



Chapter 6. National Defense Resources

The MND has been employing scientific and innovative management means, making optimum use of defense resources such as personnel, finances and material, to maximize their potential to support our Armed Forces in achieving their tasks and missions. For personnel, in addition to recruiting qualified candidates to serve, we have been improving the quality of military education so as to cultivate a pool of modern service members with competent administrative and military skills. In the financial aspect, we have been employing a financial supply and demand planning mechanism to rationally allocate our financial resources. For the aspects of material and self-reliant defense capabilities, the MND is fully committed to the research and manufacture of advanced weapon systems. We have been gathering key technological capabilities to lay a first-rate R&D foundation to support both our national economy and civil infrastructure, and achieve the goal of merging national defense and public welfare.



Section 1. Nurturing Quality Personnel

In order to enhance core competences of Officers and NCOs, aside from providing basic, advanced and specialized courses, we have been selecting qualified cadre to study overseas and do research in foreign think tanks. Service members are encouraged to study in domestic graduate schools to pursue Master's and PhD's degrees and in occupational training institutions for skill certificates in order to satisfy various requirements of their MOS.

I. Streamlining Recruitment and Examination Affairs

- (I) Merging examinations: Entrance examinations for our 2-year Non-Commissioned Officer (NCO) College Program were originally implemented separately by the Army Academy, the Naval Academy and the Air Force Institute of Technology. Such examinations have been merged into one. The entrance exams for Standing Flight Officer Class, Reserve Officer Cadets in universities, 2-Year Officer College, and equivalent classes are also held in the same timeframe so as to reduce the number of examination personnel.

- (II) Validating alternative physical tests: Since 2015, the results of physical fitness tests held by the Ministry of Education (MOE) have been validated as acceptable alternative tests to the on-site physical fitness tests (unencumbered running) for the aforementioned examinations. In addition, local test posts have been offering online intelligence assessment tests to replace paper ones for the purpose of examinees' convenience.



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1.2. In concert with diversified admission and physical fitness policies of the Ministry of Education, coupled with the basic physical requirements of our service members, we have added physical fitness tests to the cadet admission requirements. By so doing, only the individuals with qualified physical fitness and academic level can be admitted into our military academies.

II. Results of Cultivating Competent Personnel

(I) Basic Education

1. In concert with diversified admission and physical fitness policies of the MOE, coupled with the basic physical requirements of our service members, we have added physical fitness tests to the cadet admission requirements. By so doing, only the individuals with qualified conditions of physique and fitness can be admitted into our military educational institutions.
2. With farsighted military requirements in mind, we have reviewed and refined current educational programs and course curriculums, and have been incorporated into educational assessment mechanism of the MOE. Therefore, our cadets have been gathering sufficient academic competencies and necessary professional military skills as junior cadre members.

3. Our 2-Year NCO College Program focuses on imparting occupational skills and acquiring certificates. It is hoped that all graduating NCO cadets can be awarded with an occupational certificate and a degree diploma before commissioned so as to improve their technical competencies.

(II) Further Education

1. Further education for officers is divided into 2 levels: command and staff level; strategic level. Regarding future curriculums, we are planning to adopt credit systems and acquire approval to award official Master's degrees to trainees graduating from the National Defense University Master's Program. By so doing, they will not only acquire the skills of pondering strategies, tactical planning and project management, but also establish a sound theoretical foundation for international affairs and global strategy so as to fulfill the goal to improve core competences of our high ranking personnel.
2. Further education for NCOs is structured by theoretical curriculums of NCO advanced courses with emphasis on advanced leadership and management, allowing senior NCOs to be able to effectively assist commanding officers to lead and manage subordinates. In addition, we have been reviewing the possibility to add NCO advanced research courses for sergeant majors at brigade-level and above, and they may receive further relevant training to acquire competencies as those of senior staff officers.

(III) Full-time Advanced Studies

We have been sponsoring qualified service members to attend full-time Master's and PhD programs provided mainly by military educational institutions and supplemented by domestic and overseas universities. The aim

is to develop their specialized theoretical foundations, cultivate them to become instructors in the field of R&D, and nurture them to be senior staff officers and NCOs.

(IV) Off-duty Advanced Studies

1. Degree Programs

- (1) We have been earmarking budget for sponsoring qualified service members on the premise of not affecting their operational duties to apply for degree programs to study during off-duty hours in domestic universities and colleges so as to improve their competences.
- (2) To help wishful service members unable to study in universities and colleges to do so during off-duty hours, together with the promotion of the volunteer force, we have allowed operational forces, after reviewing their requirements, to set up Educational Points in the form of classrooms at their locations. Supervised by service headquarters, they may sign strategic alliance agreements with willing universities and colleges in their vicinity to provide educational resources. From 2014 to August 2015, there are 1,627 service members completed their studies through this channel, which can be deemed as one of diversified educational channels in military facilities for volunteer members (as shown in *Appendix 6-1*).

2. Training for Certificates

- (1) To improve the occupational competencies of our technical personnel, and follow the policy of building the volunteer force, we have been increasing the number of occupational training courses for certificates, and considering opening new courses every year so as to allow service members to acquire national certificates and increase their opportunities of continued employment in other sectors or establishing their own trade when they separate from the service.

- (2) On the Personnel Management webpage of the MND, we have designed a special section for Occupational Training and Employment Services to reveal the regulation of attending occupational training before separation, annual employment service programs, programs for improving employment and starting new businesses offered by governmental agencies, physical addresses (or emails) and contact information of public employment service centers (or stations) as well as annual vocational training schedules in public vocational training centers. All service members before separation can freely choose the courses according to their interests in order to acquire vocational skills.
- (3) We have signed strategic alliance agreements with some universities and colleges for our occupational training courses for certificates, and the courses are being held at the above-mentioned Educational Points and training locations provided by universities and colleges. From 2014 to August 2015, there are 932 service members completed their courses (per *Appendix 6-2*).

(V) Military Education Exchange Programs

1. We have been selecting distinguished cadets and trainees to attend basic educational classes and military exchange courses in friendly nations in order to broaden their international perspective and to pragmatically build up our military exchange relations at every rank.
2. Regarding FMS Training, qualified officers are assigned to attend training courses relevant to force buildup, or courses at operational, tactical, and strategic levels. Qualified NCOs or enlisted personnel are assigned to attend courses relevant to maintenance and repair skills or hands-on operations. By so doing, we may improve officers' competencies in planning and command, and NCOs' and enlisted personnel's skills in technical maintenance.

3. For further military education, we are committed to securing training slots in this category in friendly nations for our mid-level cadre members to learn in unique and specialized fields of those nations and to enhance their joint operational staff competencies.

4. We have been offering slots for foreign cadets and trainees of friendly nations to study in our basic and further educational courses. It is hoped that through military educational exchanges we may strengthen military relations and friendship among us.

(VI) Think-tank Studies

In accordance with our national policies and comprehensive planning for international relations, we have combined our channels of national defense think tanks, strategic forums and participation in overseas think tank studies so as to maintain exchanges and collaborations with renowned international think tanks. It is hoped that through participation, interaction and brainstorming in the studies of these institutions we may increase the potential of our think tanks while developing closer ties with scholars in the academic circle.

III. Assigning and Operations of Civilian Officers

Ever since the two Defense Acts that define our national defense organization characterized as professional division of functions, civilian control of the military and convergence of military command and administration systems came into force in 2002, the MND has been recruiting competent candidates to join in the national defense community as civilian officers through civil service examinations and open selection processes so as to instill new mindsets and concepts to us. By means of collective training and mutual coordination among military and civilian personnel, we have settled differences in their mindsets and ways of approaching one another, so as to realize the policy of civilian control of the military.

(I) Composition of Civilian Officers in the MND

The Executive Yuan authorized a roster of 203 civilian officer positions for the MND in 2015. There are 2 appointed (by the President), 67 senior, 119 assistant, and 15 junior civilian officers in the roster. The MND headquarters contains of 4 departments and 7 offices, and among them, the Department of Strategic Planning, the Department of Resources Planning, the Defense Procurement Office and the National Defense Mobilization Office are led by civilian officers. Furthermore, the Personnel Office, Comptroller Office and Ethics Office are composed of civilian officers as well.

(II) Education and Training for Civilian Officers

We have recommended and arranged qualified civilian officers to attend relevant training programs hosted by the Directorate-General of Personnel Administration of the Executive Yuan, Civil Service Development Institute and National Academy of Civil Service (NACS) according to their core competencies. From 2014 to August 2015, there are 661 civilian officers attending 461 courses, and mid- and high-ranking civilian officers (including those assigned for overseas training) are accounted for over 53.3 percent among them. Additionally, the MND has also included civilian officers in various specialized military training in order to improve their military knowledge and enhance their interactions with service members. Moreover, to improve high-ranking civilian officers' competencies in handling national defense affairs, we have stipulated the *Guidelines for Training, Study, and Lifelong Learning for Civilian Officers in the Ministry of National Defense*, using on-the-job training programs and job rotations to provide them with comprehensive and professional defense knowledge.

Section 2. Planning the National Defense Financial Resources

In order to achieve the objectives of our national defense policy implementation, earmark rational and adequate budgets, and ensure adequate resource allocation, we are planning to blend means of cost-effective assessment of national defense policy implementation and the resources management strategy with our budgeting procedures, such as financial forecasts, visional financial guidance, and budgetary distribution and implementation so as to maximize the effectiveness of the financial resources.

I. Financial Allocation Principles

To respond to hostile threats we are facing and current requirements for implementing our national defense policy, we have been reviewing the integrated mid-term budget estimates approved by the Executive Yuan to plan a well-rounded financial resources allocation by contemplating our mid- and long-term requirements, so as to adequately support our operational readiness. We are abiding by the principle of cost savings in designated fiscal years to keep a lean budget allocation so as to maximize the potency of our limited resources.

II. Financial Trends and Analysis

(I) The Proportion of Central Government Budget Allocated for Defense Purposes

After reviewing the country's overall economic situation and future development, the Executive Yuan would then decide an adequate proportion in the central government budget for defense purposes by taking account of requirements of policy implementation and keeping a healthy financial status for the country. The Executive Yuan has pledged that once military hardware

deemed necessary becomes available for procurement, it may take necessary steps to draw on special reserves, retroactive budget increase and special budgets to acquire the necessary funds for us in order to demonstrate the government's will of policy implementation for strengthening our national defense and determination to defend our country. In the past 10 years (2006 to 2015), the allocated defense budget ranged from NT\$ 252.5 billion to NT\$ 334.0 billion, equivalent to 16.07% to 19.51% of the total budget of the central government (per *Figure 6-1*).

(II) Demarcation of Open and Confidential Budgets

In conformity with the government's information transparency policy, we have clearly defined the demarcation principle for open and confidential budgets. Preparation of Confidential budgets shall be reviewed at their lowest confidential level based on the *Classified National Security Information Protection Act* and the *Government Information Transparency Law*, provided they do not affect overall national interests as well as national security. Statistics in last 10 years revealed that our confidential budgets have been kept within 6% of the overall national defense budget since 2012 (per *Figure 6-2*), demonstrating the results of improved transparency of our defense budgets.

(III) Structural Analysis of the National Defense Budget

The national defense budget can be divided structurally into personnel, operation and maintenance, military investments, and miscellaneous categories. Budget for personnel is mainly earmarked for personnel expenditures. Budget for operation and maintenance is mainly earmarked for keeping readiness of weapons, equipment and operations of every unit. Budget for Military investments is earmarked for research, development and acquisition of weapons and equipment. Budget for miscellaneous items is mainly earmarked for the National Security Bureau. Structural fluctuation to our budgets in last 10 years is shown in *Figure 6-3*.

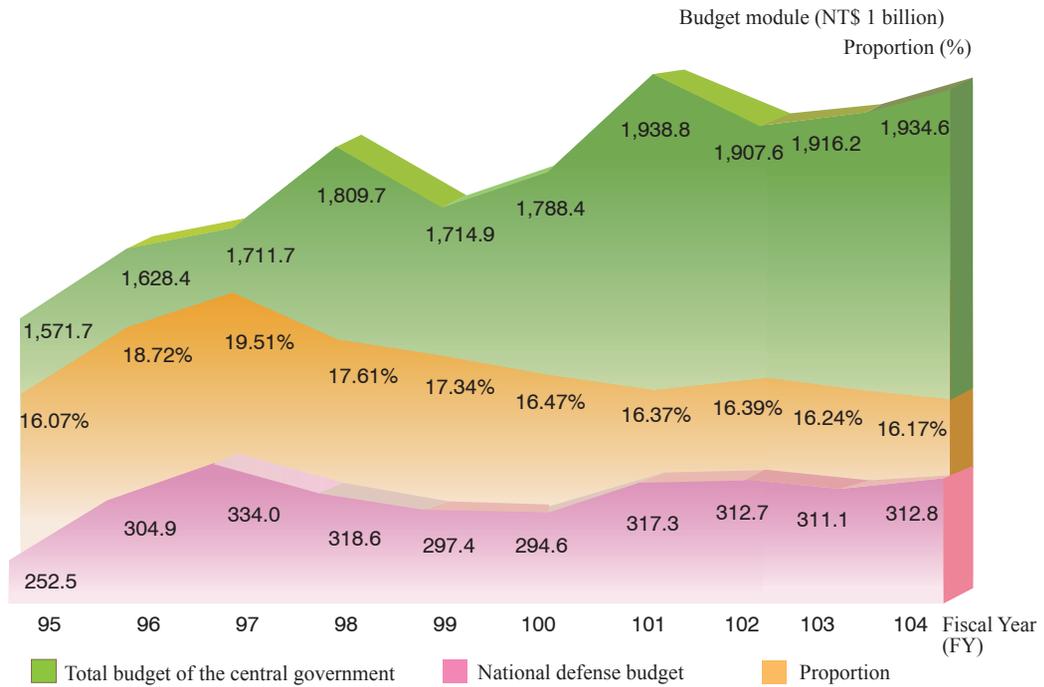


Figure 6-1. Relationship between the National Defense Budget and the Total Central Government Budget from 2006 to 2015

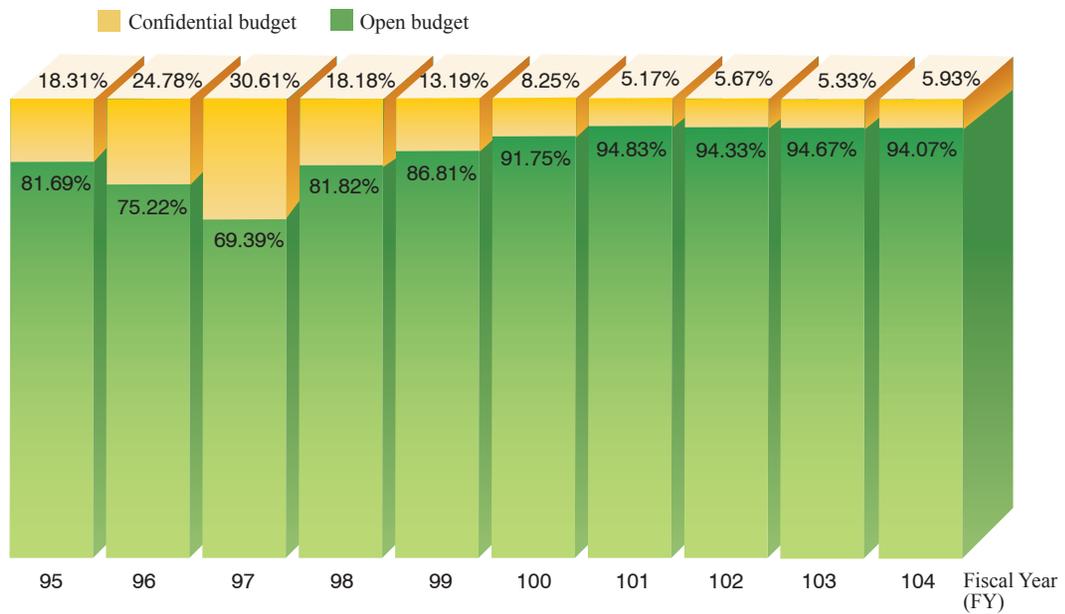


Figure 6-2. Proportion between the Open and Confidential Budget Allocations from 2006 to 2015

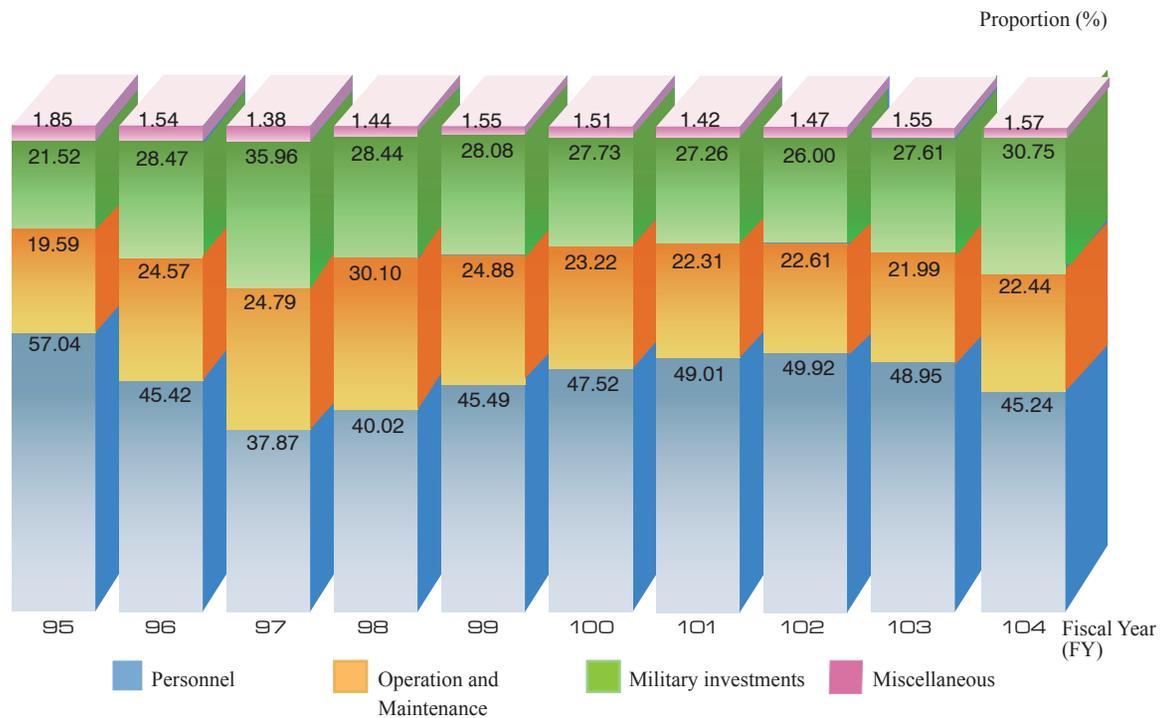


Figure 6-3. National Defense Budget Allocation Chart from 2006 to 2015

(IV) Status and Key Uses of FY 2015 National Defense Budget

The enacted Fiscal Year (FY) 2015 national defense budget is NT\$ 312.8 billion and its key uses are as follows:

1. Personnel: NT\$ 141.5 billion. Mainly earmarked for salaries, bonuses, and insurance-related expenditures, according to requirements of increasing number of volunteer service members and recruitment and training of enlistees.
2. Operation and Maintenance: NT\$ 70.2 billion. NT\$ 66.7 billion of it is earmarked for keeping readiness of our major weapons and equipment, capabilities of logistics and maintenance, and improving personnel living quarters. Another NT\$ 3.5 billion is earmarked for basic operational upkeep of various units.
3. Military investments: NT\$ 96.2 billion. NT\$ 72.8 billion of it is earmarked for 108 ongoing projects and programs, including Phase 2 Acquisition

for Minesweepers and Patriot Advanced Capability-3(PAC-3) Missile Program. Another NT\$ 23.4 billion is earmarked for 45 new projects and programs, such as Acquisition of Additional Assault Amphibious Vehicle (AAV-7) and Portable Unmanned Aerial System Program.

4. Miscellaneous: NT\$ 4.9 billion. Mainly earmarked for Compensation for Accidental Civilian Casualties by Operations of the ROC Armed Forces and the National Security Bureau budget.

III. Financial Management Strategies

Due to our limited funding from the government financial resources, the success of our force buildup depends heavily on the optimum control management of comprehensive national defense resources. We have been employing a highly professional and effective management mechanism to adopt concepts of performance-based management functions, financial resource integration and cloud-based comptroller data to provide dedicated support for force buildup, and achieve the desired objectives of policy implementation.

(I) Accomplishing Budget Implementation and Justifiably Managing Budget Resources

Given the difficulty in securing national defense budget, the budgetary requirements of the subsequent year are subject to a preliminary node control mechanism and the like to ensure proper planning of monthly budget allocations. We have been doing regular and irregular supervision activities to identify gaps between the pre-defined nodes and their actual progresses so as to make timely reviews and responses. Simultaneously, we may adopt a budget resource management mechanism to minimize ineffective budgets and maximize the combined benefits of all the budget resources.

(II) Restructuring Accounting System and Improving Utilization Performance

In conformity with the *Accounting System of Ordinary Government Activities of the Central Government, Gazettes of Governmental Accounting Standards and Doctrine*, as well as relevant regulations and operational schedules of the Directorate-General of Budget, Accounting and Statistics (DGBAS) of the Executive Yuan, the MND has been restructuring the ROC Armed Forces accounting system by integrating its hierarchies with its budgeting structures. By so doing, we may fully use national defense financial information so as to improve financial utilization performance of the government.

(III) Developing Digital Platforms and Integrating Cloud Data

The MND has been integrating the ROC Armed Forces budgeting, general accounting and final accounting information systems to continue developing the ROC Armed Forces comptroller information and cloud services. We have been introducing digital certifications and signatures, time stamps and quick response two-dimensional barcodes (QR codes) to the ROC Armed Forces. Moreover, we have issued ROC Armed Forces smart cards with digital stamps to strengthen verification of identities in our financial operations (per *Figure 6-4*).

Following main strategic objective of expanding service contents as the pillar and establishing national defense strategic analysis requirements as the beam, together with pragmatic measures for improving efficiency, saving energy, and reducing carbon emission, we have accelerated the pace of our operational digitalization and use of electronic documents in order to reduce both manual workload and redundant resource consumption. Our efforts have been recognized by receiving the prestigious Honorable Award for Operational Innovation, Revolution and Improvement from the DGBAS of the Executive Yuan in 2014.

(IV) Establishing Cost Systems and Achieving Management Functions

Following the essence of the *ROC Armed Forces Military Strategic Plan*, the *ROC Armed Forces Planned Budget System*, and our *5-year Policy Plan*, we have been pushing forward a cost-effectiveness system for national defense. By means of on-site consultations and verifications as well as our information systems, we have been analyzing data from different angles, such as personnel resources, maintenance capabilities, cost control, and resources integration, so as to provide reference for decision-making and reviewing necessary costs in various stages in our projects and programs.

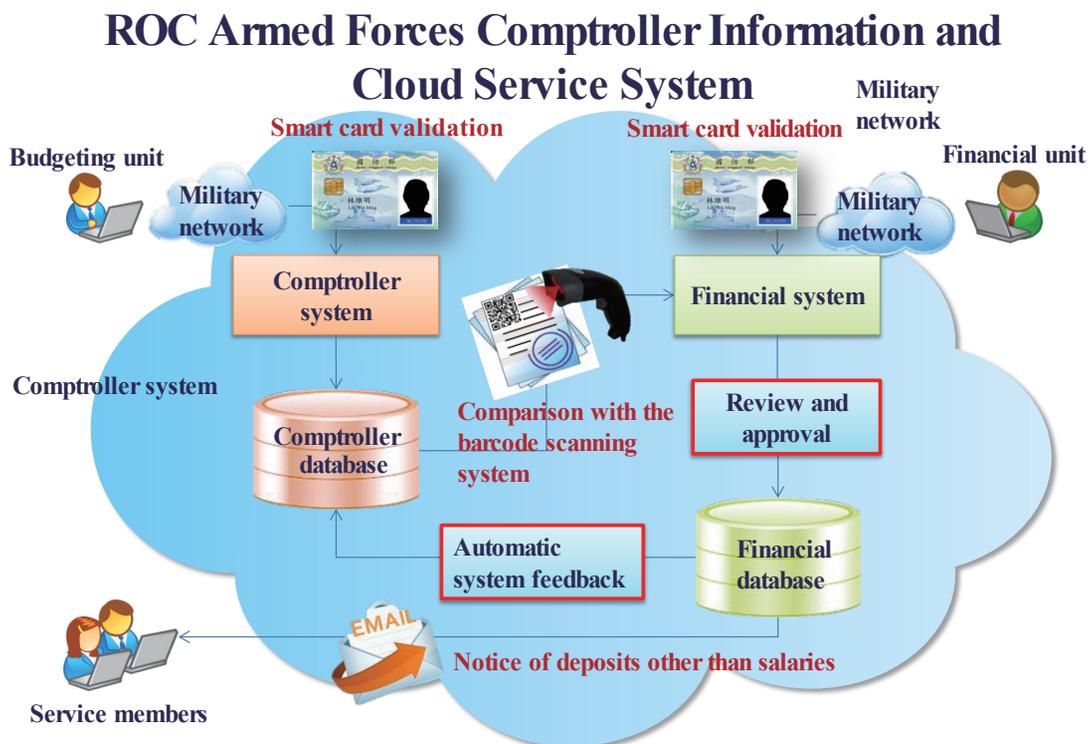


Figure 6-4. Network Diagram of the ROC Armed Forces Comptroller Information and Cloud Services

(V) Integrating of National Defense Resources and Reforming Fund Management

The MND is in charge of 3 specialized funds, namely the ROC Armed Forces Camp and Facility Rebuilding Fund, the ROC Armed Forces Fund for the Rebuilding of Old Military Dependents' Village, and the ROC Armed Forces Production and Service Operations Fund. For the purposes of not adding to government's financial burdens and driving our 2 goals of exploring channels of revenue and expanding our scope of care, we have been continuing the National Defense Resources Integration Project to introduce corporate management practices for managing these specialized funds. By doing this reform, we have established their close reciprocal connection with the national defense budget so as to create a parallel and complementary financial operations model between them in order to satisfy our force buildup requirements.

To explore channels of revenue, because the MND has been trying to get additional revenues to renovate our aging camps and living quarters in conformity with the government's policy of revitalizing land use, we have been planning to establish strategic alliances with financial institutions for the purposes of encouraging mutual investment initiatives and expanding the scope of our investments, so as to create new channels of revenue and improve our overall financial performance. To expand scope of care, we have been planning to improve the service capacities of our specialized funds in order to provide more practical care to service members and their families.

Section 3. Keeping a Solid Armament Readiness

By referring to security threats, our military strategic concepts, future joint operational requirements, and arms development trends in advanced countries, we have been reviewing our technological levels and financial capacities to draw up 3 armament strategies of acquisition, technology, and logistics to lead our efforts in keeping a solid armament readiness. In addition to acquiring suitable arms and improving our self-reliant defense capabilities, we have been fine-tuning our full life cycle armament management mechanism in order to ensure proper support for our military operations.

I. Weapons Acquisition Results

(I) Military Investment Projects

The MND has made plans to established its short-, mid-, and long-term joint operational capabilities. By following acquisition procedures, we have been trying to invest limited national defense resources in establishing the most formidable combat capabilities. A total of 53 military investment projects for FY 2016 have been planned. We have reviewed upcoming available financial resources and our operational requirement priorities, and planned to proceed with those projects in FY 2016.

(II) International Exchange in the Field of Armament

In order to achieve our goal of establishing self-reliant defense and consecutively build our weapons research and development capabilities, we have arranged armament exchange platforms with advanced nations by adopting equitable, mutually beneficial and resource sharing principles to expand our armament exchange circles, create collaborative R&D opportunities and improve our acquisition project management. For instance, the US-Taiwan Defense Industry Conference was held in Williamsburg, Virginia

in September 2014. The US participants recognized our determination to strengthen cooperation with US defense industries and to establish self-defense capabilities, and expressed their support willingly. Such support has greatly strengthened our mutual relations and trust.

(III) Production and Manufacturing

Complying with the Article 22 of the *National Defense Act* and the guidelines of identifying core technologies, integrating all capabilities, forming strategic alliances and adopting work specialization, to combine the core technologies of our production factories with the vast capabilities in the industrial sector, we have employed means of co-production, technology transfers through off-set and outsourcing production to expand opportunities for companies in private sector to join in the pool in manufacturing military items, and establish critical manufacturing capabilities for national defense so as to facilitate our acquisition and follow-on maintenance of our military hardware. From January 2014 to August 2015, through these means we have completed over 1,000 production projects, including Cloud Leopard 8-wheeled armored vehicles, and various weapon systems, equipment, guns, cannons and munitions for a total value exceeding NT\$ 10.0 billion.

(IV) Acquisition of Weapon Systems and Equipment

1. According to the principles of prioritizing indigenous production before foreign acquisitions, we have been applying advanced management techniques and well-rounded acquisition management systems to establish a comprehensive management system for every level. Furthermore, our acquisition processes have been subject to internal project supervision and management activities in order to effectively achieve their desired objectives. It is hoped that through expending the most adequate costs with lowest risks and shortest schedules, we may reap the maximum benefits possible.

2. We have been actively promoting indigenous weapons and equipment manufacturing and R&D capabilities. In 2014, the MND assisted the Chung-Shan Institute of Science and Technology (CSIST) in establishing the Panlong Project and another 5 R&D projects. Completion of these projects will improve our defense technology R&D capabilities and help achieve our goals of self-reliant defense capabilities.

3. For the defensive weapons and equipment that cannot be manufactured indigenously, we shall consider foreign acquisition. US FMS programs to us reached US\$ 18.3 billion since President Ma took office 7 years ago, with acquisition programs, such as F-16 A/B retrofit, AH-64E attack helicopter, UH-60M utility helicopter, P-3C fixed-wing anti-submarine warfare (ASW) aircraft and PAC-3 missile systems. These acquisitions have effectively improved joint operational capabilities of the ROC Armed Forces.

II. Results of Technological Development

Following innovative / asymmetric concepts and force buildup guidelines of being led by technology, achieving information and electronic superiorities, conducting joint interdiction against enemy, and exerting homeland defense, the MND has envisioned short-, mid- and long-term national defense technology development trends that satisfy joint operational requirements to carve out its motivations to acquire key technologies which are under international export restrictions for the time being in order to fulfill its mission of self-reliant defense and ultimately to support our force buildup objectives. In order to make proper use of our national defense technology developments, we are planning to release mature and quality national defense technologies to industries to improve our industrial base and promote economic development of our country.



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1. The ROC Armed Forces have established armament exchange platforms with advanced nations by adopting equitable, mutually beneficial and resource sharing principles to expand our armament exchange circles, create collaborative R&D opportunities and improve our acquisition project management. The picture shows a P-3C anti-submarine warfare aircraft of the ROC Armed Forces.

2. Security threats, our military strategic concepts, future joint operational requirements and arms development trends in advanced countries are taken as guidance to lead our efforts in keeping a solid armament readiness. The picture shows the Cloud Leopard Infantry Fighting Vehicle, indigenously developed by the ROC Armed Forces.

3. According to the principles of prioritizing indigenous production before foreign acquisitions, we have been effectively achieving our project objectives to exercise full control of weapon system acquisition schedules to satisfy our operational requirements. The picture shows newly commissioned utility helicopter.



(I) National Defense Technology Developments

- 1.The top priority of defense technology development is to integrate 3 phases: identifying joint operational requirements, conducting national defense technology research, and pursuing weapon systems development. Abiding by stringent technology foresight procedures, we have been formulating short-, mid- and long-term defense technology development plans to ensure that our defense technology developments are insightful, integrated and continued in terms of policy implementation, and all the requirements, technology research, and weapon systems development are consistent and coherent.
- 2.For basic and applied technology studies, we have been requesting public and private universities to carry out relevant programs so as to encourage academic and research bodies to contribute to defense technology development. From 2014 to 2015, there are 182 research programs underway, such as low-noise highly efficient rotor blades for submersibles and UAV.
- 3.Concerning key technologies that are difficult to acquire, we have been establishing specific programs through defense technology research studies. There are 72 key technology R&D programs underway across 7 categories, including stealth and nano-technologies, helping to lay a sound foundation for key national defense technologies.

(II) Developing Dual-use Technologies

We have been releasing profitable non-sensitive national defense technologies to the industrial sector. From 2014 to August 2015, we have completed 234 investment projects for dual-use technology transfer, generating revenues of about NT\$ 14.6 billion.

III. Results of Integrated Logistics

Our integrated logistics support is focused on 3 aspects: full life-cycle system management, supply chain management, and industrial strategic alliance. In addition, we have been giving integrated logistics education and training to relevant staff in charge for them to recognize that when requirement emerges is the time to kick off integrated logistics support. Therefore, they will be aware that we have to make the best of limited national defense resources so as to improve overall effectiveness of military investments.

(I) Full Life-cycle System Management

Currently, by adopting the weapons acquisition and integrated logistics support system to improve the readiness rates of our military hardware, we have been keeping a full life-cycle management, starting from planning, R&D, production, fielding, maintenance, to phasing out, for our 39 major military investment programs, including the Xunchi Program (8-wheeled armored vehicles program).

(II) Supply Chain Management

In order to consolidate national defense technology R&D, production and maintenance capabilities, establish outsourcing partners, shorten materiel acquisition schedules, and reduce the impact caused by diminishing manufacturing sources (DMS), we have been vigorously promoting cooperation with academic and industrial circles in our supply chain so as to enhance research and production capabilities of the partners involved, shorten R&D and production cycle, and improve product quality. In the past 2 years, the MND has outsourced 579 cases to partners. For FY 2015, the total value of the outsourced cases is beyond NT\$ 10.1 billion.

(III) Strategic Alliance with Industries

By establishing a strategic commercial maintenance model for our military

hardware, we have devised a government owned / contractor operated (GOCO) means for our units to build up strategic alliances with industries for the purpose of outsourcing. Involved contractors are thus encouraged to commit long-term investments and provide stable and reliable support. By so doing, in compliance with contractual requirements and our performance indicators, we have generated budget savings of up to NT\$ 2.6 billion.

IV. Procurement Management Performance

ROC Armed Forces procurement is one of the key means employed for supporting force buildup and is an integral part of the national defense policy implementation. All procurements must comply with the regulations stipulated in the *Government Procurement Act* and make overall considerations to the quality, time and costs before proceeding with the relevant processes. Auditing, supervision and professional training have been employed to enhance procurement quality, efficiency and professional competencies of our personnel.

(I) Current Status of Military Procurements

From 2014 to August 2015, the ROC Armed Forces concluded 10,088 procurement cases at a value of NT\$ 189,233.17million. Among them, 9,970 (or 98.83%) cases were made from domestic procurements at a value of NT\$ 161,278.45 million, and only 118 (or 1.17%) cases were made from overseas procurements at a value of NT\$ 27,954.71 million. These numbers have shown a gradual maturation of domestic manufacturers supported by the ROC Armed Forces.

(II) Implementation of Procurement Audits

From 2014 to 2015, 373 procurement cases at a value of NT\$ 24.9 billion were designated for auditing by the Public Construction Commission of the Executive Yuan. By August 2015, 380 cases were submitted for auditing at a value of over NT\$ 15.8 billion, and no major violations have been found.

(III) Training Status of Procurement Personnel

From 2014 to August 2015, we have held 28 courses (sessions) for government procurement personnel, including basic and advanced qualification training courses, actual procurement case study seminars, seminar on procurement supervision for high ranking personnel and specialized training courses for FMS and overseas procurements. A total of 1,839 individuals underwent these training courses.

V. Construction and Asset Management Performance

In response to the Volunteer Military policy, governments' major policies, and planned national land usage allocation, the MND has established a stringent and comprehensive construction and camp asset management system to optimize key measures for the volunteer force, such as troop care and living quality improvement while implementing asset management to enhance performance of our policy implementation.

(I) Renovating Aging Camps and Living Quarters to Improve Quality of Living

1. Renovating aging camps: The Executive Yuan has provided an additional budget of NT\$ 2.2 billion in 2015 in order to rebuild and renovate aging camps and purchase necessary furnishings to ensure the serviceability of camp amenities. In addition, renovated camps are designed with the concept of keeping adequate levels of independence and privacy in order to achieve overall improvements to personnel living environments.
2. Construction of new living quarters: 400 units of living quarters have been constructed in Taipei, Taichung, and Kaohsiung so that service members will be able to take care of their families living nearby. For existing living quarters, we have been doing renovations on the principles of focused repair, overhaul, and lifespan extension to gradually restore aging accommodations to improve the living environment of military families.

(II) Continuing Release of Military Properties and Vitalizing National Land Utilization

1. In response to our force restructuring, the MND has been upholding the principles of merging smaller camps with larger ones, joint basing of the Army, Navy and Air Force, and relocating camps to suburban areas to continue its releasing of military properties without affecting our defense security and combat readiness.
2. Following important requirements of the government's policy implementation, the MND has been reviewing high value and disposable military properties, and incorporating their revitalization through the ROC Armed Forces Camp and Facilities Rebuilding Fund so as to improve land use effectiveness. Revenues generated from the disposal will be returned to the fund to support renovation of aging military properties.
3. After considering our overall national economy and the need to promote local construction and development, the MND has been reviewing disposable military properties comprehensively since 2008 in accordance with *Regulations of Reviewing Movement and Release of Military Properties*, and transfer those properties to the National Property Administration or the other public agencies for revitalization. By August 2015, 2,049 hectares of properties have been transferred, helping to drive internal land demands and invigorating our economy development.



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1. When renovated, the specific military installation will be rezoned according to its functional suitability in order to prevent disrupting its mission, training, and routine activities from disrupting one another so as to improve living quality of service members. The picture shows public artworks in the new Bo'ai campus of the MND.

2. By renovating living facilities for service members, we may attract more distinguished young adults to serve. Aging buildings have been undergoing renovations without dismantling their original structure, and it is hoped that by so doing we may improve the military personnel's willingness to remain in the service.

VI. Enhancing the Performance of Scientific Research Organizations

In order to improve the performance and defense technological level of the CSIST, the MND completed legislative and restructuring procedures needed to convert it into an administrative legal entity, National Chung-Shan Institute of Science and Technology (NCSIST), in 2014. By so doing, legal restrictions on its personnel, organizational, financial, and procurement activities are loosened to boost its competitiveness. At the same time, the NCSIST may still maintain its major tasks of national defense scientific research according to our force buildup requirements, to continue support our force buildup objectives and help achieve the goal of establishing self-reliant national defense.

Section 4. Integrating National Defense with the People's Livelihood

By upholding the Article 22 of the *National Defense Act* and policy directives of revitalizing economy and expanding domestic demands of the Executive Yuan, the MND has been continuing to release national defense resources to the private sector while encouraging private participation in our infrastructure projects. In addition, the MND has been promoting environmental conservation measures to implement energy saving and carbon reduction policies.

I. Resource Releasing

Following the releasing means of GOCO for military industries, outsourcing insensitive management activities, strategic alliance for maintenance, and domestic procurement of spare parts, we have been releasing national defense resources to the private sector so as to encourage private businesses to join in building our national defenses while invigorating our market economy and increasing employment opportunities.

(I) Resources Releasing Approach

In accordance with the principle that the ROC Armed Forces shall neither establish producing capabilities nor conduct overseas procurements for any product that can be supplied by domestic manufacturers, the MND has been releasing insensitive, low time-critical, and non-kernel capabilities to the private sector to improve its ability to conduct R&D, production and maintenance of military hardware. Additionally, the MND has been increasing the percentage of resources releasing by deducting expenditures in personnel, necessary overseas procurement for military hardware and maintenance, and non-transactional activities from the acquired national defense budget.

(II) Implementation Results from 2014 to 2015

The planned objective of releasing for 2014 was NT\$ 81.2 billion. Actual amount achieved was NT\$ 82.7 billion for an achievement rate of 101.93%. The objective for 2015 is NT\$ 82.0 billion. Major long-term released programs are listed as follows:

1. Production and maintenance of 8-wheeled armored vehicles;
2. Phase 2 F-CK-1 Ching-Kuo Fighter Upgrade;
3. Phase 2 construction for high performance combat vessel;
4. Follow-on acquisition of night vision equipment;
5. New internal communications system for tanks, self-propelled vehicles, and armored vehicles;
6. Satellite communications system;
7. Maintenance through strategic alliance for aircraft, vessel and ground / general equipment;
8. GOCO for military industries.

II. Promoting Private Participation in Public Infrastructure Projects

Complying with the Executive Yuan's policies and considering its future organizational functions and requirements for its force buildup, the MND has been absorbing emerging technologies (subject matter expertise) or management concepts from the private sector to revitalize its application and maintenance for assets and properties in order to improve overall public benefits and satisfy the mutual interests of both the government and the private sector.

(I) Policy Objectives

In conformity with the *Act for Promotion of Private Participation in Infrastructure Projects* (AP3IP), the MND has been releasing items that meet the relevant criteria for private operations and management in order to reduce operational costs.

(II) Implementation Status and Results

1. Released items fall into 2 categories: medical healthcare and recreation and tourism. 12 projects are underway, such as Outsourcing Management of Tri-service General Hospitals, and the total value of private sector investments is about NT\$ 900 million.
2. In 2014, we have added a new project, generating over NT\$ 40 million of investments. Projects, such as the Army Reunion Hall, Educational Exhibition Hall of the ROC Air Force Academy, Chung Cheng Armed Forces Preparatory School and the National Revolutionary Martyrs' Shrine, are now undergoing feasibility evaluations.

III. Environmental and Ecological Protection and Energy Conservation

On the condition of without affecting combat preparedness and training, the ROC Armed Forces have been driving sustainable energy savings and carbon reduction education for environmental protection purposes, and has reached the goal of negative increase in annual fuel, electricity and water consumption. We have been working in accordance with the Executive Yuan policies on cleaning our homeland, maintaining biodiversity, and reducing environmental hazards to drive our benchmark environmental protection programs for green energy savings and implement energy saving and carbon reduction policies.

(I) Environmental Protection Policies and Results

1. Airbases Noise Control

Since 1998, the MND has been earmarking supplementary funds for building noise control facilities in schools, libraries, medical institutions, public facilities and residences in the vicinity of airbases in accordance with the *Noise Control Act* and *Noise Control Act Enforcement Rules*. In 2014, NT\$ 2.02 billion was allocated for such purpose, and was accounted for 91.94% in its category. We have earmarked NT\$ 162 million for aviation noise control in FY 2015, and we are supervising the process fully according to designated schedule.

2. Clean Homeland

In 2014, we have done environmental cleaning work for 1,411 vacant buildings in 447 unoccupied properties of the MND and its subordinate units (total area of 2,151.53 hectares). The MND has been promoting all units to clean 50 meter premises around respective locations, removing a total 19,016 tons of garbage and waste. In addition, we have produced an exclusive report titled *Important Knowledge for Sustainable Development* broadcasted in Chu-Kuang (Glorious) Garden educational TV program, and the program was viewed by 175,000 individuals, helping promote the concept of environmental protection and low carbon emissions.

3. Green Procurement

In 2014, we have specifically designated procurement cases for environmental friendly products worth NT\$ 108 million, and our total expenditures in environmental friendly procurements worth NT\$ 114 million. Achievement rates for the specific procurements and total green procurement items reached 95.5% and 98.5%, respectively, satisfying the 90% objective prescribed by the Environmental Protection Administration of the Executive Yuan.

(II) Biodiversity Hazard Prevention and Control

1. Red Fire Ants Control

Fire ants invasion are being contained in 20 military properties. After receiving reports from the Council of Agriculture, we have followed standard operating procedures to spray insecticides and carried out other pest control measures. Aside from one military installation relieved from the control, there are another 19 properties still under pest controls.

2. Bitter Vine and Devil Weed Control

Bitter vine (*Mikania micrantha*) invasions have been reported in 15 military properties (affecting an area of 14.622 hectares), while devil weed (*Chromolaena odorata*) invasions have been reported in 3 military properties (for an area of 0.3 hectares). After implementing control measures, bitter vine was successfully removed from an area of 9.78 hectares for a prevention rate of 66.85%. Devil weed was removed from an area of 0.3 hectares for 100% prevention rate.

3. Whitetop Weed Control

Whitetop Weed (*Parthenium hysterophorus*) invasions have been reported in 1 military facility (affecting area of 0.078 hectares). After implementing control measures, the weed was eradicated from an area of 0.047 hectares, and current prevention rate of the weed is 60.25%.

4. Biting Midge Control

There are 33 military facilities under pest control for biting midges (*Forcipomyia taiwana*). After being treated by pest control measures, only 8 of them would require further treatments.

(III) Energy Conservation and Carbon Reduction

1. In response to the Executive Yuan's Four-saving projects among government agencies and schools, the MND has been actively promoting

energy saving and carbon reduction measures, and demanding all its subordinate units to achieve negative growth objectives in annual fuel, electricity and water consumption.

2. Fuel conservation: Controls were implemented from 2007 to 2015 with the objectives of reducing overall administrative fuel consumption by 14%. To date, fuel savings amounted to 27.14%, reaching the objective prescribed by the Executive Yuan. Administrative and combat training fuel usage in 2014 also achieved savings of 11.72% and 1.2%, respectively, compared to the same period of 2013, both of which have satisfied the 1% fuel savings objective for FY 2014 prescribed by the Executive Yuan.
3. Water and electricity conservation: Controls were implemented from 2007 to 2015 with the objectives of reducing overall water and electricity consumption by 12% and 10%, respectively. Statistical data has shown that our cumulative water and electricity saving percentage from 2008 to 2014 were 36.43% (12.32 million kiloliters) and 14.97% (145.54 million kilowatt hours) respectively, satisfying the goals prescribed by the Executive Yuan. Water and electricity saving percentage from January to December 2014 compared to the same period of 2013 were 3.95% (1,070,884 kiloliters) and 1.99% (19,885,437 kilowatt hours), respectively, satisfying the water and electricity saving targets of 2% and 1% for FY 2015 prescribed by the Executive Yuan.
4. Paper savings: As of August 2015, the usage of online signature and approval reached 81.85% in the organic units and defense agencies (institutions) of the MND, and 79.63% in service headquarters, military academies, and direct subsidiary establishments (forces) of the General Staff Headquarters, far exceeding the targeted 40% online signature and approval for FY 2015 prescribed by the Executive Yuan.

