Degree in universities and Defense Cultivation Classes in senior high and vocational schools, so as to attract young adults to sign up and enhance the quality of our personnel. In 2020, we have accomplished a 111.7% manning ratio above the planned goal for these programs and classes.

   (2) The MND has sought and linked some classes in the two-year NCO colleges with those having relevance in senior high and vocational schools, where the graduates may sign up to continue their academic pursue in the military. After their discharge from the service, they may easily join the work force in the private sector, so as to achieve a triple win for all parties involved, and attract more qualified young adults to join the service.

(3) The MND has been attempting to recruit professionals in aircraft maintenance, avionics, meteorology, and management to raise the professionalism of service members, and has decided to offer extra points for candidates with academic background in defense related industries (such as aerospace, aircraft maintenance, marine affairs, shipbuilding) during selection processes as they are in our targeted group to recruit.

2. Improving Quality of Manpower

(1) For all educational courses, a selection mechanism is set to choose candidates with better grades and dismiss those with inferior grades or records. After commissioned, all members will be supervised, so as to form an elite force to carry out all undertakings for combat readiness.

(2) The curriculums of classes for advanced and higher education sponsored by the MND have been refined and added with academic exchanges with the private sector. Additional FMS training courses, middle- and high-level management classes, short-term training courses have been held to groom our selected members with academic excellence.

(3) As guided by a national bilingual policy, the MND has followed the policy guidelines from the Ministry of Education (MOE) to form a taskforce to draft up plans for bilingual education and key performance indicators (KPIs), and has been moving toward 4 aspects: “expanding faculty capacities, enriching contents of curriculums, optimizing educational environment, and strengthening quality of learners.” Concerning bilingual training for active forces, we have been working on 3 aspects: “cultivating talented bilingual personnel, creating English-learning environments, and encouraging life-long bilingual learning.” The MND is dedicated to promoting bilingual education for military educational institutions and active forces for upgrading their English level, so as to communicate fluently with international community.

(4) The MND has been sponsoring qualified and excellent service members as research fellows in major domestic and foreign think tanks, so as to cultivate them as the ones with international perspectives and strategic thinking, and expand our pool of manpower specialized in international affairs and military policy analysis.

3. Retaining Volunteer Manpower

(1) The MND continues refining supporting measures for recruitment system, offering MOS pays and retention bonuses, and strengthening retention mechanism, so as to stimulate young adults to sign up and stay in the service longer, and maintain sufficient manpower for combat readiness.

(2) The number of NCO slots and the flexibility of switching their career tracks have been increased. In order to optimize the career track from enlistee to NCO, we are encouraging enlistees to switch service as NCOs, so as to retain professional manpower.

4. Linking with Professions in Society

(1) Service members are encouraged to pursue higher education during off-hours to acquire degrees and certificates for more competencies and skillsets. Retiring personnel will be helped to attend multiple occupational training courses to facilitate their job seeking process after retirement.

(2) The MND has been working with defense industries to provide necessary training for service members to acquire occupational skillsets and enhance their expertise which can be tapped in the society. Through this arrangement, we may accomplish the goal to keep a stable turnover rate and a pool of robust and professional manpower.

(3) Retiring service members can be assisted by a variety of measures, such as job-seeking consultations and job-matching assistances offered by the Veterans Affairs Council (VAC) and the Ministry of Labor (MOL). Private sector businesses and organizations and private schools are encouraged to hire retirees and will be publicized for their roles in helping military retirees contributing their expertise in the private sector and achieve a win-win for both sides.

III. Implementation Results

1. To sustain a diversified recruitment mechanism, the MND has signed ROTC agreements with 130 out of 139 universities nationwide, and agreements for sponsoring Defense Cultivation Classes with 392 out of 506 senior high and vocational schools. In addition, the MND has signed agreements with 9 national universities, such as National Chengchi University, National Tsing Hua University, National Cheng Kung University, and National Taiwan University, for sponsoring Accredited National Defense Courses for Bachelor's Degree. More agreements with other education institutions will be signed steadily to fulfill our demands on professional manpower for national defense.

2. Starting from 2021, the MND has raised the admission threshold to service academies. Admission standards for 3 service academies are raised from below average level in the entrance exams. For the Chung Cheng Institute of Technology, the Management College, and the National Defense Medical Center of the National Defense University, their admission standards are raised to average level. As for officer's and NCO's advanced entry courses and volunteer enlistee training courses, the qualification and admission criteria are also raised, and candidates with better grades are first admitted, in order to recruit premium manpower to join the service.

3. With the support from the government, the MND has been steadily recruiting volunteers. In 2020, the recruitment and retention rates of the ROC Armed Forces have reached 111.7% and 78.2% respectively. The targeted manning ratio of 90% has been reached as planned. In the future, our recruitment will focus on manpower quality over quantity and aim to maintain a balanced turnover rate. The MND continues to enforce strict qualification measures that retain members of excellence and dismiss the inferior ones, so as to improve the quality of all personnel and build a professional force.

Section 2 Management of Forces

The ROC Armed Forces have maintained an ethos of good virtues: respecting the rule of law, obeying orders without a doubt, holding a sense of responsibility, and upholding honor, being efficient and effective, and following through the orders. The MND continues optimizing the management of the forces with various reform initiatives and activities to improve the organizational efficiency, strengthen internal unity, and ultimately enhance our comprehensive combat power.

I. Improving Leadership

1. There are two aspects in improving leadership quality: education and on-the-job training. In terms of education, we have experts and scholars experienced in academic studies and military operations to impart updated leadership knowhow for officer's and NCO's candidate courses. Regarding on-the-job training, all cadre members are required to oversee and supervise in person, and shall maintain a system to perform routine checks. By having oversight from upper level personally, we have carried out the concept of supervision by direct superiors, so as to achieve a unity across levels and construct a strong fighting force.

2. Combined-arms-brigade-level units are assigned with a legal affairs officer to ensure the legality of all activities. We have a mechanism to communicate with judicial organs for them to know the unique characteristics of military service and management in the forces, so as to timely and properly handle cases involving service members, consolidate effective leadership, and maintain the discipline for the Armed Forces.

3. The organizational culture of the military are being shaped to be the one with adaptive leadership based on the core concept of "humanity centric and knowledge driven" to transform the Armed Forces into a modern combat force that is "innovative and adaptive, attentive and open, and professional and efficient."

II. Upholding Military Discipline

1. To uphold military disciplines, the MND in the past two years has amended penalty criteria to increase the punishment for driving under influence (DUI) and drug use and demonstrated the determination of strict oversight to expel the unfit. In 2020, we have established a cross-checking inquiry system with the Ministry of Transportation and Communications (MOTC) to prevent coverups of DUI cases. There is also an inquiry system with the National Police Agency of the Ministry of the Interior (MOI) for background checks on volunteer candidates, so as to exclude the ones with criminal records. These initiatives are all in place to maintain the discipline of the Armed Forces.

2. The MND continues to host routine meetings with prosecutors' offices to coordinate and cooperate on judicial undertakings. We have set up Military Walking Dog Squads of the Military Police (MP) Offices in northern, central, southern, and eastern Taiwan to support security checks and keep drugs out of the military.

3. From 2020, the MND has been implementing the Program of Military Discipline Reform, focusing on "accelerating dismissal processes," "establishing disciplinary investigation system," "improving evaluation mechanism to strengthen the quality of manpower," and "expanding military discipline and legal education." After a trial phase of 3 months, the Program came into effect on 1st January 2021 and is expected to help foster a solid foundation that can sustain a disciplined force.

4. The MND has been using multiple educational channels, such as the Youth Daily News and the Juguang Park (military TV episodes), to improve the awareness of military discipline. Since 2019, the MND has also hosted 13 educational tours and interactive educational sessions, participated by 5,853 members, to improve awareness of military discipline. In 2020, out of pandemic control consideration, the MND hosted 21 sessions and trained 1,065 instructors first, so that they educate service members later. Then, service headquarters hosted another 970 sessions to educate another 71,325 members. In 2021, the MND has invited annual outstanding units to join the "educational tours" to each TO, share their experiences, inspire participants to follow suit, and strengthen the awareness of our cadre members to maintain military discipline. In addition, we have compiled a publication

of the *Preventive Actions for Simulated Major Disciplinary Infringements* and related course material for participating units to share, enhance their organizational oversight, and strengthen their military discipline, so as to prevent and handle major disciplinary infringements.

5. To effectively prevent safety and disciplinary, incidents, the MND continues taking precautions, decentralizing responsibilities, and following a mechanism of supervision by direct superiors to help all units to identify problems and handle them timely and properly. If a wrongful or unlawful incident occurs, commanding officers at related levels shall follow the "mechanism for hosting review meeting to process unlawful cases" to host a meeting to review and investigate the cause to the incident and clarify the responsibilities and accountabilities of all involving parties. Then the commanding officer shall draft up a course of corrective action, using such incident as an example, to prevent reccurrence.

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1.2.3.4. The MND continues endeavoring all reform initiatives to optimize internal management, forge a sense of unity, reshape the organizational culture of the Armed Forces, and construct a modernized military force that centered on the concept of "humanity centric and knowledge driven."

III. Strengthening Effectiveness of Counselling

According to the severity of individual cases, the counselling services provided in the military are divided into 3 levels (units, local mental health centers, and general hospitals). The MND has clearly defined the responsibilities and procedures of each level, and linked them with civilian counselling providers in a supportive circle to protect the mental health of service members, and ensure their combat strength. Moreover, mental educational events have been hosted to provide mental health information, and build up positive thinking, and strengthen the effectiveness of counselling services.

1. Refining Counselling Mechanism

The MND has directed all units to establish a counselling mechanism with defined functions of mutual support. At the same time, we have carried out the concept of supervision by direct superiors, and followed the Procedures

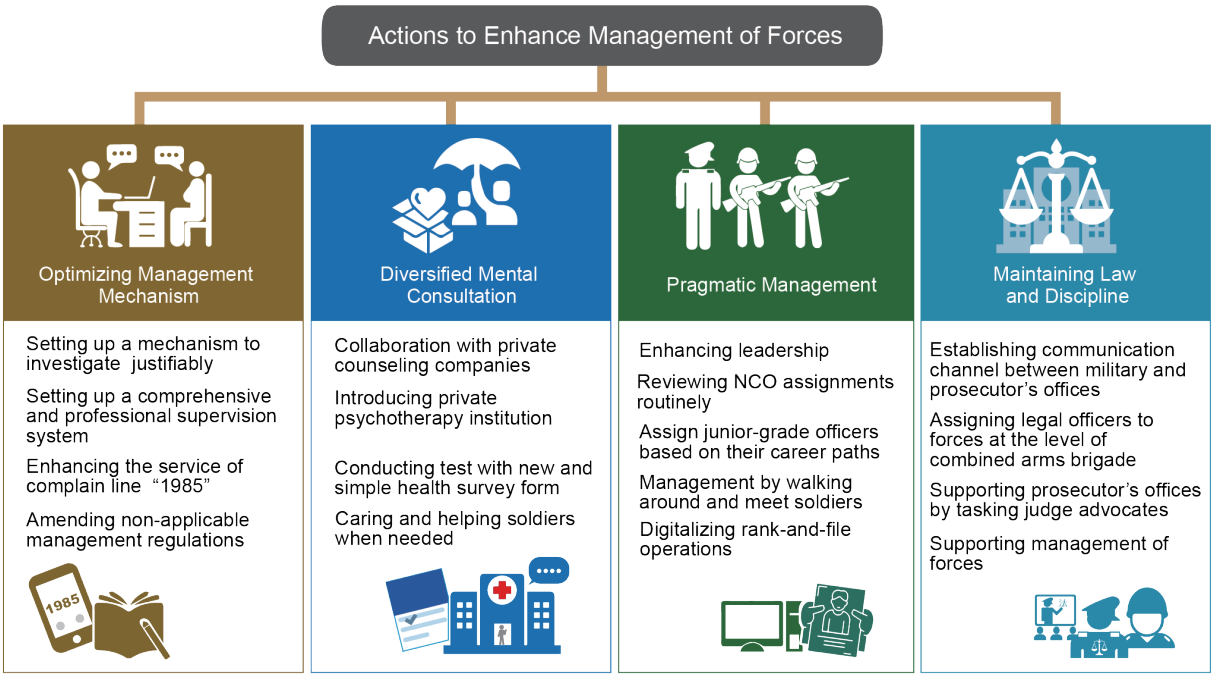
of Counselling Services and Safety Warning Mechanism of the ROC Armed Forces to uncover and handle any behavioral anomalies or deviations. If such incident arises, we instantly provide support and contact the families. Furthermore, brigade-level counsellors routinely visit subordinate battalions and companies to provide guidance or services, so as to strengthen their effectiveness of counselling. Counsellors also give out weekly questionnaires of the brief symptom rating scale (or BSRS-5) on the mental statuses of the responding members to avert potential risks.

2. Joining hands with Civilian Counselling Providers

Facing organizational realignment and changes of individual counselling cases, since 2018, the MND contracted with civilian counselling providers to diversify counselling services. Considering the scattered locations of units and their demands, we have signed 110 providers in 2020 to provide counselling services to 422 members (totally 1,738 visits in 2,022 hours). A survey showed a 97% satisfactory rate of the service. The MND will continue to contract with civilian counselling providers, maintaining the mental health of service members as an integral part of overall combat readiness.

3. Providing Mental Health Education

To improve counselling quality and services at all levels, the MND has hosted 2,020 training sessions for counsellors and mental health educational courses for service members with 144,771 personnel in attendance. These activities are purposefully designed to provide career guidance for military counsellors and help all members to embrace active life styles and positive thinking, enhance individual's stress tolerance and ability of self-care, and create a happy and healthy working environment.



【Diagram of Enhancing Management of Forces】

IV. Protecting Rights and Privileges

1. System of Rights and Privileges Protection

(1) To help service members to file complaints through internal channels, forge a sense of unity, and promoting a law-abiding atmosphere, the MND has set up Rights and Privileges Protection Committees (RPPCs) at services headquarters, the NDU, the GSH, and the Political Warfare Bureau, to assist in appeals and complaints involving service members. If rights and privileges of individual service member or employee are infringed, he or she may file a complaint or appeal to a RPPC. If the verdict is not acceptable, one can file another one to the RPPC at the MND.

(2) A RPPC is composed of 11 to 15 members, including impartial civilian, scholars, and legal experts (occupying no less than half of the total seats in such a committee), and joined by selected officers-in-charge. A RPPC meeting is held periodically and its deliberation process is done collectively in a panel hearing setting.

2. Accomplishments of Rights and Privileges Protection

(1) From September 2019 to August 2021, the RPPCs have ruled 960 out of 1,073 appeals, with remaining 113 under deliberation, and have also examined legal aid cases for 41 lawsuits involving service members, and the results were 30 approved, 5 overruled, and 6 under further deliberation. Furthermore, from deliberation discoveries from 2020 to 2021, the MND has distributed case studies to subordinate units for reference. The MND aims to promote a sense of harmony, and optimize internal management for all units. Some examples will be provided to judicial authorities as a reference for future revision of laws or regulations.

(2) From 2020 to 2021, the MND has hosted 5 Rights and Privileges Protection, National Compensation and Appeal Workshops, and Committee Members Visits and Leadership Meeting in northern, central and southern areas of Taiwan. All the question and answer (Q&A) discussions were published in written form and have been distributed to all services for reference. The MND has done inspection tours to 73 units to check legality of their personnel and administrative operations. Three short films of Protectors for Rights and Privileges were produced and broadcasted in Juguang TV episodes, so as to instill correct and legal knowledge of rights and privileges to service members.

【Diagram of Three-Level Military Mental Health Management】

Section 3 Attending to Service Members

Based on the policy of "care for military families," the MND has implemented initiatives, such as "optimizing living quarters," "promoting Xin An Program," and "setting up base/post exchanges (BXs/PXs) for uniforms," to help service members focus on their training and duties and provide effective and substantive cares for them and their families.

I. Providing Convenience of Living

To provide better and innovative care and services, the MND has offered multiple convenient measures, such as e-commerce on-line shopping, door-to-door (D2D) delivery, mobile BXs/PXs, discounts on administrative items, threshold free shipping, and military discounts and special sales with certain retailers.

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1. To forge a sense of unity, and promoting a law-abiding atmosphere, the MND has set up Rights and Privileges Protection Committees to protect the rights and privileges of individual service members.
2. To provide a better uniform supply, the MND has set up uniform stores in northern, central, southern, and eastern areas of Taiwan, for the convenience of the military personnel.

II. Reconstructing Military Installations

Since 2017, the MND has implemented the Xin An Program to reconstruct 100 out of 103 dated living quarters in military installations. The expenses were covered by the Funds for Rebuilding Military Living Quarters and Facilities. Among them, reconstructions in the Hukou 3rd Base and Hsinchu AFB were completed in 2019, and another 3 reconstructions are planned to kick off from 2022 to 2024, and will be completed by 2027, so as to optimize living environments and facilities for stationing forces.

III. Providing Childcare

The MND has inaugurated the Dazhi Non-Profit Preschool to provide public childcare services as promoted by a governmental policy. In the future, we will work with the MOE to open additional preschools or childcare centers. Currently, we are planning to open these facilities at convenient locations to both the military units and local traffic in 11 cities as required by service members, so as to provide better childcare for them.

Providing Complete Care to Ease Personnel's Mind

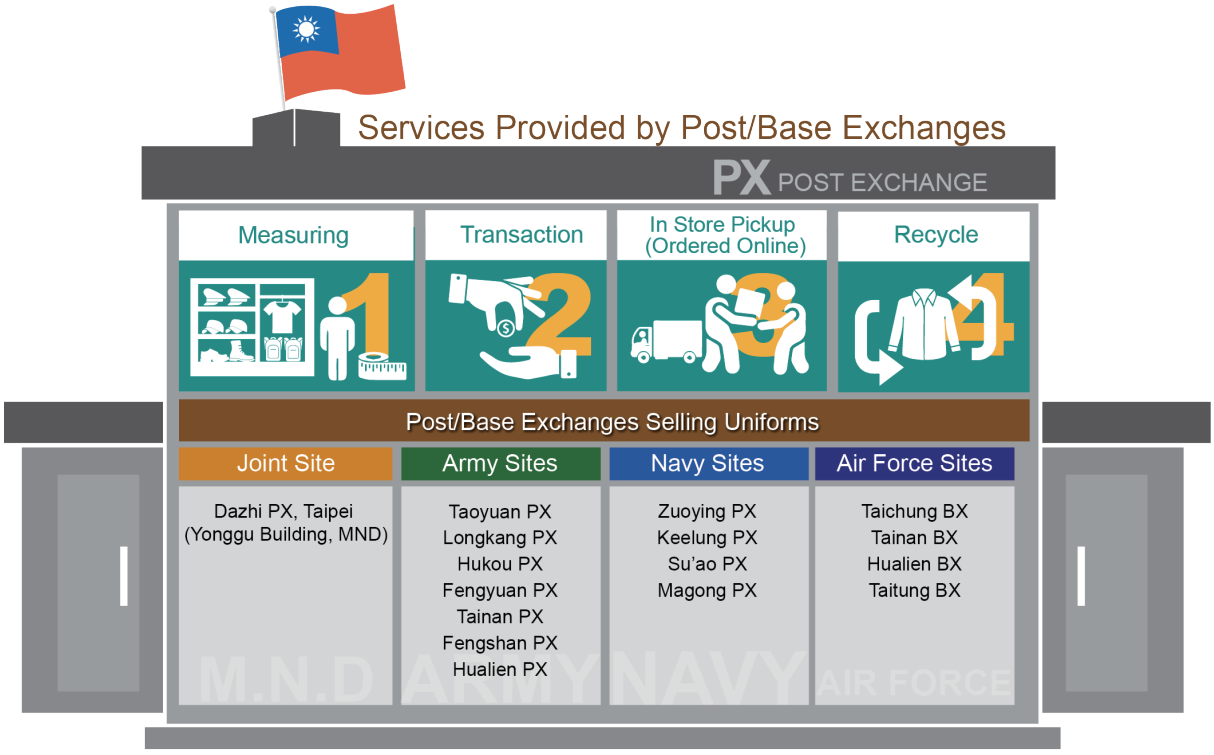
Evolving with the Times to Meet the Demands

IV. Optimizing Living Quarters

To dually help the service members focus on their assignments and families, the MND has been offering units for lease in the military housing complexes, and constructing modern residential buildings in metropolitan areas with 776 units, such as the ones in the Fu Hsing Kang Barracks in Taipei, which are due to be completed from 2021 to 2025. The MND is planning to have another 880 units to be completed from 2022 to 2027 with better amenities to tend to their concerns about the quality of living. Furthermore, to fulfill the social housing needs of the MOI, the MND has offered 67 pieces of property for lease, and will help the MOI to build residential complexes with 23,771 units. Among them, 1,000 units will be preferentially offered for rank-and-file service members and employees to rent. In order to pay more attention to their housing needs, the MND has been speeding up the construction efforts without compromising the quality, and has completed, another 520 units, constructed by the MOI on the MND's behalf, such as the ones in the Shen Jian Barracks in New Taipei City, so as to accomplish the goal to "provide comfort for military families."

V. Providing Better Uniform Supply

BXs/PXs for uniforms were open for business on 15th March 2021. Three service command headquarters have set up 15 physical BXs/PXs and 3 warehouses in northern, central, southern, and eastern areas of Taiwan. Among them, Dazhi PX is staffed by members from 3 services. Clothing credits are issued to all service members for them to purchase uniforms that meet their needs. In addition, they can place their orders online, and their purchases can be delivered with D2D service to a designated location, such as barracks, residence, and store, so as to provide quick and convenient services to them.



【Diagram of Major Services and Locations of Military Uniform Stores】

Section 4 Defense Finances

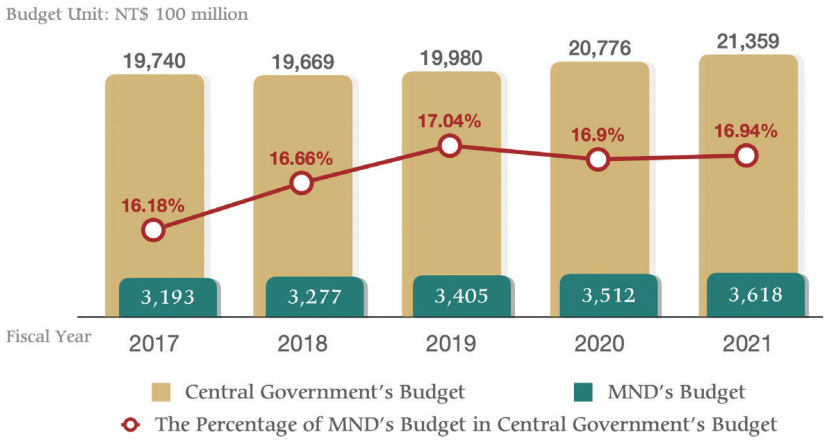
The defense budget request is proposed by following factors: enemy threats, requirements for combat readiness and force buildup, and governmental financial status. Then, the MND goes further to take following elements into consideration: progresses of the "force planning" and "force buildup," focal points of defense policy implementation, zero-base budgeting method, a guidance of "goal-oriented with substantial reviews," a principle of "subtracting (planned budget) first and then adding up if needed," and priorities of administrative plans, so as to propose a well-conceived defense budget to properly allocate limited financial resources to buttress our missions to maintain combat readiness.

I. Defense Financial Analysis

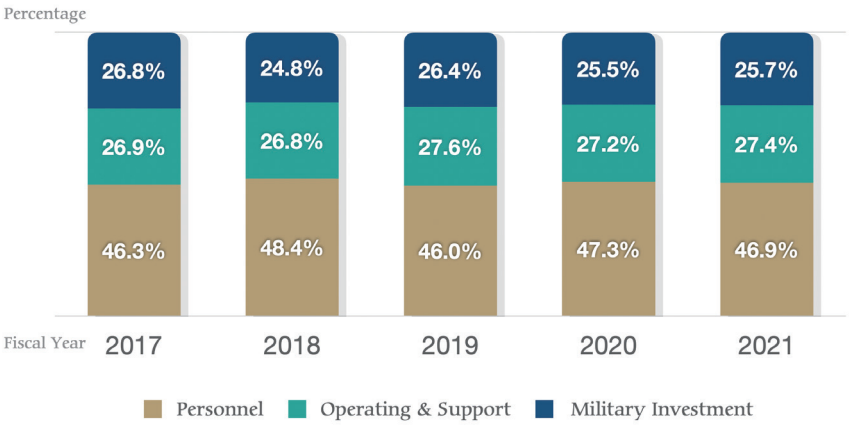
1. Appropriated Defense Budget Figure

Over recent 5 years (from Fiscal Year 2017 to FY 2021), our annual appropriated defense budget ranged from NT$ 319.3 billion to NT$ 361.8 billion, occupying 16.18% to 17.04% of Central Government's total budget. Our defense budget cap is growing steadily, symbolizing that despite of the impact caused by the outbreak of COVID-19 and the global economic slowdown, the Executive Yuan continues supporting our request for force buildup.

In recent years, the PRC has been routinely causing disturbances in the South and East China Seas, the Taiwan Strait, the Bashi Channel, and the Western Pacific by its aerial and maritime patrols and military drills and



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



【Diagram of MND's Budget Allocation】

exercises, which have not only impacted regional stability, but also threatened our national security. To boost up our air defense rapidly, the MND has requested a "special budget for new fighter acquisition" of NT$ 247.2 billion from FY 2020 to FY 2026, to procure new fighters, so as to demonstrate our determination to self-defense.

2. Planning Future Defense Budget

Since FY 2019, the annual growth of our defense budget has been above 3%. A steadily growing defense budget is favorable for a holistic long-term planning for force buildup. In the future, we continue proposing adequate budget requests based on our requirements of force buildup and combat readiness, so as to accomplish comprehensive defense policy goals, and construct a credible defense power.

II. Management of Defense Finances

1. Diversified Financial Management to Improve Quality of Service

To fulfill government's aspirations to "simplify administrative procedures," "provide a friendly reimbursement process," and "create a serving and smart government," the MND has seamlessly integrated financial data systems, and refined defense related accounting management. Moreover, an interagency reporting mechanism is in place as a way to improve multipronged financial management actions, unceasingly tune-up military accounting processes, enhance financial support services, so as to strengthen our efforts of policy implementation.

2. Improving Cost Management and Resources Distribution

To reach the goal of the government to push for the recruitment system and a self-reliant defense, the MND continues to improve the performance of cost management activities, and provide valuable references for defense decision-making, and accomplishing policy goals, and distribution of resources by using management means of fundamental sciences and tools of information systems to analyze historical cost data.

3. Using Incomes of Funds to Create Premium Ambience

The MND has been making good use of the special funds, which are being run in a business fashion, and expanding their investment spectrum to generate incomes steadily as resources. These resources have been well arranged and distributed by the MND to sustain the renovation and restructuring efforts for dated military living quarters and medical facilities, and render into innovative services, so as to provide better housing and medical care and create a premium ambience for service members.

III. Allocating Budget

1. Guiding Principles for Allocating Defense Budget

According to the key points laid out in our current defense policies, the guiding principles of allocating defense budget are as follows: 1) Operating and support (O&S) costs for personnel and military operation; 2) costs for sustaining logistics for combat readiness and ongoing military investments (acquisitions); and 3) costs, if available, for acquiring new weapons and equipment prioritized by their importance for joint operations, so as to maintain a robust defense and security for the nation.

2. Defense Budget and Key Points of Defense Policies of FY 2021

The MND has requested NT$ 361.8 billion as the FY 2021 defense budget, an increase of NT$ 10.6 billion from appropriated defense budget for FY2020 of NT$ 351.2 billion. The key points of our current defense policies are sustaining all combat readiness operations, adjusting formations and assets of the Armed Forces, and fulfilling the demands on prevention of epidemics, such as COVID-19, and the defense budget are accordingly requested from 3 categories as follows:

(1) Personnel

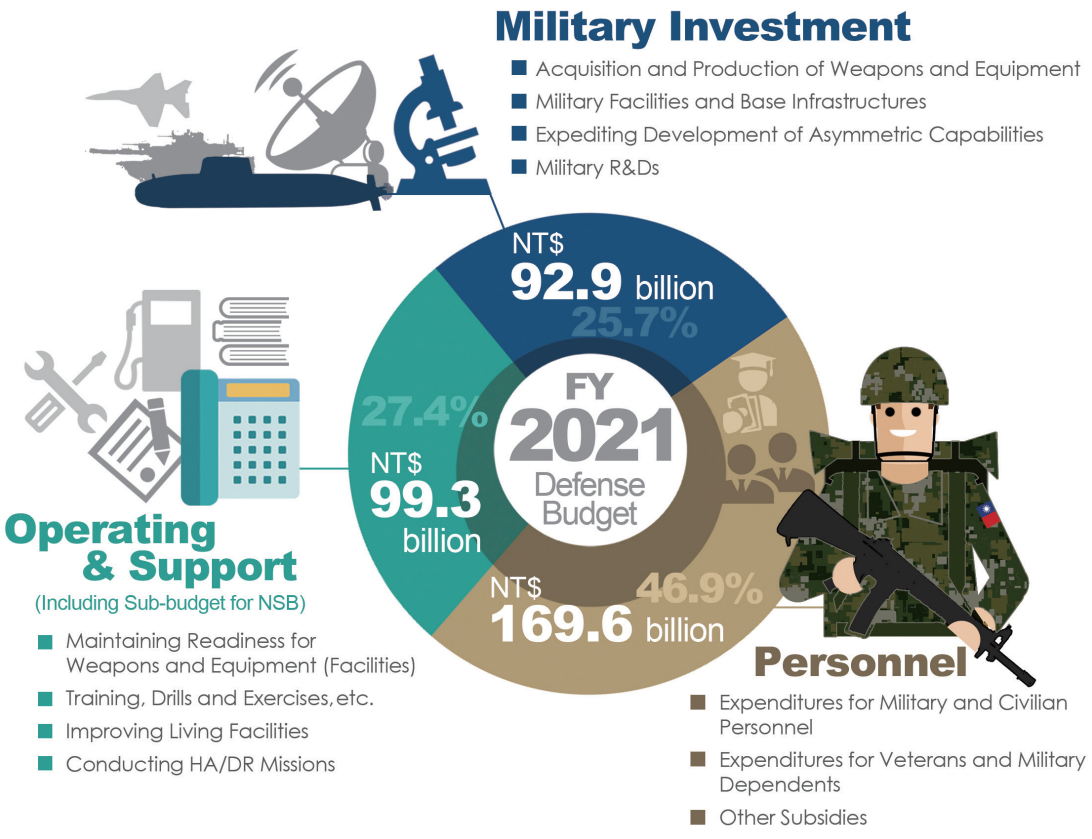
NT$ 169.6 billion: The FY 2021 personnel cost is increased NT$ 3.6 billion from that of FY 2020, and accounts for salaries, allowances, insurance benefits that are required by law, and expenditures mainly for recruiting volunteer personnel, force retention, and on-call training for reserves, so as to sustain a military force that can stay longer in the services.

(2) Operating and Support

NT$ 99.3 billion (including the sub-budget for the National Security Bureau): The FY 2021 operating and support cost is increased NT$ 3.7 billion from that of FY 2020, and accounts for readiness for main battle equipment, strengthening logistic capacities, refining training and drills, grooming manpower of quality, maintaining seamless C2, and sustaining functions of all units, and conducting HA/DR operations to protect the people in need.

(3) Military Investments (Acquisitions)

NT$ 92.9 billion: The FY 2021 military investment cost is increased NT$ 3.3 billion from that of FY 2020, and accounts for ongoing programs to develop indigenous aircraft, vessels, key technologies, and weapon systems to meet policy of self-reliant defense, motivate domestic industries to upgrade and thrive, and acquire new weapons and equipment to rapidly boost up our combat power.



【 Diagram of MND's Budget Allocation in FY 2021 】

Section 5 Refining Weapon Acquisition

Defense establishment is so conceived with force buildup as its core, and all possible threats from the enemy and prioritized capabilities for joint operations are considered. Then it will be reviewed and incorporated after approval into our Five-year Force Buildup Plan, with refined weapons acquisition processes to make the best of our military investments to support our force development, and ultimately accomplish the goals set forth in our defense strategy and military strategy.

All military acquisition programs are conceived by the perspectives of joint operations of the ROC Armed Forces and future buildup requirements of each services in 7 categories: information (cyber) warfare, electronic warfare, special

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1.2.3. Defense establishment is co-conceived with force buildup as its core, and all possible threats from the enemy and prioritized capabilities for joint operations are considered, and incorporated into our Five-year Force Buildup Plan. In addition, the MND will refine its weapons acquisition processes to make the best of our military investments to support our force development.

operations, air and missile defenses, maritime operations, homeland defense, and military engineering. Potential programs will be collectively prioritized and listed as Joint Operational Planning items, which will be incorporated in our Five-year Force Buildup Plan. In the meantime, our initiatives in line with the Regulations on Formulating Military Investments of the ROC Armed Forces are as follows:

I. Improving Accuracy of Assessment

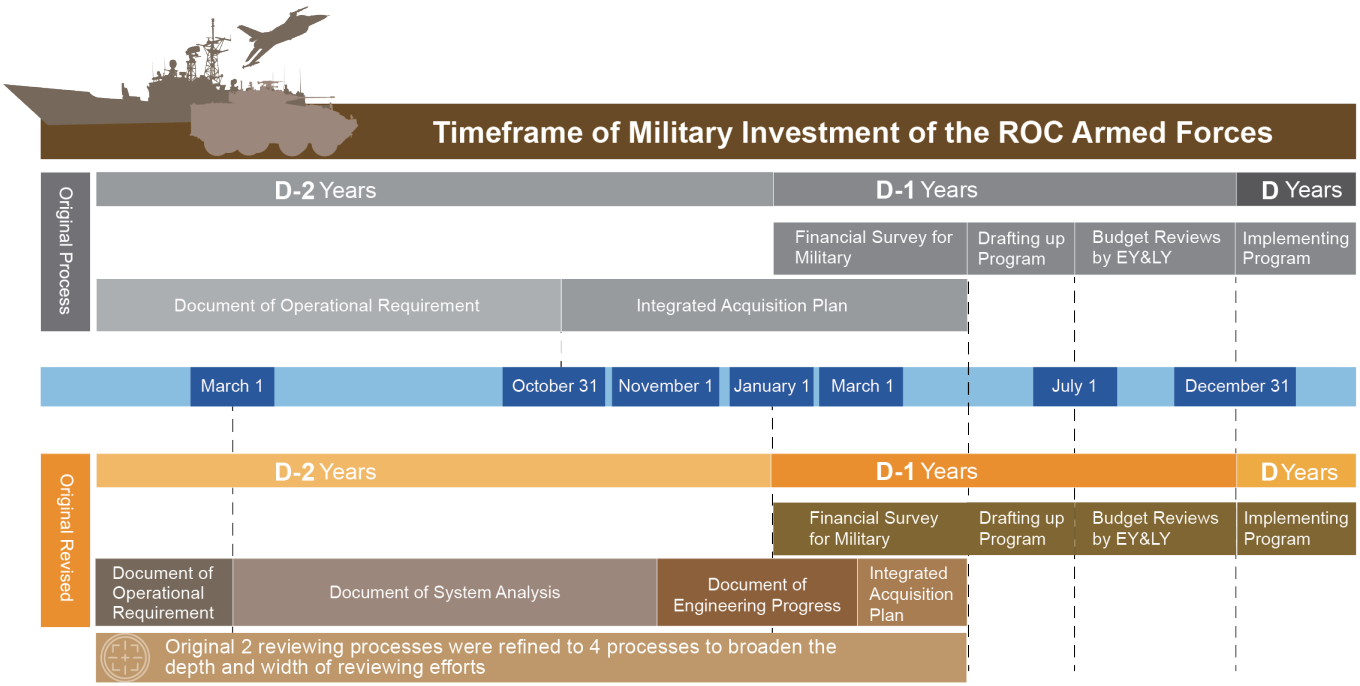
To pay equal attention to financial burden of the nation and appropriate allocation of financial resources, it is necessary to obtain business information of suppliers, original pricing in the FMS list, and pricing from potential commercial sales for the purpose of assessment to predict our financial capacities before the acquisition program can be incorporated in the Five-year Force Buildup Plan, so as to make the best of our defense resources, and maximize their effectiveness.

II. Assessing Productivity Ahead of Implementation

Responsible units will conduct productivity assessment on the acquisition program after its incorporation in the Five-year Force Buildup Plan. By extending the timeframe of the program, we may concurrently proceed a complete and detailed survey on related domestic industries, and encourage their participation in the supply chain of defense industries, so as to "fulfill the needs of defense and national security" and "generate economic interests for industries."

III. Refining Initiation of Military Investment

Original planning phase to initiate a military investment has 2 processes to review the "documents of operational requirements" and the "integrated acquisition plan." Now the processes have been refined and broken down into 4 to review "documents of operational requirements," "documents of system analysis," "documents of engineering progress," and "integrated acquisition plan," so as to broaden the depth and width of the review, maximize the effectiveness of limited resources, substantially fulfilling the requirements of our joint operations, and ultimately create a credible combat force.



【Diagram of Timeframe of Military Investment of the ROC Armed Forces】

Section 6 Military Medicine

Military medicine is an integrated applied medical science, which involves maintaining mental and physical health, prevention of illness, and performing emergency medical treatment and clinical medical care for service members. Consequently, in peacetime, we perform precautionary activities by asking them stay healthy on their own, managing their occupational risks in military installations, strengthening their mental readiness in potential battlefields, and improving their physical strength and combat power. In wartime, the focuses will be shifted to tactical emergency medical treatments for combat wounds, rapid medical evacuation (MEDEVAC) missions, and maintaining medical capacities of field hospitals to handle substantial wounded members, so as to sustain the available force to exert its maximum strength.

I. Refining Health Service Training

1. Enhancing Peacetime/Wartime Emergency Medical Care Capacities

   As instructed by the guidance of "keeping healthiness and providing emergency medical care swiftly, MEDEVAC without delay, and medical attention at the closest locations" and the *Guidelines for Prehospital Emergence Care*, the MND's emergence medical care is divided into 3 phases: care under fire (CUF), tactical field care (TFC), and tactical evacuation care (TACEVAC), so as to lower the rate of dead-on-arrival (DOA). In addition, according to the *Emergency Medical Services Act*, the MND has initiated a certification system for military emergency medical technicians (EMTs), and more than 12,000 EMTs have been certified at different levels in 2021, sufficient to handle emergencies in peacetime/wartime. Moreover, in order to improve the efficiency of emergency medical care, the MND has signed MOUs with local fire departments, to construct a comprehensive platform for cooperation, provide well-arranged prehospital emergency care for both military and civilian patients and victims, and enhance emergency medical care capacities.

2. Advanced Studies and Innovative Results

   Because medical technologies are evolving rapidly, we have sponsored 24 medical personnel in 2021 to attend overseas short-term advanced studies. Following the commissioning of new advanced medical equipment, we have been tracking the training progress of seed instructors and related medical operators and the readiness of the equipment, so as to effectively strengthen our medical capacities. Furthermore, we have reviewed and integrated resources in 18 fields of medical science, including "military medicine" and "basic and clinical medicines," and initiated a R&D program for defense medicine, so as to establish our R&D capacities for military medical studies and improve the efficiency of military health services as well as the quality of our medical service.

II. Integrating New Trends of Medical Information

1. Developing Smart Medical Service

   The MND has assembled the Consultation Group for Developing Smart Medical Services for Military Hospitals to invite medical instructors and surgeons, having IT backgrounds, from the Medical Affairs Bureau, MND, and professionals from domestic academic and industrial sectors, to jointly push for an IT-based smart medical service for military hospitals. Moreover, we have signed the MOU for Smart Medical Service with Quanta Computer Incorporated in 2020, to jointly develop a big data-based AI medical service, so as to speed up our efforts to build a smart hospital for the military, offering accurate and rapid medical decisions and optimizing our progress in preventive medicine. Other than that, the MND has set up the AI Laboratory to enhance military hospitals' understanding toward AI and provide them with pragmatic R&D experiences, so as to boost up or clinical and academic research capacities in this regard.

2. Hosting Medical Technology Expo

   The MND has joined up with the Ministry of Health and Welfare (MOHW) and the Institute for Biotechnology and Medicine Industry to host the "2020 Healthcare Expo" in December 2020. We had 22 booths from the National Defense Medical Center, Armed Forces General Hospitals, and the Division of Medical Material Supply attended the Expo with topics, such as "Adipose-derived Stem Cell Treatment for Transplant Operations on Complex Wounds," and "Using Cardiac Force Index (CFI) to Evaluate Cardiac Functions," also "Development of Radar Modules for Vital-Sign Detection, Tests for Antibiotics of COVID-19," as well as "Reality and Illusion in

the Sky: Disorientation in Flight," to name just a few. During the exhibition, we had won encouraging comments from all sectors, attracted approximately 6,000 visitors, received 16,518 thumbs-up with positive entries on Facebook pages, and 20 favorable media reports.

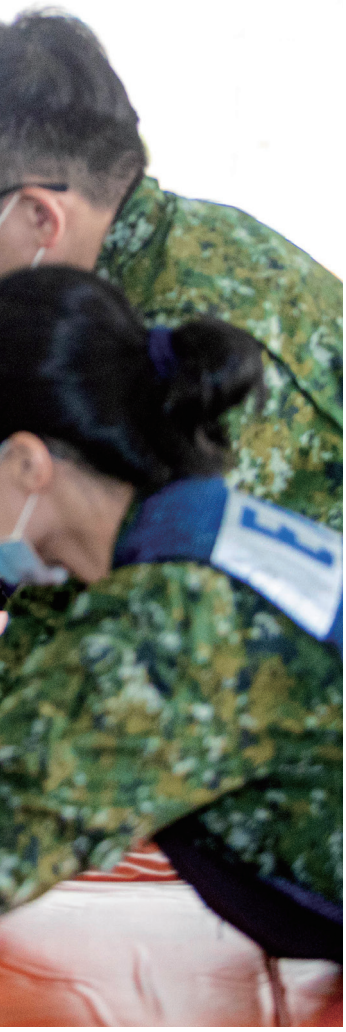
3. Upgrading Medical Information System

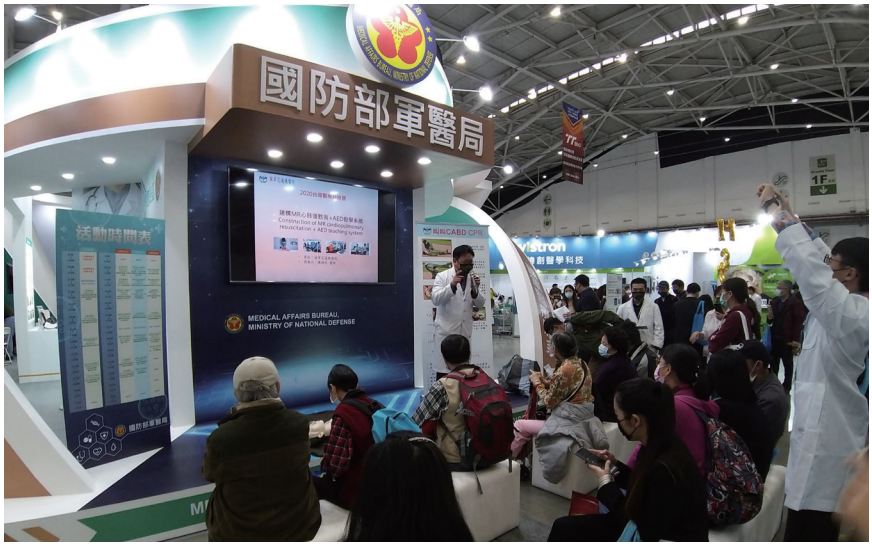
To address outdated programming languages, high upkeep costs, and version compatibility issues of medical information systems in the military hospitals, the MND started "Hui Yi Program" in 2017, designed the new generation medical information system to upgrade the "medical reporting system" that is "focused on the patients" and meets the needs of clinical cares. Currently, the Northern Data Center has been completed with a database capable of dealing with inquiries on statistics of medical cases. Moreover, the database has integrated with the development of a variety of new medical reporting system, electronic spreadsheet system, web-based records of operations, and admission system with medical record summaries. In 2021, we have completed the system development and installation for outpatient and emergency departments of the Tri-Service General Hospital, and its admission system will be completed in 2022. More system installations for the remaining military hospitals will be done in 2023.

III. Nurturing A New Mindset of Health Promotion

1. Preventive Healthcare and Health Promotion of Armed Forces

As stipulated in the *Armed Forces Health Services Regulations* and the *Armed Forces Instructions for Health Promotion*, the MND guides, educates, and implements the following undertakings: medical checks for personnel





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1. According to the Emergency *Medical Services Act*, the MND has initiated a certification system for military emergency medical technicians (EMTs), to timely handle emergencies in peacetime/wartime, and enhance our emergency medical care capacities.
2. The MND continues helping out rank-and-file anti-epidemic personnel to acquire knowhow on prevention of infectious diseases, so as to prevent and control the spread of potential epidemics.
3. The MND has joined up with the MOHW to host the "2020 Healthcare Expo," and sponsored 22 booths from the National Defense Medical Center, Armed Forces General Hospitals, and the Division of Medical Material Supply to attend, winning encouraging comments from all sectors.

selection, prevention of infectious diseases, prevention of heat injuries, food hygiene, urine tests for drug abuse, prevention of tobacco and betel nut hazards, healthy diet and weight management, and premium health management. The purpose of these undertakings is to instill new mindsets of health promotion, so as to strengthen the awareness of preventive healthcare for all service members and maintain a highly healthy and robust Armed Forces.

2. Epidemic Prevention and Containment Measures of Armed Forces

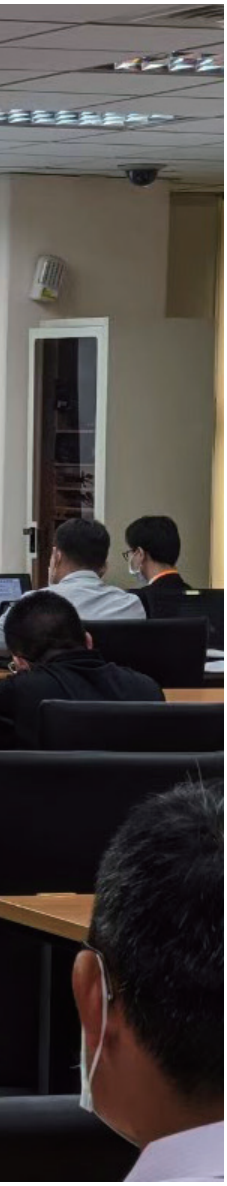
To detect potential outbreak of various infectious diseases or mass infections in advance and to carry out swift and accurate prevention measures, The MND inaugurated the "Military Epidemic Command Center" in October 2020, and assigned it as the counterpart to the Centers for Disease Control, MOHW, to get hold of latest policy trends, oversee epidemic prevention operations of the Armed Forces, and prevent lapses of epidemics and contain their spread. Mass infection cases in the military have potentially been originated in all military educational institutions and basic training centers. Consequently, since November 2020, we have held 4 training sessions for seed instructors training sessions for seed instructors in the Tri-Service General Hospital, the Taichung Armed Forces General Hospital, the Kaohsiung Armed Forces General Hospital, and the Hualien Armed Forces General Hospital to provide knowhow on prevention of infectious diseases for related personnel at rank-and-file level.

Section 7 Defense Legal System

To carry out legalization of defense activities and corresponding governmental policies, the MND continues working on the following undertakings: amending dated and inapplicable defense related laws and regulations, setting up a just and fair investigation mechanism, strengthening anti-drug efforts, establishing a working group for human rights, and reforming administrative salvation system, so as to consolidate the unity of forces.

I. Reviewing and Amending Laws and Regulations

Based on current defense polices and mission requirements, from September to December 2019, the MND has completed 5 amendments to laws, including the *Special Act for New Fighters Acquisition*, and 9 amendments to regulations, including the *Regulations for Attributions and Applications of Scientific and Technical Research and Development of the Ministry of National Defense*. In 2020, the MND has completed 4 amendments to laws, including the *Act of Military Service System*, 27 amendments to regulations, including the *Regulations of Reward and Appreciation for All-out Defense Mobilization Preparations*, and stipulated 8 complementary regulations, including the *Regulations of Range and Cognizance of Materiel* as requested by the *Defense Industry Development Act*. Furthermore, following the inauguration of the All-out Defense Mobilization Agency of the MND, we have stipulated



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1. To carry out the goal of "administration with cleanness and integrity," the Armed Forces have been hosing panel discussions with experts and scholars as panelists, strengthening horizontal coordination with other organic units and expanding external participation, to demonstrate our sturdy support to anti-corruption.
2. To protect the rights and privileges for service members to seek legal remedy, and establish a just and objective investigation mechanism to protect them, the MND has set up a working group for human rights and reformatting administrative remedy system, so as to consolidate the unity of the forces.
3. The MND has set up the Military Anti-drug Taskforce, to execute all anti-drug activities in the military. In 2020, we have set up Military Working Dog Squads in Shilin District MP Office in Taipei, Taichung MP Office, Kaohsiung MP Office, and Hualien MP Office, to help forces in their jurisdiction to do security checks and keep drugs away.
4. The MND has reviewed high-priced military properties for possible transactions by the National Property Administration, MOF, in order to aggregate the Funds for Rebuilding Military Living Quarters and Facilities, and help push Xin An Program to improve the quality of living for service members.

the Organizational Act for the *All-out Defense Mobilization Agency of the Ministry of National Defense* in 2021, and amended accordingly the *Organizational Act for the Ministry of National Defense* and the *Organizational Act for the General Staff Headquarters of the Ministry of National Defense.*

II. Revamping Investigation Mechanism

As instructed by the President concerning the defense reforms and a just and fair investigation mechanism, the MND has established a 3-staged investigation mechanism at the helm of a Judge Advocate in October 2020, so as to protect the rights and privileges of military personnel under investigation and enable them focus on their undertakings. If the case is significant, we may invite civilian experts to join its administrative investigation process, which shall be

witnessed by the families of involving parties or by appointed attorneys with mutual consents, so as to clarify the details of the case through legal procedures, and win the trust and confidence from the society.

III. Strengthening Anti-drug Efforts

To carry out anti-drug policy of the government and maintain a clean and drug-free working environment, the MND has set up the Military Anti-drug Taskforce, which is assigned to attend anti-drug meetings with the Executive Yuan and sub-meetings with the Ministry of Justice, the MOE, and the MOHW, so as to jointly push for anti-drug activities. In October 2020, the MND initiated a background check mechanism for administrative penalty and drug-abuse records with the National Police Agency, MOI, in order to timely separate convicted and addicted members. Furthermore, we have set up Military Working Dog Squads in Shilin District MP Office in Taipei, Taichung MP Office, Kaohsiung MP Office, and Hualien MP Office to help forces in their jurisdictions to do security checks and keep drugs away. In addition, the National Defense Medical Center, the Tri-Service General Hospital, the Taichung Armed Forces General Hospital, the Kaohsiung Armed Forces General Hospital, the Hualien Armed Forces General Hospital, have inaugurated the Clinical Poison Test Centers respectively, to increase our capacity to perform urine and drug tests.

IV. Deepening Awareness for Human Rights

The promotion of human rights has always been MND's focal point of policy-implementation. To realize the policy of the Executive Yuan to protect human rights and promote the awareness of rule of law and human rights and administration by law, the MND has stipulated the *Regulations on the Establishment of Human Rights Taskforce* as a legal basis to set up its Human Rights Taskforce to invite civilian experts and scholars familiar with the military to join the cause, and host seminars periodically to discuss human rights related topics, so as to help protect human rights in the forces. Moreover, we have assigned legal affairs officers in units above the level of combined arms brigade to provide legal consultations and strengthen the education of rule of law and human rights. To expand the efforts, we have published the Armed Forces' Collection of Stories of Human Rights Based on Two International Conventions, coupling with diversified visual aids of pictures and films to analyze incidents involving human rights in the military, so as to deliver clear a message in two international conventions for human rights, and protect those for the military personnel.

V. Protecting Gender Rights

Gender equality has become a universally accepted value. Following the change of society and the guidance of the national policy in recent years, a division of labor based on gender stereotypes has been steadily dissipating in the ROC Armed Forces. Till May 2021, manning ratio of female members has reached 13.6%, an increase of 1.2% from that of 2019. With climbing female manning ratio, the gender stereotype has changed and become more equal. Furthermore, to protect gender rights, the nation has approved the *Act for Implementation of J.Y. Interpretation No. 748*, which protects legal rights and privileges of applicable service members, such as attending collective wedding, applying for marriage bonuses, and having marriage leaves and maternity leaves without pay. In addition, to keep an equal footing with gender rights in the society, the MND has held 15 training sessions with text materials provided by the Executive Yuan, and will continue using TV program and other multimedia means to disseminate the concept and teach people of different gender to get along and grow with one another, so as to create an all-inclusive and gender-friendly working environment for service members.

VI. Providing Considerate Administrative Salvations

To protect the rights and privileges for service members, to seek legal remedy, and to enhance the administrative efficiency and confidence for the Armed Forces, the MND, as instructed by the Interpretation No. 785 of the Justice Yuan that "Rights come with Remedy," began in 2020 to allow service members, who do not accept their annual performance grade, to file their appeals for salvation through administrative appealing procedures. Furthermore, the MND has been issuing the List of Faults and Comments for Correction Spotted during the Deliberation of Appeals every half a year, may summon related members in related personnel and legal affairs from service command headquarters to attend seminars to improve their understanding of administration by law and adherence to carry out the law.

Section 8 Revitalizing Land Use

To effectively employ national land resources, the MND has been following the principle of "first satisfying the demands of combat readiness, training and exercises, then supporting overall economic and industrial development in parallel," to carefully review and make the best of its use of national land possessed by the Armed Forces.

I. Reviewing Uses of Military Properties

The MND has been hosting the Review Meeting for Transferring Ownership and Releasing Military Properties monthly, to actively review surplus military properties. So far, we have released over 2,951 hectares of properties for revitalization programs undertaken by governmental agencies and local governments, and revenues generated herein will be allocated to the funds for rebuilding military living quarters.

II. Releasing Surplus Military Properties

After carefully reviewing vacant military land list, the MND has been actively pushing for releasing vacant ones to either the requiring entities for better usage, or the local governments to build infrastructure, or the National Property Administration, Ministry of Finance (MOF), integrating with other the national land. From 2019 to 2020, the MND has transferred ownership of over 51 hectares of properties. In addition, over 63 hectares of properties have been entrusted with local governments without profits in 2021 for the purpose of greening and improving the quality of living in their neighborhood, and at the same time lower our financial burden to maintain their status.

III. Revitalization of Land Resource

The MND has reviewed the military properties located at high-priced zones in metropolitan districts to consider their possible relocation in exchanges for revenues that will be generated from legal transactions by the National Property Administration, MOF, acting on MND's behalf, so as to aggregate the Funds for Rebuilding Military Living Quarters and Facilities, help push the Xin An Program, and contribute to improving the quality of living for service members. Till June 2021, a total of 1,169 hectares of 477 military properties has been marketed to generate revenues.

Section 9 Cleanness and Integrity

To carry out the goal of "administration with cleanness and integrity," we continue "enhancing auditing acquisition programs," as instructed by policy goals, and undertaking three missions to curb corruption; "prevention, resistance, and eradication," so as to construct a core value of encouraging transparency, openness to participation, and accountability" for all service members, and ensure their career pursuits and all military activities are done by the book.

I. Demonstrating Clean Administration

Our nation has accepted the assessments of the Government Defense Anti-Corruption Index (GDAI) twice with B ratings, as a country of low risk of corruption, in 2013 and 2015 respectively, and achieved good marks in all items in the GDAI checklists. Currently, the 3rd assessment is pending, and the MND has been cooperating with the Transparency International to complete and refine all preparations while coordinating with the planned agenda, so as to attain good results to demonstrate our performance for a clean administration. In addition, the MND has hosted an academic exchange event for international integrity specialists in 2019 and the 1st Asia Youth Defense Integrity Summer School in 2020, so as to increase our visibility on the global stage.

To demonstrate our sturdy support to anti-corruption, the MND has been periodically hosting cleanness and integrity meetings for 3 purposes: 1) reviewing the working results of 9 taskforces for cleanness and integrity, 2) hosting panel discussions with experts and scholars as panelists, and 3) strengthening horizontal coordination with other organic units and expanding external participation. In addition, the MND has established a redundant horizontal oversight by connecting organic systems of ethics, supervision, and investigation, and will join with governmental anti-corruption units to investigate cases of significance revealed by internal report or media, or forwarded by other sources, so as to exhibit our efficiency in promoting cleanness and integrity.

【Contents of Government Defense Integrity (GDI) Index】

II. Maintaining Integrity in the Military

1. Assessing Corruption Risks and Realizing Clean Governance

   The MND has blended the concept of risk management for cleanness and integrity with routine operations and decision-making loops of the Armed Forces. We have requested all units to strengthen their assessments on risks of potential corruption, instill the concept of the management by objectives (MBO) to define corruption-prone operations, and conceive countermeasures to curb their existence with a constant oversight. As for operations of high corruption risk, we continue auditing their progresses and following up their actions to correct their shortcomings, so as to attain a clean governance.

2. Deepening Cleanness Education and Building up Awareness of Anti-corruption

   To strengthen the risk management against corruption and the resilience in a related crisis for all units, the MND has hosted the Cleanness Education Session for Ranking Members of the Armed Forces, the Cleanness-Centered Educational Tour for Armed Forces, and the Cleanness Study Camp for Instructors, each with a specific curriculum at their individual level, so as to build up an ingrained sense of cleanness and integrity in all service members.

3. Publishing Anti-corruption Materials and Spread the Concept Flexibly

   To add a spice of diversity and entertainment, we have produced an animation of "Total Infiltration: Collapse of Golden Fleet," coupling with an interactive game, "The Choice of Master Sergeant," with adapted contents from corruption cases in our and foreign militaries. We have even asked members from 3 services to jointly produce anti-corruption video clips with civilian participation, and uploaded them to media at the Armed Forces' disposal or other internet media as instructed by the *Armed Forces' Guide to Anti-corruption*, so as to promote our policy of maintaining cleanness and integrity.

III. Enhancing Acquisition Audit

To construct an open and fair acquisition ambience, and monitor all units to strictly follow governmental laws and regulations to process acquisitions, the MND has set up the Acquisition Auditing Taskforce with participation of members from its organic Procurement Office, Inspector-General's Office, Legal Affairs Department, and Ethics Office, and experts and scholars from other governmental agencies. The Taskforce performs periodic and unscheduled audits on units at all levels. Meanwhile, we will perform special audits on units involved with cases that are irregular, negatively reported by media, convicted, or complained, and the auditing results will be disseminated to all units and thoroughly analyzed to generate recommendations for corrections so as to curb similar occurrences. All associated units shall adopt the concept of "redundant oversight" to collectively push for anti-corruption efforts, uphold a strict acquisition discipline, and ensure the ethics of cleanness and integrity in the military.

【Diagram of ROC Armed Forces Website of Anti-corruption Guidance】

CHAPTER

08 Partnerships

Our nation is located at the key node of both aerial and sea lines of communications in Indo-Pacific region, holding a significant geostrategic importance. The Armed Forces have established close partnerships and security links with our allies by deepening military exchange and cooperation, and shall contribute our substantial power to safeguarding the universal value of democracy and freedom, maintaining regional peace and stability, and ensuring the sustainable development and prosperity for our nation.

Section 1 Defense and Military Exchange and Cooperation

To solidify national security and protect our people and homeland, the Armed Forces, following the comprehensive diplomatic policy of the government, continue deepening the partnerships with the U.S. and other allies and like-minded countries, built on existing foundations, and vigorously seeking opportunities of strategic dialogue and security cooperation with countries having common strategic interests with us.

I. Taiwan-U.S. Military Exchange and Cooperation

Based on the *Taiwan Relations Act* and Six Assurances on the part of the U.S. and the acquisition of defensive weapons and equipment via U.S. FMS programs on the part of us, our two countries have established multiple military exchange channels to promote a variety of defense exchange and cooperation. In recent years, the U.S. Congress and Executive Branch have successively passed several pro-Taiwan bills, including the *Taiwan Assurance Act,* and reiterated the promise to help Taiwan enhance its self-defense capabilities, so as to jointly maintain the security of the Taiwan Strait, and the stability in the region.

1. Overall Exchanges

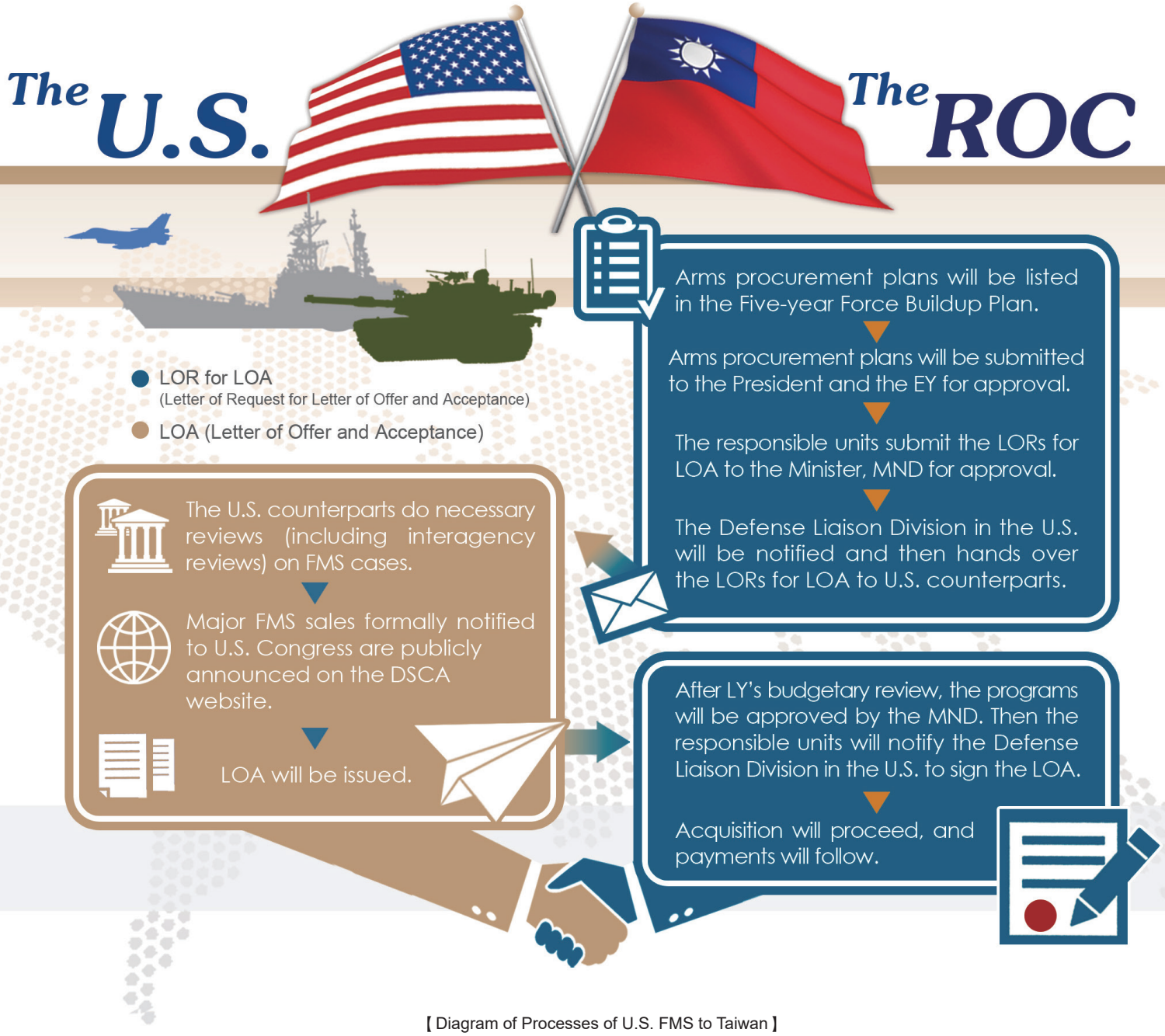
According to a 3-leveled hierarchy: “national security,” “defense strategy,” and “military operations,” the MND has defined and carried out 10 categories of military exchange programs with the U.S., which include “policy dialogue,” “management of FMS and commercial sales,” “armament R&D,” “defense evaluation,” “defense professionalism,” “training and education,” “intelligence exchange,” “combat readiness,” “logistics and maintenance,” and “communications, command, control, and information (C3I).” Despite of the outbreak of COVID-19, our two countries have switched to alternatives to persist in exchange programs. From September 2019 to August 2021, 542 members in 175 programs have visited the U.S., while 618 U.S. personnel in 107 programs have come to Taiwan. During the same period, 102 alternative exchange programs in the forms of video conferencing, teleconferencing, and exchange of papers have been completed with the participation of our 1,639 members. Totally, there are 384 exchange programs involving 2,799 personnel from both sides during the timeframe. The contents of these programs were mainly focused on enhancing defense R&D, cybersecurity, learning substantive combat and training experiences, and strengthening our defensive capabilities, such as ISR, standoff precision strike, and battlefield C2. Moreover, we have begun exchange and cooperation on discussions of the threats from PRC’s “cyber warfare,” “cognitive warfare,” and “unrestricted warfare,” etc., to maintain a consistent and smooth communication channel with the U.S., and solidify the security partnership between us.

In the future, we continue aiming at strengthening our defense capabilities, and pushing for exchange programs on topics of cybersecurity, intelligence sharing, reserve forces, non-conventional threats, HA/DR, advanced military technologies, force buildup concepts, and combat and training experience, so as to rapidly construct a multi-domain deterrence and dutifully perform our role to maintain security in the region.

2. Foreign Military Sales (FMSs)

With deliveries of the Phalanx Close-in Weapon Systems (CIWSs) and long-range heavyweight submarine-launched torpedoes underway and ongoing F-16A/B retrofit, these acquisitions from the U.S. can sufficiently meet our demands for defensive operations.

From 2019 to 2021, the U.S. has agreed to sell M1A2T tanks, Man-portable Air Defense (MANPAD) Stinger missiles, F-16V (Block 70) fighters, High Mobility Artillery Rocket Systems (HIMARSs), MS-110 recce pods, Standoff Land Attack Missiles—Extended Range (SLAMs-ER) for F-16, Harpoon Coastal Defense Systems (HCDS), MQ-9Bs UAV, Field Information and Communications Systems (FICS), and new 155mm self-propelled howitzers. After acquiring these new assets, effectiveness of our joint counter-air, sea-control, and anti-landing operations will be greatly improved.



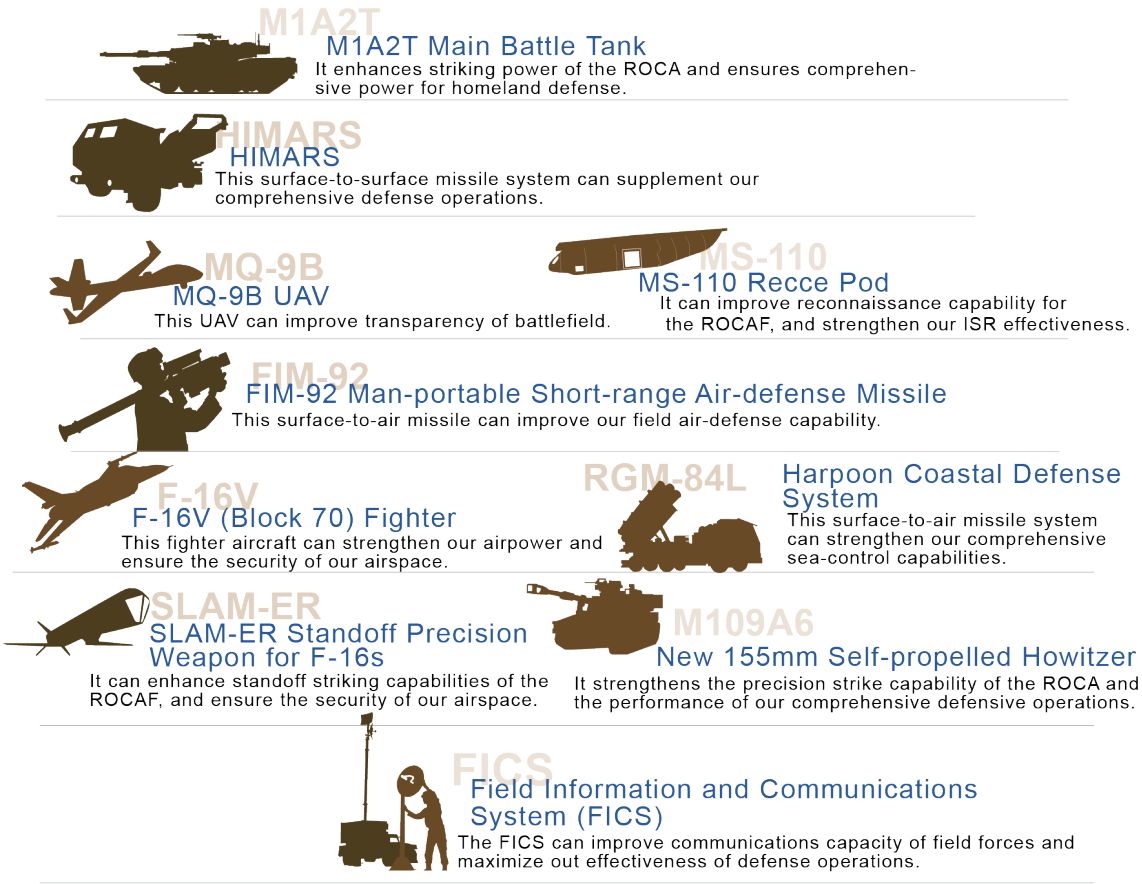
【Diagram of Processes of U.S. FMS to Taiwan】

II. Military Exchange and Cooperation with Other Countries

The ROC Armed Forces, following the principle of "maintaining exchange across the board, solidifying international relations earnestly," have assigned defense attachés stationed in 5 of those nations with diplomatic ties, to perform military diplomatic missions. Moreover, we continue carrying out high-level bilateral visits, midshipman cruise training, intelligence exchange, military medicine exchange, donations of surplus materiel, and hosting National Development Course (NDC) to deepen security cooperation. Concerning friendly nations currently without diplomatic ties, we have assigned service coordination divisions to push for high-level mutual visits, intelligence exchange, education and training, think tank exchange, and humanitarian medical exchange, so as to expand cooperation on defense affairs.

From September 2019 to August 2021, the Graduate Institute of China Military Affairs Studies have hosted exchange sessions with 14 delegations (5 of them were done through videoconferencing) from foreign academic institutions and think tanks. During the same period, we have hosted 3 NDCs sponsored by the MOFA in which 73 trainees from 23 countries attended, and 1 International Ranking Officers' Course in which 23 trainees from 9 countries attended. Concerning the exchange visits with friendly countries over the past 2 years, we have assigned 956 members in 82 programs to visit foreign countries, and hosted 169 foreign personnel in 32 programs to visit here while the exchanges with another 69 personnel were done in 9 alternative programs. Totally, we have completed 123 programs for 1,194 personnel, and accomplished the goal to expand military exchanges, catch up with international military development, and bring military diplomacy into fruition.

When the spread of the epidemic becomes manageable to allow the resumption of exchanges, the MND will carry on cooperation programs on cybersecurity and military medicine, deepening exchange with think tanks, pushing for high-level mutual visits, participating in foreign training and exercises as observers, and attending HA/DR drills, so as to substantively strengthen partnerships with allies and friendly nations.



【U.S. Recent FMSs to Taiwan】

Section 2 Strategic Dialogues via Think Tanks

To continue expanding contact and dialogue with foreign strategic research communities, and broadening the depth and width of strategic communication to express our vigorous willingness to take part in dealing with regional security affairs, the MND has inaugurated the Institute for National Defense and Security Research (INDSR) as a national think tank to shoulder such responsibilities. After its inauguration, the INDSR has contributed to providing professional advice and consultations on policies, expanding our international exchange and cooperation in defense affairs, and promoting international communication and dialogue, and it has been selected twice as one of the Best Global New Think Tanks in the *Global Go To Think Tank Index Report* by the University of Pennsylvania, U.S. in two consecutive years. Now, the INDSR has been well received on the world stage with its solid research foundation, and has won recognition and attention from international media and think tanks.

I. Exchange and Bilateral Visits

To articulate the concept of our defense policies, the MND has been extensively holding strategic dialogues with major defense think tanks from the U.S., Sweden, Japan, and South Korea, and following up their strategic analyses and observations on regional status for our refence in revising our defense policies. In return, these foreign think tanks may voice concerns on our behalf and generate more supportive feedbacks from the international community. Furthermore, the INDSR continues expanding exchange and strategic communication with international think tanks and the experts and scholars for these institutions either in person or through videoconferencing. Statistically, the INDSR has completed 55 times of office call including 308 personnel on various foreign representative offices in Taiwan, 15 times of visit including 25 personnel to major think tanks in the U.S., the UK, Japan, and India. It has also hosted the Ketagalan Forum: 2020 Asia-Pacific Security Dialogue, assigned delegations to attend the Raisina Dialogue and Kautilya Fellows Programme in India and Dhaka Global Dialogue in Bangladesh, and has been interviewed and reported 778 times either online or in person by foreign reporters and renowned news media. At the same time, the INDSR continues interacting with active and retired defense officials and ranking military leaders of foreign countries, as well as social media, to discuss issues of defense, military, and regional security, so as to improve their comprehension toward our defense policies, and strengthen the effectiveness of our international strategic communication.

II. Postulating Policies

In order to enhance our government's understanding of international security situations, the INDSR has been publishing Chinese editions of *Defense Security Quick Take*, the *Defense Security Bi-weekly*, *Defense Situation Special Edition, Defense Strategy and Assessment Journal*, and English edition of *Defense Security Brief*, to address topics related to defense and military, PRC's politics and military, international situations, disinformation, and gray zone incidents, as well as some emerging security issues. The annual reports of the INSDR include *Annual Assessment of the Security Environment in the Indo-Pacific Region*, *Annual Assessment of the PRC's Political and Military Developments,* and *Annual Assessment of Trends of Defense Technology*. It has 7 ongoing major comprehensive case studies as follows: "asymmetric operations," "assessment on PRC's military power in 2030," "gray zone conflict," "new order post-COVID-19," "new form of warfare," "new technology," and "national security strategy." Moreover, it has published the *South China Sea Security from Multiple Perspectives* and *Lesson-learned: Foreign Emergency Response Mechanisms*. As it always does, the INDSR remains committed to refining its studies on defense policies, military security, and national security, in order to offer the government its professional, farsighted, and objective references and consultations from a strategic and holistic perspective for the development of the nation.

【Diagram of Organization and Functions of the INDSR】

Indiscernible Tenderness to Construct a Mental Health Net

Since July 1st 1999, the MND has inaugurated area mental health centers in Hualien, Taitung, Kinmen, Matsu, and Penghu, and the northern, central, and south areas of Taiwan, to integrate medical resources and supportive connections in the society. The MND has arranged them in a complete “three-leveled prevention and handling system” and “local counselling network” for mental cases in the hope to increase the unity of the forces and ensure their combat power by providing counselling and referring services and courses on mental health.

Liao Ji-hua, Leader of the Social Services Team, Kaohsiung Armed Forces General Hospital, who has been serving in the Southern Area Mental Health Center for 22 years, claimed, under the transformation of the military recruitment mechanism, conscripts have now been replaced by volunteer enlistees. Previously, the counselling services in the military were provided to conscripts to get accustomed to a rigid military environment, and now such services are being offered to volunteer enlistees on additional topics such as family, marriage, relationship, financial burden, and even neurosis. Consequently, it is necessary to improve rank-and-file counselors’ knowledge and incorporate civilian counselling resources and psychiatry doctors’ professional treatment, so as to maintain a wholesome development of service members.

Chen Kai-ren, Counselor of the Southern Area Mental Health Center, shared another observation from work, “The service members are working with their specific functions in a tightly knitted organization, and suffering from different levels and types of pressure owing to their respective jobs and functions. Therefore, they need our counselling services to help them position their roles and become a much more important part in their units.”

Counselor Chen noted, he deeply felt the significance of the counselling services, especially when he saw a sign of relief from the faces and attitudes of the service members who disclosed their inner questions and were awakened or referred to other counselling services during his Mental Health Campaign to multiple units. He believes his works can really help maintain their mental health and readiness to combat.

Ms. Liao continued, “I think counselling is an indiscernible power for the military. Due to the timely input and attention from counselors, the band of brothers and sisters from the units can prove their worthiness and strength, and avoid of becoming just ‘cases’ in my portfolios.” She mentioned, the counselling system is very flexible and can provide a timely push for those that are lagging behind to make it up and dedicate themselves to a robust fighting force.

軍衛國

Deepening R&D and Innovative Capacities to Defeat Invisible Enemy

Since its inauguration in 1972, the Institute of Preventive Medicine of the Medical Affairs Bureau, has experienced multiple transformations and now has become an advanced R&D unit of military medicine and biotechnology. Aside from being capable of running tests for biological warfare, the Institute, having one of the few domestic P4 grade laboratories, has been focusing on developing rapid screening and detection of emerging pathogens in recent years.

In the wake of the COVID-19 outbreak, the Institute, tasked by the central government, has successfully developed rapid testing technology to shorten the time to wait for polymerase chain reaction (PCR) tests. The end product, rapid test kit, not only has significantly lower false positive rates, but was also proven by blind tests in foreign laboratories to be more accurate than those made by renowned international pharmaceutical companies.

Major General Hong Yi-ren, Dean of the Institute, attributed this success to the wealth of experiences accumulated by the R&D personnel over the years. The Institute had to expand its reach to the field of biological testing after the SARS epidemic, which paved the way to a faster development of the test kit as soon as COVID-19 began to unroll. Combining the clinical trial capacity of the Tri-Service General Hospital, accurate test results were acquired rapidly. In the face of the “invisible enemy,” the Institute has built up a nationwide firewall to impede further spread of the pandemic. In the battlefield of medicine, the Institute continues to stand firmly to fight against all pathogens, and keep a strong frontline for the nation to defend against infectious diseases.

檢體傳送箱

Being Dedicated to Culinary Innovation to Trigger Appetite

MSgt Yang Jia-he, Service Group of the MND, is supervising food preparation activities, and said, “It takes concentration and attention to do a fine catering.” Working in the MND, the top level of the ROC Armed Forces, he has perceived the caring from top down, and recognized that same thing if treated with a different attitude may come out with dramatic different results.

MSgt Yang was originally assigned to serve in the Ching Chuang Kang Air Force Base for utilities, but was transferred to serve in the Service Group of the MND by chance. To become the fittest, he vigorously pursued studies to learn catering skills, and had acquired an intermediate certificate for the Hazard Analysis Critical Control Points (HACCP) for food service, and a C-Grade certificate for Chinese Cuisine last year. He may use his past experience flexibly to guide his subordinates to develop creative cuisines that transformed into diversified, colorful, and delicious dishes.

“Every menu may bring surprises,” MSgt Yang said. Currently, MND’s lunch meals are provided in 6 categories: buffet, Taiwanese delicacy, noodle, vegetarian cuisine, foreign cuisine, and light meals. From a series of preparations, such as food tasting, developing cuisines, and proposing menus, the catering team have brought out resulting dishes with distinctive and delicious flavors to boost up appetites for service members, and their catering service has thus become a power supply for the forces and has symbolized an upgrade of living standard for the military.

ARMED FORCES
速寫人生 彩繪國防
The Defense Sketch
SINCE 2021

Bettering Childcare to Provide Comfort for Military Families

The ROC Armed Forces takes it by heart to shape a friendly and caring environment for military families. A milestone for service members' well-being was thus made when the Dazhi Non-Profit Preschool was inaugurated in August 2020. The Preschool offers substantial childcare services with favorable rates to alleviate burdens on military families, and is adjacent to military installations in the area for the convenience of parents to focus on their undertaking at work and pick up their children after work. The MND is dedicated to fulfilling the policy to "provide comfort for military families," which can also be seen as a credible way to support the national defense.

The land for the Preschool was provided by the MND, but its operation was outsourced to Shih Chien University, a legal entity. You Ya-mei, Director of the Preschool, explained, "Shih Chien University has the Department of Family Studies and Child Development, whose faculty is currently supporting us. Consequently, the Preschool can make the best of theoretical knowledges and even the industrial and academic cooperation offered by the University, and this combination of educational expertise and resources can be translated into our advantages."

It has been a year since its inauguration, and as Director You pointed out, there were some systemic and operational issues that needed to be addressed and adjusted in the beginning. After toddling for a year, the Preschool has blended its institutional features with those of public childcare centers, and begun to receive children from its neighborhood. Now, it allows children of military families to grow decently in a well-arranged childcare system provided by the MND, and hopefully to be primed as the ones like their parents to serve the nation.

桃園國際棒球場
SKODA

WE
CAN
DO IT

PART 5

05

Part 5 Heritage of Honor and Glory

The ROC Armed Forces had written history of glory and sacrifice in the past with souls perished and blood dried up in the battles for safeguarding the nation and the people, to bring about the freedom and democracy of our nation and the peace across the Taiwan Strait. By inheriting this heritage of honor and glory, we continue the pursuit for combat readiness, force buildup, and civilian-military unity to achieve an all-out defense, preserve military history and its distinctive culture, and perform HA/DR operations for the people in need. In addition, we remain committed to refining our grooming efforts and military education to maximize the effectiveness of defense manpower, and helping discharged personnel quickly join the work force to carry on their services to the society by reviewing and adjusting our consultation and support in a roll planning fashion.

CHAPTER

09 Civil - Mil Unity

To realize the concept of all-out defense and establish a consensus of "together we are one; together we survive," the Armed Forces continue reaching out through diversified and creative educational channels to build up the people's strong will for all-out defense and achieve a sense of unity for civilians to join hands with the military to defend our homeland together.

Section 1 All-out Defense

As instructed by the *All-out Defense Education Act*, the MND has been hosting a variety of events for civilians to know the military firsthand, so as to strength their awareness of all-out defense. Moreover, we have been integrating related resources from intergovernmental agencies and local governments to build up their understanding of national defense and the determination of self-defense, so as to solidify the comprehensive defensive power for the nation.

I. Strengthening Awareness of All-out Defense

To deepen the awareness of all-out defense, the MND has been sponsoring educational activities for all-out defense in 4 categories: "education in schools," "on-the-job training (OJT) in governmental agencies," "reach-out in society," "preservation, promotion, and educational activities for defense-related historical items." These activities are to be evaluated and graded by an intergovernmental panel, which invites members from these governmental agencies (including the MND, the MOE, the MOTC, the Ministry of Culture (MOC), and the Directorate-General of Personnel Administration, EY) as panelists, who would be requested by the MND to join inspection tours to municipalities and local governments to supervise their educational results in each category. Based on current resources at disposal, the MND has been hosting a variety of creative events to reach out every corner of the society to encourage the people to embrace the concept of all-out defense, respect the military, and join up together to maintain the security for the nation.

1. Hosting Civil-Mil Events

   To improve the people's understanding of national defense, the MND has been hosting a variety of events, such as open house activities for all-out defense, summer/winter camps, color guard competitions, patriotic song singing competitions. We have been assigning military personnel to reach out rural areas and school campuses to interact with audience face-to-face, on the one hand to exhibit their confidence and a sense of honor to boost their morale, and on the other to demonstrate that the Armed Forces are determined and fully capable of safeguarding the nation, giving the people a peace of mind.

2. Conveying and Promoting Policies

   To convey our policies effectively and follow the principle of "the people's right to know the decency of the Armed Forces," the MND has coproduced with the media sector a video program called "New Perspectives for the People," which conveys the voices of our personnel and the concept of national defense from different angles and with a nice touch to combine all relevant elements, such as military personnel, families, country, and duty. In 2020, the MND has coproduced 33 promotional video clips, including the one titled "New Generation of Patriots Holds Dear the Armed Force," with the Army, Navy, and Air Force. All the video clips have been uploaded to the Facebook pages of the MND Spokesperson and other military webpages, and have been viewed by more than 3.31 million times. Furthermore, such video clips have been broadcasted at 14 locations, including Taipei Songshan

Airport and Rest Areas of the Freeway Bureau, MOTC, through non-profit channels, so as shape a decent image of the Armed Forces effectively.

II. Supporting Firmly the Conviction of the Armed Forces

To strive for the recognition and support from the people, portray a decent image of the service members, the MND continues pushing for civil-mil interactions for the people to know the progress of implementation of defense policies, solidify their sense of patriotism, and strengthen their support for our conviction to defend to nation, so as to transform the Armed Forces into the most dependable and stable power for a sustainable national development.

1. Winning the Support and Respect from the People

We have been hosting a variety of activities and using our propaganda platforms to allow the people to know the real status of our combat training and readiness and our determination and robust combat power to defend the nation. Through these undertakings, we have won tremendous positive feedbacks and the respect from the people, and constructed a solid civil-mil unity to defend the security of the nation.

2. Setting Clubs for Unity

Starting from 2020, the MND has been incorporating club activities in the curriculum of the Juguang Park educational sessions. Service members are allowed to form hobby clubs that fall into 5 categories: entertainment, skill-learning, sports, volunteer service, and task-oriented. These club activities are used to build up comraderies among service members, expel a stolid atmosphere, and solidify their unity. During the club hours, they may learn multiple skills and talents, and with the exchange of different clubs and flexible propaganda efforts, their images of excellence (such as the performances of the military band and color guards of the ROC Army Academy during our major national celebrations) may well be projected into the public domain to deepen the people's support to the concept of all-out defense.

Item #	Events
1	All-out Defense Education and Recruitment Reach out Event – Campuses
2	All-out Defense Education Reach out Event – Rural Areas
3	National Color Guard Competition for Senior High Nationwide
4	All-out Defense Educational Challenge Camp (Winter and Summer Breaks)
5	National Defense Experience Tour: Base Open Events
6	All-out Defense Educational Online Quiz Competition
7	Creative Patriotic and Inspirational Singing Competition for Senior Highs
8	Hosting Arms Shooting Days for Senior Highs on MOE's behalf
9	Study Camp on Spratly Islands
Total: 9 Events	

【 Overview of Activities of the All-out Defense Education 】

Achieving Civil-Mil Unity to Co-build a Concrete Defense

Section 2 Inheriting Heritage

To honor and commemorate the glorious history of the Armed Forces to safeguard our country, portray the exemplary patriotism they have shown, and facilitate the promotion of defense policies, the MND continues hosting exhibitions to display military historical items, compiling military historical literature, and strengthening military professionalism. Furthermore, we are planned to construct the National Military Museum to showcase the glorious heritage and valuable historical items of the Armed Forces, so as to demonstrate their contribution to "safeguard the nation and protect the people."

I. Compiling Military History and Displaying Artifacts

To inherit and follow in the footsteps of the glorious achievements of the ROC Armed Forces to defend the nation, the MND continues compiling military historical literature, and strengthening military professionalism. Moreover, the Armed Forces Museum continues hosting special exhibitions with topics to articulate our defense policies and focuses of policy implementation, and commemorate the journey of hardship and difficulty of the developments of the Armed Forces and their subordinate units.

1. Compiling Military Historical Literature

   From October 2019 to present, the MND has published 9 pieces of military historical literature: *Turning point of the Nation: the 70th Anniversary of the Guningtou Battle, Through Trials and Tribulations: An Oral History of Heroes of the Battle of Dengbu Island on Its 70th Anniversary, The History of the 3rd Army of the National Revolutionary Army, Military History Review #27, Military Heroines: An Oral History of Female Service Members, Soaring Eagle with Crimson Heart: Memorial Album of General Shen Yi-ming, Chief of the General Staff, Thriving on Ice: Armed Forces Museum Relics Selection, Military History Review #28,* and *Serving with Compassion: An Oral History of Military Medical Personnel*. By publishing these pieces of literature, we are hoping to magnify the exemplar military ethos, completely preserve the glorious history and contributions of our

1 2 1.2. Historical relics and documents are witness to historical and cultural developments and an integral part of culture of a nation. In order to spread the glorious struggle that the Armed Forces have experienced, the MND continues collecting all military historical relics and documents in each period of our military period, and displaying them in special exhibitions to present the progresses of our force buildup and development.

forerunners in their line of duty, and faithfully present the noble decency as shown in the saying, "The national survival is one's ultimate duty, which defies one's ultimate destiny." Military readers are expected to follow in their footsteps, and dedicated to their trainings and operations, so as to maintain the national security and the people's wellbeing.

2. Showcasing Military Historical Relics and Documents

Historical relics and documents are witness to historical and cultural developments and an integral part of culture of a nation. In order to spread the glorious struggle that the Armed Forces have experienced, the MND continues collecting all military historical relics and documents in each period of our military history, and displays them in the Armed Forces Museum and the History Exhibition Hall of the MND to faithfully exhibit the progresses of our force buildup and the evolution of the MND.

(1) Armed Forces Museum

The Armed Forces Museum preserves and displays historical relics and documents across major periods of our military history, such as the founding of Whampoa, the Eastern Expedition, the Northern Expedition, encirclement campaigns against communists, the War of Resistance against Japanese Aggression, suppression of communist rebellion, and safeguarding the Taiwan Strait. The progress of our ongoing force buildup is also showcased in the Museum. From October 2019 to present, the Museum has held 3 special exhibitions: "Turning point of the Nation: the 70th Anniversary of the Guningtou Battle," "A Splendid Century: Commemoration of Centennial Buildup of the ROCAF," and "Armed Forces Museum Relics Selection."

(2) History Exhibition Hall of the MND

The MND has set up the History Exhibition Hall to completely present the chronological changes of the MND and its associated efforts and achievements to push for defense establishment. In October 2019, the MND held a program called the Visits to the History Exhibition Hall of the MND of FY2019, and invited visitors from Dazhi Elementary School, Shih Chien University, and Dazhi Village and Jiantan Village of

Zhangshan District. In March 2020, we erected 2 monuments—"Soaring High to Serve the Nation: In Commemoration of General Shen Yi-ming, Chief of the General Staff" and "Fortress of the Nation; Exemplar Paradigm: In Commemoration of Perished Service Members on 2nd January 2020" to commemorate the contributions and dedications of late General Shen and the other 7 members who were killed in the line of duty.

3. Constructing the National Military Museum

In line with the policy of the Executive Yuan to revitalize the property of the Tri-service Officers' Club and also because of the insufficient storage space in the Armed Forces Museum, the MND is planning to construct a new museum at the Defense Cultural and Educational Park in Dazhi.

The National Military Museum will have a main building of 7 floors (built with steel construction) above ground and 3 floors of basement (built with reinforced concrete). Inside the main building, there will be mostly regular exhibition halls, special exhibition halls, interactive simulation rooms, and archive rooms, coupled with multi-functional rooms, a vista dining area, a library, and an information center. In the outdoor areas, there will be displays of large-sized military equipment, public art installations, and a visitor-friendly plaza, so as to create its distinctive style and a pleasant ambience. The construction of the Museum was activated on 21st May 2021, and it is planned to open in 2025.

II. Translating International Military Publications

To improve the professionalism of service members and keep up with the latest trend of international military developments, and get hold of evolving situations of regional security, the MND has been translating foreign publications of choice in the 8 categories: "defense technologies," "military operations," "military strategy," "PLA studies," "revolution in military affairs," "leadership," "regional situations," and "national strategy, " so as to provide readers in and out of military to get in touch with latest military developments, push for the concept of all-out defense, and support our force buildup efforts.

1. Reprinting Translated Foreign Military Publications

Force buildup is an ongoing undertaking. To provide materials of self-studies, and the MND continues translating and reprinting, with permissions from original publishers, books of latest foreign military developments and trends for our reference. From October 2019 to present, we have reprinted translated versions of 5 books:*Scales on War:The Future of America's Military at Risk, China's Evolving Military Strategy, The Pentagon's Brain, Contesting Cyberspace in China: Online Expression and Authoritarian Resilience,* and *China's Eurasian Century? Political and Strategic Implications of the Belt and Road Initiative.*

2. Publishing Periodicals of Translated Military Articles

To strengthen the professionalism, international perspectives, and knowledge power of cadre members in the military, the MND has been publishing the *National Defense Digest,* which collects articles of choice for their prevailing trends and visionary contents. With additional defense information and global news, these translated articles are chosen from MND's current collection of over 10 foreign military journals, and divided into 8 subjects: "special topic," "strategic and international relations," "service operations," "military affairs," "PLA's developments," "regional status, "military history and retrospect," and "weapon technologies." We continue to expand the pool of article sources, and are hoping to collect articles of more diversified contents appealing to readers in and out of the military.

III. Honoring Heroes of Anti-Communist National Salvation Army

To honor the heroes that sacrificed their lives in their service in the Anti-Communist National Salvation Army (ACNSA) in Yunnan, China, the MND promulgated the *Regulations for Awarding Commemorative Medals to Members of the Anti-Communist National Salvation Army, Republic of China* in March 2021, and produced the Commemorative Medals for the ACNSA in Yunnan. During the Spring Memorial held by the Chinese Martyr's Memorial Museum in the north of Thailand, the MND representative stationed in Thailand presented these medals to those surviving heroes on behalf of our country and pay our utmost respect to these courageous warriors for their patriotism and how they defended the dignity of our nation.

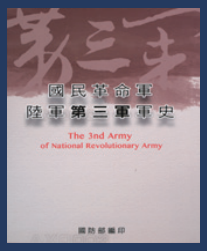
MND's Military History and Reprinted Translated Publications

Turning point of the Nation: the 70th Anniversary of the Guningtou Battle

The book brought the Battle of Guningtou back to life to allow the readers to feel the strong resolve of the ROC Armed Forces to frustrate the PLA forces and protect the security of the nation, and recall this piece of glorious history that our forerunners and martyrs sacrificed their lives to turn the tide of the battle. It is hoped that all military personnel follow their footsteps and be the unbreakable shield for the sustainable development of our nation.

Through Trials and Tribulations: An Oral History of Heroes of the Battle of Dengbu Island on Its 70th Anniversary

To commemorate the 70th anniversary of the Battle of Dengbu Island, the book serves the purpose to revive the glorious history of the trial and tribulations the people and the military went through at the battlefield of Dengbu Island, Zhoushan Archipelago, Zhejiang Province, to remind the citizens to cherish the hard won democracy and freedom, and the military personnel to inherit the heritage described in the book and be determined to defend the security of the nation.



The History of the 3rd Army of the National Revolutionary Army

The book is compiled to preserve the history of the 3rd Army of the National Revolutionary Army. It is a thorough collection and verification of its origin, evolution, and major achievements, and a demonstration of the contributions of its members to our people and the nation. It can be a valuable reference for our force buildup undertakings.

Military Heroines: An Oral History of Female Service Members

After the retreat of the Armed Forces to Taiwan, we began expanding the manning ratio of female members to allow more excellent females signing up to follow their heroines in the services. This piece of oral history reveals substantially the noble will of these female members to defend the nation and protect the people's well being with their lives.

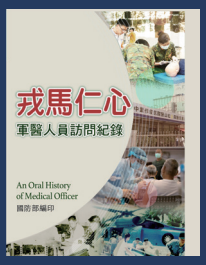
MND's Military History and Reprinted Translated Publications

Soaring Eagle with Crimson Heart: Memorial Album of General Shen Yi-ming, Chief of the General Staff

Late General Shen Yi-ming, Chief of the General Staff, MND has served for more than 40 years with outstanding achievements in his career. He had maintained strict disciplines on himself but was always kind to others. He cared for his subordinates and led by winning their hearts. His sudden demise has saddened the country. This book is dedicated to late General Shen to commemorate his endeavors in defense buildup and his lifelong contributions and sacrifices to the nation.

Thriving on Ice: Armed Forces Museum Relics Selection

On the occasion of the 60th anniversary of the Armed Forces Museum, we collected photos of 60 military relics with descriptions and background stories. The relics, including Chinese calligraphy, are categorized into 8 parts, covering the time prior to the founding of the ROC Armed Forces, the founding of Whampoa, and the battles across the Taiwan Strait. It is hoped that this book can enrich the history of the ROC Armed Forces, appeal to readers out of the military, and allow the endeavors and heritage of the ROC Armed Forces to thrive gloriously.



Serving with Compassion: An Oral History of Military Medical Personnel

To demonstrate the heritage and sacrifice of military medical personnel, we have interviewed retired military medical personnel to put their experiences into words. It is hoped that service members shall carry on the spirit of helping people with compassion and humanity and never forget their purpose when first joining the military, and be devoted to transform the Armed Forces as an unbreakable shield for the sustainable development of our nation.

Translated Edition of *Scales on War:The Future of America's Military at Risk*

The book addresses upcoming prospects of U.S. military, including tactical ground warfare, future gazing, the draft, and the role of women in the infantry. The author believes that throughout its history, the U.S. has favored a technological approach to fighting its wars and has neglected its ground forces. The book tells us that U.S. enemies have learned how to win battles by flexibly altering their ways to carry out an operation, and provides its views on how the U.S. suffered a great loss because of its negligence of its warriors on the front line.

Translated Edition of *China's Evolving Military Strategy*

The book offers sector-by-sector expert assessments of the latest trends in PRC's military thought under Xi Jinping, covering not only traditional battle-spaces such as the air and sea but also PRC's strategy for the new domains of space, cyberspace, and electronic warfare.

Translated Edition of *The Pentagon's Brain*

The book has touched upon the history of the Defense Advanced Research Projects Agency (DARPA) from its Cold War inception in 1958 to the present, covering its military R&D operations in cyberspace, global positioning system (GPS), stealth technology, and UAV, as well as its ascendance to lead the military technological revolution and allow U.S. technologies to dominate the global stage.

Translated Edition of *Contesting Cyberspace in China: Online Expression and Authoritarian Resilience*

The book reveals internal dynamics of online expressions in the PRC, showing how the state, service providers, and netizens negotiate the limits of discourse, and how the state censorship has conditioned online expression, yet has failed to bring it under control. The book also interrogates assumptions about authoritarian resilience and the democratizing power of the internet.

Translated Edition of *China's Eurasian Century? Political and Strategic Implications of the Belt and Road Initiative*

The Belt and Road Initiative (BRI) proposed by PRC's leader Xi Jinping in 2013 was ungraded to become the National Strategy of the PRC. The BRI is intended to crack the containment policy of the U.S., and is facing suspicions from different angles in the international community. The book examines the concept's origins, drivers, and various component parts, as well as PRC's domestic and international objectives.

Section 3 Protecting the People

In order to protect the lives, properties, security, and wellbeing of the people, we continue strengthening our responsive capabilities to cope with non-conventional security challenges, performing HA/DR missions, undertaking epidemic prevention for COVID-19, providing rescue support in emergencies and distresses, protecting our maritime rights and privileges, and assisting in anti-terrorism operations.

I. Epidemic Prevention of COVID-19

1. Combining Command and Control to Timely Respond

Following the structure of the Central Epidemic Command Center (CECC), we have set up the Military Epidemic Command Center (MECC), to early detect any potential spread of infectious diseases or mass infection incidents, react instantly with accurate anti-epidemic measures, and act as the counterpart to the Centers for Disease Control (CDC), MOHW, so as to get hold of latest policy directions and carry out the epidemic control operations effectively.

2. Integrating Military Medical Services to Perform Quarantine

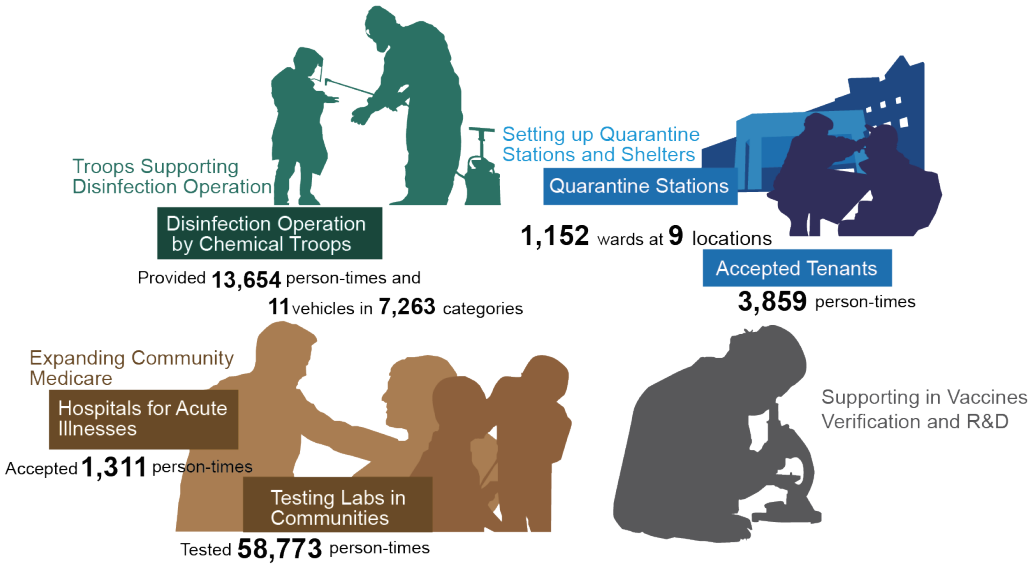
The Taoyuan Armed Forces General Hospital and the Tri-Service General Hospital (TSGH) Songshan Branch are assigned to operate collective quarantine facilities at Dagang of Linkou District and Shuanglianpo of Zhongli District, Taoyuan, and have admitted 3,859 subjects from chartered flights or by compulsory requests for quarantine.

3. Vaccinating to Boost Personal Protection

All personnel of the MND are listed in the 7th government-funded priority group for COVID-19 vaccination, and has been receiving jabs since May 2021 as requested by the central government. Till August, we have reached vaccination rate of 85.7%, and continue encouraging the rest of our personnel to take jabs, so as to boost up our mass immunity and preserve our combat power.

4. Improving Testing and Anti-epidemic Capacity

In order to improve testing capacity on possible infectious subjects in enclosed spaces, sensitive locations, and units in rural areas, the MND, as instructed by the central government, has purchased automatic polymerase chain reaction (PCR) instruments, and distributed them to all Armed Forces General Hospitals and distant installations in all theaters of operations (TOs) and offshore islands without testing capacity, to satisfy their testing demands.



【 Statistics of ROC Armed Forces' Anti-Epidemic Endeavors 】

5. Expanding Medical Services in Communities

To fulfill our responsibility of providing medical service in the society, the MND has assigned 11 Armed Forces General Hospitals, such as the Taoyuan Armed Forces General Hospital, as MOHW-designated community testing hospitals certified with sub-division triages, while another 2 major hospitals, such as the TSGH, are chosen as critical care hospitals. A total of 1,311 subjects have been admitted, and a COVID-19 testing amount of 58,773 subject-times have been completed by afore-mentioned military hospitals, to show that we have effectively performed community testing, anti-epidemic, and medical services as a leading medical service provider.

6. R&D for Vaccines and Testing Kits

Institute of Preventive Medicine of the National Defense Medical Center is dedicated to the detection, testing, and prevention of the COVID-19 pandemic, and its undertakings are divided into the following 4 parts: 1) Antigen testing: Based on the expertise accumulated during the outbreak of severe acute respiratory syndrome (SARS) in 2003, the Institute has soon developed the COVID-19 antigen testing kits, and transferred the technology to industries for production; 2) PCR testing: The Institute has developed an automatic PCR instrument in cooperation with medical industries to increase our testing capacity; 3) R&D for vaccines: The Institute is working on R&D for new vaccines and nanocarrier adjuvants, and assisting the Food and Drug Administration (FDA), MOHW, in formulating a meta-analysis with reference materials for neutralizing antibodies across vaccines, and 4) Medical treatments: the Institute is working with medical industrial and academic sectors to establish a cell and animal testing platform to verify the effectiveness of medicines and neutralizing antigens for treatments.

7. Performing Anti-epidemic and Disinfection Operations

Since the outbreak of COVID-19 in 2020, the Armed Forces has been assigning chemical troops as instructed by the CECC and demanded by local governments, to conduct anti-epidemic and disinfection operations for all quarantine facilities, large business centers, quarantine hotels, testing stations, aircraft and vehicles for quarantine subjects, and their parking facilities. We have effectively curbed the spread of the epidemic and protected the people's health by assigning a total of 13,654 person-times of chemical troops and 7,263 vehicles of 11 kinds to disinfect a total area of 11,239,889 square meters.

II. HA/DR

As guided by the *Disaster Prevention and Protection Act* and the policy of "assigning preemptive deployment, prepositioning forces, and providing timely HA/DR responses," the Armed Forces are dedicated to all HA/DR missions, based on an ethos of "capable of disaster relief in peacetime and fight in wartime." We regularly get hold of information about disaster-prone areas and rescue resources that fall into our AORs. When a disaster strikes, we will follow the joint guidance laid by the Executive Yuan to swiftly mobilize forces, vehicles, and materiel to support the HA/DR operations undertaken by related governmental agencies and local governments, so as to lower the damage of the disaster and act as a central pillar of the government to attend to the people and protect their livelihood.

1. Prepositioning Forces.

Concerning disaster-prone locations with potential landslides and floods, 24 hours before a typhoon hits the ground (when a W24 warning is announced), the Armed Forces have a planned manpower of 1,700 members, who will be prepositioned at 97 of these locations, to provide necessary assistance. Furthermore, we have over 33,000 ready-to-deploy members.

2. Prepositioning Equipment

Routinely, a total of 2,000 or more wheeled vehicles, 300 or more armored personnel vehicles, 10 or more aircraft, and 100 or more rafts are maintained as ready HA/DR assets. If a major disaster strikes, we have another 1,700 or more HA/DR assets and equipment, such as multifunctional engineer vehicles, excavators, and life detectors, can be deployed instantly to perform HA/DR operations.

3. Holding HA/DR Drills

As planned by the Executive Yuan, 22 municipalities and local governments are required to perform HA/DR drills in 2021 before the flood season comes. Among them, 11 local governments, including Yunlin, decided to merge the all-out defense mobilization drill (Min An #7 Drill) with the prescribed drills. The Armed Forces have so far assigned more than 1,400 person-times, 215 vehicles, and 203 heavy machineries to join the drills, so as to strengthen the fusion of HA/DR capacities with local governments, and improve the coordination and reactive capabilities of one another.

4. Assisting in HA/DR Operations

Based on the faith to safeguard the nation and protect the people, the Armed Forces have successfully carried out major HA/DR operations for typhoons (including Danas, Lekima, Bailu, Mitag, Mekkhala, and Atsani), torrential rains in central and southern Taiwan, the collapse of Nafang'ao Bridge, the flood on 22nd May 2020), the derailment of #408 Taroko Express on 2nd April 2021, the spread of lumpy skin disease (LSD), local droughts, reservoirs dredging, and anti-epidemic for COVID-19, and effectively lowered losses of lives and properties of the people.

III. Escorting Fishing Activities

As guided by the policy of the EY that "fishermen and fishing vessels operating legally shall be protected by the Coast Guard and escorted by the ROC Navy," the *National Ocean Policy White Paper* that stipulates the division of labor concerning the oceanic management of the nation, and relevant regulations in the *United Nations Convention on the Law of the Sea* (UNCLOS), the MND continues routinely assigning air and naval assets in coordination with

Category		3rd TO (North)	5th TO (Central)	4th TO (South)
Prepositioned Manpower	Location (Disaster Prevention AORs)	Yilan, Taipei, Longtian, Hsinchu, and Wufang	Miaoli-Houli, Xinshe, Nantou, Changhua-Yunlin, and Chiayi	Tainan, Xinhua, Gangshan, Qishan, Pingtung, and Hengchun-Fenggang
	Number of Personnel	491	278	589
Medical Taskforces	Medical Teams, Military Hospitals	12 personnel in 2 teams	12 personnel in 2 teams	12 personnel in 2 teams
	Medical Teams of the Health Service Units	24 personnel in 8 teams	18 personnel in 6 teams	18 personnel in 6 teams

【Statistics of ROC Armed Forces' Disaster Prevention Deployments】

Coast Guard vessels to perform joint escort missions for protecting our fishing activities within our EEZs, so as to demonstrate the strength and determination of the government in safeguarding the fishing rights and territorial sovereignty of our nation.

In addition, during fishing seasons, the navy continues monitoring activities in the fishing grounds in our surrounding waters, and maintaining a flexible force with Coast Guard vessels to perform routine joint escort missions for fishing activities. At the same time, the navy has a mechanism in place with the Coast Guard to maintain close coordination, share information, and perform joint ISR missions, so as to strengthen our responsive capabilities to deal with maritime contingencies.

IV. Anti-terrorism Response

As guided by the policy of the Executive Yuan that "facing seriously, responding carefully, being vigilant inside while showing calm outside, and refraining from revealing" toward potential terrorism activities, the MND is committed to improving precautionary and responsive capabilities for our critical political and economic infrastructures and important military installations against any risks and contingencies, so as to maintain our comprehensive national security.

The Armed Forces are on call and ready to support nationwide anti-terrorism operations, including counter-kidnapping, counter-sabotage, and counter-hijacking. As requested by local governments, we may provide support in chemical, biological, and nuclear (CBN) detection and disposal operations, major accidents, and explosive ordnance disposal (EOD) tasks. In addition, we continue assigning units of MP, medical service, engineers, and Chemical Corps to perform security operations for annual major national events, such as flag-raising ceremonies on New Year's Day, and Double Tenth Day celebrations. With our presence in these events to effectively curb potential infiltrations and sabotages, all of them have been held smoothly and successfully.

Based on our existing anti-terrorism resources, the ROC Armed Forces continue to exchange and cooperate with the NPA, the Coast Guard, and foreign counterparts, to share experiences, strengthen readiness, and improve professional expertise, so as to construct a swift and robust anti-terrorism response.

<table>
<tr><th>2nd TO (East)</th><th>1st TO (Penghu)</th><th>Kinmen Defense Command (Kinmen)</th><th>Matsu Defense Command (Matsu)</th><th>Total</th></tr>
<tr><td>Hualien and Taitung</td><td></td><td></td><td></td><td rowspan="2">1,769 personnel in 97 locations of 21 AORs</td></tr>
<tr><td>411</td><td></td><td></td><td></td></tr>
<tr><td>36 personnel in 6 teams</td><td>12 personnel in 2 teams</td><td></td><td></td><td rowspan="2">342 personnel in 100 teams</td></tr>
<tr><td>87 personnel in 29 teams</td><td>18 personnel in 6 teams</td><td>36 personnel in 12 teams</td><td>57 personnel in 19 teams</td></tr>
</table>

V. Supporting Anti-drought Operations

Facing water shortages caused by intimidating droughts, the ROC Armed Forces, as instructed and demanded by the EY and the Central Emergency Operations Center (CEOC) for Drought, continue assigning forces, aircrafts, vehicles, and machineries to perform operations of cloud seeding, reservoir dredging, shipping water and water purification, to fulfill our duty to safeguard the nation and the people and protect our homeland. The Armed Forces stand firmly together with the government and the people to fight against the droughts, and have demonstrated our ethos to embrace and protect the people by completing our objectives and working hand-in-hand to overcome the threat of droughts.

1. Cloud Seeding

As the people's suffering are felt whenever the reservoirs are drying up, the Armed Forces will actively initiate cloud seeing operations in full coordination with the Water Resources Agency (WRA), MOEA. The Air Force, on conditions of no interference with its undertakings and no flight safety concerns, may accordingly assign aircraft

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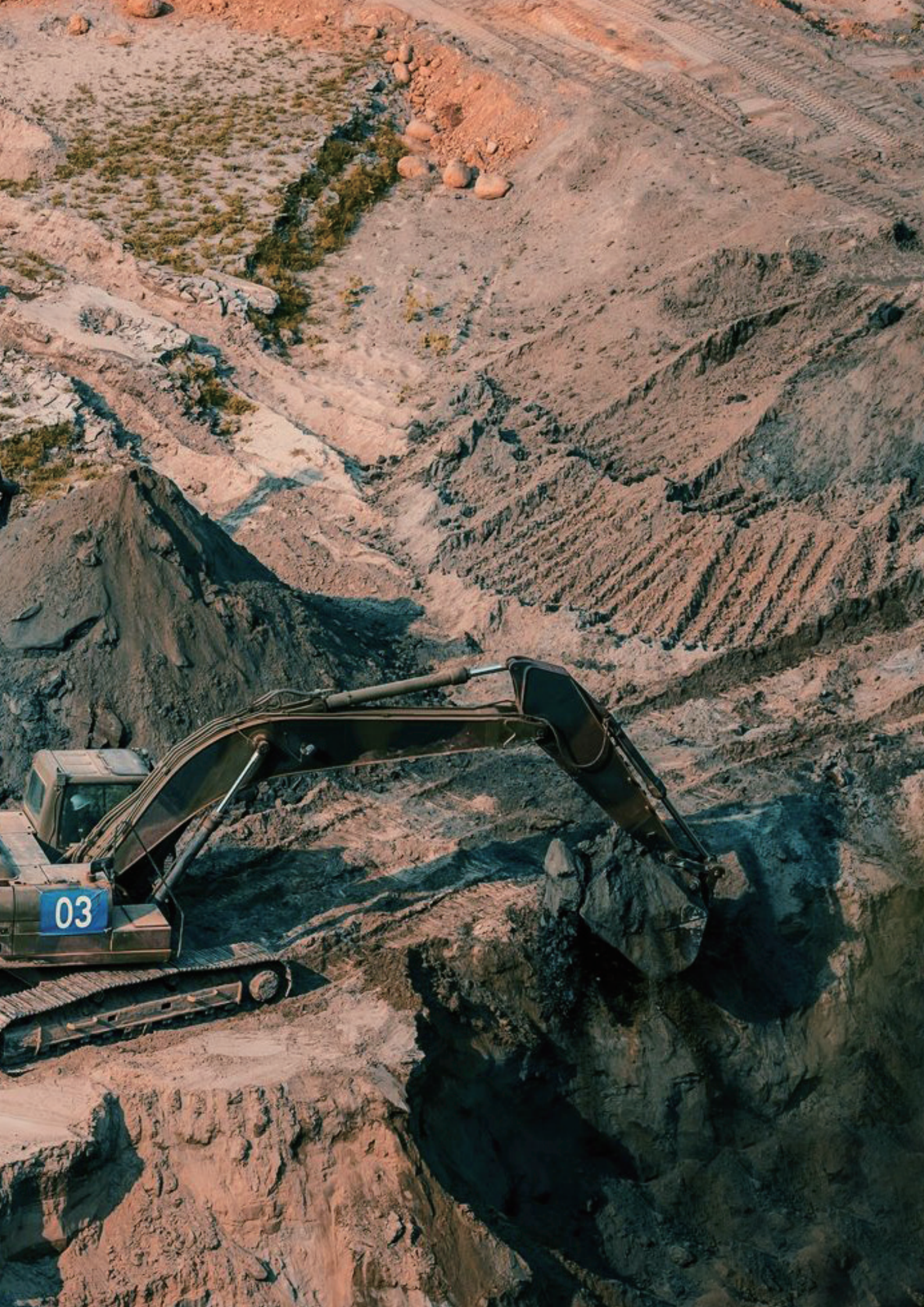
1. Whenever the reservoirs are drying up, the Armed Forces will actively initiate cloud seeding operations in full coordination with the government.
2. In response to water rationing and shortage in local areas, the Armed Forces, as instructed by the Water Resources Agency, MOEA, perform water shipping operations for requesting units and organizations, to help local governments to ease their worries of water supply.
3. On conditions of no interference with current undertakings, the Armed Forces, in coordination with contingent emergency evacuation plan of the MOTC, continue assigning aircraft to carry out emergency evacuations, to demonstrate our ethos to embrace and help the people in need.
4. Based on our current anti-terrorism capabilities, the Armed Forces are on call and ready to support nationwide anti-terrorism operations, such as counter-kipping, counter-sabotage, and counter hijacking, and continue to construct a swift and robust response to maintain our overall security.

to execute aerial cloud seeding operations to relieve the intensity of droughts. From 2020 to August 2021, a total of 10 aircraft sorties, 100 person-times, and 38 vehicle trips has been assigned to perform such operations.

2. Shipping Water

In response to the demands in Miaoli, Taichung, and Changhua in central Taiwan for water rationing and shortages, the Armed Forces have mustered 90 fire engines with 180 personnel from the 3rd, 4th, and 5th TOs, to perform water shipping operations from 6th April to 8th June 2021, based on the principle of "centralized management of shipping programs and water supply stations." We have totally assigned 4,255 person-times and 2,271 vehicle trips to ship 5,795 tons of water to help the local governments in need to ease their worries of water supply.

Feeling the Need of the People to Perform Anti-drought Together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3. Assisting in Water Purification

As requested by the WRA, starting from March 2021, the Armed Forces have successively installed 6 mobile water purification facilities at 5 locations in industrial areas of Hsinchu, Taichung and Kaohsiung to support a waste water purification treatment to provide water for people's livelihood and industrial use. The operation was concluded on 14th June 2021, and a total of 17,061 tons of water has been purified during the period.

4. Dredging Reservoirs

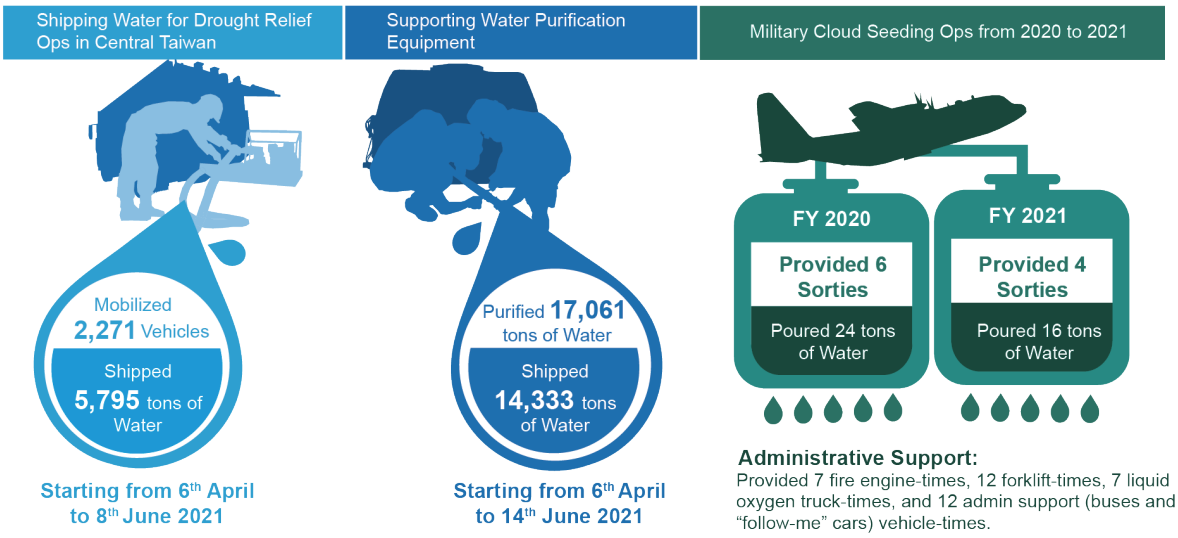
As requested by the central government's policy on anti-drought and the WRA's requirement, the Armed Forces have assigned engineering groups from the 3rd, 4th, and 5th TOs and the Engineers Training Center to combine their current undertakings with dredging operations at 7 major reservoirs. From March to 28th June 2021, we have successfully accomplished a phased mission to expand the volumes of these reservoirs by a total of 22,070 person-times and 6,605 vehicle trips of 5 categories such as excavators, to dredge 701,242 cubic meters.

VI. Emergency Evacuations

Facing huge transportation demands on our offshore islands under adverse weather conditions and during the periods of major festivals, the Armed Forces continue assigning aircrafts to carry out emergency evacuations on conditions of no interference with current undertakings and no issues with any service providers, and in coordination with contingent emergency evacuation plan of the MOTC, so as to demonstrate our ethos to embrace and help the people in need. From 2020 to August 2021, there are 36 C-130 sorties to evacuate 2,310 travelers to reach their destinations in time.

VII. Medical Services

To cope with "localization of medical services," the Armed Forces have demarcated medical AORs for each TO. Each medical AOR has its own military hospitals and medical centers, equipped with a complete medical information platform to help enhance training for medical personnel, hospital management, quality of medical services, including air MEDEVAC and remote medical treatments for active members on outlying and offshore islands, so as to offer the public and service members in the area timely and accessible medical services, such as outpatient treatment, emergency care, inpatient treatment, and physical checks. In FY 2020, we had provided medical services (for in/out patients, ERs, and hospital admissions) to over 768 million person-times. For FY2021 till the end of July, we have provided such services to over 419 million person-times. Moreover, lectures on medical techniques exchanges, advocacy of health education, the TO-level meetings on military medicine are held regularly, so as to groom our medical personnel and integrate all medical resources to achieve the objective of "keeping military the fittest to defend the nation."



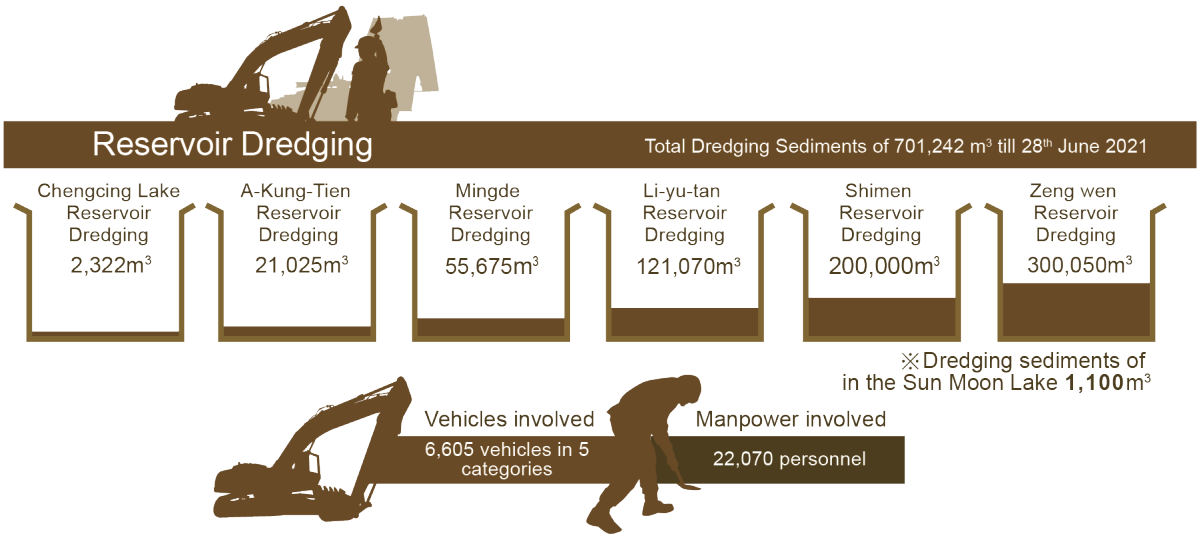
【Statistics of ROC Armed Forces' Assistances in Shipping Water, Water Purification, and Cloud Seeding】

1. Improving Medical Services

To optimize its medical services, the TSGH, has successively inaugurated the Asia Pacific Negative Pressure Wound Therapy Center, the Trace Elements Research Center, and the Blood purification Smart Clinical Practice Zone. In addition, to improve its capacity to handle patients under critical care, it has added 17 beds in the 2nd Medical Intensive Care Unit (ICU) and inaugurated Cardiovascular Surgery ICU with 29 beds. Moreover, the TSGH has initiated the Cell Therapy Service Management Platform with an inauguration of the Cell Therapy Outpatient Center. Among other major endeavors during the period, the Kaohsiung Armed Forces General Hospital has set up the Traditional (Chinese) Medicine Department, the Health Management Center, and the Integrated Pain Management Center. The Taichung Armed Forces General Hospital has inaugurated the Homecare Station to fulfill its social responsibility by enhancing long-term care services. The Taoyuan Armed Forces General Hospital has inaugurated the Radiation Oncology Center to provide complete services for acute/critical illnesses and cancers. The Hualien Armed Forces General Hospital has inaugurated the Women's Health Center to specifically provide women with integrated medical services, such as preventive treatments for breast cancer and menopause care. The TSGH Penghu Branch has initiated the Visiting Program for Distinguished Physicians, and begun to offer chemotherapeutic services, so as to realize its objective of localization of all medical services. The TSGH Songshan Branch has initiated the program of the New Aviation Medicine Building, which will incorporate smart medical technologies, refine studies on aviation medicine, and expand its treating capacities for acute/critical illnesses, so as to assure the health of all air crews of the Armed Forces and provide adequate medical care for all service members and their dependents.

2. Introducing Major Medical Equipment

Over the past 2 years, to continue improving medical services for acute/critical/severe illness, the TSGH has upgraded major medical equipment, such as the ELEKTA Versa HD with Image Guided Radiotherapy (IGRT) and the Cyberknife, and introduced advanced medical equipment, such as Magnetic Resonance—Position Emission Tomography (MR-PET), 640-Slice Multi-Detector Computed Tomography (MDCT), to provide more precise radiotherapeutic treatments. The Taichung Armed Forces General Hospital has introduced True Beam Radiotherapy System to provide precise radiotherapeutic treatments for cancers. The TSGH Penghu Branch has introduced the cardiac catheterization equipment to provide localized cardiovascular treatments for local residents. The Kaohsiung Armed Forces General Hospital has introduced the Integrated Biplane X-ray Angiography System and da Vinci Surgical System to provide better services and an environment for treating patients of acute/critical illnesses and wounds.



【Statistics of ROC Armed Forces' Dredging Support for Reservoirs】

3. R&D for Innovative Medicine

To demonstrate our R&D capacities for innovative and military medicine, we took part in the Taiwan Healthcare Expos over the past 2 years, to exhibit 40 breakthroughs in iatrotechnics, biotechnology, smart medical treatments and preventive medicine, such as Smart Medicare Clothing System, Cell Therapy Center, ANGEL High-Quality Burn Care, Thoracic Cage Reconstruction: Application of 3D Printing and New Respiration Detector, Mesenchymal Stem Cell (MSC) Transplantation Therapy, Cardiac Force Index (CFI): Evaluation on Cardiac Functions, Testing of Antigen for COVID-19. Furthermore, the TSGH won the Future Tech Award 2020 for its study on A Composite Ultrasound Medical Device for Microbubble Vaccines and the Spluttering Lysozyme Microbubble for Trachea Therapy and inaugurated its Innovation Incubation Center on 20th March 2019 as a platform for contracted bio-tech companies to seek cooperation with academic and industrial sectors, so as to reach a win-win result for both parties through rendering innovative R&D ideas and clinical testing results, combining advanced developing capacities of the industries into developing substantive clinical and medical material, to the benefits of the public and provide better medical services for all service members.

4. Keeping up with Long-term Care Policy

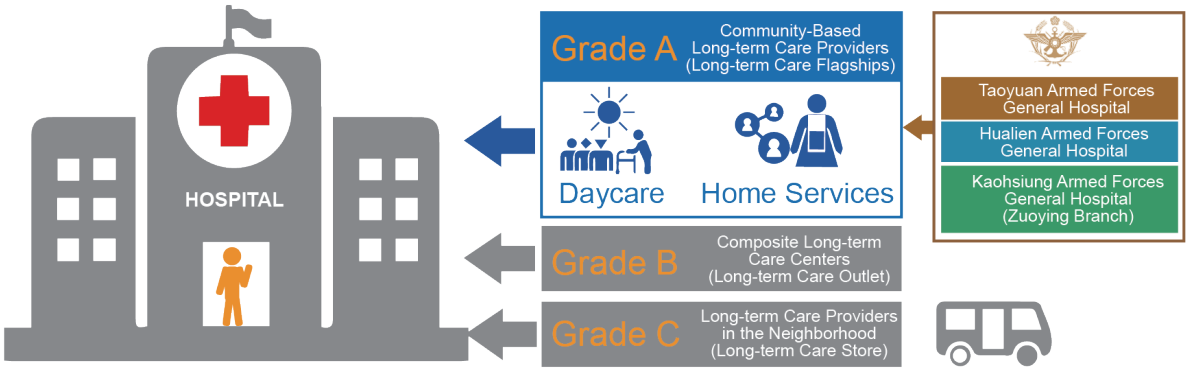
Our population is aging rapidly, and thereby the number of people demanding long-term care is also mounting. The MND is following our national policy of the Ten-year Long Term Care Plan to provide diversified and continuous long-term care services in the forms of homecare, community care, or living in nursing homes, so as to construct a healthcare system to best tend to senior and disabled people.

(1) Reaching out with Long-term Care Service System

As instructed by the policy to construct a comprehensive community-based service system to carry out its objective to localize services for senior people and in line with the MOHW's policy to push for setting up long-term care stations in an ABC graded system, the MND has reviewed current capacities in military hospitals, and certified the following 3 hospitals as A-Grade Long-term Care Providers: the Taoyuan Armed Forces General Hospital, the Hualien Armed Forces General Hospital, and the Kaohsiung Armed Forces General Hospital Zuoying Branch. To clarify the graded system, the A-Grade is given to a community-based integrated long-term service provider (aka long-term care flagship), a B-Grade is given to a composite long-term care center (aka long-term care outlet), and an C-grade is given to a long-term care provider in the neighborhood (aka long-term care store).

(2) Expanding the Coverage of Long-term Care Resources

A. Before the implementation of the Long-term Care 2.0 policy, military hospitals have already been providing multiple long-term care services, such as homecare, dementia care, and nursing homes.



The MND has followed the policy of the Long-term Care Plan 2.0 of the nation to assign Taoyuan, Hualien, and Kaohsiung (Zuoying) General Hospitals to provide care for aged people.

【Diagram of MND's Coverage of Long-term Care Resources in Local Communities】

B. After the policy came into effect, we first reviewed current vacant spaces in military hospitals, and added additional beds in current operational nursing homes. Then we set up community-based long-term care (daycare only) stations in the Taoyuan Armed Forces General Hospital, the Hualien Armed Forces General Hospital, and the Kaohsiung Armed Forces General Hospital Zuoying Branch.

C. To reach the mid- and long-term objectives of the project, the MND will attempt to revitalize spaces of aged buildings in military hospitals where their new medical buildings are under construction by establishing more nursing homes, so as to fulfill MOHW's policy to develop nursing home-styled long-term care service.

Being Determined without Remorse to Protecting wholeheartedly

CHAPTER

10 Grooming Personnel

To maximize the potential of service members, the MND has conceived near-, medium-, and long-term plans to optimize the military educational system and groom the best breed of defense manpower with professionalism in force buildup. Furthermore, we also sponsor multiple certificate training opportunities for military personnel, maintain a mechanism to regularly perform academic exchanges to absorb diversified perspectives burgeoning in universities and colleges, and foster innovative and flexible thinking for our men and women in uniform to exert their potential in their undertakings. Once their career tracks end in the military, they can soon seamlessly connect with the society to dedicate their talents to the public.

Section 1 Optimizing Manpower

To achieve the purpose of "training for deployment," the MND continues strengthening tiered types of education: Basic Education, Higher Education, and Advanced Education, optimizing personnel system for civilian officials, promoting exchanges between military and civilian educational institutions, and extending the scope of skill training, so as to mold our defense manpower into the one with excellent leadership and professionalism for force buildup.

I. Basic Education

Our military institutions at basic educational level groom each cadet of having military ethos, a fitting physique, a righteous behavior, and a keen mind through basic military training (BMT), a rigorous military living style, summer/winter training, and field training, to quickly become a competent rank-and-file cadre member to merge with his or her designated unit after being commissioned. Some substantive approaches are as follows:

1. During summer and winter training, cadets are required to attend practical courses for field forces. Moreover, for cadets in the 2nd semester of 4th year in 4-year academies and cadets in the 2nd semester of 2nd year in 2-year institutes, the time span of their field training courses in operational units are extended to cover contents of their future service branches and military occupational specialties (MOSs), in order to groom them as leaders with necessary military expertise and merge them with their designated units seamlessly and effectively after being commissioned.

2. The curriculums for 2-year institutes/academies for NCOs are focused on acquiring skill certificates to make cadets to get one diploma and one skill certificate after graduation, and enhance their technical skillsets.

3. To make use of educational resources in the universities, service academies and the National Defense University (NDU) have established strategic alliances with domestic and international universities. They have been maintaining routine academic exchanges with one another, and cadets can absorb diversified perspectives from students in universities through attending common educational courses to foster their innovative and flexible thinking.

II. Advanced Education

The advanced education for our middle- and high-ranking officers is to effectively strengthen their professionalism and expertise, and is correspondingly divided into two tiers: command and staff, and strategy. We continue encouraging officers, concurrently considering the manpower requests from their units, to attend advanced education courses so as to consistently groom them with command and staff or defense management talents. The curriculums of the advanced education have not only core courses of individual services and MOSs, but also mixed courses to enhance the concept of joint operations. Furthermore, middle- and high-level civilian officials in the MND are

allowed to attend in-service education of War College or the Army Command and Staff College to improve their military knowhow and strengthen the fusion of civil-military personnel. Since 2017, a total of 11 civilian officials have been admitted.

The advanced education for NCOs is centered on the regular classes for master sergeants, and provides trainees with related theoretical and advanced leadership courses to impart senior cadre of NCOs with necessary skills to assist their commanders to perform leadership and management effectively.

III. Higher Education and Specialized Training

1. FMS Training

   In line with the requirements of our undertakings for combat readiness, exercises, and based on the principle of "training for deployment ," the MND continues sorting out qualified officers, NCOs, and enlistees to attend FMS courses spanning from military strategies, tactics, to specific techniques, so as to follow up international military trends and groom our officers with planning and commanding expertise, NCOs and enlistees with leadership and practical techniques such as maintenance, to fulfill the needs of the forces.

2. Studying in Foreign Military Educational Institutions

   The MND continues sorting out outperforming cadets to attend foreign military educational institutions. Currently, there are 52 cadets admitted and studying in foreign military academies to strengthen our comprehensive military diplomacy by deepening multilateral exchange and interaction with friendly countries and building up friendship with foreign acquaintances. The MND are planning to assign qualified cadets to attend short-term courses in reputable foreign educational institutions to groom them as future cadre members with diversified cultural perspectives.

3. Full-time Graduate Programs and Short-term Studies

   (1) To improve the professionalism and expertise of the military personnel, the MND sponsors excellent officers to study in foreign graduate programs (for master's and PhD's degrees) annually, so as to sustain a pool of highly professional manpower in defense technology, strategic studies, education, military medicine, and foreign languages.

   (2) To impart qualified military personnel English-speaking skills to perform as interpreters in major drills and exercises and prep them for overseas assignments, the MND continues carrying through linguistic training programs.

【Diagram of Grooming Defense Professionals】

A. The NDU works with the National Taiwan Normal University to hold a Military Interpretation Course under the English Class for Intercollegiate Master's Program of Strategic Studies of NDU's Graduate Institute of Strategic Studies and International Affairs (GISS). The curriculum of the Course is designed with realistic scenarios and the trainees will be assigned as interpreters in a variety of military drills and exercises, so as to increase their hands-on experiences.

B. To improve our linguistic proficiency, the Language Center of the NDU offers 7 language courses as follows: 1) English preparatory class, 2) selected foreign language(s) class, 3) English regular class, 4) English advanced class, 5) refresher course of selected foreign language(s) for overseas assignments, 6) English refresher course, and 7) selected language part-time course.

(3) The MND cohosts the Master Program for Eminent Defense Administrators with the National Chengchi University, to establish a civil-mil educational exchange platform in the hope to instill new perspectives, ways, and diversified and innovative mindsets to our personnel in the program through its well-conceived curriculums.

4. Accredited Programs and Training during Off-hours

On the premise of no interference with their military undertakings, service members are encouraged to use their off-hours to attend accredited programs or training for certificates that match with their current MOSs. Moreover, the MND is working with domestic universities to hold accredited programs or training for certificates in military

1 2 3

1. The Armed Forces' military educational institutions groom each cadet of having military ethos, a fitting physique, a righteous behavior, and a keen mind through basic military training, a rigorous military living style, summer/winter training, and field training, to quickly become a competent rank-and-file cadre member.
2. From 2017, the MND started to cohost the Reserve Officers' Training Corps (ROTC) Programs with universities. While studying on campus, students in the programs shall regularly receive military education and training, to be groomed as competent rank-and-file officers and the new blood in the Armed Forces.
3. The MND continues negotiating with universities, such as National Chengchi University, for cohosting the Defense Classes for Bachelor's Degree to attract more talented young adults to sign up.

installations, and providing online courses with the assistance from the National Open University, to offer more learning choices for our personnel stationed in distant areas, at mountaintop posts, or on naval vessels.

5. Reserve Officers' Training Corps

From 2017, the MND started to cohost the Reserve Officers' Training Corps (ROTC) Program with universities. Till now, we have signed agreements with 130 universities and are having 1,990 ROTC students with our sponsorships. While studying on campus, they shall regularly receive military education and training, so as to groom them as competent rank-and-file officers and the new blood in our military.

6. Defense Classes for Bachelor's Degree

In 2021, the MND has signed agreements to cohost and begin to admit students in the Defense Classes for Bachelor's Degree with 4 universities: National Chengchi University, National Tsing Hua University, National Cheng Kung University, and National Taiwan University. In 2022, another 4 signed universities will begin to enroll students, which are National Chung Hsing University, National Central University, National Sun Yat-sen University, and National Taipei University. In addition, National Chung Cheng University will begin cohosting the class in 2023. The MND continues negotiating with National Taiwan University of Science and Technology,

National Taiwan Ocean University, and National Taipei University of Technology for cohosting such classes, so as to attract more talented young adults to sign up.

IV. Career Management for Personnel Stationed Overseas

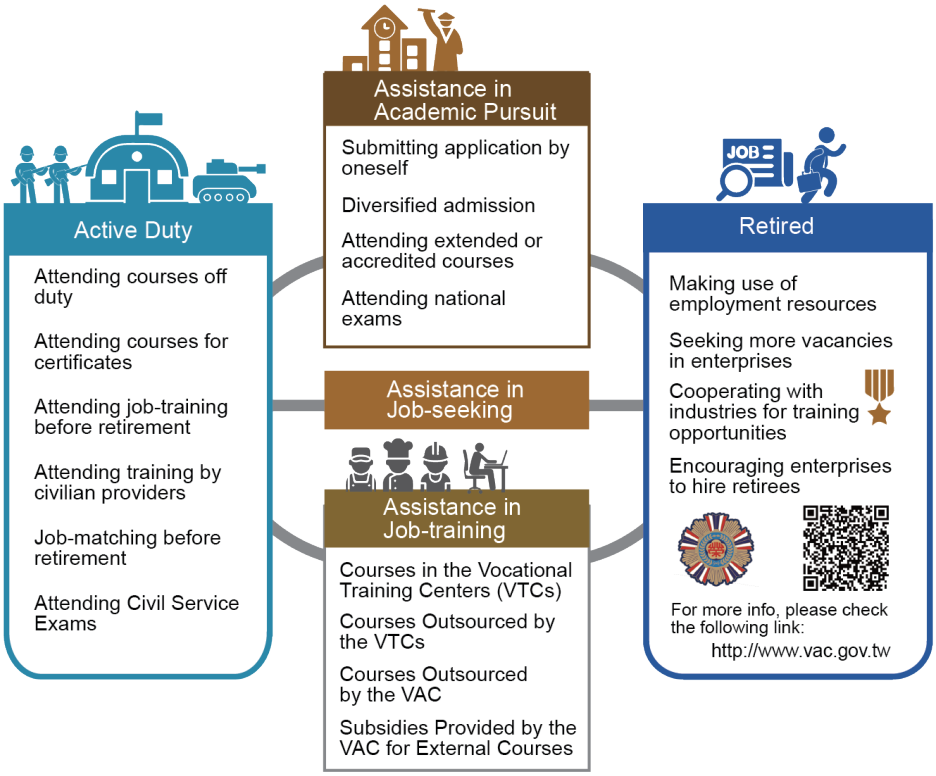
To sustain the pool of linguistic proficiency and assimilate new global knowhow, the MND has planned career tracks for all personnel stationed overseas. These personnel shall complete their advanced education in or out of country. After their foreign assignments, they shall be first assigned commanding positions at their individual ranking level, and their career tracks can be switched from operations, planning, to armament acquisition. Through this "purposeful education, planned grooming, and intentional assignments," we are hoping to strengthen our grooming endeavors to sustain a high-quality manpower pool to choose from, and improve our capacities for comprehensive force buildup.

V. Exchange between Service Academies and Domestic and Foreign Universities

The MND continues hosting academic exchange programs between service academies, the NDU, and the National Defense Medical Center with universities in and out of the country. In 2020, 385 cadets studied in the programs to improve their academic knowledge. Through these programs, these fledgling members can be more easily connect with all undertakings, expand their innovative abilities, grasp the progresses of international situations, understand their own purposes, and greatly enhancing our overall assimilation abilities of new knowledges.

VI. Career after Military Service

To help retiring personnel's swift transition into new career, the MND encourages them, on the premise of no interference with their current undertakings, to receive training during off-hours to acquire a secondary skillset and certificates that correspond to his/her current positions. The MND continues working with the Veterans Affairs Council (VAC) to cohost multiple sessions and career training courses provided by professional institutions, such as "seminar on rights and privileges of comprehensive job-seeking information resources for the retiring personnel of the Armed Forces," "survey on occupational aptitudes and career consultation service," "surveys on demands of studying, career training, and job-seeking," "introduction to resources of career training," and "seminar on civilian career



【Diagram of Coupling Retiring Military Personnel with Civilian Careers】

tracks." Some career training courses, such as aircraft maintenance, interior wiring, electric power arrangement, are also provided to help them find employment and acquire skillset certificates. In 2020, we have held 85 related events, and offered 75,230 job vacancies to actively help retiring personnel transition into the private sector.

VII. Grooming Defense Civilian Officials

Since the "personnel system of defense officials" came into effect based on the *Organization Act of the Ministry of National Defense* in 2002, the MND has been selecting first-rate civilian officials through various public service examinations or open selections. They are now working with military personnel in defense undertakings. Because of their diversified backgrounds, civilian officials shall receive orientation training with the assistance of mentors to build up their defense professionalism. Furthermore, to deepen their knowhow in defense affairs, they may receive respective core competency training depending on their ranking status, or be recommended to enroll in command and staff classes (for middle level officials) or strategic classes (for high level officials), to expand their knowledge of national defense.

1. Improving Orientational Training

(1) Providing Prep Training for New Officials

To quickly familiarize new civilian officials with MND's organization and defense affairs, the MND continues providing orientation training for them with authentic course contents. There have been 42 officials attended over the past 2 years. To facilitate their self-studies, a web-based E-learning system is installed in MND's intranet for them use freely.

(2) Promoting Mentoring System

Newly appointed officials are to be assisted by selected senior personnel as mentors for half a year. They are taught with lessons learned and practical experiences, and will be proficient with their undertakings to carry them through smoothly.

2. Strengthening Military Knowledge

(1) Attending Command and Staff Classes or Strategic Classes

To instill military knowledge in middle and high levels civilian officials, the MND continues sending them to attend command and staff classes (for middle level officials) and strategic classes (for high level officials). In line with the civilian official promotion system in which those with higher level MOSs shall be given extra points during evaluation phase for promotion, so as to encourage them to pursue higher positions to serve the nation. In 2020, one official was admitted to the strategic class, while 2 admitted to the command and staff classes.

(2) Improving Core Competencies

To retain competent civilian officials for longer service, since 2019, the MND has been hosting professional courses to improve core competencies for officials to strengthen their military professionalism, enhance their competencies and performance, and maximize their potential. In 2019, 79 middle level officials attended the course, while in 2020, 120 middle and high levels officials attended the course.

VIII. Pursing INDSR Fellowship

The INDSR is a think tank at the national level. For the purpose of "cultivating strategic talented members," and "promoting civil-mil exchange," since 2018, the MND has been selecting outperforming general grade and field grade officers and civilian officials to work as research fellows in the INDSR. Till now, the MND has assigned 174 members to the INDSR. Through the activities, such as monographic studies, war games, think tank exchanges, seminars, forums, and visits to industries and military units, our research fellows may thus broaden their international perspectives, learn to merge research theories with defense practices and apply diversified perspectives and creative thinking, acquire abilities to conceive viable courses of action and think critically before making a decision, and ultimately achieve a win-win for them and the INDSR.

Section 2 Exemplary Models

The Armed Forces are not only mandated to perform military operations, but also involved in the undertakings of technological R&D, medicine, information, news, as well as art and culture. Through years of military experiences and academic pursuits in multiple fields, we have successfully shaped many exemplary individuals who have attained great accomplishments either on domestic stages or in international competitions, and their presence has effectively reflected an image of excellence of the Armed Forces. Furthermore, in order to boost up morale and promote a sense of unity, the MND continues electing the best performing members and units of the year to praise for their outstanding performances, and making them exemplar models for their fellows to emulate and jointly forge the Armed Forces as an elite combat power.

I. International Awards

1. International Innovation and Invention Expo

(1) The 10th Edition of the 2019 International Innovation & Invention Competition

The 10th edition of the International Innovation & Invention Competition (IIIC) was co-organized by Taiwan and Russia with 418 subjects registered from 13 participating countries. Among them, the subjects of "Wind Generator Fastly Triggered by Light Wind," "Smart Watermill Powered by Kinetic Energy," "External Hanging Cage Assisted by Aerodynamic Designs," and "Efficient Combustion Furnace with Free Convection, Low Carbon Emission, and Green Energy Designs" were submitted by a team of cadets led by Professor Colonel Hsu Zi-gui, Lieutenant Colonel Hsu Jia-wei, and Major Wu Feng-cang from the Air Force Institute of Technology, and won 4 gold medal awards.

(2) Malaysia Technology Expo (MTE) 2020 (The 19th International Expo in Inventions and Innovations)

A. Among 527 subjects from 20 participating countries, the subjects of "Noah's Ark with Green Energy," "Combustion Furnace with Free Convection and Low Carbon Emission Designs," and "Magnetic Wall Structure for Magnets," won 3 gold medal awards, and the subject of "Vertical Axis Wind Turbine Fastly Triggered with Ventilation Function" won a silver medal award. All 4 subjects were submitted by Professor Colonel Hsu Zi-gui, Lieutenant Colonel Yeh Chong-wei, and Lieutenant Colonel Hsu Jia-wei from the Air Force Institute of Technology.

B. The subject of "Construction of MR Cardiopulmonary Resuscitation + AED Teaching System" combined virtual reality (VR) technology with AI computing as a visual aid, and it was submitted by Major General Dai Ming-cheng, Superintendent of the Hualien Armed Forces General Hospital, M.D. PhD. Chen Ying-hsin, Medical Admin. Officer Cheng Xue-ru, and Master Sergeant Hsu Xiu-zhu. This subject also won a gold medal award.

(3) The 23rd Moscow International Salon of Inventios and Innovative Technologies "ARCHIMEDES" in 2020

Director Gao Qi-wen, Nursing Department, TSGH led a delegation to attend the "ARCHIMEDES" in 2020, which was participated by 25 countries with 520 subjects of patented inventions. Among the subjects, "Turn-over and Rise-up Support Cushion," developed by Supervisor Pan Yu-ling of Nursing Department and Director Lou Zi-ping, Health Service Center of the National Defense Medical Center, and "Magic Dispensing Spoon," developed by Senior Nurse Wang Si-yin, Cardiovascular Surgery Department, won the gold medal and silver medal awards respectively. Their subjects can really improve the quality of medical care, and benefit the patients.

2. The U.S. International Cybersecurity Competition 2021

The U.S. military has held the International Cybersecurity Competition 2021 to challenge competitors on titles, such as reverse engineering, analysis of weaknesses and loopholes, and encryption/decryption. A team of cybersecurity experts from the ICE Force, the NDU, the NCSIST, and the ROCA was chosen to compete with 54 teams from 14 countries that boast about advanced information and communications technologies. Our team has won the 1st, the 4th, the 6th, and the 7th place on individual titles, and has proven that the Armed Forces has a robust cybersecurity potential, sturdy enough to defend our national security.

3. International Photography Contests in 2020 and 2021

The propaganda endeavors of the Armed Forces in the form of photography have won several recognitions from international photography contests and have well demonstrated our soft power by showing a resilient and new façade of the Armed Forces to the world though a lens of camera. In the Prix de La Photographie Paris (PX3) 2020, the photo "Not Afraid," depicting a scene in the challenge week of the Amphibious Scout and Search Squad, Marines, ROCN, taken by Lieutenant Colonel Huang Yi-xiang, News Officer, Youth Daily News, won a silver award in the Press category. The photo "Water," depicting the "Sea" of kaleidoscopic changes, taken by Lieutenant Colonel Hsu Ming-zhong, News Officer, Propaganda Section, ROCN Command Headquarters, won a silver award in the Nature category. The photos "Be Alive" taken by Major Zheng Hao, News Officer, Youth Daily News, "ROC Air Force" taken by Captain Lee De-wei, News Officer, Youth Daily News, and "Air Rescue Group" taken by Lieutenant Colonel Zhuo Yi-lee, Military News Agency (MNA), won nominations during the contest.

Over the past 2 years in the Moscow International Foto Awards (MIFA) contests, the propaganda endeavors of the Armed Forces have once again attracted attentions. In MIFA 2020, the photo "Air Rescue Group" taken by Lieutenant Colonel Zhuo Yi-lee, MNA, won a bronze award in the Editorial/Conflict category. The photos "Be Alive" taken by Major Zheng Hao, News Officer, Youth Daily News, and "Soldier" taken by Captain Lee De-wei, News Officer, Youth Daily News, won nominations during the contest. In MIFA 2021, the photos taken by news officers from the Youth Daily News won a gold, a silver, and a bronze award respectively. The photo "Bang of Mission," depicting a scene of tank training of the ROCA and taken by Captain Xie Pei-chen, won a gold medal. The photos "Upstream," depicting a scene of the ROCN and "Keep Fighting," depicting a scene of the ROCAF, taken by Major Liu Cheng-jun, won silver and bronze medals respectively.

In addition, the International Photography Awards (IPA) contest held in the U.S. in 2020, the photos "Not Afraid" taken by Lieutenant Colonel Huang Yi-xiang, News Officer, Youth Daily News, and "I am OK" taken by Major Zheng Hao, won nominations in the contest. In IPA 2021, two photo albums of *From Day to Night* and *Anti-epidemic Hero*,compiled by Captain Xie Pei-chen, won 3 nominations in the One Shot category of the contest.

4. London International Creative Competition 2020

The MNA produced a music video clip of "Fearless" with the participation of graduates of class of 2020 from all service academies, and submitted it to join the London International Creative Competition (LICC) 2020 in which 65 countries took part. The video was used to demonstrate a 4-year transformation and the simmering moods towards upcoming commission with a song and a dance performed by graduates. The MNA would like to use this music video to wish graduates all the successes in their pursuits, no matter it is galloping into the battlefield, soaring into the sky, or sailing to defend the nation. The video successfully won a nomination in the Professional Photo/Video category of the contest.

II. Exemplary Models of the ROC Armed Forces

To praise and recognize the best performing role models, the MND continues singling out service members and units with the exemplary performance in the following 8 categories: annual combat preparedness missions, force buildup, force realignment, equipment maintenance, anti-epidemic and HA/DR, major drills and exercises, military exchange, and cooperation, and R&D endeavors. The selection process is based on a strict criterion without compromise, and all individuals and units in the candidacy list shall be reviewed through the hierarchy of the military. The President shall host the awarding ceremony on the occasion of the Armed Forces Day and the All-out Defense Educational Day and confer the awards to the recipient individuals and units, presenting them the highest honor of the year, so as to boost up the morale in the military and solidify the unity between them and their families.

1. Major Lou Wen-cheng, Operations and Intelligence Officer, the 4th TFW, ROCAF, successfully accomplished a Sparrow missile shoot during the Navy and Air Force Missile Shooting Drill and an escort mission for the return approach of the flight for President's "Ocean of Democracy" delegation as the flight lead.

2. Captain Wang Sheng-da, Commander, 4th Detection and Decontamination Company, Detection and Decontamination Battalion, 33rd Chemical Group, 6th Army Corps, ROCA, successfully prevented the spread of the pandemic and secured the first line of defense by leading his fellows to perform disinfection tasks for assigned quarantine stations, MS SuperStar Aquarius, and Diamond Princess, and chartered flights back to Taiwan.

3. Captain Wang Guo-min, Commanding Officer of the Hai Lung submarine, 256th Fleet, ROCN, led his sailors to successfully accomplish the following missions: the Navy and Air Force Missile Shooting Drill, Lie Jin (Whale-hunting) Drill, Routine Patrol and Tactical Combat Drill in Nansha (Spratly) Islands, and Combat-ready Patrol and Hai Qiang Anti-submarine Drill.

4. Colonel Peng Yi-xiang, Commander, 9th Operational Group, 1st TFW, ROCAF, successfully accomplished the mission of being scrambled to scout for and monitor PLA aircraft, and the Joint Counter-Air Operational Drill.

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1.2. The propaganda endeavors of the Armed Forces in the form of photography have won several recognitions from international photography contests and have well demonstrated our soft power by showing a resilient and new façade of the Armed Forces to the world though a lens of camera.

3. The President shall host the awarding ceremony on the occasion of the Armed Forces Day and the All-out Defense Educational Day and confer the awards to the annual exemplary individuals and units, presenting them the highest honor of the year, so as to boost up the morale in the military and solidify the unity between them and their families.

5. Master Sergeant 2nd Class, Lee Wei-min, Sergeant Supervisor, Pontoon Bridge Company, Bridging Battalion, 53rd Engineer Group, 6th Army Corps, ROCA, successfully accomplished the mission to operate the M3 Amphibious Rig to deploy pontoons during the collapse of Nafang'ao Bridge.

6. Lieutenant Colonel Chen Yu-wen, Commander, Air Defense Battalion, 8th Army Corps, ROCA, successfully accomplished the mission in the live fire drill of the Han Kuang #35 Exercise, and missions in the joint air defense operations and station training with air defense forces.

Guarding the Resilient Island Forever

愛爾麗
HOTEL GRACERY

Looking after the Military and Warm up Their Minds

Over the years, Lee Dong-liang, the most energetic chairman of the Friends of Armed Forces Association, has been visiting multiple units of the ROC Armed Forces like an amicable patriarch to reach out, encourage, and support directly to service members. Chairman Lee believes that the ROC Armed Forces is the cornerstone to the security and stability of the nation and society. He has taken over the position for over 7 years, and has been interacting with service members in close proximity to convey public support to them. He said, “We shall let the service members know their hard work is surely paid off.” A simple expression explains his highest recognition to them for their constant staying on guard to protect our nation.

The attention that Chairman Lee, an exemplar entrepreneur in his own right, has been giving to service members, can be understood from his considerate gestures to his employees. In the past 26 years, he would visit his employees working in rural locations during major festivals and events to know their working status and concerns. Consequently, when he visited remote sites at Leshan and Siaosyue’shan, Chairman Lee would chat with stationing troops and record their concerns, which would be conveyed to their superiors for consideration. With his “kind and caring camaraderie,” he is bringing an unparalleled warmth to all the men and women in uniform no matter how far off they are serving.

Over the years, Chairman Lee has paid more than 1,000 visits to various military units, and the number of times keeps on increasing. As he said, “to help those in need and win their hearts is true happiness,” best explains his lasting efforts. He recalled the troops on-site to conduct relief operations in major disasters, such as Kaohsiung gas explosions, air crashes of TransAsia Airways flight 222 and 235, and the 2018 Hualien earthquake. Based on the belief of gratitude, “What (profits) is taken from society shall be given back to it,” on behalf of the private businesses, he would like to say “thank you for your hard work” to them. The selfless contributions made by Chairman Lee did not only build up a role model for contemporary businesspeople, but also created the best example of “civilian-military unity.”

Forging Honor with Perseverance; Train Hard to Boost Strength with Hard Training

The Military Police Motorcycle motorcade would demonstrate a remarkable march-past with formation changes during the on national day parades, and the people are always impressed by its low-speed handling skills, imposing posture, and formidable looking. The motorcade was formed by the Quick Reaction Company of the 202nd Area Military Police Command. The Company is not only responsible for the security of the installations of the Military Police Command, but also can augments the defense capacity for our national capital by its maneuverability with heavy motorcycles.

The Quick Reaction Company is formerly known as the prestigious Military Police Motorcycle Company, and in peacetime it provides motorcade escorts for important national celebrations, delegations of foreign dignitaries or diplomatic missions, and Spring and Autumn Memorial Services in peace time, while in wartime it will shall be assigned to scout for reconnoitre hostilities the enemy and assist in support anti-airborne and urban warfare operations. Facing threats of PLA's unrestricted warfare and enhanced long-range power projection, the Company has realigned its strength to dramatically increase its striking power. It can swiftly change the mix of motorcycles and surveillance vehicles to become a critical force at its garrisoning area.

To firmly handle a 1,300cc heavy bike of net weight 370kg, it requires a long-term training on the part of the rider. To achieve a unity between the bike and its rider, however, it depends not on neither one's own rank and, gender or physical strength, but an aggregation of experiences.

Private He Shi-wen was used to be a weightlifter, and her athletic background was helpful helps to control the bike. However, to ride in a formation demands much more coordination with her fellow riders. It is understandable that a perfect formation-riding drill on the national day celebration is done by countless practices and hard work of the riders.

Staff Sergeant Gao Jia-ping has taken part in for 4 times in the national day parades. He is not only a rider, but also a vehicle mechanic. In the course of his military career, SSG Gao continues to excel himself by acquiring taekwondo and judo black belts qualifications, and is working on getting vehicle maintenance certificates to develop himself as a cadre member with "multiple skills and diversified talents."

Major Yan Pei-wen noted, commander of the Quick Reaction Company, noted that his Company is an elite unit that takes honor and rigorous training seriously, and its members have developed a close bond in terms of its unique missions. Going through a progressive and rigid training regime, the Company will do its utmost to accomplish all combat and escort missions to demonstrate their esprit de corps and robust combat power.

Living Strong as You Are Gone

Pilots are destined to head for the wild blue yonder in where their spouses find solace if they are not around. Huang Si-yao, surviving spouse to Major Liu Zhen-fu, deceased pilot in the Black Hawk accident, proved that she can move on by reaching a mutual goal between her and her deceased husband, and attempted to tell Major Liu's stories while chatting with his fellows, so as to keep missing him in her heart in such a way seemingly to tell him," I'm living strong as you are gone."

Tracing back the past she was seeing Major Liu who was undergoing training in the Zhihang Air Force Base in Taitung, she was attracted by his charisma as a pilot, his sense of discipline towards his work and sports, and his cultivated manner. Their participation in triathlon competitions and daily interactions in the past are unforgettable moments in her life, but after the devastating mishap, the duet became a solo. However, with the timely motivation and encouragement from the community of the ROC Armed Forces, she has been slowly walking away from misery with her sorrow and pain gradually fading away.

These caring attentions prompted her decision to attend an upcoming triathlon that her couple once promised to attend when he was still alive. After finishing this competition, she said, "It is like a proof and a gift to show him that I made it." Many fellows of her husband were moved by her resilience and stamina and inspired with a fresh perspective by hearing her story as a military dependent.

After going through a major trial in life, Huang Si-yao is serving as a military history clerk in Tainan Air Force Base now. Through her identity of a dependent of pilot, she has been giving her best wishes to all visiting cadets and trainees from the ROCAF Academy, and telling these young souls destined for the blue yonder to find out their aspirations, head for their dreams with strong will, and dedicate selflessly to safeguarding our homeland.

速寫人生 彩繪國防

速寫人生 彩繪國防

Going All-out to Protect the People as Heroes in Mask

Epidemic prevention requires all-out participation. After the outbreak of COVID-19, chemical forces of the ROC Armed Forces were assigned to perform a variety of disinfection tasks in full coordination with the Central Epidemic Command Center, and their presence has been seen at all quarantine posts and in major infection cases, such as the ones of SuperStar Aquarius, arrival of flights from Wuhan, and mass infection at Taoyuan General Hospital, Ministry of Health and Welfare. Private 1st Class Chen Qing-jun, 2nd Detection and Firefighting Company, Detection and Firefighting Battalion, 33rd Chemical Group, feels exceptionally honored to serve as one of them.

During the period of SARS outbreak, Chen was impressed by watching the newscast of the determination as the chemical troops from the ROC Army had shown on their way to Heping Hospital, Taipei, where the outbreak erupted. Therefore, after graduation from senior high, he signed up to join the chemical forces. As an act of sacrifice, He said, “There shall be someone to go where no one dares to go, and to do what no one wants to do.”

During the disinfection and epidemic prevention processes, the troops are wearing air-tight personal protective equipment (PPE) suits with gloves, goggles, and masks, and carry disinfection devices of about 30kg. Their underwear clothing is always soaking wet after stripping of all gears, and the prints left by masks on their faces are the insignias to prove their efforts to protect the healthiness of the people.

Chen said, it shall be false to say no worries to perform such an epidemic prevention task, but a soldier does not enjoy the right to choose the place to fight, and shall do one’s utmost if called upon. During the period of epidemic prevention, the chemical forces are working around-the-clock on sanitation and disinfection in order to build up a robust fortress for epidemic prevention. Chen mentioned, “that is the belief of the chemical troops, and the reason for us to work tirelessly and persistently.”

Constructing a Legal Firewall to Protect Rights of Service Members

When Lieutenant Colonel Chang Bei-jun, Legal Affairs Officer of the Prosecution Bureau of the Supreme Military Court, was a cadet in the Department of Law, Management College, National Defense University, her two young sisters followed suit. It was a noteworthy news of three Chang sisters joining the military service. After several years of hard study, Lt. Col. Chang passed the bar exam to become an attorney, then the special exam for judges, and acquired the license of public notary. She noted, legal affairs shall be handled by legal expertise through logical debate and general principles of law. Her current objective of work is to help the military to solve legal issues, and protect the rights and privileges of the military and service members.

Lt. Col. Chang noted, legal cases are always controversial because involving parties are at odds, and it is up to the legal personnel to clarify our legal rights and provide the best course of action for the superior officer to contemplate, so as to best protect our rights and privileges. She explained, if we encounter a gray zone of law in a lawsuit, the legal personnel shall react professionally to help our involving party make the fittest judgement. She said, “We shall establish a concept of firewall by building up legitimate assertions to support our cases.”

She explained modestly that the art of law is immense and profound, and one shall be diligent and study hard to pass the bar exam to become an outstanding member of judge advocate general’s corps. After getting married, she is grateful to her husband for taking care of housekeeping and allowing her to focus on the preparation for the special exam for judges. Lt. Col. Chang noted, she is tenacious, and will be determined to pursue her goal once it is set, no matter how long it may take. To be qualified as a judge is not only used to prove her competence, but also to demonstrate her pragmatism as she first entered the field of law and then was trying to figure out “a method to make the most reasonable explanation within the legal framework by combining logical assumptions and practical experiences.” It is her long-term belief that as a member of judge advocate general’s corps, one shall apply the method in real life and work.

速寫人生 彩繪國防

Broadening International Perspectives and Develop Leaders of Character

The ROC Military Academy inherited the legacy of the National Revolution Army, is an internationally renowned service academy with excellent traditions, diversified culture, and innovative curriculums. Its education is aiming at grooming cadets with 5 abilities, such as strategic planning, communication and coordination, problem solving, coaching, and team building by systemic educational policies and programs, to instill in future officers' military competencies of innovation, execution, and leadership.

Colonel Hong Wei-qing, Director of Undergraduate Department of the Academy, has pointed out, "The ROC Military Academy does not only cultivate military leaders, but also aim at grooming talented people for the country." Cadets follow professional curriculums designed by academic departments to learn military and related academic knowledges, and to pave the way for their life-long learning. After graduation, cadets are awarded with bachelor degrees in science, engineering, management, politics, liberal arts, and are commissioned as second lieutenants. After these young officers are assigned to military units and serve, they may pursue higher education opportunities, further enhanced the overall quality of the ROC Armed Forces as well as the nation. Upon retirement, these officers may transition and serve in the society in no time.

To educate future officers with international perspectives, the ROC Military Academy is known for its annual international exchange opportunities. The Academy selects outstanding cadets to head for the United States Military Academy at West Point, Virginia Military Institute, the Military College of Vermont, The Military College of South Carolina (The Citadel), University of North Georgia, and service academies in Honduras, Guatemala, and Paraguay in Central and South America, for the 4-year full-time or short-term studies. At the same time, the Academy receives foreign cadets as one way to broaden international perspectives and to lay foundation for military exchanges with allies.

Cadet Wu, Yu-wei had dreamed of studying overseas even before he enrolled in the Chung Cheng Armed Forces Preparatory School (CCAFPS). Four years ago, he successfully passed the qualification test and was selected to study in the Military College of Vermont to fulfill his dream.

Traced back his studies and maturing experiences between military institutions in Taiwan and in the U.S., Wu said, if he was able to turn back the clock and have another chance, he would still choose to serve in the military, because the camaraderie formed by living as a group in the Academy and the maturity fostered by military culture are one of the kinds that cannot be found anywhere else. Wu constantly reminds himself of never forgetting his decision to sign up and promises to dedicate his competences to the troops and the ROC Armed Forces.

Carving out a Colorful and Special Niche

Lin, Chen-jin, Midshipman of the ROC Naval Academy, once said: “A person can only have one life and one sustainable time for education. Joining the Armed Forces makes one’s life extraordinary.” Studying in the CCAFPS and the ROC Naval Academy and indulging in the educational and training resources, Midshipman Lin has been growing steadily with outstanding performance in marathon competitions. He was awarded the 28th elite runner in Annual Marathon 2020, and was pleased that his athletic pursuit can thrive in track and field and has brought glory to the Academy that exemplified the expression: “Physical strength equals to combat power.”

Midshipman Lin grew up with his grandfather-in-law, who was a service member, in a military dependents’ village. He deeply felt the affection for family, the passion for the forces, and the loyalty for the nation while growing up in the village. After his graduation from junior high, he decided to enroll in the CCAFPS, and then the ROC Naval Academy.

Midshipman Lin likes to challenge himself, and is willing to try something new. It is stereotypical to imagine that a military institution keeps a rigid rule and lifestyle, and a culture of obedience to seniority. However, four years in the Academy gave him a fresh new impression. Aside from his immersions in academic, leadership, and professional naval studies, a variety of intercollegiate and intramural athletic events the Academy offered have allowed his athletic passion to flourish.

Even though he is just inches away from his commissioning, just like his realization about winning in a sports competition, he said, “No one is born as a sportsman, and one shall go through tough practices daily to attain success.” It does not like a walk in the park to become an excellent officer, and he has to march on his path with substantial preparations to reach excellence. Midshipman Lin has made a promise to himself that he can go through trials after commissioning and carve out a special and unparalleled niche.

Holding on to a Dream and Keeping the Military Glory Thrives

A trial of four years of studying in a military institution can be a staging post to achieve one's dreams and a touchstone for young folks. Cadet Gao, Yu-shu of the ROC Air Force Academy has an athletic background starting from his years in senior high school, but his passion was almost lost when he was seriously injured in a car crash during the second semester of his first year in the Academy. But he persisted to go through the rehabilitation, and later won a Judo championship in the National Intercollegiate Athletic Games in the third year by overcoming his physical strains and exerting his powerful will to reshape himself. Gao said, "I won't back down, and shall lead a life on my own by proving my worth."

Even though his parents are both in the military, but for Cadet Gao, it was still the turning point when he decided to apply for the Academy. He had not been obedient since childhood, but had turned his attention to Judo after being introduced by his junior high teachers so as to bring him back on athletic track. In his senior high years, whenever he was on his way home after Judo practices and saw a fighter plane flying by, he dreamed about becoming a pilot. With the support from his family, he eventually signed up.

However, that serious car crash devastated Cadet Gao both physically and mentally. Rehabilitation was a torture for him to overcome, while his persistence last and eventually recovery came along. When the joints of his limbs became adhesive, he had to endure a painful stretching process. With the company and support of his fellow cadets during his agonizing rehabilitation, their sturdy and valuable camaraderie was formed. Cadet Gao said, "Before I was admitted to the Academy, I looked up only to myself, but now I am awakened to respect the efforts of teamwork through living in a group." After almost four years of military education, he has become more mature. There is no doubt that he will exert strong will to turn a new page to safeguard the nation and the people as a commissioned officer.

RESIDING to PRESERVE Creatively Preserve Culture of Dependents' Villages

Dependents' villages in Taiwan preserve treasured memories across time and space in terms of culture and, especially, culinary arts that come from all corners of Chinese society, and produce the sour, sweet, bitter, spicy, salty, and tangy flavors that people are craving. The presence of those villages reminds us of having the gratitude and nostalgia for the legacies left by the people before us. We are hoping to preserve the heritage dependents' villages have shown, and bring about cultural innovations for them to prosper.

Stressing the importance of preserving cultural assets of dependents' villages with distinctive features of the army, navy, and air force, Kaohsiung City Government, having the policy and related planning activities that decided to implement the project of Residing to Preserve, a unique way to achieve the aim. Lin Shang-ying, Deputy Director of the City's Bureau of Cultural Affairs, explained, the 1st project stage of Hub for Talented, which kicked off at Whampoa New Village in Fengshan in 2014, was aimed at attracting talented people with diversified backgrounds to live in and dually use their units as both residence and workshop. She added, the project proceeded for the next stage of Renovation by All, which introduced private contractors to renovate Jian Yeh New Village in 2017, so as to achieve the the goal of public-private collaboration.

She said, "Only the houses in use will be taken good care of." In 2018, the *Regulations for the Management of Home Stay Facilities* was amended to allow cultural assets to be transformed into home stay facilities, and the policy of Residing to Preserve was able to move on. A program called, Stayover in Dependents' Village: New Experience of Home Stay, was conceived to rejuvenate the use of dependents' villages. In 2020, the project went on to the next stage, Residing to Preserve 3.0: HOUSE of Startup, to attract young, energetic, and creative designers, architects, technicians, artists, and startup entrepreneurs to move in, so as to raise the vitality of dependents' villages through their joint efforts.

Deputy Director Lin said, Lieutenant General (Retired) Pan Jin-long, former Deputy Chief of General Staff of the MND, was one of the most noteworthy applicants. Before his retirement, Lt/GEN Pan submitted his application for moving in Jian Yeh New Village, so as to take care of his mother. After moving in, he has been keeping his unit in good shape and named it as Hsinlong Residence. He thus became a symbolic character for the project.

Deputy Director Lin mentioned, "If the achievement to preserve dependents' villages by the Kaohsiung City Government were well acknowledged, we would firstly thank the MND for its cooperation with us to promote and realize the policy." With the planning support and financial aid for upkeep expenses from the MND, the cooperation between two sides is very tight, so as to realize the policy of Residing to Preserve, further expand civilian participation in the project, motivate the transformation of dependents' villages, and create their significance in a new era.

Building a Time Tunnel to Bring Back Legacy of Dependents' Villages

A sight of a red front gate of iron with a slantly installed flag post, a garden scattered with charming bushes and flowers, an old leather armchair placed behind a door of wooden pane, an outdated cathode TV caged with shutter doors, a pedal-powered sewing machine, a heavy bicycle, a lovely plastic doll sitting at a corner, a wooden rocking horse for children, and multiple souvenirs, may give you a sense of going through a time tunnel to reach the past.

It was arranged by Chen Qi-you, Director of the Association for Preserving and Rejuvenating dependents' villages, in his new residence at Jian Yeh New Village in Zuoying, Kaohsiung, to revive the atmosphere in an dependents' village in old times.

Due to his passion and attachment to the friendly interactions in dependents' villages, Mr. Chen, based on the policy of Residing to Preserve of Kaohsiung City Government, rented 2 units at Jian Yeh New Village from the Bureau of Cultural Affairs of the City. He renovated these units as home stay facilities in the hope to rejuvenate the culture of dependents' villages and attract more people to learn and understand their culture through personal interactions, sharing experiences, offering guided tours, and participating in local employment program by hiring local cultural workers.

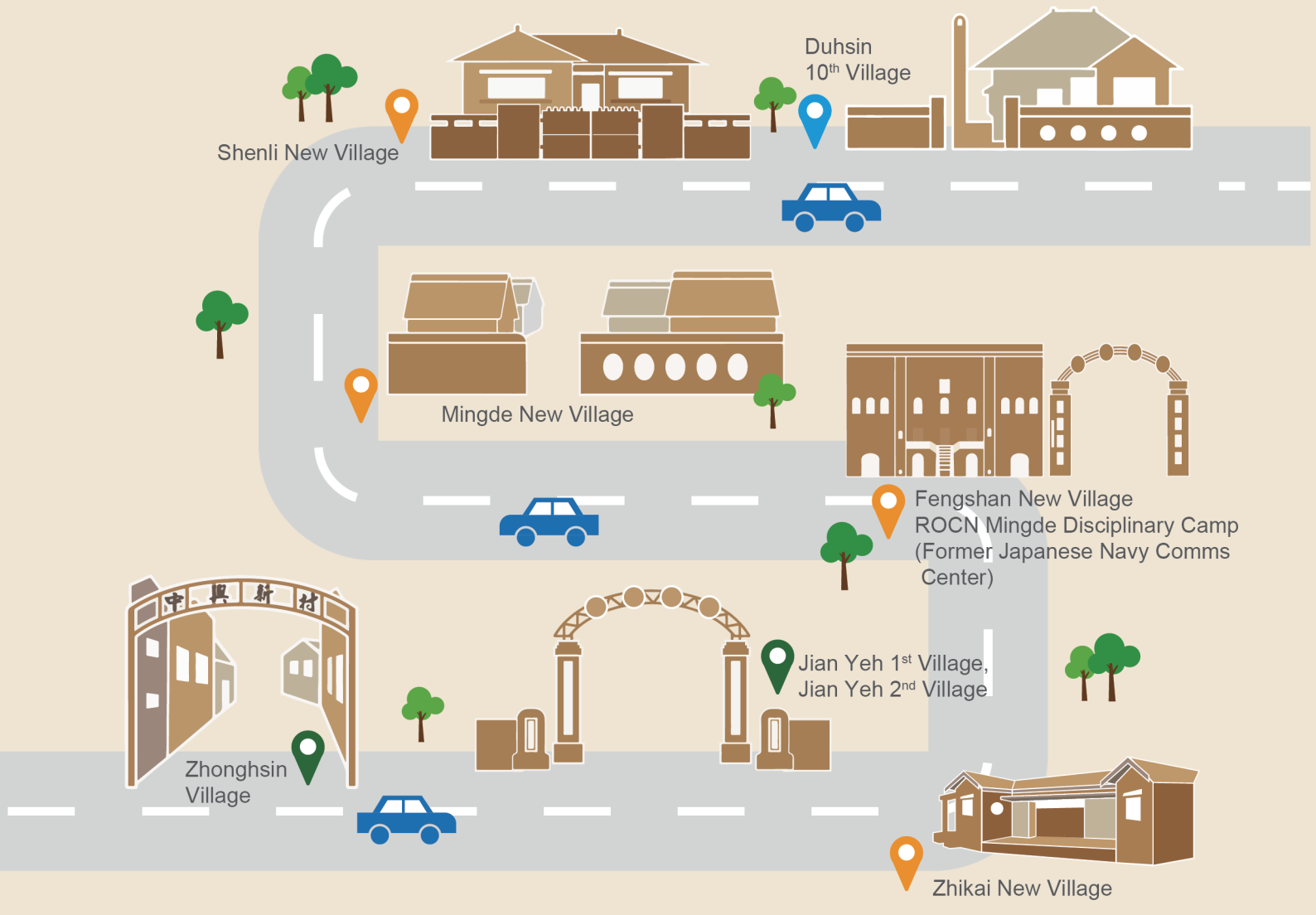
Even though he was not born in a dependents' village, he was motivated to preserve and promote its culture by his precious memories of chatting in childhood with his schoolmates from there. He noted, "if one wants to borrow a bottle of soy sauce from a neighbor, it will do by just extending one's hand through the neighbor's window. A loud roar may bring back people to have meals. These intangible connections are profound and captivating.

Mr. Chen is very touched to see his neighbors, also benefitting from the policy, getting married and having children nicknamed "Jian Yeh #1" and "Jian Yeh #2." At the same time, he recognizes the attention from the military to preserve the culture of dependents' villages, and is hoping to see more people to get involved in his journey to shape a touching and wonderful new culture of dependents' villages with a fresh lifestyle, a blooming development, and a new circle of lives.

Preserving Culture of Military Dependents' Villages

Military dependents' villages of the nation are the melting pots for diversified cultures of multiple groups and are the centers of patriotism, collective memories, and living experiences for all residents. When rebuilding projects were in progress, the MND, set goals to preserve their cultural assets, andpushed for preservation activities since 2007, including revising the *Act for Rebuilding Old Dependents' Villages*, stipulating review instructions, and choosing 13 dependents' villages as "cultural preservation parks." Since then, county(city) governments to their respective parksstarted legal processes of transferring properties. When the processes complete, preliminary expenses for all software and hardware required by these parks are issued from a deposit of NT$400 million contributed by the Funds for Rebuilding Old Dependents' Villages. To date, there are 10 preservation projects have been authorized to initiate, including the "Sanchong First Village Project," and 8 out of these 10 projects have been completed.

Aside from 13 parks as mentioned before, there are another 31 identified as cultural assets, which the MND has been negotiating with county(city) governments to operate jointly and manage these assets on MND's behalf. Currently, Le-qun New Village, Ming-chien New Village, Whampoa New Village, and many others have been revitalized, as great examples of preserving the culture of dependents' villages. Furthermore, the MND continues to follow the policies of "civil participation in investments on public infra-structure" and "operating business jointly" to revitalize these villages, so as to work out a cooperative platform to integrate central and county(city) government resources. At the same time, the MND will follow expedient and essential policy guidelines to expedite its preservation efforts, enhance its efficiency to integrate cultural assets with innovative methods, and to keep the integrity of these assets.



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