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Global Prepositioning Network (GPN) Supportability Analysis in the Philippines

December 2023

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Capt Zachary E. Keener, USMC
Capt David A. Sandridge, USMC

Thesis Advisors: Dr. Geraldo Ferrer, Professor
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Naval Postgraduate School

Prepared for the Naval Postgraduate School, Monterey, CA 93943

ACQUISITION RESEARCH PROGRAM
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ABSTRACT

In this study, we assessed the key characteristics of Marine Corps programs related to prepositioning, which include equipment storage and exercise support, and compare them to the current concept requirements for the development of a Global Prepositioning Network (GPN) site. We analyzed the qualitative components of current and former prepositioning programs utilizing a two-part methodology approach through the framework analysis method and synthesizing data into a weighted index table. Through qualitative analysis, we analyzed the strengths and limitations of policies, contracting methods, and strategic capabilities of five different programs. The culminating actions resulted in the development of a framework to analyze the current supportability of GPN sites within a given region or country of interest and provide courses of action for its implementation. A proof of concept for the framework was implemented in the suitability analysis of a GPN site ashore in the Philippines. Finally, we provided findings and recommendations for future development of GPN.

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ABOUT THE AUTHORS

Captain Zach Keener is a Logistics Officer. He was commissioned in 2018 and attended The Basic School, having been assigned to Company E, and graduated in December 2018. He was later assigned to 3d Supply Battalion within III Marine Expeditionary Force in Okinawa, Japan and served there from 2019 to 2022. Throughout this tour, he served in several billets within Supply Battalion including Assistant Operations Officer, Battalion Logistics Officer, and Headquarters and Service Company Commander. He briefly served with the 31st Marine Expeditionary Unit as the Logistics Planner for the Command Element from 2020 to 2021. After graduating from the Naval Postgraduate School, he will be reporting to Marine Corps Recruit Depot, Parris Island, SC and be assigned to the command's operational contracting support office.

Captain Gavin Untalan is a Logistics Officer. In 2018, he was commissioned through the Platoon Leader's Course program at San Diego State University where he received a Bachelor of Arts in Psychology. After completing The Basic School and Logistics Officer Course, he was assigned to 1st Battalion, 7th Marines in Twentynine Palms, California. Throughout his tour, he served as the Battalion Maintenance Management Officer, Motor Transportation Platoon Commander, and Battalion Assistant Logistics Officer. He deployed in 2019 as part of the Ground Combat Element for Marine Rotational Force-Darwin 21.2. After graduating from the Naval Postgraduate School, he will be reporting to Combat Logistics Battalion 11 (CLB-11) as the Contracting Officer in support of the 11th Marine Expeditionary Unit.

Captain David Sandridge is a Ground Supply Officer. He obtained his commission through the Reserve Officer Training Corps at Purdue University in Indiana. He holds an undergraduate degree in Finance from the Krannert School of Business. After completing The Basic School and Military Occupational School, he embarked on his first tour with an Artillery Battalion in Southern California. Throughout the tour, he served as the Battalion Supply Officer and participated in various Regimental and service-level training exercises. During his time in Southern California, he married his wife Gianna in March 2019 and welcomed their first child in November 2020. In his free

time, he enjoys running with his German Shepherd, Olympic weightlifting, and exploring new playgrounds or engaging in outdoor activities with his family. Upon graduating in December 2023, he will report to the Command Element of III Marine Expeditionary Force in Okinawa, Japan.

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LIST OF ACRONYMS AND ABBREVIATIONS

I MEF	I Marine Expeditionary Force
III MEF	III Marine Expeditionary Force
AAV	Amphibious Assault Vehicle
ACE	Aviation Combat Element
ACV	Amphibious Combat Vehicle
ADF	Australian Defence Force
ADoD	Australian Department of Defense
AESP	Aguila Equipment Staging Program
AHP	Analytical Hierarchy Process
AIS	Automated Information System
AOR	Area of Responsibility
BIC	Blount Island Command
CBRN	Chemical, Biological, Radiological, and Nuclear
CCDR	Combatant Commander
CD&I	Combat Development and Integration
CE	Command Element
CENTCOM	U.S. Central Command
CLB	Combat Logistics Battalion
CLIN	Contract Line-Item Number
CM	Contracting Method
CMC	Commandant of the Marine Corps
COR	Contracting Officer's Representative
COSIS	Care of Supplies in Storage

CPG	Commandant's Planning Guidance
CRFP	Crisis Response Force Package
DC, I&L	Deputy Commandant, Installations and Logistics
DoD	Department of Defense
EABO	Expeditionary Advanced Base Operations
EDCA	Enhanced Defense Cooperation Agreement
EDL	Equipment Density List
EEZ	Exclusive Economic Zone
ESD	Exercise Support Division
EUCOM	U.S. European Command
FAR	Federal Acquisition Regulation
FD2030	Force Design 2030
FFP	Firm Fixed Price
FIC	First Island Chain
FIE	Fly-In Echelon
FON	Freedom of Navigation
FOS	Feasibility of Support
FPA	Force Posture Agreement
GAO	Government Accountability Office
GCE	Ground Combat Element
GESP	Ground Equipment Staging Program
GON	Government of Norway
GPN	Global Prepositioning Network
GWOT	Global War on Terrorism
HA/DR	Humanitarian Assistance/Disaster Relief

HN	Host Nation
HQMC	Headquarters Marine Corps
I&L 2030	Installations & Logistics 2030
IDIQ	Indefinite Delivery/Indefinite Quantity
INDOPACOM	U.S. Indo-Pacific Command
KGL	Kuwait and Gulf Link Transport Company
KO	Contracting Officer
LAV	Light Armored Vehicle
LBA	Local Bilateral Agreement
LCE	Logistics Combat Element
LOGCAP	Logistics Civil Augmentation Program
LOM	Level of Maintenance
LVSR	Logistics Vehicle System Replacement
MAGTF	Marine Air Ground Task Force
MARCORLOGCOM	Marine Corps Logistics Command
MARFORPAC	Marine Forces Pacific
MAP-K	Marine Expeditionary Unit Augmentation Program–Kuwait
MCAGCC	Marine Corps Air Ground Combat Center
MCPP-N	Marine Corps Prepositioning Program–Norway
MCTL	Marine Corps Task List
MCTP	Marine Corps Tactical Publication
MEB	Marine Expeditionary Brigade
MEF	Marine Expeditionary Force
MET	Mission Essential Task
MEU	Marine Expeditionary Unit

MLR	Marine Littoral Regiment
MLSA	Mutual Logistics Support Agreement
MMC	Maritime Prepositioning Force Maintenance Cycle
MOU	Memorandum of Understanding
MPF	Maritime Prepositioning Force
MPS	Maritime Prepositioning Ship
MPSRON	Maritime Prepositioning Ship Squadron
MRAP	Mine Resistant Ambush Protected
MRF-D	Marine Rotational Force–Darwin
MRF-E	Marine Rotational Force–Europe
MRF-SEA	Marine Rotational Force–Southeast Asia
MTVR	Medium Tactical Vehicle Replacement
NATO	North Atlantic Treaty Organization
NDLO	Norwegian Defense Logistics Organization
NDS	National Defense Strategy
P	Policy
PEIs	Principal End Items
POP	Proof of Principle
PRC	People's Republic of China
PZCO	Phase Zero Contracting Operations
QASP	Quality Assurance Surveillance Plan
ROMO	Range of Military Operations
SC	Strategic Capability
SCS	South China Sea
SIF	Stand-In Forces

SLTE	Service Level Training Exercise
SP-MAGTF	Special Purpose Marine Air Ground Task Force
SOFA	Status of Force Agreement
SOP	Standard Operating Procedures
SOW	Statement of Work
SWOT	Strengths, Weaknesses, Opportunities, and Threats
TMDE	Test, Measurement, and Diagnostic Equipment
TSC	Theater Security Cooperation
TTM	Three Tier Model
TIFA	Trade and Investment Framework Agreement
UNCLOS	United Nations Convention of the Law of the Sea
USACE	U.S. Army Corps of Engineers
USARPAC	U.S. Army Pacific Command
USFPI	U.S. Force Posture Initiative
VFA	Visiting Forces Act
WEZ	Weapon Engagement Zone

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I. INTRODUCTION

This research was developed to aid Marine Corps Logistics Command (MARCORLOGCOM) in their pursuit of developing a Global Prepositioning Network (GPN) directed by Headquarters Marine Corps (HQMC). MARCORLOGCOM has directly requested assistance from the Naval Postgraduate School for research in this critical operational concept through the Naval Research Program.

A GPN is one of many developing concepts that HQMC, specifically the deputy commandant for installations and logistics (DC I&L), is leaning heavily on for future operational modernization. We investigate current and past Marine Corps prepositioning programs, as well as programs associated with equipment and logistics support, to extract best practices as they relate to the development of GPN and to develop a framework applicable to the further strategic positioning of future GPN programs. Additionally, we demonstrate the use of this framework to apply these best practices and highlight possible limitations in their use in sustaining a GPN site within the Philippines. This application provides Marine Corps executive-level decision-makers with a decision support matrix that can be used to shape the development of GPN initiatives, most notably with the commandant of the Marine Corps' specified task of establishing three GPN ashore sites within the Indo-Pacific region by 2025.

A. OVERVIEW

The 2022 National Defense Strategy (NDS) recognizes that the United States is currently in a critical period in global geopolitics in which the future trajectory of the international order will be determined. At the center of this significant shift are China's assertive and strategic actions on the global stage. The most comprehensive and serious threat to U.S. national security lies in the People's Republic of China (PRC) and its coercive and increasingly aggressive efforts to reshape the Indo-Pacific region and the international system to align with its interests and authoritarian preferences (Department of Defense [DoD], 2022). The PRC aims to undermine U.S. alliances and security partnerships in the Indo-Pacific region, utilizing its growing capabilities, including

economic influence and the expanding strength and military footprint of the People's Liberation Army (PLA), to coerce neighboring countries and threaten their interests.

One of the deterrence initiatives from the 2022 NDS is to continue key infrastructure investments in the Indo-Pacific and coordinate with the Department of State to expand access into the region (DoD, 2022). As the Marine Corps undergoes a shift from the Global War on Terrorism (GWOT) and returns to its roots as a maritime force, it aligns itself with this NDS initiative. The Marine Corps is currently prioritizing the enhancement of alliances, interoperability, and the establishment of a network security architect in the Indo-Pacific. These efforts aim to deter aggression, maintain stability, and ensure free access to common domains (DoD, 2022). In tomorrow's contested operating environment, the status of the Marine Corps prepositioning program, which served the United States well in the GWOT era, is no longer suitable due to the rapid technological advancements and the changing character of war within the information age.

The prepositioning programs have played a crucial role in supporting a wide range of the Marine Corps' overseas operations, enhancing both the military capabilities and diplomatic influence of the United States and its allied partners. Within the strategic logistics framework of the Marine Corps, the prepositioning programs stand as pivotal enablers, underpinning the assured provision of vital equipment and supplies to advanced deployment zones. As the Marine Corps evolves and adapts to the future of competition and conflict, logistics will remain a critical element of combat, requiring continuous technological advancement to support expeditionary advanced base operations (EABO). To achieve and maintain logistics superiority over competitors, the Marine Corps will need to fundamentally change the way forces are sustained (Marine Corps, 2023). In the event of a conflict in the Indo-Pacific region, it is expected that the environment will be non-permissive, preventing the entry of strategic-level sustainment resources. As a result, there will be a need for prepositioned supplies and equipment to sustain forward-deployed forces (Commandant of the Marine Corps [CMC], 2023). Spearheaded by DC I&L, the effort to modernize the prepositioning program is directed to be conducted through the GPN, which integrates afloat and ashore capabilities for day-to-day campaigning, rapid crisis response, and deterrence operations (Marine Corps, 2023).

To ensure the highest level of readiness across the competition continuum and deter adversary aggression within the region, the Marine Corps intends to establish multiple GPN sites within the Indo-Pacific region by September 2025. Establishing a GPN site in the Philippines, a strategically positioned ally in the region neighboring Taiwan and China, is a viable solution. However, several factors remain to be assessed to support the infrastructure, personnel, equipment, and strategic assets required to operate a GPN site within the Philippines.

B. PURPOSE

The objective of this study is to create a comprehensive framework that identifies best practices for supporting and maintaining a GPN site. This framework can be applied to evaluate future host-nation (HN) sites, considering the unique characteristics and requirements of each program. It aims to assess the feasibility of employment and support, as well as the strategic value derived from establishing a GPN site. The framework developed in this study is rigorously applied to the Philippines as a proof of concept to assess the framework's effectiveness in informing decision-making for the development of a GPN site in the region. Additionally, we explore the potential for using this framework to analyze and evaluate future GPN sites, while considering their unique characteristics and requirements.

C. SCOPE

We aim to identify the critical elements that would enable a GPN site in the Philippines, with the objective of deterring threats and strengthening interoperability with U.S. allies and partners. For this study, referred to as a GPN supportability analysis, we utilize a qualitative analysis of policies, contract methodologies, and strategic capabilities to provide practical recommendations to improve the site's effectiveness. Specifically, we focus the analysis on examining the policies between the host nation (HN) and the United States, contracting methods that facilitate maintenance and operations, and the capabilities provided to the combatant commander (CCDR) and Marine Air Ground Task Force (MAGTF) to operate across the range of military operations (ROMO). By identifying similarities and differences in these areas, we aim to propose actionable

recommendations for enhancing the GPN site's supportability and its contribution to regional security and cooperation.

D. BACKGROUND

China's rapid escalation of advancing military capabilities, global economic trade, and expanding territorial reach threatens the United States' status as a superpower and the preservation of international world order. Conversely, China considers the United States its primary competitor and has developed a national strategy to become the next superpower (DoD, 2022). The PRC's provocative rhetoric and coercive actions towards Taiwan are destabilizing, risk miscalculation, and poses a threat to the peace and stability of the Taiwan Strait (DoD, 2022). This behavior is part of a broader pattern of destabilizing and coercive acts by the PRC, extending across the East China Sea, the South China Sea (SCS), and the line of actual control (DoD, 2022).

As the threat of competition and conflict rises, the U.S. Navy and Marine Corps have begun shifting both their design of the organizational structure and their means of deploying troops and equipment. The 2022 NDS builds on the 2018 Force Planning Construct, enhancing capabilities to compete with the growing threat posed by China and aiming to deter aggression and ensure readiness to prevail if competition transitions to conflict.

China has thoroughly researched and developed a counter logistics approach to be executed in the event of war with the United States (Walton et al., 2019). Chinese campaign concepts involve conducting preventative or preemptive strikes on U.S. large-standing logistics installations and facilities to achieve a strategic and operational surprise and deny U.S. warfighting capabilities (Walton et al., 2019). The U.S. Navy and Marine Corps face a strategic competitor with naval capabilities that rival one another and a determination to challenge U.S. principles, alliances, and prosperity (United States Naval Institute [USNI] News, 2021). The Secretary of the Navy (SECNAV) Carlos Del Toro has identified the development of new concepts of operations and capabilities as his top priority to strengthen deterrence and enhance warfighting advantages against the PRC (USNI News, 2021; SECNAV, 2021).

In the initial publication of the Marine Corps' Force Design 2030, the CMC (2020) outlines the need for a wider range of force options and capabilities (CMC, 2023). One of these options is to establish a network of prepositioned equipment and supplies to maintain a globally deployable force capable of rapid response (CMC, 2023). The Marine Corps intends to expand GPN by integrating afloat and ashore capabilities to enable day-to-day campaigning, rapid crisis response, and deterrence (CMC, 2023).

The primary intent of any prepositioning program is to expedite the force deployment and combat power build-up of Marine Corps forces by providing access to a stockpile of equipment and supplies necessary to respond and compete across a full ROMO. Prepositioning equipment and supplies offers the CCDR flexibility to establish a forward presence and sustain combat operations during the initial stages of a conflict or crisis. The Marine Corps currently maintains several prepositioning programs distributed across multiple regions, enabling rapid crisis response, global reach, and forward presence.

The programs include three prepositioned programs, a forward rotational deployment program, and a robust training-oriented program based within the United States:

- the Marine Corps Prepositioning Program–Norway (MCPP-N), located within U.S. European Command (EUCOM),
- the recently deactivated Marine Expeditionary Unit Augmentation Program–Kuwait (MAP-K), formerly located within U.S. Central Command (CENTCOM),
- the Marine Rotational Force–Darwin (MRF-D), located within U.S. Indo-Pacific Command (INDOPACOM),
- the Maritime Prepositioning Force (MPF) afloat under Military Sealift Command, and
- Exercise Support Division (ESD), a training-oriented organization at Marine Corps Air Ground Combat Center (MCAGCC).

The effectiveness of prepositioning programs has been validated through operations such as Desert Shield (Persian Gulf), Restore Hope (Somalia), and Iraqi Freedom (Headquarters Marine Corps [HQMC], 2015). The concept of MPF employment is no longer sustainable due to the changing operating environment and the threat capabilities possessed by the PRC exercising sea supremacy within the first island chain

(FIC). This threatens the freedom of movement for fly-in-echelons from current prepositioning sites or MPF offloads. It is necessary to examine the ROMO that would enable the establishment of a prepositioned site in the Philippines, considering regional, geopolitical, and economic disparities compared to prepositioned sites in partner nations such as Norway, Australia, and Kuwait. This presents challenges in the employment of current prepositioning programs, which are staffed by government, civilian, and contracted mariners who lack defensive capabilities (Bergen, 2019).

Distribution of prepositioned sites within a region enhances survivability from adversary threats and enables redundancy that would build a more resilient supply network. However, this redundancy comes with tradeoffs in efficiency and cost-effectiveness. The future operating environment calls for an examination of which elements could be extracted from the aging prepositioning programs and what recommended improvements would prove successful if integrated into a modernized GPN site within the Philippines.

In the CMC's initial Force Design guidance, the CMC initiated the development of a new organization called the Marine Littoral Regiment (MLR) with a renewed emphasis on conducting naval expeditionary warfare within a contested maritime domain (Marine Corps, 2020). The MLR possesses capabilities such as operating within expeditionary advanced base operations (EABO), strike operations, air and missile defense operations, maritime domain awareness support, naval surface warfare operations support, and information operations support (Congressional Research Service, 2022). The Marine Corps activated the first of three MLRs, designated as the 3rd MLR, in March 2022 (Scudder, 2022). The MLR is to serve as a Stand in Force (SIF) within EABO, acting as a strategic component to deter aggression within a contested maritime domain.

During Exercise Balikatan, an annual exercise with the Republic of the Philippines, the 3rd MLR received equipment and supplies transported via sealift and airlift capabilities to support operations within a permissive operating environment. To prepare for a future non-permissible combat environment, it is crucial to develop a prepositioning model that can support an MLR equipment set in the Philippines for rapid force build-up. The development of new contracting frameworks must be assessed based

on the current limitations of the Mutual Defense Treaty and the Enhanced Defense Cooperation Agreement (EDCA) with the Philippines. These aspects are critical for analyzing the supportability of a GPN and must be flexible and sustainable with the available resources in the Philippines to deter enemy aggression and strategic competition. There is currently much speculation about what the Marine Corps desires from a GPN site, influenced by the experiences of the various prepositioning programs mentioned previously.

Within the 2023 update to the Force Design 2030 initiatives, Marine Corps Logistics Command in partnership with the GPN Tri-Chairs consisting of the Plans, Policies, and Operations Branch (PP&O), Installations and Logistics Branch (I&L), and Combat Development and Integration Branch (CD&I), are directed to establish three GPN sites within the Indo-Pacific (Marine Corps, 2022). Based on this directive, we selected the Philippines as a strategic region of interest within the Indo-Pacific that the Marine Corps would find value in as one of the three GPN sites. This stems from the progressive increase in diplomatic relations emerging from United States–Philippines diplomacy and the enhanced capability for Marine Corps forces to rapidly respond to contingencies and humanitarian assistance/disaster relief (HA/DR) operations that are common throughout the Indo-Pacific region. Additionally, the establishment of a GPN site ashore in the Philippines solidifies the commitment both nations have in ensuring peace and stability throughout the region in support of interoperability and theater-security cooperation exercises such as annual bilateral exercises like Balikatan or Kamandag.

E. MARINE CORPS EQUIPMENT AND TRAINING PROGRAMS

Our analysis focuses primarily on officially designated prepositioning programs, rotational deployment equipment programs, and a training exercise equipment program operated by the Marine Corps. This collection of programs will be referred to as the "five programs" throughout this study. Below, we provide a succinct description of the five programs, the capabilities afforded to the CCDR and the respective HN, and the strategic positioning of the program as indicated in Figure 1. These programs include:

1. MCPP-N: An agreement stemming from the U.S. government and the Government of the Kingdom of Norway in 1981, MCPP-N is comprised of a series of cave networks and airfields in the Troendelag region of Norway. MCPP-N serves as the premier ashore-component prepositioning site providing for a global response capability to the U.S. Marine Corps capable of enabling the Marine Air Ground Task Force (MAGTF) with the equipment and supplies to respond across the ROMO.
2. MAP-K: Established in 2010 at Camp Arifjan, Kuwait, this equipment storage program augmented Marine Corps forces operating in CENTCOM with the theater-specific equipment necessary to combat the threat of improvised explosive devices encountered during combat operations within Iraq and Afghanistan. This enabled critical forward-deployed, protected up-armored mobile assets prepositioned in the theater for the operating forces to use upon arrival.
3. MPF: The first Marine Corps prepositioning program established in the late 1970s, MPF provides two Maritime Prepositioning Ship Squadrons (MPSRONs) with the capability to support a Marine Expeditionary Brigade (MEB) with the equipment and supplies necessary to conduct military operations for up to 30 days. MPF is unique in that it is an afloat prepositioning program that projects rapid response capabilities globally, enhancing the Marine Corps' ability to remain flexible and agile.
4. MRF-D: In partnership with the Commonwealth of Australia and the U.S Government, MRF-D was established in 2011 to integrate Marine Corps rotational forces with the Australian Defense Force, enhancing regional stability and bilateral operations between the two nations.
5. ESD: Located aboard the premier training grounds of Marine Corps Air Ground Combat Center (MCAGCC), ESD provides Marine Corps units with the necessary equipment and logistical support services to conduct Service Level Training Exercises (SLTE) aboard the installation, validating and certifying unit-level skills prior to deployment.

Figure 1. World Map with Program Locations. Source: Authors.

Of the five programs, three are prepositioned sites, one is a forward-deployed rotational gear set and one is a U.S.-based exercise training program. Unlike the forward positioned programs, ESD is not a prepositioning site intended for real-world application and use across the ROMO. Rather, it is purely a training and exercise-oriented program to ease the logistical burden of training units coordinating the transportation of organic equipment. Regardless, the employment and operational efficiency conducted aboard ESD should be analyzed as their application could lead to desired future prepositioning site concepts of GPN.

F. RESEARCH BACKGROUND

As part of the Naval Research Program, organizations across the Department of Defense can submit topics or areas of study that may be of interest to students at the Naval Postgraduate School. Through an assessment of topics listed on the Naval Research Portal, Marine Corps Logistics Command (MARCORLOGCOM) submitted a topic regarding a GPN supportability analysis. The areas of focus were wide in scope and

expanded across various geographical regions. Of those regions and associated elements, we formulated the following research questions:

1. Research Questions

- What are the key elements of the different Marine Corps prepositioning programs that can be extracted to effectively develop a suitable GPN ashore site?
- Of the key elements identified as optimal for GPN, which are applicable to the Philippines?
- Can an applicable framework be developed that evaluates the compatibility of GPN sites and their application into other geographical areas?

2. Research Approach

To address the research questions and identify the key elements of the five programs, it was crucial for us to carefully adopt the appropriate methodology. The intricate and diverse nature of each program necessitated a comprehensive examination of methodologies. We promptly recognized the criticality of selecting a fitting methodology, one that enables a clear analysis of qualitative data, minimizes bias, compares strengths and limitations, and yields valuable outcomes.

By conducting a thorough examination of various methodologies, we aimed to identify an approach that not only provides a robust structure but also enables us to overcome the limitations in analysis quality and minimize the potential for bias. Our goal is to adopt a methodology that strikes the right balance, allowing for a comprehensive and objective analysis of qualitative data while minimizing the influence of non-expert perspectives.

Furthermore, we emphasize the significance of understanding the research objectives and identifying the key elements that need to be addressed. By doing so, we can ensure that our methodology aligns with the research goals and facilitates the extraction of essential information to provide well-informed recommendations, facilitating effective decision-making.

3. Research Deliverables

The development of this framework will provide valuable insights for Combat Development and Integration (CD&I) and Installations and Logistics (I&L) to effectively assess future prepositioning sites. This methodology approach provides many valuable aspects to the relevant stakeholders and decision makers involved with GPN. Additionally, this framework can be implemented for future research of suitability and applicability of new regions.

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II. LITERATURE REVIEW

The changing operating environment of the 21st century urges the Marine Corps to assess its prepositioning programs, or rather, adapt a modernized GPN model to contest in a non-permissible environment given how the current naval logistics and sustainment mechanism are not ideal to extend support operating within the weapon engagement zone of U.S. adversaries. Our research seeks to inform the best implementation strategy for sustaining and supporting prepositioning sites in the Philippines.

A. OVERVIEW

This chapter is composed of an in-depth literature review that provides the reader with a collective understanding and background of prepositioning programs, rising threats in the region, and analytical frameworks implemented in our study. This chapter engages content spanning across the adoption of prepositioned sites and examples of its employment, contested logistics in the maritime domain, the Marine Corps' commitment to a force design concept, and lessons learned from operations and exercises conducted within the Pacific. Additionally, the methodology approach and structure are detailed to contrast the rigor behind the analytical approach. The material discussed is critical to understanding the current state of the warfighting organization, identifying actions and lessons learned that can be utilized to enhance our logistics enterprise and lethality within the littorals.

1. Fundamentals of the Maritime Prepositioning Force

MPF enables a CCDR to deploy a MAGTF, a Navy Support Element, and a Maritime Expeditionary Security Force unit, along with selected equipment, into an Arrival and Assembly Area. This operation allows them to join with equipment and supplies carried aboard a Maritime Prepositioning Ship (MPS). The CCDR gains deployment flexibility and an increased capability to rapidly respond to a crisis or contingency with a credible combat force.

Executing an MPF operation depends on the specific needs and requirements. It may involve one MPSRON interacting with a forward-deployed Marine Expeditionary Unit (MEU) or even both MPSRONs operating together to employ the full capabilities of the MPF to equip a Marine Expeditionary Brigade (MEB).

The MPF is part of a rapid response capability triad, which includes the Global Response Force and forward-deployed amphibious forces. Each component of the triad can be utilized separately or integrated to enhance a CCDR's options. An MPF operation serves as an economy of force measure, allowing the deployment of an appropriate force in the event of a crisis.

The Marine Corps' MPF concept and employment differ from those of the sister services. MPF can transition from a focus on major combat operations to a more scalable option that supports limited employment of forces. This is achieved through the selective offload of tailorable sustainment packages and at-sea transfer of personnel and equipment necessary to support both conventional and Special Operations Forces. MPF provides a tailored employment option for low-spectrum operations while retaining high-end deployment capability, enabling scalability across the full ROMO.

It is important to note that while the MPF can augment amphibious operations, it is not a substitute as it lacks forcible entry capability. Therefore, an MPF operation is not intended to replace amphibious forces but rather to rapidly augment a forward deployed MAGTF, an ongoing amphibious operation, or another joint, multinational, or combined force operation in an uncontested environment.

Overall, the MPF operation is a vital component of the U.S. military's rapid response capability. It enables the deployment of a credible force in a timely and flexible manner to address unforeseen contingencies and crises.

2. United States–Philippine Relationship

Since 1951, the United States and the Republic of the Philippines have maintained a long-standing cooperative relationship through the signing of the Mutual Defense Treaty. The common goal of this treaty is to maintain free and unrestricted access around Southeast Asia and preserve peace and stability in the region. During the Cold War era,

the countries strategically maintained military relations in response to the Soviet Union threat. This led to the establishment of two military bases, namely Clark Air Base and Naval Base Subic Bay, both located on Luzon Island. However, after the dissolution of the Soviet Union in 1991, both bases were decommissioned because of an impasse on negotiations and ultimately reduced the U.S. ability to maintain influence over the region (Sanger, 1991).

To re-strengthen the U.S. Philippines alliance, the Visiting Forces Act (VFA) was enacted in 1998. This act simplified the legal procedures for U.S. military forces to access the country under official business and established uniform procedures for resolving disputes involving servicemember activity (Schaus, 2020). Under the administration of Philippines President Benigno Aquino II in 2014, the EDCA was signed. This agreement authorized U.S. forces to establish five locations in the Philippines for cooperation exercises, joint and multilateral training opportunities, and humanitarian assistance and disaster relief operations (Department of State, n.d.). These initial EDCA installations include Benito Ebeun Air Base in Cebu, Lumbia Airfield in Cagayan De Oro, Fort Magsaysay Military Reservation in Nueva Ecija, Cesar Basa Air Base in Pampanga, and Antonio Bautista Air Base in Palawan as depicted in Figure 2 (Chang, 2023).

Figure 2. Original EDCA locations. Source: U.S. Embassy Manila (2022)

In 2016, Rodrigo Duterte succeeded Aquino as president of the Philippines and posed a threat to the shared political landscape between the United States and the Philippines. Duterte's administration weakened its relations with the United States and instead sought to develop stronger economic and diplomatic relations with Russia and China. During his presidency, Duterte threatened to terminate the VFA which would have

resulted in the withdrawal of U.S. forces from the island and jeopardize the U.S. defense and security posture in the region. Fortunately, the contention around the VFA was resolved in 2021 although diplomatic tensions lingered between the United States and Duterte's administration (Schaus, 2020).

In 2022, Ferdinand Marcos succeeded Rodrigo Duterte as the current president of the Philippines and restored the cooperative relationship between the United States and the Philippines. Under Marcos's administration, diplomatic relations were strengthened and efforts to combat the rising threat of Chinese Communist Party aggression in the region were expanded. In 2023, Marcos announced further expansion of the initial EDCA agreement authorizing the establishment of four additional bases for U.S. military forces in the Philippines (Chang, 2023). This increased the total number of U.S. military installations since 2014 to nine, including the recent additions of Lal-lo Airport and Naval Base Camilo Osias in Cagayan, Camp Melchor Dela Cruz in Isabella, and Balabac Island in Palawan.

The resurgence of U.S. presence in the Philippines is a response to the 2022 Indo-Pacific Strategy, which aims to solidify ties with partner nations within the region. The strategy emphasizes building upon and enhancing treaty alliances with countries such as Australia, Japan, the Republic of Korea, Thailand, and the Philippines (The White House, 2022). It focuses on generating a collective effort to deter aggression from the PRC across various domains, including economic, diplomatic, military, and technological competitions. One of the central objectives of the Indo-Pacific Strategy is to bolster security in the region through integrated deterrence across all warfighting domains. This involves developing new concepts of operations, building resilient command and control networks, increasing the scope and complexity of joint exercises and operations, and pursuing diverse force-posture opportunities with partners and allies (The White House, 2022).

An annual bilateral exercise known as Exercise Balikatan, or "shoulder-to-shoulder" in Tagalog, the native language of the Philippines, highlights the shared devotion and commitment to the alliance between the U.S. military and the Armed Forces of the Philippines. Exercise Balikatan focuses on enhancing maritime security,

amphibious operations, live-fire training, urban operations, aviation operations, counterterrorism, and humanitarian assistance and disaster relief (U.S. Embassy the Philippines, 2022).

3. US–China International Law Disputes in the South China Sea

The paper titled *US-China International Law Disputes in the South China Sea* provides an in-depth analysis of the territorial disputes and international law implications in the SCS (Marek, 2021). Commander Jon Marek, U.S. Navy Reserves, is assigned to the Air War College, Air University at Maxwell Air Force Base and authored this paper for a National Security Law Course. It highlights the concerns raised by China's incremental expansion and territorial claims in the region, which have significant implications for the Philippines' Exclusive Economic Zone (EEZ).

The SCS serves as a vital route for global trade with trillions of dollars' worth of trade goods passing through it annually. Furthermore, a significant percentage of crude oil destined for Japan, Taiwan, and South Korea transits through this area. As such, any disputes or challenges to international law in the SCS have direct implications for the economic and strategic interests of countries in the region, including the Philippines.

The United States has played a crucial role in enforcing international law in the SCS, particularly through its Freedom of Navigation (FON) operations. These operations aim to assert the right to freedom of navigation and overflight in China's EEZ and challenge China's claims represented by the nine-dash line. China furthers its claims to the nine-dash line, seen on Figure 2, by constructing various artificial features through dredging in the Spratly and Paracel Islands (Marek, 2021). The United States, despite not ratifying the United Nations Convention on the Law of the Sea (UNCLOS), has consistently supported UNCLOS principles and relied on customary international law to address China's violations.

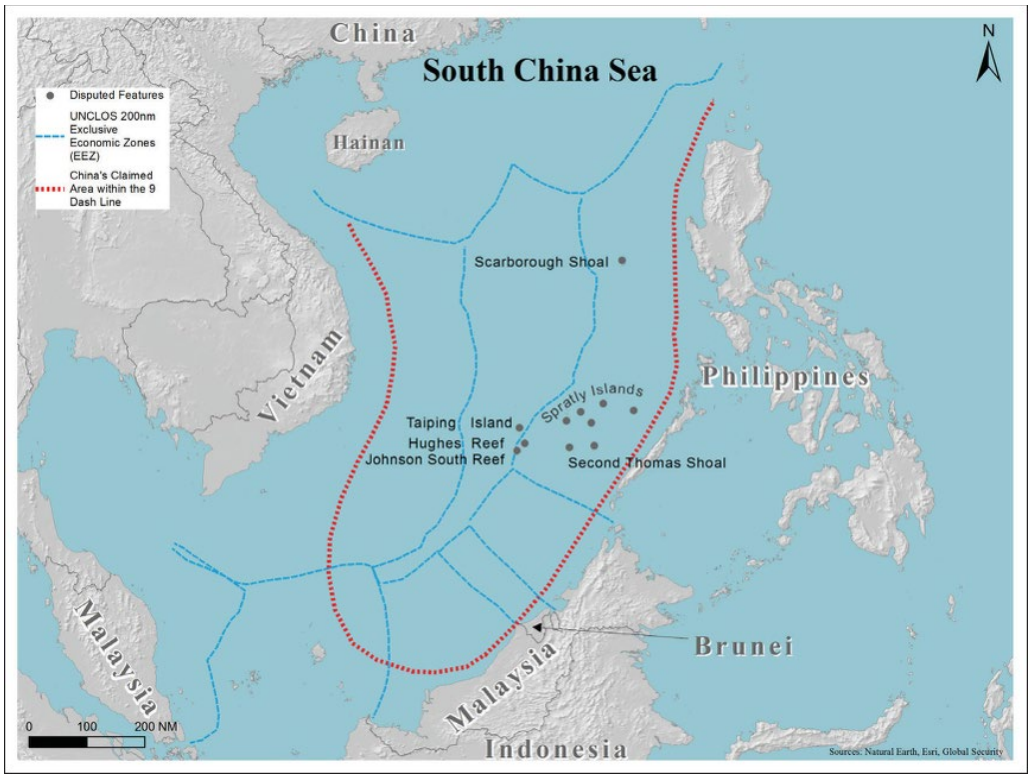

Figure 3. China's Claimed Territorial Waters and UNCLOS Recognized Exclusive Economic Zones in the South China Sea. Source: (Marek, 2021).

China's nine-dash line claim, which encompasses significant portions of the SCS including disputed territories within the Spratly Islands, Paracel Islands, and Scarborough Shoal, directly impacts the Philippines' EEZ. As a coastal nation, the Philippines is entitled to an exclusive economic zone extending 200 nautical miles from its coast. However, China's expansive claims infringe upon the Philippines' rights and have led to tension between the two parties.

The impacts of China's claims on the Philippines' EEZ have been evident through various incidents including harassment of Philippine vessels, interference with fishing and petroleum activities, and near-collisions at sea. In 2016, a United Nations tribunal ruled that China had violated UNCLOS by operating within the Philippines' EEZ (Gallo et al., 2016). These actions by China have serious implications for the Philippines' economic activities, maritime resources, and national security.

The United States recognizes the significance of the Philippines' EEZ and the need to protect the freedom of navigation and international law and therefore has

increased its FON operations in the SCS. By challenging China's claims and conducting FON operations, the United States aims to preserve the legal balance of interests established in customary international law and ensure the rights of coastal nations, including the Philippines, are respected.

4. Commandant's Planning Guidance and the Global Prepositioning Network

In 2019, the CMC, General David H. Burger, published the 38th Commandant's Planning Guidance (CPG), which initiated an expansive developmental project that would prepare the Marine Corps for a future conflict with a near peer adversary. The CPG lays out several priorities for which force design was identified as wielding the greatest importance. The CMC states that "the current force is not organized, trained, or equipped to support the naval force operating in contested maritime spaces, facilitating sea control, or executing distributed maritime operations" (Marine Corps, 2019). Since the publication of the CPG, force design has driven a vast number of changes across the Marine Corps from divestment of legacy equipment to the emergence of the newly organized MLR. Additionally, the CPG specifically identifies the need to update the employment of the Marine Prepositioning Program due to the anticipated threat capable of a near-peer adversary within a future conflict. The Commandant commented, "For several decades, the MPF represented a competitive advantage for the Marine Corps. That is less the case today. During a major contingency, our MPF ships would be highly vulnerable and difficult to protect. We must be prepared to fundamentally alter this capability, as well as all the inventory currently programmed for inclusion with the MPF, as we rethink the future of this capability" (Marine Corps, 2019).

These comments drove the initiation of force design efforts using integrated planning teams to research and analyze challenges, develop solutions, and war-game said solutions to identify gaps and limitations within their planning. These planning teams have developed several concepts and publications including the *Tentative Manual for EABO* and *A Concept for Stand-in-Forces*. These documents identify the requirement for the current construct of the MPF to be updated to "enable forces conducting EABO to persist across the competition continuum by providing sustainment support via globally

positioned supplies until theater distribution networks open and materiel begins to flow via the [Joint Logistics Enterprise]" (HQMC, 2023). *A Concept of Stand-in-Forces* also identifies that logisticians need to provide a concept of logistics support that would encapsulate redundancy to allow the SIF to access logistics resources in multiple locations and providing flexibility if one resource is lost to an enemy attack (HQMC, 2021).

The latest updates to force design efforts have been disseminated through *Installations and Logistics 2030* (I&L 2030) and the *Force Design 2030 Annual Update for 2023*. The underpinnings of I&L 2030 are that the current Marine Corps Installations and Logistics Enterprise are not prepared to support, let alone sustain, the concepts that the Marine Corps will conduct in a near-peer conflict. Within the same realm as I&L 2030, the Force Design Annual Update continues to direct the logistics warfighting function to formulate concepts for sustainment and establish nodes for sustainment within the next five to 10 years. In the last report in 2023, these initiatives had resulted in "an implementation plan with near term actions to support day-to-day campaigning and response to crisis or conflict" (CMC, 2023). Now, the next step is for several executive-level agencies within the Marine Corps to source equipment for the GPN sites by September of 2023 and to establish three ashore sites in the Indo-Pacific theater by 2025. (CMC, 2023). These tasks will continue to refine the requirements for GPN across the spectrum of logistics for the Marine Corps and have a direct impact on the GPN sites within the Philippines.

5. Using Framework Analysis in Applied Qualitative Research

For context into this methodology literature review, we initially utilized Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis framework to gather data. This framework proved effective in organizing and framing problems by analyzing internal and external elements. However, we acknowledged the limitations of a SWOT analysis, particularly its static analytical approach and lack of output.

To address these limitations, we incorporated a multiple criteria decision-making method called Analytical Hierarchy Process (AHP). AHP is a systematic evaluation

model that helps solve decision dilemmas involving subjectivity, ambiguity, and uncertainty (Taylor, 2018). By integrating AHP into our methodology, we aimed to enhance the objectivity and accuracy of our analysis.

During the implementation of our methodology, we encountered challenges with subjectivity in the opportunities and threats section derived from the SWOT analysis. Analyzing the strengths and weaknesses of the program was straightforward and direct, however the opportunities and threats analysis proved to be rather subjective as it relied on factors that could only be derived from those internal to the organizations. This introduced potential bias and influenced interpretation.

To address these concerns, we explored the "Framework Analysis" in applied qualitative research.

In the 1980s, co-creators Jaine Ritchie and Liz Spencer drew from multiple methods and traditions in qualitative research to develop the "Framework Analysis" which is an approach to qualitative data analysis that provides targeted answers about specific populations and ease of application to policy and practice (Ritchie & Spencer, 1994). Goldsmith wrote about the validity and effectiveness of Framework Analysis in applied qualitative research. She conducted a comprehensive exploration of Framework Analysis as an analytical process in applied social policy research and identified strengths and limitations of Framework Analysis affirming its position within the realm of qualitative research.

Laurie Goldsmith began by highlighting the growing popularity of Framework Analysis in recent years and its systematic approach to managing, reducing, and analyzing large qualitative datasets. A framework approach to qualitative data analysis provides targeted answers about specific populations and ease of application to policy and practice (Ritchie & Spencer, 1994). Goldsmith emphasized the relevance of Framework Analysis in applied research projects that seek to address specific research questions rather than delve into abstract theory.

Goldsmith outlined the five key steps involved in Framework Analysis: familiarization, identifying a thematic framework, indexing, charting, and mapping and interpretation. These steps are also illustrated in Figure 3. One of the Framework Analysis's key strengths is its systematic and transparent nature, which enhances the

rigor of the analytic process and increases the validity of the findings. The flexibility of Framework Analysis is also noted, as it can be used with various theoretical perspectives. Additionally, the method enables us to effectively manage larger datasets, ensuring thorough analysis of all data. The focus on answering specific research questions makes Framework Analysis highly relevant and actionable in applied research settings.

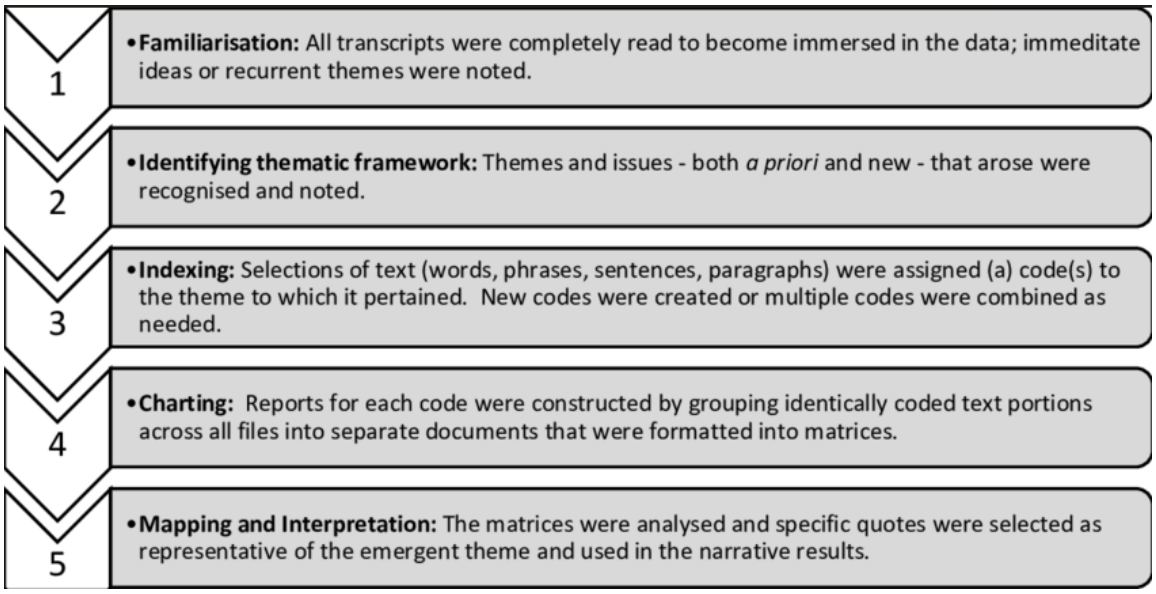

Figure 4. Framework Analysis steps. Source: (ResearchGate n.d.)

However, Goldsmith also acknowledged some limitations of Framework Analysis (Bryman, A., & Burgess, B., 1994). There is a potential risk of oversimplification, as the richness of qualitative data may be lost when condensed into a framework. Framework Analysis is less suitable for theory development, as it focuses more on specific research questions rather than generating new theoretical frameworks.

Despite its limitations, Framework Analysis remains a valuable tool for researchers, offering a structured, transparent, and flexible method for analyzing qualitative data. Its ability to manage large datasets and respond to specific research questions makes it particularly suitable for applied research projects aiming to achieve tangible outcomes. Framework Analysis has a long and successful record of accomplishment for better understanding of policy issues and social problems to help policymakers, service-deliverers, and other knowledge users with improving program design and decision-making (Goldsmith, 2021). By following Goldsmith five steps to

develop a framework, we believe the target audience will better understand the strengths and limitations of each prepositioned program.

6. Mercer Index

The research team required a tool to compare each program in a fair and objective manner. In our search, we discovered the Mercer Index.

The Mercer CFA Institute Global Pension Index (Mercer Index) is an analysis of social pension programs across the world. This analysis provides a comparison and ranking of these pension programs based on three sub-indices—adequacy, sustainability, and integrity—as seen in Figure 5. Each of the sub-indices are weighted by their respective importance as they relate to retirement systems.

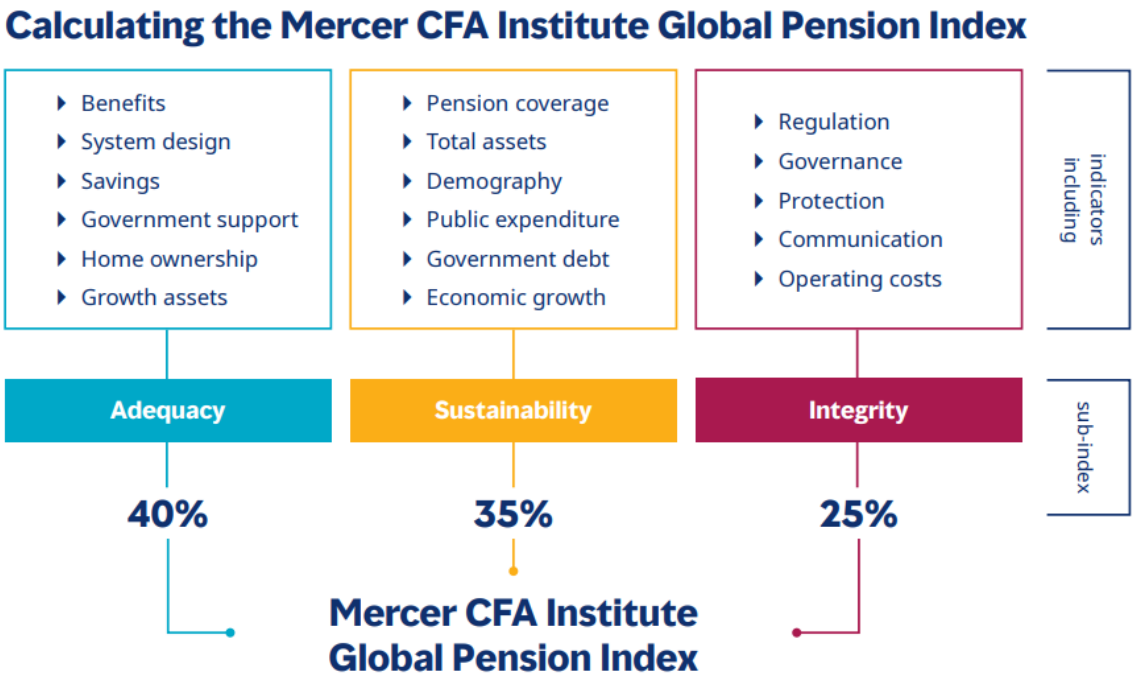

Figure 5. Weighted Indices. Source: Australian Center for Financial Studies (2010)

The primary purpose of the social pension program report was to benchmark each retirement income system using more than 50 indicators. An important secondary purpose was to highlight shortcomings in each system and to suggest areas of reform that would provide more adequate retirement benefits, increased sustainability, and greater

community trust in the pension system. (Australian Center for Financial Studies [ACFM] 2010).

Since its inception in 2009, the Mercer Index continues to provide benchmarks for global pension systems. There are, however, challenges in comparing over 40 pension systems across cultures as is highlighted in the publication which states that the "structure and characteristics of pensions systems around the world exhibit great diversity with a wide range of features and norms. Comparison is not straightforward" (ACFM, 2010). There is validity, however, in comparison to identify the best courses of action that similar programs, specifically pension and social programs, provide to improve the failing or lack luster elements of other programs.

Mercer utilizes several different indicators within each of the sub-indices which are graded, totaled, and multiplied by the respective weight of each individual index as mentioned above. These indicators are promulgated based on a variety of different publications from organizations such as the World Bank which have identified the base requirements for pension programs. Mercer takes these publications a step further in identifying pillars of pension programs and aligning them with the sub-indices of adequacy, sustainability, and integrity. Each indicator is given a grade based on specific criteria, some of which are simple such as "yes" or "no" answers and others requiring percentages or gross totals.

The indicators are detailed with definitions and objectives for the indicator, a description of the calculations, and a commentary on the outcomes of the calculations throughout the analysis. Finally, Mercer provides realistic recommendations for each pension on where to improve and why those improvements are critical based on national pension program standards.

7. Operational Contract Support

The report titled "Operational Contract Support: Actions Needed to Enhance Capabilities in the Pacific Region" by the U.S. Government Accountability Office (GAO) sheds light on the existing challenges and the crucial need for an Operational Contract Support (OCS) plan to improve capabilities in the Pacific region (GAO, 2017). The

report highlights the issues faced by INDOPACOM in accounting for contractor personnel and vetting foreign vendors which rendered the necessity for an operational contract support plan to resolve inconsistencies in contract support in the region.

One of the key findings of the report is that INDOPACOM lacks a comprehensive process to account for contractor personnel in peacetime, resulting in inconsistencies and potential difficulties during emergency or contingency operations. Although the DoD requires the accounting of certain contractor personnel during contingency operations, the guidance is unclear for steady-state environments. Furthermore, the report highlights the absence of an interim organizational structure to oversee and manage OCS integration from tactical and strategic level area of responsibility.

To address these challenges, INDOPACOM established an interim OCS organizational structure through a pilot program intending to make it an enduring capability within the command's logistics directorate. The purpose of this structure is to integrate OCS across joint functions, including directorates dealing with personnel and intelligence. However, the report suggests that INDOPACOM's OCS organizational structure could have been more effective if it engaged all joint staff functions and various levels of organizations. By expanding the OCS organizational structure and integrating tactical, operational, and strategic level support, INDOPACOM can build upon the progress made during the pilot program.

INDOPACOM has made efforts to integrate OCS into key planning documents by developing OCS annexes for operational, concept, and campaign plans. One of the efforts is the Phase Zero Contracting Operations (PZCO) – The Three-Tier Model which is a credential-based personnel hierarchy for contracting officers (KO) and planning staff. It optimizes the integrative planning, coordination, and execution required for contingency and expeditionary operations at the tactical, operational, and strategic levels of the organization (Yoder, 2004). The absence of guidance clarifying the requirements-development process for OCS leads to a lack of crucial details necessary for determining OCS requirements for operations.

The GAO report highlights the critical need for an OCS plan to enhance operational contract support capabilities in the Pacific region. The report emphasizes the importance of accounting for contractor personnel, vetting foreign vendors, expanding the OCS organizational structure, and incorporating OCS into key planning documents.

B. LITERATURE REVIEW SUMMARY

In this chapter, we described the mission and utility of prepositioning programs and their integrated capabilities to support Marine Corps forces. Political relationship with the United States and the Philippines, including the rising PRC threat to our partners and allies, were outlined. We introduced and explained the justification of our methodology approach and the decision of adopting a hybrid approach that incorporates the sequential Framework Analysis to gather inputs for the index chart. By combining these various approaches, we aim to provide a comprehensive and rigorous analysis of the research data, yielding valuable insights and informed recommendations for decision-making. A thorough analysis of these concepts and challenges will aid the reader in visualizing the problem and bridging the knowledge gap to arrive at an insightful recommendation on how to best combat the complex challenges associated with GPN on host-nation soil.

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III. METHODS AND DATA

This research depicts a qualitative approach in the development and suitability of a GPN site ashore in the Philippines. During the analysis, we assessed five Marine Corps prepositioning programs including MCPP-N, MAP-K, MRF-D, MPF, and ESD.

To conduct our analysis of the five programs, we utilized a combination of the Framework Analysis for qualitative analysis and the methods developed by Mercer used in their annual Global Pension Index publication.

First, we began with the Framework Analysis method and identified a thematic framework that highlighted what we believed would be three critical themes for a GPN prepositioning site: policy, contracting method, and strategic capabilities. Within each theme, we continued to develop our framework and identified sub-categorical themes termed as "subcategories" that would be crucial to the analysis of the three themes. Once completed, we began indexing which is the "process whereby the thematic framework... is systematically applied to the data in its textual form" (Ritchie & Spencer, 1994).

During the transition between indexing and charting, we incorporated the methods used by Mercer in their pension index into the Framework Analysis. Like Mercer, we provided weights to each theme and grading criteria for each subcategory which, when aggregated, provided overall grades for each program. Charting involved the development of two tables: a GPN Grading Chart and a GPN Index Chart. Finally, the GPN Index Chart is elicited to provide mapping and interpretation of the data which are detailed in the concluding chapters to influence decision making in the development of GPN and establishment of a GPN site ashore within the Philippines.

A. DATA COLLECTION

The data collection was extracted through the parent commands of the associated prepositioning sites: Blount Island Command (BIC), Marine Corps Logistics Command (LOGCOM), Exercise Support Division (ESD), I Marine Expeditionary Force (I MEF), and III Marine Expeditionary Force (III MEF). Qualitative data was collected from each of these commands to identify similarities and differences between the prepositioning and

equipment storage programs under the command's purview. These programs include MCPP-N, MAP-K, MPF, ESD, and MRF-D. Qualitative data and correspondence about the Philippines and GPN were collected through CD&I. I MEF, and III MEF.

B. GLOBAL PREPOSITIONING NETWORK

Before beginning the analysis of the prepositioning programs, we determined that defining the problem was a primary step in identifying key elements of each program. The initial problem was drafting a clear definition of GPN so that the key elements of the current prepositioning programs could be identified and extracted.

With the latest publication of I&L 2030, the Marine Corps has loosely described GPN as a program that "integrates afloat and ashore capability to enable day-to-day campaigning, rapid response to crises and contingencies, and deterrence" (Marine Corps, 2030). We determined that this definition needed to be more precisely defined for our purposes of analyzing, extracting, and recommending key elements for establishing a GPN site.

Enhancing this definition led to dissecting the I&L 2030 phrase into three facets and establishing the sub definitions as seen in Figure 6. The GPN description from I&L 2030 has been segmented into the following components: 1.) Afloat and ashore capability to enable day-to-day campaigning, 2.) Rapid response to crises and contingencies, and 3.) Deterrence. The blue, green, and red colors are meant only for association of sub definitions with their parent definitions. The sub definitions labeled with association to their parent area (i.e., "1a" is the sub definition to Area 1) are:

(1a) Labor: The personnel available to conduct day-to-day operations, maintenance, and services, specifically the distinction between U.S. contracted citizens and HN citizens.

(1b) Infrastructure: Buildings, energy resources, and assets that are available for use to store, sustain, and survive within the area of operations.

(1c) Equipment tailored to mission: Equipment prepositioned to provide a rapid respond MAGTF capability across the ROMO that is agile, flexible, and scalable.

(2a) Six functions of logistics: The site must enable the six functions of logistics to include transportation, maintenance, supply, medical services, other services, and general engineering.

(2b) HA/DR supply stock: The ability to preposition supplies or rapidly requisition items to support and aid local citizens impacted by contingency or crisis.

(3a) Physical presence: The site must enable the projection of a credible Marine Corps force demonstrating the U.S. commitment to stability and cooperation alongside partners and allies as well as deterring adversaries from coercive and hostile acts.

(3b) Dispersion: The site must be distributed to ensure survivability and capable of integrating into the host-nation transportation network and distribution nodes.

(3c) Equipment composition: The site must be able to preposition a scalable and flexible equipment set that is relevant to the Marine Corps forces operating within the region.

(3d) Survivability: The site must be able to remain mission capable and resilient to the effects of climate, weather, and hostile acts.

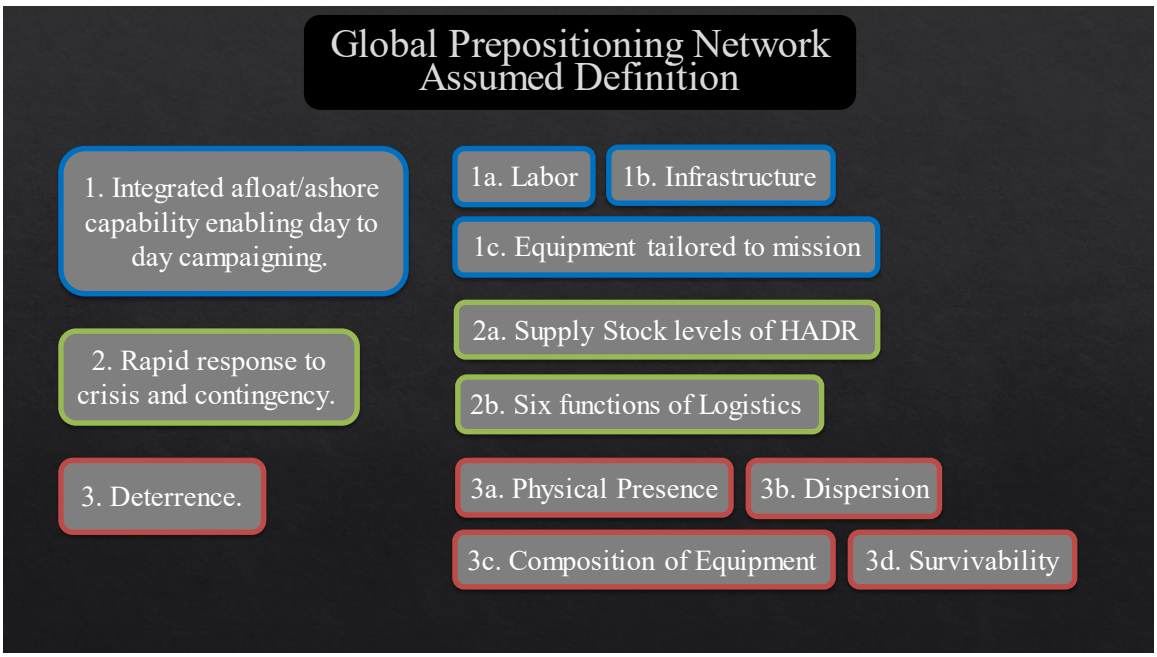

Figure 6. Global Prepositioning Network Definition and Characteristics. Source: Adapted from Force Design 2030 (May 2022)

C. METHODOLOGY PARAMETERS

This section delineates our process for merging the Framework Analysis and Mercer Index methods to provide the outcome of data driven decision support. As discussed previously, the Framework Analysis method has five steps, and this section defines our use and conduct of each step from data familiarization to mapping and interpretation. Finally, we describe at length how we utilized and tied the Mercer Index method during the indexing, charting, and mapping and interpretation steps of the Framework Analysis.

1. Data Familiarization

"As the first step in the analysis, data familiarization provides the researcher with an initial, purposeful understanding of the data." (Goldsmith, 2021).

To conduct data familiarization, we thoroughly analyzed foundational documents that initiated GPN and documents from each prepositioning program. GPN was analyzed through the careful analysis and revision of the Force Design 2030 publications, I&L 2030, and the CPG. The five programs each possess credible documents that elaborate on their mission, purpose, capability, scope, and processes.

A key feature for conducting data familiarization for this research was the collection of data to understand each program in a holistic view as well as the collection of documents with standardized formatting to compare similarities and differences. Taking a simplistic approach to this feature of data familiarization, we made notes on printed and electronic versions of the documentation and annotated similarities and differences within Excel worksheets to organize our findings. Table 1 illustrates a snapshot of our method of data familiarization with the MAP-K program as an example. We pulled specific quotes that were key details of the program, annotated notes for future consideration, and identified where the source of information originated.

Table 1. Data Familiarization Worksheet. Source: Authors.

	Quote	Notes	Source
MAP-K	The MAP-K is operated by a contracted workforce and has commodity personnel on-hand for maintenance, maintenance management and supply accountability.	Much like ESD	MAP-K Breif 28 Feb 2017
	The MAP-K can provide hands on training for maintenance and operation of equipment issued from the MAP-K to personnel, excluding the CVRJ's.	Could be important in an EAB/Contingency environment	MAP-K Breif 28 Feb 2017
	Army Material Command conducts maintance above field level	Costs are likely billed to the USMC/unit. Where is the AMC at?	MAP-K Breif 28 Feb 2017 (slide 4)
	Conducts annual PMCS on 1/3 of all assets on a 365 day schedule	Assets may be stored out doors, these are maintained on a 90 day cycle.	MAP-K Breif 28 Feb 2017 (slide 4)
	Leased warehousing space from Army Corps of Engineers	We could possibly contract/lease space from U.S./Filipino Armed Services. 300k sqft was approved for lease initially and later, in 2016, 300k more was leased.	MAP HIstory Slide Deck (Slide 4)

Our review of the data and documentation began to uncover several similarities as well as differences between the five programs as illustrated within the notes section of Table 1. These similarities and differences were easily tied to themes that could be effectively used to compare each program and derive their most successful elements.

2. Thematic Framework Identification

Thematic framework identification is the development of a "structure for the analysis and resulting interpretation" (Goldsmith, 2021). To develop our structure, we arrived at the determination that the themes which emerged most prominently during data familiarization were policy, contracting method, and strategic capabilities. These themes were selected based on factors analogous to each of the five programs and the definition and subcategories of GPN. The following are descriptions and justifications for selecting these themes.

Policy

Each of the five programs have distinct agreements, procedures, and operating policies that are both similar and unique to each program. These policies directly impact the effectiveness of each program and have critical cause-and-effect relationships with

program funding, equipment maintenance, and relationships with adjacent commands. As it relates to GPN, policy most closely aligns with the subcategories of labor, infrastructure, and physical presence. Policy is consistently associated with each program and GPN, which is the premise for establishing it as a theme for our framework.

Contracting Method

Contracting method was selected as a theme due to the implications that contracting operations have on the establishment and supporting functions necessary to operate and sustain a GPN site ashore. Contracting method most closely align with the GPN subcategories of labor, infrastructure, equipment tailored to mission, six functions of logistics, and HA/DR. The contracting methods are analyzed through the shaping actions conducted during PZCO including the contract support requirements necessary for the mobilization, buildup, and sustainment of forces.

Strategic Capability

Prepositioning programs, both afloat and ashore, enable the Marine Corps with a forward deployed capability to respond to contingencies and crisis as a credible rapid response expeditionary force. Elements inherent to enabling such a strategic capability consist of the composition of equipment and assets pre-staged, strategic posturing of prepositioned sites within operational theaters, contribution to interoperability and deterrence, and the ability to maintain and preserve prepositioned equipment. Strategic capability most closely aligns with the GPN subcategories of deterrence, survivability, six functions of logistics, HA/DR, and equipment composition.

3. Indexing and Charting

We combined the indexing and charting steps of the Framework Analysis method as the two allowed for an effective explanation of the synthesized knowledge when combined. We developed several charts that lay out the indexed information for thorough analysis, understanding, and further interpretation. We conducted the indexing by filtering data collected from the five programs through the themes and their subcategories. An example chart of our approach to indexing data, which aligns with the

framework analysis method, is illustrated in Table 2. Within the table, Policy is associated with red, Contracting Methods in green, and Strategic Capability in blue.

Table 2. Sample Indexed Data Incorporated in Chart View. Source: Authors.

Theme	Sub-Category	Program
		MCPP-N
Policy	State to State Agreement(s) that enable preposition site - what government agreements were/are established that impact program execution?	- Poilcy has origins in NATO - Contributes to "strengthening the success and stability of Norway and the region" (Norway-Defense-SDCA pdf, pg 5) - Norweigan goverment made signifacnt promises: - Provides unimpeded access/use of "Agreed Facilities and Areas for a mirade of different events/uses - Ensures that Norweigan authorities provide "reasonable" support to provide access to public and priveate land/facilities (roads, ports, airfields) without cost - Take special measures to ensure protection, safety, and security of U.S. forces/contractors/dependants, preposition materials, and Official U.S. Information.
Contracting Method	What Operational Contract Structure supports the preposition program to enable six functions of logistics and fair labor between the US and Host Nation?	Contract by negotiation was solicited in 2019 (M67004-18-R-0014) in March 2018 with the scope requiring a full range of logistics services ISO the three Marine Corps. Prepositioning Programs: the MPS Program, MCPP-N and MAP-K. The SOW dilineates work to be performed by the contractor for maintenance of equipment and material mgmt such that required assets are attained, preserved, packaged, and available. Contract type is Cost-Plus Fixed Fee IDIQ with a ceiling of $949M over an 8-year ordering period. Task orders are executed from the IDIQ as specific requirements are identified with task orders issued under this contract
Strategic Capability	Force Package - What equipment set is avilable at the location?	**Prepo Hndbk Pg 27** - 1.) Equipment and supplies are stored and maintained in 6x caves and 2x storage facilities co-located with Air Stations in the Troendelag region of central Norway. 2.) Harsh climate prevents outdoor storage / maintenance. 3x caves for all ground equipment and supplies, 2x dehumidified storage buildings for aviation support equipment, 3x caves for air / ground munitions. 3.) Transportation considerations from cave locations to rail heads and ports are generally accessible and range from 3-130 miles. 4.) Prepositioned equipment established in European theater for strategic and operational requirements.

This filtered data transitioned to usable information that allowed us to apply the Mercer Index method of comparison and grading. To do so, we developed the chart illustrated in Table 3, which distinguished the GPN characteristics that are associated with the subcategory, the description, grading, and justification for each grade. This approach offered a framework structure to evaluate qualitative information.

Table 3. Illustration of Mercer Index Chart. Source: Authors

Preposition Program (X)					
Sub-Category Question		GPN Characteristics	Description	Grading	Justification for Grade
Policy	What government agreements were/are established that impact program execution?	Physical Presence / Composition of Equipment / Infrastructure / Labor	Quotes, policy article names, specific verbage that supports the Sub-category theme question	X	A grade of "x" because of x, y, z. Reference specific information and how it relates to the justification and grading for sub-category theme.
Contract Method	What Operational Contract Structure supports the preposition program to enable six functions of logistics and fair labor between the US and Host Nation?	Six functions of Logists / Supply Stock levels of HADR / Labor	Quotes, policy article names, specific verbage that supports the Sub-category theme question	X	A grade of "x" because of x, y, z. Reference specific information and how it relates to the justification and grading for sub-category theme.
Strategic Capability	**What capabilities does the equipment set provide to the MAGTF?**	Equipment Tailored to Mission / Physical Presence / Composition	Quotes, policy article names, specific verbage that supports the Sub-category theme question	X	A grade of "x" because of x, y, z. Reference specific information and how it relates to the justification and grading for sub-category theme.

Table 4 below expands across all five programs listed vertically and the subcategory questions per theme listed horizontally. Table 4 also displays a snapshot of the grading across all five programs for the first sub-category theme for each parent theme. The values displayed are arbitrary. Additionally, the naming convention for each subcategory takes the primary letter from the parent theme followed by an integer, in sequential order. Table 4 is the initial development of such a Mercer Index style chart that we utilized for organization and grading.

Table 4. Illustration of Mercer Grading Chart. Source: Authors.

Theme	Sub-Categorical Theme and Naming convention		Program 1	Program 2	Program 3	Program 4	Program 5
Policy	P1	What government agreements were and/or are established that impact program execution?	1	2	4	2	2
Contract Method	CM1	What Operational Contract Structure supports the preposition program to enable six functions of logistics and fair labor between the US and Host Nation?	3	1	3	2	3
Strategic Capability	SC1	What capabilities does the equipment set provide to the MAGTF?	1	2	2	1	3

Weight

Like the Mercer Index, we provided a weight to the themes of policy, contracting method, and strategic capability based on their relative importance to the mission of GPN. Additionally, we provide weights to each of the subcategories since their levels of importance vary like that of the primary themes. These weights provide a balanced overall grade for each of the programs.

The themes of policy and contracting method are given 30% weights and strategic capabilities is given 40% percent. These weights were determined based on how each theme connects with the definition of GPN that we described earlier in this chapter. In practice, these weights would be determined based on the subject matter experts working on the program development.

Based on our academic assumption, strategic capability is given the largest weight since GPN, at its very core, must have capabilities that serve to equip and sustain the SIF, enable force closure, and deter adversary actions in the area of operations. Policy and contracting structure are given equal weights since both are important for the internal operations, establishment, and sustainment of a GPN site. Finally, the weights of each subcategory are explained in further detail later in Chapter IV.

4. Mapping and Interpretation

We utilize the index format developed by Mercer to best map and interpret the charts that we developed throughout our analysis. Through weights and grading, we can best demonstrate which programs possessed positive business practices and interpret which practices would be most advantageous within GPN. Additionally, we look at whether these advantageous procedures would apply to GPN within the Philippines given the nuances of current practices and the strategic relationships between the U.S. government and the Philippines. Figure 8 captures the end state regarding the framework analysis approach and integration into the Mercer Index.

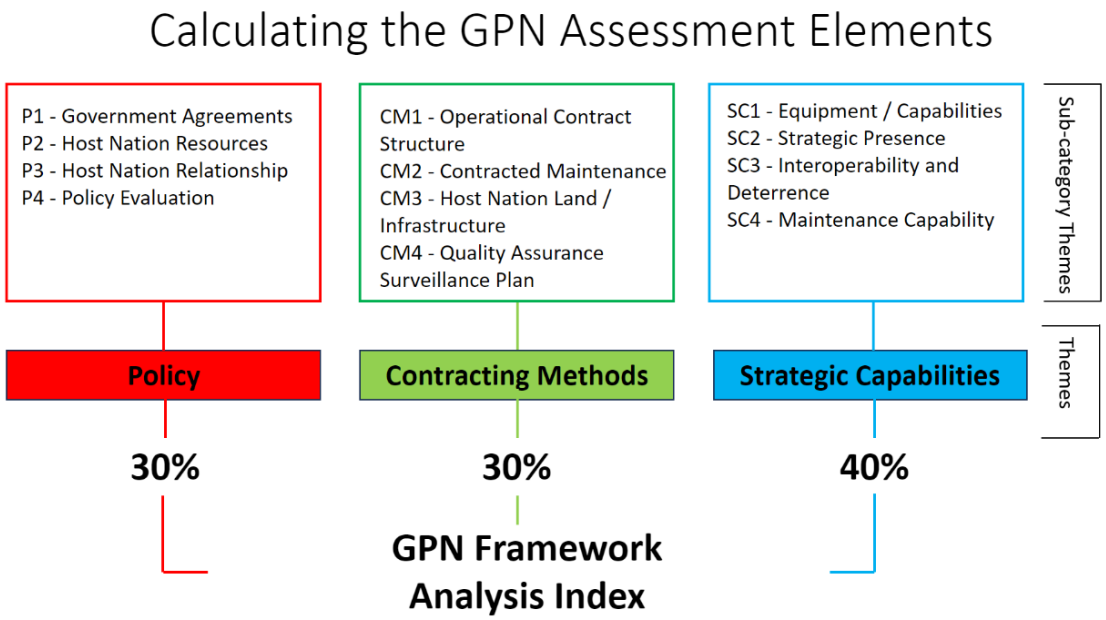

Figure 7. GPN Framework Analysis Index Summary

5. Computation

The computation approach used by the Mercer Index is a multiplication of the theme's weight by the grade. The unique aspect of the Mercer Index lies in the fact that each subcategory possesses distinct levels, ranging from a binary response with only two levels to a more complex 10-level scale. Each subcategory is assigned a specific weight, each of which contributes 100 percent for the overall parent theme. The varying number of levels across subcategories does not impact the bias or influence of the total theme grade.

For instance, if subcategory one consists of four levels ranging from 0 to 4, with 0 indicating a low grade and 4 representing a high grade, the maximum achievable grade for subcategory one is four. All evaluated programs would have the potential to receive a maximum grade of 4 for subcategory one. In this example, subcategory one carries a weight of 30 percent. If Program X obtains the maximum grade of 4, it would be presented as an un-weighted grade. The un-weighted grade is then multiplied by the corresponding subcategory weight, which in this case, is 30 percent. Consequently, the

weighted grade for Program X question 1 would be 1.2. Table 5 below illustrates an example of the computation for the scenario.

Table 5. Computation Table Example Source: Authors

THEME (Program X) Analysis Grade						
Theme	Sub-Categorical Theme	Un-Weighted Grade	Multiplied by Weight %			Weighted Grade
X	X1	4	x	30%	=	1.2

When applying this methodology to all four subcategories, it becomes evident that the sum of the weights assigned to each subcategory amounts to 100 percent. As depicted below in Table 6, the unweighted grade for each subcategory is calculated to derive the weighted grade. Subsequently, the four weighted grades are aggregated to generate an overall grade for a specific program within the parent theme.

Table 6. Subcategory Computation for a given program. Source: Authors

THEME (Program X) Analysis Grade						
Theme	Sub-Categorical Theme	Un-Weighted Grade	Multiplied by Weight %			Weighted Grade
X	X1	α	x	30%	=	β
X	X2	α	x	25%	=	β
X	X3	α	x	20%	=	β
X	X4	α	x	25%	=	β
Theme X (Program X) Total				100%		$\sum$ (Weighted Sub-Categorical Total)

Table 6 serves as an illustrative representation of the computation process employed for analyzing a single program within one of the three themes. This computation is performed across the five programs.

The weighted subcategories are consolidated to facilitate the final overall computation, considering the weights assigned to each parent theme. As depicted in Table 7 the parent themes possess weights that collectively sum up to 100 percent. Consequently, all the weighted subcategory grades are consolidated and subsequently multiplied by the respective parent theme weight, thereby establishing an overall index for a given program. Table 7 below presents the comprehensive grade for Program X, utilizing the same values as illustrated in the previous example. It is worth noting that the weighted grade of 1.2 is multiplied by the theme weight of 30 percent, resulting in an outcome of 0.36. In practical application, a weighted grade for each subcategory grade would be displayed across all three themes to calculate an overall program index.

Table 7. Overall Computation across all three themes. Source: Authors.

Preposition Programs	Overall Index	Theme Weighted Score		
		Policy	Contract Method	Strategic Capability
		30%	30%	40%
Program X	0.36	0.36	O	O
Q1		1.2	β	C
Q2		α	β	C
Q3		α	β	C
Q4		α	β	C

Table 7 above illustrates the index grade depicted as .36 across the individual program. We employed an identical computation approach across all five programs. This methodology is consistently applied to ensure uniformity and comparability in the analysis of program performance.

D. SUMMARY OF METHODS AND DATA

This framework analysis method allows detailed identification of key elements which directly impact the effectiveness of the various prepositioning sites. This method enables a comprehensive comparison of the current global equipment storage programs operated by the Marine Corps and the feasibility of implementing identified elements for GPN-Philippines. Additionally, a qualitative analysis is succinctly embedded in Framework Analysis and the Mercer Index to provide insight on the strengths and limitations of prepositioning program through the components of policy, contracting method, and strategic capability. Finally, this methodology approach identifies and informs viable courses of action that can influence decision making for establishment of GPN sites and the future development of GPN within the Philippines.

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IV. ANALYSIS QUESTIONS

This chapter will elaborate on the evaluation of the five programs based on the themes identified in Chapter III. Specifically, each subcategory within policy, contracting method, and strategic capability is defined by the question, objective, grading criteria, background commentary, and the weight which is awarded to the question within their respective theme. This breakdown aligns with the analysis methodology used within the Mercer Index and with the indexing step of the Framework Analysis.

A. ANALYSIS OF PROGRAMS

This section covers the description of the subcategories of policy, contracting method, and strategic capabilities. Each subsection describes each theme and how their subcategories will be used to analyze the five programs. Each theme is directly tied to the mission and definition of GPN which is critical in providing the outcome of the research identified in Chapter I. Incorporating the lens of GPN into the analysis ensures that the identified best practices of the five programs are applicable to the Marine Corps' requirement for updating its prepositioning programs to the meet the demands of the future operating concept of GPN. The findings from the analysis can be found in Chapter V, Analysis.

1. Policy Subcategories

The policy theme is subdivided into four subcategories posed as questions found below. The theme of policy considers the benefits of the features presented in policies that range from the internal program level to the strategic national agreement level. Uncovering the benefits of the policies is critical in adapting their format and content to regions of interest for GPN sites.

The current prepositioning program establishment is not adequately postured for future operations, however, the policies that enable their presence and daily operations are key components that can be adapted for the establishment and sustainment of a legitimate footprint for a future GPN site. Also, programs analyzed and not considered prepositioning by Marine Corps standards have policies which may become

advantageous for concepts required of a GPN in competitive and contested environments. Analyzing these type programs lends to modification of future iterations of utilization of this framework.

Policy Question 1 (P1): What government agreements were and/or are established that impact program execution?

(1) Objective. Identify the strengths and weaknesses of the government agreements for each individual program and provide a grade based on their impacts to a program's mission.

(2) Grading. This question is graded on a three-point scale ranging from 0 to 2 as follows:

0 is "No Impact and/or No Positive Effect."
1 is "Positive Impact."
2 is "Significant Positive Impact."

(3) Commentary and Justification. This question will be analyzed and judged based on the available information provided by multinational, cross-service, multiservice, and other government agreements. Information will be judged as having positive impacts to program mission execution where the agreement identifies that the government agreements ties to allied government interoperability and investment in program accomplishment. Information will be judged as having negative impacts to program mission execution where the agreement identifies limitations to U.S. operations and allied interoperability and/or investment in program execution.

(4) Weight. 25%. Government agreements are the bedrock of establishing the foundation for prepositioning programs. Limitations in operating a prepositioning site would be considered a threat to the Marine Corps' and the Joint Force's operations within their respective area of responsibility. Therefore, this question is given a weight of twenty-five percent in the policy category due to the critical nature of these features.

Policy Question 2 (P2) What HN assets were/are made available that impact program execution? (labor, infrastructure, etc.)

(5) Objective. Identify what the HN provided within governmental, agency, and other agreements which provide assets such as infrastructure,

personnel and/or labor, logistics support, etc., which inherently impact mission accomplishment of the prepositioning site.

(6) Grading. This question is graded on a three-point scale from 0 to 2 as follows:

0 is "No Impact and/or No Positive Effect"

1 is "Positive Impact"

2 is "Significant Positive Impact"

(7) Commentary and Justification. A HN can be leveraged to enhance operations such as Joint Logistics Over the Shore and Reception, Staging, Onward Movement, and Integration through the furnishing assets such as logistics support and infrastructure. These capabilities bolster the operational and tactical levels of logistics and tie directly to future force closure in contested environments. In terms of GPN, a HN agreeing to provide their assets and resources becomes a critical resource to the Marine Corps and the Joint Force.

(8) Weight. 25%. HN provided assets and resources, as described above, can enable a force in contingency and humanitarian assistance missions through their applicability to force closure and other military operations. Although these agreements would be essential in future combat situations, the Marine Corps will find a way to engage an enemy force even if these do not exist. Therefore, this question is given a weight of twenty-five percent within the policy category.

Policy Question 3 (P3) What is the relationship between the United States and the HN government? Will it or does it impact program execution?

(9) Objective. Analyze the current political relationship between the HN government and the government of the United States. Additionally, as relationships are specifically tied to historically significant events, this question is posed to highlight the dynamics which allowed the establishment of the prepositioning site within the HN's borders.

(10) Grading. This question is graded on a three-point scale ranging from 0 to 2 as follows:

0 is "No Impact and/or No Positive Effect."

1 is "Positive Impact"

2 is "Significant Positive Impact"

(11) Commentary/Justification. This question will be analyzed and judged based on historical documentation related to the establishment of the prepositioning sites, the historic political relations between the HN and the U.S., and the current political relationship between the HN and the U.S.

Grades of and greater than 1 will be given if the relations between the U.S. and the HN have been and remain positive, and that the HN continues to look favorably on the prepositioning of U.S. forces and equipment within the borders. Grades of zero or below will be given if the relationship between the U.S. and HN have declined or have not been favorable recently and that the U.S. or HN are projected to close the current prepositioning site.

(12) Weight. 20%. The political relationships between the U.S. and HN have a great deal of impact on the operations of the DoD within any AOR. This is especially important for forward positioning of equipment and supplies necessary for effective execution of GPN programs. However, political relationships only play a limited role in the accomplishment of GPN as defined in earlier chapters, therefore the weight of this question is twenty percent for the policy category.

Policy Question 4 (P4). What processes/regulations were enacted for program executions?

(13) Objective. This broad question will be used in identifying essential business practices internal to prepositioning sites which allow for mission accomplishment. The data will be pulled from internal standard operating procedures (SOPs), tactics, techniques, procedures, and other standardized management documentation which establish policies and procedures for the programs. The primary source for these criteria is Brief 1: Overview of Policy Evaluation (Center for Disease Control, n.d.).

(14) Grading. Effective policy evaluation is a robust process and will be calculated based on several sub-criteria.

6. First, the policies and procedures will be judged on the clarity in which the content articulates the goals and/or objectives, implementation plan, and intent for the policy. Goals and objectives are the outputs which the policy is established to provide. Implementation plan is the organization of tasks and sub-tasks to both establish and perform the policy as intended. Intent is the clear and concise purpose for the policy to have been initiated. This criterion will graded be based on a four-point scale as follows:

0 is “Goals, implementation plan, and intent are not clearly defined.”
1 is “Goals, implementation plan, and intent are vaguely defined.”
2 is “Goals, implementation plan, and intent are well defined.”

7. Next, policies and procedures are evaluated based on how they were implemented. The implementation of a policy is a "critical component in understanding its effectiveness" and is essential for achieving the goals and objectives of a policy. This will be evaluated through program outcomes and manager experience. This criterion is graded on a three-point scale ranging from zero to two as follows:

    0 is "The policies were not well implemented nor controlled."
    1 is "Only few directives within the policies are implemented and controlled."
    2 is "The policies are implemented and controlled."

8. Lastly, policies and procedures are evaluated based on their impact. Impact is the outcome of the implementation of policies and procedures. Positive outcomes are achieving the goals or objectives directed within the policy. This criterion is graded on a three-point scale ranging from zero to two as follows:

    0 is "The implementation did not achieve policy goals."
    1 is "Only a few policy goals were achieved."
    2 is "All policy goals were achieved."

9. The overall value for this question will be derived from the average of the sub-criteria grades.

(15) Commentary/Justification. This question, and its sub-criteria, are essential to developing a holistic view of best practices across the Marine Corps' preposition program portfolio. It is necessary to understand what policies and procedures drive mission success for each of the programs to then establish those same practices in future GPN sites. This evaluation has a two-pronged approach. The first is identifying the effectiveness of internal policies within the current programs and the second is to understand their applicability to future programs in different geographic locations. There are inherent limitations in the grading of this question and its sub-criteria, however, there is immense value in understanding best practices from current and past prepositioning sites.

(16) Weight. 30%. Internal policies and procedures are critical for program effectiveness and mission accomplishment. Analyzing which policies and procedures established the most effective business practices will ensure

future program success. Therefore, this question is given a weight of thirty percent for the policy category.

Summary

These subcategories provide a detailed spectrum to analyze the policy theme which ensures that a robust evaluation is conducted on the five programs to provide findings of their best practices as they related to GPN. Their grades and weights establish a way for decision makers to understand which practices, related to the four subcategories of policy, that the five programs are most reliable for application to GPN.

- P1 provides an analysis of the overarching geopolitical agreements between the U.S. and the HN which are critical in establishing a prepositioning program which can both equip the SIF, act as a deterrence for enemy actions, and provide the six functions of logistics within a region of interest and the enemies WEZ when necessary. All these functions and characteristics are requirements for GPN.
- P2 provides an analysis of the resources which the HN itself provides to U.S. forces through either their baseline political agreements, augmented agreements, and so on which would bolster the abilities of a future GPN site by accelerating its presence and tying the HN to the Marine Corps' strategic mission through direct investment.
- P3 provides background to the political relationship between the U.S. and the HN which highlights either the fragility or strength of said relationship and is critical to sustaining the presence and operations of a future GPN site.
- Finally, P4 provides a brief analysis of the internal organization and processes which have allowed the five programs to accomplish their assigned missions and tasks in an efficient manner.

An overall grade will be sourced from the grades of these four subcategories which furnishes summation of how the policies and procedures to establish and sustain the five programs compare in their ability to be transferred to the future requirements of GPN.

2. Contracting Method Subcategories

The analysis of contracting method involves an examination of the implications that contracting operations have on the establishment and supporting functions necessary to effectively operate and sustain a GPN site. The four subcategories within this analysis focus on tier one of PZCO and analyze the methods and implementations of contract support across both current and former prepositioned sites. Given the dynamic nature of

prepositioning programs, the grading and weight of these themes are strategically positioned to address key GPN subcategories, including labor, infrastructure, and the six functions of logistics. Further, our objective is to analyze the quality assurance plan implemented throughout each program to determine the most suitable and unique approach that should be adopted within a dispersed network of GPN sites.

Contracting Method Question 1 (CM1). What Operational Contract Structure (OCS) supports the preposition program to enable six functions of logistics and fair labor between the U.S. and HN?

(1) Objective. Identify the Contract Method of the Operational Contract Structure within the AOR that supports the prepositioned program and provide a grade based on whether the OCS hinders or enables the program's mission success.

(2) Grading. This question is graded on a six-point scale ranging from 0 to 5 where:

0 is "No OCS Plan in AOR"
1 is "No OCS Plan, Alternative Contract Method in place"
2 is "OCS Plan in AOR, Limited Contract Support"
3 is "OCS in AOR, Some Contract Support"
4 is "OCS includes a LOGCAP contract, limited support"
5 is "OCS includes a LOGCAP contract, Full Support"

(3) Commentary and Justification. OCS provides a broad range of base operations and logistics services under a "single point of contact," regionally aligned task orders for rapid response, contract support to existing operations and tailorable to address capability gaps and can operate under austere conditions. This question will be analyzed and judged based on the available information provided in each program's contract support methods. Information will be judged positively if an OCS plan exists to support the program's six functions of logistics and whether the contract methodology positively contributed to the program's mission success. Information will be judged as having a negative impact to program mission execution if an OCS Plan did not enhance or contribute to six functions of logistics.

(4) Weight. 30%. Operational Contract Structure (OCS) is given a weight of 30 percent due to the capabilities and flexibility it provides to operations in each region. OCS plans like Logistics Civil Augmentation Program (LOGCAP) operations are scalable and able to support both current and changes in requirements. LOGCAP capabilities range from Operations and Maintenance (O&M) for facilities and/or equipment, transportation,

and services under a range of contract methods from Firm Fixed Price to Cost Reimbursable – No fee.

Contracting Method Question 2 (CM2). What Level of Maintenance (LOM) are contracted out field and organizational maintenance?

(5) Objective. Identify the if and how maintenance is contracted to support the prepositioned program. The goal of this question is to determine what LOM is appropriate to contract out as it relates to program readiness and how labor is contracted under the Federal Acquisition Regulation (FAR).

(6) Grading. This question is graded on a Five-point scale ranging from 0 to 4 where:

0 is "No Maintenance Contract In place"

1 is "Maintenance Contract is available, but limited field LOM"

2 is "Maintenance Contract is available, includes moderate organizational field LOM"

3 is "Maintenance Contract is available, includes organizational field LOM"

4 is "Maintenance Contract is available, includes both operational and intermediate field LOM"

(7) Commentary and Justification. This question will be analyzed and judged based on the LOM contracted out as opposed to rotating operational forces to support maintenance actions. Field LOM includes organizational and intermediate LOM. Organizational maintenance task is the responsibility of and performed by the owning organization on its assigned equipment (MCTP 3-40E, 2020).it consists of inspecting, servicing, lubricating, and adjusting and replacing of parts, minor assemblies, and subassemblies. Intermediate maintenance tasks may require a higher level of technical training and specialized tools and/or facilities (MCTP 3-40E, 2020). It consists of modifications, replacement, fabrication, overhaul, calibration and repair of test, measurement, and diagnostics equipment (TMDE). Information will be judged positively if a maintenance contract is resident to support field level and intermediate maintenance task. Information will be judged negatively if maintenance contract is not resident to support field level and intermediate maintenance task.

(8) Weight. Contracted maintenance enhances the continuity to support maintenance actions at a prepositioned program, but it comes at a premium cost. Due to the cost factor, the question is weighted at 20 percent because it does enhance the capability but based on the resources available, it could be supplemented with active-duty personnel. Several factors contribute to the contract of personnel to support maintenance actions on U.S. property. Considerations like citizenship, HN relations to

the U.S. and ability to have local nationals contribute to the maintenance actions.

Contracting Method Question 3 (CM3). Does the HN lease land and infrastructure and on what terms, to include cost sharing?

(9) Objective. Identify the contract agreements and methodology for the utilization of land and infrastructure. The goal of this question is to determine if the land at each prepositioned site is owned by the respective HN or a Private Organization which leases out the land for the prepositioned program. If privately owned, does the HN share in cost?

(10) Grading. This question is graded on a Five-point scale ranging from 0 to 4 where:

0 is "Privately Owned, No Cost Sharing"
1 is "Privately Owned, Cost Sharing with HN"
2 is "HN Owned, Contract"
3 is "HN Owned, Lend Land and Infrastructure as Bilateral Agreement"

(11) Commentary and Justification. This question will be analyzed and evaluated based on the conditions of how land and infrastructure is administered to each prepositioned site. Information will be judged positively if the land and infrastructure is owned and provided by the HN under a bilateral agreement with cost sharing. Information will be judged negatively if the land and infrastructure is privately owned and without any cost sharing with the HN.

(12) Weight. 30%. Ready and resilient installations are a critical requirement to support the emerging requirements of Force Design 2030. Global preposition sites enable global responsiveness and managing support to allies and partners by strengthening the relationship with the defense industrial base. The ability to preposition (afloat and ashore) is critical to Marine Corps expeditionary readiness. Land and infrastructure owned by the HN is the preferred approach for U.S. installations due the sensitivity of material required to store in each facility and the threats surrounding foreign activity. Cost sharing is encouraged to fortify strengths amongst our allies and partners to contribute towards the combined effort.

Contracting Method Question 4 (CM4). What Quality Assurance Surveillance Plan is integrated to the contracts to ensure proper oversight of each program?

(13) Objective. Identify the if contracts in support of contingency operations at each prepositioned program includes adequate quality assurance surveillance plan (QASP) to ensure contractor's performance meets the performance standards contained in the contract. The QASP established

procedures on how contracts are assessed and or inspected with some or continuous oversight.

(14) Grading. This question is graded on a Five-point scale ranging from 0 to 4 where:

0 is "No Quality Assurance Measure Plan in Place"

1 is "Some Quality Assurance Measure Plan in Place"

2 is "Quality Assurance Measure Plan in full effect"

3 is "Quality Assurance Measure Plan with a Contracting Officer's Representative (COR) directly assigned"

(15) Commentary and Justification. The Defense Contingency Contracting Handbook highlights the importance of Contract Administration to ensure contracts are monitored to validate contractor's performance. A COR is required by FAR 52.222-50 to report any such noncompliance to the QASP to address immediate actions to the KO. This question will be analyzed and evaluated based on the adequate quality assurance measures integrated in the contracts supporting each prepositioned program. Information will be judged positively if contracts include a Quality Assurance Measure Plan in the performance and risk management plan. If an individual is directly assigned to manage and maintain oversight of contract performance, this will remit the highest grade. Information will be judged negatively if contracts lack a Quality Assurance Measure Plan or some variation of contract performance oversight.

(16) Weight. 20%. Quality assurance is essential to validate contract performance to ensure the warfighter is receiving the requirement with the minimum resources expensed. Fortunately, if the quality assurance plan is found to be lacking, there are opportunities to make timely improvements without disrupting the entire program. As a result, the weight assigned to this aspect is 20 percent, reflecting its considerable influence on the program within a timely context.

Summary

These subcategories offer a comprehensive range for examining the topic of contracting methods, ensuring a thorough evaluation of the five programs, and generating insights into their best practices as they pertain to GPN.

- CM1 examines the operational contract structure employed to improve operational efficiencies and sustainment efforts across each program. This sub-category seeks to identify the robustness and adaptability of the contract structure in responding to rapid surges of requirements arising from emergency or contingency situations. The contractual relationships and agreements with HNs play a crucial role in facilitating the future integration of GPN.

- CM2 evaluates the extent to which maintenance operations, supporting the sustainment of equipment stored in HNs, are outsourced to contracted entities. The maintenance strategy for the GPN lacks clarity, thus necessitating an analysis of the advantages and disadvantages associated with contracted maintenance, complete reliance on active-duty marines for equipment upkeep, or a combination of both approaches. Through a comprehensive examination of the five programs and their respective maintenance approaches, we aim to propose an optimal scale of contract support for maintenance within the GPN, considering regional factors and limitations. This analysis of maintenance practices will contribute to the identification of reliable strategies that can be applied to the GPN, thereby providing decision makers with valuable insights for meeting future requirements.
- CM3 evaluates the contract methods employed for land and infrastructure to support GPN sites. The nature of GPN in diverse regions heavily relies on HNs' provision of land and infrastructure or the establishment of a memorandum of understanding (MOU), enabling the U.S. government to engage in contractual agreements with local vendors for property leasing. Furthermore, this inquiry aims to ascertain the extent of cost sharing available through bilateral agreements between the U.S. and the HN. Collaborative cost-sharing endeavors can significantly enhance the efficiency of GPN, facilitating the strengthening of future sites at a reduced expenditure.
- CM4 assesses the level of oversight that should be integrated at each GPN site. As highlighted in multiple reports by the GAO, the operational contract structure is highly intricate and expensive. It is crucial to establish a comprehensive plan for overseeing and validating contract performance, particularly when engaging with vendors outside the United States. Also, given the gravity and significance of the requirements, vendors must meet the specified requirements to ensure the readiness and effectiveness of the GPN sites.

By assigning grades and weights, decision makers can effectively identify the most reliable practices within the four categories of the five programs that can also be applied to GPN. The aggregated grade derived from these four subcategories provides an overall assessment of how the contracting methods aid in establishing and sustaining the five programs compare in their potential to be adapted to meet the future requirements of GPN.

3. Strategic Capability Subcategories

The significance and impact a prepositioning program afford to the Marine Corps is that of a forward-deployed presence of a MAGTF capable of extending the United States' global operational reach through the pre-staging of supplies and equipment enabling a rapid response capability. The previous assessment themes relating to State-to-

State policy agreements and contracting methods set the foundation for a prepositioning program to progress from a conceptual idea to a full-fledged legitimate program through the negations and diplomatic processes necessary to establish a program. Within the scope of prepositioning strategic capabilities, four components have been assessed and evaluated to determine the strengths and limitations of each program. This analysis consists of assessing the general capabilities and equipment a prepositioning program can provide to the MAGTF, the implications of the strategic positioning of the program with regards to rapid response across the operational theaters and its effects on interoperability and deterrence, and lastly, the maintenance support activities that ensure optimal material readiness of prepositioned equipment.

Strategic Capability Question 1 (SC1). What capabilities does the equipment set provide to the MAGTF?

(1) Objective. Identify the general composition of gear and equipment and assess the capabilities that are derived from the prepositioning program that support a scalable and flexible MAGTF to respond to military operations including crisis, contingencies, humanitarian assistance and disaster relief, major combat, and steady state operations.

(2) Grading. This question is graded on a Four-point scale ranging from 0 to 3 where:

0 is "Prepositioned equipment provides no capability to the MAGTF"
1 is "Prepositioned equipment provides a very limited or specific capabilities to the MAGTF"
2 is "Prepositioned equipment provides the MAGTF the capability to respond to most but not all contingencies across the ROMO"
3 is "Prepositioned equipment provides the MAGTF with the necessary capabilities to respond to contingencies across the full ROMO"

(3) Commentary and Justification. This question will assess a prepositioning site's ability to sufficiently augment or equip a MAGTF with the capabilities required to respond to a ROMO. The prepositioned equipment enables a response capability across a ROMO to include theater security cooperation, humanitarian assistance, peace keeping/enforcement, regional contingency operations, and major combat operations. The evaluation of a prepositioning site's equipment set will increase along the grading scale if

it enhances capabilities ensuring greater operating proficiency, provides assurance to allies, and deters potential actors and aggressors.

(4) Weight. 40%. The composition of equipment at a prepositioning site is the principal component to the Marine Corps' ability to remain flexible, adaptable, and lethal as an expeditionary force in readiness. The equipment set located at a prepositioning site ensures CCDR are provided with a flexible and scalable force with greater responsiveness than forces based back in the Continental United States. This criterion has been given a weight of 40%.

Strategic Capability Question 2 (SC2). Does the prepositioning program's geographical presence add value to the Marine Corps' ability to conduct global operations supporting strategic objectives?

(5) Objective. This question assesses the ability of a prepositioning program to generate a rapid response capability within a theater of operations by providing the MAGTF with a strategically sound location to draw equipment and supplies.

(6) Grading. This question is graded on a Three-point scale ranging from 0 to 3 where:

0 is "Prepositioning location has no impact on the MAGTFs ability to rapidly respond within theater."

1 is "Prepositioning location creates a positive impact on the MAGTFs ability to rapidly respond within theater."

2 is "Prepositioning location creates a significantly positive impact on the MAGTFs ability to rapidly respond within theater."

(7) Commentary and Justification. To provide the nation with a credible expeditionary capability, the Marine Corps must maintain global access to equip a MAGTF with the necessary gear and equipment to conduct operations both on Continental United States and overseas. Additionally, the MAGTF must possess the rapid response capability to respond to the requirements of the various CCDRs to include U.S. Northern Command, U.S. Southern Command, U.S. Africa Command, CENTCOM, EUCOM, and INDOPACOM.

(8) Weight. 25%. The Marine Corps' prepositioning programs must be given critical thought and analysis to be valuable to the service and the CCDR. The physical presence and capabilities afforded through a Marine Corps prepositioning program are invaluable to reassuring allies of our

commitment to peace and stability and deterring adversaries and bad actors within the region. As such, this criterion is given a weight of 25%.

Strategic Capability Question 3 (SC3). Does the prepositioning program lend itself to interoperability with partners and allies and pose a credible threat to potential adversaries in the region?

(9) Objective. Determine the impact the prepositioning program has on reassuring U.S. partners and allies of the Marine Corps' ability to maintain a forward deployed presence and enhancing stability while also deterring adversaries and potential adversaries from acting against U.S. interests. This question seeks to identify whether Marine Corps prepositioned assets enable the MAGTF to participate and engage in interoperability missions within the geographic region of its employment. Additionally, this question explores the extent to which the equipment and capabilities enabled through the prepositioning program deter adversaries by the demonstration and employment of assets in training exercises and military operations.

(10) Grading. This question is graded on a Four-point scale ranging from 0 to 3 where:

0 is "Provides little to no contribution to deterrence efforts overseas nor engages with partners and allies."

1 is "Prepositioning program poses as a minor deterrence to adversarial activities within the region and capable of projecting combat power and applications."

2 is "Prepositioning program poses as a modest deterrence to adversarial activities within the region and capable of projecting combat power and applications."

3 is "Prepositioning program poses as a significant deterrence to adversarial activities within the region and projects combat power and capabilities across the ROMO."

(11) Commentary and Justification. This question will be assessed in combat power, capabilities, and applications enabled by the prepositioning program that contribute to the deterrence of unwelcomed action by potential adversaries. Additionally, an effective prepositioning program ensures the U.S. commitment to our partners and allies operating within the region demonstrating the Marine Corps' ability to conduct interoperability. Deterrence efforts are evaluated on a scale of minor, modest, and significant based off the capabilities afforded to the using unit and its application across the ROMO.

(12) Weight. 25%. As a rapid response expeditionary force, the Marine Corps and Navy team display the U.S. projection of sea control and combat power across the globe. Prepositioning programs further augment the

capability for the Marine Corps to demonstrate rapid response to military operations by maintaining readily available equipment for Marine Forces immediate use as opposed to coordinating the logistics of moving assets and equipment from Continental U.S. to the desired location. The premise behind this idea is that it deters adversarial activity from emerging within regions with an associated prepositioning site since a MAGTF is capable of rapidly responding to an emerging situation, especially when conducted with the joint force and alongside partners and allies. This is a valuable feature and has been given a weight of 25%.

Strategic Capability Question 4 (SC4). What LOM activity is organic to the prepositioning program that enables the support of operations?

(13) Objective. This question assesses the maintenance capabilities afforded to the prepositioning program that enables the upkeep of equipment and assets for operational use for the using units. The effectiveness of the prepositioning program's maintenance efforts ensures that equipment is serviceable and contributes to an overall increase in material readiness. Maintenance activities consist of the preventative and corrective actions necessary to restore equipment to a serviceable condition for use by the operating forces and are an integral part of sustaining military operations.

(14) Grading. This question is graded on a Three-point scale ranging from 0 to 2 where:

0 is "No onboard maintenance activity available, equipment and assets must be supported offsite"

1 is "Prepositioning site enables the capability to conduct field LOM"

2 is "Prepositioning site enables the capability to conduct field and depot LOM"

(15) Commentary and Justification. Maintenance capabilities are divided into two LOM – field and depot level. Field LOM is conducted at the user-level consisting of operators and crew members of the equipment as well as the designated mechanics, technicians, and approved contracted personnel. Depot LOM refers to the personnel and capabilities to conduct major overhaul or rebuild of equipment and assets.

(16) Weight. 10%. Organic maintenance capabilities extend the operational reach for Marine Corps forces utilizing prepositioned gear. Maintenance is a critical function of logistics and enables the ability to keep the warfighters in the fight and accomplish the mission. Fortunately, a key component to the MAGTF is the Logistics Combat Element (LCE) armed with the personnel, expertise, and abilities to augment maintenance efforts at any prepositioning site. Due to the added layer of maintenance redundancy through the LCE, the reliance upon an organic maintenance activity is not as significant compared to other weighting criteria found

within the Strategic Capability assessment. As such, this criterion has been given a weight of 10%.

Summary

The four subcategories analyzed within the context of strategic capabilities provide a thorough overview of the five prepositioning programs and serve as a comparative analysis tool for decision makers to consider for GPN with regards to equipment composition, strategic presence, interoperability and deterrence, and maintenance support.

- SC1 identifies the general composition of the prepositioned equipment and the capabilities enabled to the MAGTF when augmented with adequate forces that are manned, trained, and equipped to employ such assets. In a GPN construct, there must be careful consideration by HQMC regarding the equipment prepositioned as this delineates the mission sets that are feasible by a using unit drawing GPN equipment.
- SC2 assesses the strategic positioning of the program and its impact on equipping and facilitating a rapid response MAGTF into an operational theater. The relevance of a prepositioning program's host-nation site is determined by its ability to rapidly generate a Marine Corps presence and be of strategic value to a Combatant Commander to respond to military operations. The strategic positioning of a future GPN site must consider the technological advancements in an adversary's weapon capabilities that would exploit the Marine Corps' logistics network if not properly analyzed. For this reason, GPN must integrate a distributed and survivable network to remain resilient to the kinetic and non-kinetic effects of an adversary's weapon capabilities.
- SC3 identifies the strategic relevance and impact a prepositioning program has on projecting a forward-deployed Marine Corps presence reassuring partners and allies on the U.S. commitment to deterrence and upholding peace, stability, and interoperability within the host-nation's geographic region. GPN must be able to project a credible MAGTF presence compounded by the effective display of a MAGTF's interoperability alongside the host-nation to deter unwanted or unprovoked acts from an adversary.
- SC4 identifies the LOM afforded to the MAGTF across the prepositioning programs. In the development of a future GPN site, there must exist adequate infrastructure to support the maintenance requirements to deliver the MAGTF with an operational equipment set to support rapid response operations. In addition, maintenance and logistics capabilities must be integrated into the larger sustainment web to facilitate force-closure and the ability to support Stand-in-Forces.

B. SUMMARY

As discussed in Chapter III, these subcategories were developed based on the Mercer Index's method of analyzing pension programs through three distinct categories. Each category has indicators describing their questions, objectives, calculation, commentary, and weights which provide the detailed methodology and reasoning for their analysis.

We have mirrored this method throughout this chapter using the policy, contracting method, and strategic capability subcategories to describe our process of analyzing the five programs. Like the Mercer Index, each subcategory is described through a question, given an objective which outlines the rationale for the question, provided an explanation of the grading criteria, further detailed with commentary and justification of the subcategory in terms of its relevance to GPN, and given a weight based on the subcategory's importance as it relates to the other subcategories within the overall theme.

Using these subcategories, we thoroughly define the themes which they are aligned with and provide each theme an objective overall grade. These grades provide decision makers with an overview of the effective business practices within the five programs as they relate to GPN. These findings can then be overlayed atop the current practices of regions or countries of interest for future GPN sites and analyzed on their application. This application can be done through direct utilization or through establishment of milestones required for GPN site effectiveness.

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V. ANALYSIS: INDEXING AND CHARTING

This chapter will discuss the analysis of the data collected from each of the five programs. We utilized the indexing and charting methods within the Framework Analysis to organize the data based on the program it was derived from and the theme and subcategory which it aligned with. Then, we utilized the Mercer Index method of evaluation to derive grades from the data from each of the five programs based on the subcategories as described in Chapter IV. The output of these steps is described below and captured within the text and tables throughout this chapter.

This chapter is divided into three sections: policy, contracting method, and strategic capability. Each section is divided into the following subsections: MCPP-N, MAP-K, MRF-D, MPF, and ESD. Each subsection details the findings uncovered through indexing the subcategory questions listed in Chapter IV with each of the five programs. Additionally, each subsection details the overall theme grade, subcategory grade, and the commentary and justifications for each.

A. POLICY

The analysis of policy was conducted by indexing and charting data received for each of the five programs by their application to the four subcategories as defined in Chapter IV. The following section provides detailed information on the grades, justification, and application to GPN of the four subcategories as defined in Chapter IV Each section begins with a weighted grade specifically for the given program in relation to policy. The weighted grade is determined by multiplying the individual question grade by the weight assigned to that question. Overall grade is simply the summation of all four weighted grades. A consolidated table at the end of the section presents the individual sub-category grades and weighted grades for each program.

1. MCPP-N

Overall Policy Weighted Grade: 2

Based on the summation of the following subcategories, MCPP-N receives an overall weighted grade of 2. The following list of grades provides justification and commentary of the outcome of this overall grade.

> P1. Unweighted Grade: 2 – What government agreements were and/or are established that impact program execution?

MCPP-N receives a grade of "2" or "significant positive impact" for P1 since the government agreements between the U.S. and the government of Norway (GON) are robust and are grounded in a lasting relationship that spans nearly a century. The GON has made significant promises both to the U.S. and the Marine Corps. These promises span a vast spectrum from providing direct logistics support to Marine Corps units transiting to, in, and around the nation of Norway (Norway-Defense-SDCA) to promising an investment of sharing 50% of operating costs to maintain MCPP-N which are primarily found in the Local Bilateral Agreement (LBA) between BIC and the Regional Logistics Group of Norway (BIC, personal communication, 2020). Facilities and areas have been granted for use by the U.S. forces by the GON and are promised to be under U.S. ownership unless forfeited by the U.S. or the end of the MCPP-N program.

All agreements with the U.S. and Norway provide the DoD, and subordinate Marine Corps commands, direct liaison authority to both request support and conduct operations together. This liaison authority has grown the interoperability between the Marine Corps and the Norwegian military units associated in North Atlantic Treaty Organization (NATO) and MCPP-N.

Lastly, the GON has designated its own military personnel to man and maintain portions of the MCPP-N while promising to ensure protection, safety, and security of U.S. forces, contractors, dependents, preposition materials, and Official U.S Information. These qualities directly tie to the concept of GPN as they are related to the physical presence, infrastructure, and labor required for its establishment. Additionally, for GPN to be successful it will need the full support of the HN to include direct investment of resources, funds, and/or personnel for daily operations. A significant highlight within this subcategory is the fifty percent cost sharing that the GON has promised for maintaining the MCPP-N. GPN will be a costly investment for the Marine Corps and if the HN is

willing or persuaded to such an investment then this ensures operational legitimacy for the site, utilizes a more economic means of operating, and directly ties the HN to accomplishing Marine Corps and U.S. strategic objectives.

> P2. Unweighted Grade: 2 – What assets were/are made available that impact program execution? (labor, infrastructure, etc.)

MCPP-N grade of "2" or "significant positive impact" for P1 since the GON has promised facilities, logistics support, personnel, equipment, and so on in enabling the MCPP-N and the Marine forces operating in Norway. As mentioned in the Marine Corps Prepositioning Handbook, the GON has provided the Host-Nation Support Battalion to provide service support capabilities to Marine Corps forces by attaching this unit directly to those commands (HQMC, 2015).

> P3. Unweighted Grade: 2 – What is the relationship between the United States and the HN government? Will it or does it impact program execution?

MCPP-N receives a grade of "2" or "Significant positive impact" is given as the political relationship between the U.S. and the GON is extremely positive and historically consequential. The origins of MCPP-N lie in agreements between the U.S. and Norway since the 1950s which can be linked to the U.S. and Norway's involvement as founding members of the North Atlantic Treaty Organization (Britannica, 2023). Since then, the U.S. and Norway have had direct relations and continue to be strong political, military, and economic partners. The U.S. department of state has published that,

"The United States and Norway enjoy a long tradition of friendly relations based on democratic values and mutual respect. Norway is a co-founder and steadfast strategic Ally in the NATO. It hosts and participates in NATO exercises and in operations with Allies and Partners" ("U.S. Relations With Norway," n.d.)

With a strong history and a preserved relationship, the partnership between the U.S. and Norway has a bright future. This future highlights the risk to operations for the MCPP-N. As the U.S. and Norway continue to grow in their relationship this decreases the risk that MCPP-N will face opposition or termination from our allies in Norway. This is an incredibly key factor for prepositioning, specifically for the future of GPN, since we must be able to plan and project our mission capabilities for future conflicts and crises.

P4. Unweighted Grade: 2 – What processes/regulations were enacted for program executions?

Overall, the grade which MCPP-N receives for question P4 is "2" which is an aggregate of the grades from the criteria Content, Implementation, and Impact. Below are the grades and justifications for the subcategories of this question:

Content. Grade: 2

MCPP-N is a long-standing program with a robust set of policies and procedures. These policies and procedures have been developed over the course of nearly 100 years and, as is to be expected, have a vast amount of detailed information while maintaining key clarity for ease of understanding which enables operational actions.

Implementation. Grade: 2

MCPP-N has its roots in the origin in the Norway Air-Landed Marine Expeditionary Brigade prepositioning program initiated in 1981. In 2005, the Marine Corps made large moves to make the program a priority for strategic prepositioning and created the modern MCPP-N program. Since then, policies and procedures for its use have impacted the entire Marine Corps which reaches from HQMC in Washington, D.C., and touches every MEF that operates in the European theater. The implementation is robust as the Marine Corps has developed techniques for developing the prepositioning equipment sets, now termed Prepositioning Objective, and publishes this goal routinely.

Additionally, internal program management is robust as MCPP-N is a shared responsibility between BIC and their Norwegian counterpart, the Norwegian Defense Logistics Organization (NDLO). They have developed specific guidance for their own internal relationships regard program management, maintenance management, Automated Information System (AIS) relationships, etc., as well as guidance for using units that withdraw equipment and supplies from MCPP-N. Goals, objectives, roles, and responsibilities are thorough and clearly executed.

Impact. Grade: 2

MCPP-N receives a "2" or "for impact based on the following justification. The outcomes of the program policies and procedures cannot be understated as they have

developed a critical strategic asset for the Marine Corps and Geographic Combat Commanders which is evidence in MCPP-N's past support of operations such as Operation Iraqi Freedom, MPF offloads, etc., and their current support of longstanding II MEF exercises. The internal policies that drive MCPP-N truly span the spectrum of unit levels within the Marine Corps.

At the tactical unit level, the internal policies have developed and sustain the relationship between the Norwegian and Marine units operating daily within Norway, the command relationship of BIC and their Norwegian counterparts, and the daily operation standard operating procedures.

At the operation level, MCPP-N's policies and procedures drive requirements for MEB level units transitioning from the U.S. to Norway and prescribes regulations for the withdraw, use, and turn-in of prepositioned equipment requested by these units. Additionally,

At a strategic level, MCPP-N's policies are well associated with those of MPF and have created a cycle of planning and reconciliation of prepositioning objectives across the globe. This process involves several elements of HQMC and requires a substantial amount of time and effort towards research and development for future operations within the European theater.

Documents reviewed for Policy, MCPP-N:

- Marine Corps Order (MCO) 3000.17 Marine Corps Prepositioning Program
- NAVMC 2907 dtd 2 May 2020
- Marine Corps Prepositioning Programs Handbook 3rd Edition.
- Technical Manual (TM) 4790–14/1H Logistics Support for Marine Corps Prepositioning Program – Norway
- MCPP-N Memorandum of Understanding Governing Pre-stockage and Reinforcement of Norway
- Local Bilateral Agreement Between Blount Island Command and Regional Logistics Group – Mid Norway (RLG-M) for Logistics Support of Marine Corps Prepositioning Program – Norway

2. MAP-K

Overall Policy Weighted Grade: 1.1

Based on the summation of the following subcategory grades, MAP-K receives an overall weighted grade of 1.3. The following list of grades provides justification and commentary of the outcome of this overall grade.

P1. Unweighted Grade: 2 – What government agreements were and/or are established that impact program execution?

MAP-K receives a grade of "2" or "Significant Positive Impact" since the program was established with the assistance of the U.S. Army. Although this is relatively outside this question's scope, it is important for the future of Marine Corps GPN initiatives as the joint force is a critical resource for these concepts. MAP-K was established as an equipment storage site for MEUs operating in the CENTCOM AOR since they had space and weight limitations for the equipment required for missions within CENTCOM (J. Hazard, email to author, 13 October 2023). Future GPN sites will need to be tailored to both the region, considering climate and cultures, and to the missions of the CCDR within that region.

P2. Unweighted Grade: 0 – What HN assets were/are made available that impact program execution? (labor, infrastructure, etc.)

MAP-K receives a grade of "0" or "No Impact and/or No Positive Effect" since MAP-K was established aboard an American military base within Kuwait. The program

was developed with the assistance of the Army Corps of Engineers who provided and/or leased the facilities and space for MAP-K. This is a key element to consider in future GPN, the co-use of join facilities, however, for the purpose of this question and theme the program receives a zero.

P3. Unweighted Grade: 1 – What is the relationship between the United States and the HN government? Will it or does it impact program execution?

MAP-K receives a grade of "1" or "Positive Impact" as the relationship between the U.S. and Kuwait has been positive for several decades with the U.S. maintaining a continuous presence in the country since the Gulf War. It is thanks to this continuous presence that MAP-K was able to be established and support the CENTCOM mission with augmenting MEUs as they came to conduct missions supporting several named operations such as Operation Iraqi Freedom and Operation Enduring Freedom.

P4. Unweighted Grade: 1.33 – What processes/regulations were enacted for program executions?

Content. Grade: 1

MAP-K receives a grade of "1" or "Goals, implementation plan, and intent are vaguely defined" for content based on the following justification. Originating directives for MAP-K provided the overall mission and intent for the program as an equipment storage and issuing facility for MEUs operating within the CENTCOM AOR. These are detailed and clear as to the strategic vision for the program and those associated with it.

MAP-K is a unique program in it provided units with CENTCOM mission tailored equipment sets.

Implementation. Grade: 1

MAP-K receives a grade of "1" based on the following justification. MAP-K had some Although the mission of MAP-K was achieved, the overall efficiency lacked luster in its execution. Due to the limited size of staffing for MAP-K, it was routine that maintenance of the critical equipment fell behind schedule (J. Hazard, personal communication, October 13, 2023). This issue cannot be accepted in a GPN context where the environment is likely contested and where critical equipment must be available at a moment's notice.

Impact. Grade: 2

MAP-K receives a grade of "2" for impact based on the following justification. MAP-K was able to provide critical equipment and supplies to MEUs conducting missions and exercises within in the CENTCOM AOR. This program supported units with required equipment that would be used for combat operations and, when received after turn-in, would be maintained to a readiness level necessary for continued operations.

A unique feature of MAP-K is that this program is not deemed a program of record. A program of record is a defense program which receives specific funding from Congressional appropriations. This function is a key element to consider for GPN in that future sites may require a reduced footprint much like MAP-K in which it only provides specific equipment for the missions with the AOR.

3. MRF-D

Overall Policy Weighted Grade: 1.3

Based on the summation of the following subcategory grades, MRF-D receives an overall weighted grade of 1.3. The following list of grades provides justification and commentary of the outcome of this overall grade.

P1. Unweighted Grade: 1 – What government agreements were and/or are established that impact program execution?

A grade of "1" or "positive impact" is given to the MRF-D governmental agreements for the following reasons:

Overall, the agreements with the Australian government are fair and reasonable in that they provide U.S. Forces the facilities and ability to sustain themselves, but with consulted and repaid support to the Australian Department of Defense (ADoD). The Australian government takes partial responsibility for safety, security, and protection of the facilities and U.S. forces. Additionally, the Australian government developed a Status of Force Agreement with the U.S. which allows U.S. forces, dependents, contractors, and other personnel to live and operate within the borders of Australia.

Many of the agreements discuss the use of "Agreed Facilities and Areas" which are much like those provided by the GON regarding MCPP-N. These facilities are made available without lease or other costs; however, they will remain Australian property if and/or when MRF-D is decommissioned. GPN must have infrastructure that is provided by the HN whether immediately provided via agreements or by different business practices such as leasing or provide a means to build such an infrastructure. Australia providing these facilities within an agreement without cost is a key element within this program and would be a substantial resource in the establishment of a site when considering GPN.

Along with the agreed facilities, Australian government has provided the ability for U.S. to preposition military material and ensures that the U.S. maintains "exclusive control" of the access, use, and disposition of the material. This is a critical element of GPN as the HN must allow for prepositioned materials, specifically those related to deterrence and conflict, and provide a means for the U.S. forces to maintain control of said materials without hinderance.

Lastly, the U.S. and Australian governments have an agreed on telecommunications use within the borders of Australia and details the confliction to be done between DoD and ADoD units. Deconfliction of telecommunications, and sharing of this information, is critical with allied bi-lateral operations must be an integral piece of GPN in the future. Telecommunications must be unimpeded by and integrated with our allies for sustainment and survivability of a GPN site in a future contested environment.

P2. Unweighted Grade: 1 - What HN assets were/are made available that impact program execution? (labor, infrastructure, etc.)

A grade of "1" or "Positive Impact" is given to HN resources provided to the program for the following reasons:

The Australian government has provided the aforementioned "Agreed Areas and Facilities" which house both U.S. and Australian forces. A highlight of this resource is the fact that the U.S. and Australians will be co-located within these areas. Having our close allies within such proximity allows for succinct communication, opportunities for bi-lateral planning and training, etc.

If the U.S. forces do not have adequate facilities, equipment, or personnel in support of their internal medical or dental requirements, the Australian government has agreed to provide these services within the ADoD health services. These services are a key resource for consideration in development of future GPN sites as the development of the GPN site will likely require medical and dental services be provided by either the HN military or contracted business.

Lastly, the Australian government provides waivers of possible administrative fees for vehicles, vessels, and aircraft when moving within the borders of Australia. Attentionally, all fees for the parking, docking, or other means of idling equipment related to modes of transportation are waived for U.S. forces.

P3. Unweighted Grade: 2 – What is the relationship between the United States and the HN government? Will it or does it impact program execution?

The MRF-D receives a grade of "2" or "Significant positive impact" is given as the political relationship between the U.S. and Australia is extremely positive and historically consequential.

The U.S. and Australian government relationship has been positive for over a century as their democratic, economic, other ideologies are closely related and they have been allies since before World War I. They maintain a longstanding force posture agreement and have re-affirmed these agreements several times over the past decade. The two countries maintain a routine exercise, Talisman Saber, which is a biennial joint military exercise focusing on interoperability of their defense forces (Canberra, 2022).

P4. Unweighted Grade: 2 – What processes/regulations were enacted for program executions?

MRF-D consists of two rotational forces—the main MRF-D deployment and the Ground Equipment Staging Program (GESP). These two rotations, which we will refer to as programs for brevity, have distinct missions, equipment sets, and policies in place for operations in Australia. Therefore, we acquired and evaluated both sets of internal policies from these programs.

Many of these policies, titled SOPs, are still in a draft status as I MEF has recently inherited ownership of the mission in MRF-D from III MEF. Being a draft form may

insinuate limitations in the holistic evaluation of P4 due to legitimacy of the documents, however, there is a substantial amount of information within these drafts. This ensures that they are within the spectrum required for the evaluation and comparison as follows.

Content. Grade: 2

MRF-D receives a grade of "2" or "Goals, implementation plan, and intent are well defined" based on the following justification:

The MRF-D D-30 brief provides a wholistic view of the entire program that is MRF-D. It provides a mission which is defined as,

> Annually deploy an O-6 level MAGTF to Australia, IVO Darwin, in order to establish a combat credible force capable of emergency response. MRF-D conducts operationally focused training to improve responsiveness to crisis and contingencies, increase combined warfighting capability, enhance USMC-Australian Defense Force (ADF) interoperability, and strengthen alliances and partnerships. (MRF-D 23.3, personal communication, 2023)

Which is concise and followed by a breakdown of tasks which the MRF-D conducts throughout the deployment of the O-6 command. This brief provides a succinct amount of information which is critical for a force which rotates in and out of the AOR within a 3-to-6-month time span.

The introduction of the SOP begins with the purpose, how it ties with the mission of MRF-D, and how it will Marines conducting operations in Australia. Clarity in defining why the documents for internal procedures were developed by the originator is critical in understanding their use for the individual Marine who utilizes them. This is just as important in defining the program's goals in that it provides a roadmap for users to apply the information within the SOP to real life situations and future operations.

This document also lists key units involved in rotations to and operations in MRF-D. These units are defined based on their role and responsibility as associated to the user of this SOP. A clear understanding is provided to the reader on the higher, adjacent, and supporting units that are available when operating in Australia. This is a key element for internal policies for GPN as these sites will rotate units like MRF-D or be available to

future stand-in forces operating in the GPN AOR, which will require SOPs being readable for unaccustomed users to effectively use all aspects of the site(s).

Finally, MRF-D has been given a list of Mission Essential Tasks (METs) which standardize and describe the total mission of a Marine Corps unit. The list of METs include but are not limited to:

- MCT 5.5.1 Integrate and operate with joint, interagency, intergovernmental, and multinational organizations
- MCT 1.6.1 Conduct offensive operations
- MCT 1.6.4 Conduct defensive operations
- MCT 1.12 Conduct expeditionary operations

These METs face several levels of criticism and scrutiny before being approved for official use as both mission and training requirements of a Marien Corps unit. This element of MRF-D is essential to GPN in that the GPN site should act and operate like a Marine Corps unit. Therefore, GPN requires the same level of thorough scrutiny required to develop METs of other Marine Corps units.

Implementation. Grade: 2

MRF-D receives a grade of "2" or "All directives within the policies are implemented and controlled" based on the following justification:

MRF-D consistently rotates O-6 level commands to Australia to conduct a list of missions, training, exercises, and bilateral events both individually and with the Australians other partners of the U.S. Equipment, personnel, and supplies are deployed in and out of Australia on a constant basis as well. A large footprint of equipment is left throughout the year in Australia and is either in use or being maintained by both the MRF-D deployed exercise units and the GESP units.

The Australians have developed their own SOPs for supporting Marines during MRF-D and GESP rotations which speaks volumes to the value of the implementation of this program and its policies. It must be noted that deriving procedures between the HN and Marine units is key to interoperability and will be a necessity for GPN.

Impact. Grade: 2

MRF-D receives a grade of "2" or "All policy goals were achieved" based on the following justification:

Overall, the MRF-D mission is consistently accomplished given the lack of official standardized procedures and documentation. Units rotate in and out of the Australian AOR completed several training evolutions from small unit tactics to large-scale multi-national training exercises. This highlights the accomplishment of the overall mission which we previously annotated.

Concurrently, MRF-D and the I MEF staff are developing a robust set of standardized procedures for the rotations to Australia whether that be for MRF-D or for GESP. Future analysis of these developments will be value-added to GPN as I MEF conducts routine experimentation of concepts such as EABO, SIF, and so on within the borders of Australia. Learning from these lessons learned will be critical to implementing GPN within similar regions of interest to that of Australia.

Documents reviewed for Policy, MRF-D:

- The Force Posture Agreement Between the Government of the United States of America and The Government of Australia
- Implementing Arrangement (PC-AU-FPA-01.0) Concerning Mutual Logistics Support for U.S. Forces Posture Initiative
- Implementing Arrangement on Cost Sharing
- MRF-D Logistics SOP [DRAFT]
- MRF-D S-4 Logistics After Action Report [DRAFT]
- Marine Rotational Force – Darwin D-30 Brief

4. MPF

Overall Policy Weighted Grade: 0.85

Based on the summation of the following subcategory grades, MPF receives an overall weighted grade of .85. The following list of grades provides justification and commentary of the outcome of this overall grade.

P1. Unweighted Grade: 0 – What government agreements were and/or are established that impact program execution?

MPF receives a grade of "0" or "no impact and or no positive effect" since MPF operates within U.S. derestriction. Both the headquarters of MPF and the two MPSRONs operate within U.S. owned areas and/or waters or have establishments which coordinate agreements with HNs on behalf of MPF. In the environments where the Marine Corps has projected the use of GPN, contested and within the enemy's WEZ, the reliance on and coordination with a HN is required. Also, the SIF will support allies and partners while operating within HN littorals, another required factor for GPN (Marine Corps, 2021).

P2. Unweighted Grade: 1 – What HN assets were/are made available that impact program execution? (labor, infrastructure, etc.)

Although MPF does not directly tie with HN-supplied resources as the MPF are afloat globally, planning considerations for MPSRONs speak to HN support. Since the MPF is an afloat resource managed by the Navy, the resources provided are organic to U.S. forces and supplemented by Marine units which conduct their afloat in uncontested environments. A GPN of the future, especially those which are afloat, will likely require HN support for services such as transportation, maintenance, and so on. Additionally, the GPN should directly involve the HN as a force multiplier both in capabilities which they bring and/or provide as well as the diplomatic alliances which invoke some sort of investment whether that be in funds, personnel, or other resources.

P3. Unweighted Grade: 0 – What is the relationship between the United States and the HN government? Will it or does it impact program execution?

MPF receives a "0" or a "no impact and/or no positive effect" since this program and its capabilities are brought to the fight via U.S. resources with limited HN support which is coordinated by the force being supported by MPF. In a future GPN, the afloat organization should be well coordinated much like MCPP-N where the HN is directly involved. Especially in support of the Marine Corps' concepts surrounding sea denial with the SIF.

P4. Unweighted Grade: 2 – What processes/regulations were enacted for program executions?

Overall, the grade which MPF receives for question P4 is "2" which is an aggregate of the following criteria.

Content. Grade: 2

MPF receives a grade of "2" or "Goals, implementation plan, and intent are well defined" for content as the foundational document for MPF operations, Marine Corps Tactical Publication (MCTP) 13–10D/Navy Tactics, Techniques, and Procedures 3–02.3M, lays out goals, implementation, and intent extensively. The over 400-page document truly covers the robust mission of MPF and the internal procedures to ensure effective planning, operational use, and future shaping of mission requirements.

MCTP 13-10D identifies the goals of MPF as: "Maritime prepositioning provides a CCDR with deployment flexibility and an increased capability to respond rapidly to a crisis or contingency with a credible force" (MCTP 13-10D Formerly MCWP 3-32, n.d.).

Implementation. Grade: 2

MPF receives a grade of "2" or "The policies are implemented and controlled" for implementation as the program has been implemented at all levels of organization within the Marine Corps and reaches up to the President, Secretary of Defense, and so on.

Like MCPP-N, prepositioning within MPF is controlled through the Preposition Objective planning process which involves several elements from with HQMC and the Navy to establish the requirements for equipment prepositioned on the ships with the MPSRONs around the world. Also, MPF has become a joint capability which CCDRs worldwide rely on for combat operations and force closure.

Impact. Grade: 2

MPF receives a grade of "2" or "All policy goals were achieved" as the program has truly become a national security asset. MPF has many doctrinal publications which ensure effective operations within each MPSRON and the coordination of their use between the Marine Corps and Navy. MPF has directly supported large scale exercises, named operations, and contingency and/or crisis response operations around the globe. The policies and procedures have enabled a robust number of mission sets. GPN will require the same level of detail and clarity to provide the impact which the Marine Corps will require in a contested environment and for the future battlefield it expects is on the horizon.

Documents reviewed for Policy, MPF:

- Marine Corps Order (MCO) 3000.17 Marine Corps Prepositioning Program
- Marine Corps Tactical Publication 3-32 Marine
- NAVMC 2907 dtd 2 May 2020
- Marine Corps Prepositioning Programs Handbook 3rd Edition

5. ESD

Overall Policy Weighted Grade: 0.6

Based on the summation of the following subcategory grades, ESD receives an overall weighted gra8de of 1.3. The following list of grades provides justification and commentary of the outcome of this overall grade.

P1. Unweighted Grade: 0 – what government agreements were/are established that impact program execution?

ESD receives a grade of "0" or "No Impact and/or No Positive Effect" for P1 due to the nature of ESD being located within 29 Palms, California, United States and is established aboard the MCAGCC. The policies between the United States and a HN in association with military personnel and equipment will be a requirement for GPN in the future.

P2. Unweighted Grade: 0 – What host assets were/are made available that impact program execution?

ESD receives a grade of "0" or "No Impact and/or No Positive Effect" for P2 due to the nature of ESD being located within 29 Palms, California, United States and is established aboard the MCAGCC.

P3. Unweighted Grade: 0 – What are the relationships with the local/HN government that impact program execution?

ESD receives a grade of "0" or "no impact and/or no positive effect" due to the nature of ESD being located within 29 Palms, California, United States and is established aboard the MCAGCC.

P4. Unweighted Grade: 2 – What processes/regulations were enacted for program executions?

ESD receives a "2" or "Significant Positive Impact" for P4 based on the following justification and sub-criteria.

Content. Grade: 2

ESD receives a "2" or "Goals, implementation plan, and intent are well defined" based on the following justification. As an organic unit to the Marine Corps, ESD has fully developed METs which were developed to provide the essential operations that the unit must conduct. These METs include:

- MET 1: Maintain and issue safe and operable equipment from an established equipment allowance pool necessary to execute exercises and other training events as directed. (Exercise Support Division, personal communication, 2021)
- MET 2: Provide maintenance support for military equipment beyond the organic capability of MAGTFTC units and organizations as required. (Exercise Support Division, personal communication, 2021)
- MET 3: Operate and maintain an Exercise Support Base to provide designated logistics support services to exercise forces conducting training activities aboard MCAGCC. (Exercise Support Division, personal communication, 2021)

Additionally, each unit within the Marine Corps has a fully developed mission and intent provided to the commander of said unit for executing daily operations. In terms of GPN, creating an organic unit staffed mainly by Marines will be a likely scenario. Therefore, developing a holistic document with mission, intent, and METs is essential for the establishment and conduct of future GPN sites.

The ESD staff maintains two documents itemizing tasks for the internal workings of the staff and a guide for users who conduct service level exercises at MCAGCC. The first is their internal SOP which is well developed and highlights critical roles of individuals within the organization while elaborating on responsibilities and relationships among them. The second is a detailed instructional document for the request for, receipt, and return of equipment and services from ESD. Along with orders which institute standardized business practices for operations such maintenance, records management, and so on, ESD's development of these internal policies ensures that the unit operates effectively to provide critical services to exercising units.

Implementation. Grade: 2

ESD receives a "2" or "The policies are implemented and controlled" for implementation based on the following justification. As an organic unit the Marine Corps, ESD is routinely inspected by their higher headquarters and the Field Supply and Maintenance Accountability Office which ensures that units are abiding by Marine Corps orders for business practices like maintenance, records management, and the like. These accountability measures ensure that ESD is operating as directed and doing so effectively.

ESD supports over twenty training exercises which incorporates over 90 units across a single fiscal year (ESD,2021) This includes the support of exercising units before and during the exercises in the main and forward established ESD components. This is all done through the maintenance of thousands of pieces of equipment otherwise known within the Marine Corps as principal end items (PEIs). Consistently maintaining their internal readiness allows them to provide considerable support to exercising units.

Impact. Grade: 2

ESD receives a grade of "2" or "All policy goals were achieved" based on the following justification. ESD consistently supports over twenty exercises per fiscal year and maintains several thousand PEIs while operating within Marine Corps statutes. Units that travel to MCAGCC to conduct joint level exercises depend heavily on the support of ESD for augmenting their equipment sets which are needed for the missions targeted during their exercises. This fact alone is critical to GPN as this will likely be the case for unit deploying to future regions of interest to the Marine Corps. Units will likely deploy from their home station and need to receive PEIs which are not fiscally responsible or available to transport to the GPN location. The internal policies of ESD have demonstrated a key element for consideration into the establishment of GPN in the future regardless of the location.

Documents reviewed for Policy, ESD:

- Smart Pack Exercice Support Division MCAGCC G-3/5/7 2022
- Exercise Support Division Tactical Standing Operating Procedures
- Brief for Marine Forces Pacific (MARFORPAC) in support of Equipment Set Creation

6. Policy Analysis Summary

This section has covered the weighted subcategory grading for each of the five programs. Table 7 illustrates the weighted subcategory grades for the five programs and their total weighted theme grade which is bolded. The ranking, based on the total weighted theme grade, is first, MCPP-N, tied at second, MAP-K and MRF-D; third, MPF; and fourth, ESD. Greater detailed commentary on these rankings is provided later in this chapter.

Table 8. Policy Subcategory Aggregated Grades

Theme	Subcategory	MCPP-N	MAP-K	MRF-D	MPF	ESD
Policy	P1	0.5	0.5	0.25	0	0
	P2	0.5	0	0.25	0.25	0
	P3	0.4	0.2	0.4	0	0
	P4	0.6	0.4	0.4	0.6	0.6
	Total	**2**	**1.1**	**1.3**	**0.85**	**0.6**

B. CONTRACTING METHOD

The analysis of contracting methods involved indexing and charting data received for each of the five programs. The following section provides detailed information on the grades, justification, and application to GPN of the four subcategories as defined in Chapter IV. Each section begins with a weighted grade specifically for the given program in relation to contracting methods. The weighted grade is determined by multiplying the individual question grade by the weight assigned to that question. Overall grade is simply the summation of all four weighted grades. A consolidated table at the end of the section presents the individual sub-category grades and weighted grades for each program.

1. MCPP-N

Overall Contracting Method Weighted Grade: 3.6

The assessment of MCPP-N's contracting methods resulted in an overall weighted grade of 3.6, which is determined by the cumulative scores of its subcategories. The

subsequent section provides specific details and rationale for each subcategory, offering a comprehensive analysis of the grading outcome.

> CM1. Unweighted Grade: 5 – What Operational Contract Structure supports the preposition program to enable six functions of logistics and fair labor between the U.S. and HN?

The contracting method grade (CM1) for MCPP-N rendered a "5" or "OCS includes a LOGCAP contract, Full Support" due to the following reasons. Contract by negotiation, FAR Part 15, was issued in March of 2018, contract (M67004-18-R-0014, 2018). The scope encompasses a comprehensive range of logistics services for the Marine Corps' Prepositioning Programs, including the MPS Program, MCPP-N, and MAP-K. The statement of work (SOW) outlines the contractor's responsibilities for equipment maintenance and material management to ensure the attainment, preservation, packaging, and availability of required assets. This Cost-Plus Fixed Fee Indefinite Delivery / Indefinite Quantity (IDIQ) contract has a ceiling value of $949 million and an ordering period of 8 years. Task orders are issued under this contract as specific requirements are identified. The operational contract structure of MCPP-N facilitates a full spectrum of logistical support, including services, labor, and fair labor considerations. It provides significant capability and flexibility, enabling the combatant commander to conduct numerous crisis response missions. This directly relates MCPP-N's ability to establish sufficient stock levels of humanitarian aid / disaster relief, along with the ability to leverage storage capacity of prepositioned sealift and greatly reduced force closure times in response to contingency scenarios (M67004-18-R-0014, 2018).

The agreement was conducted via contract by negotiation, adhering to FAR Part 15, which mandates a comprehensive SOW from the Government to ensure fair and open competition through solicitation of proposals. The draft RFP outlines the conditions, nature, and risks associated with the labor force's ability to deploy forward and provide sustainment and maintenance support.

The operational contract structure plan in MCPP-N is robust and resilient to support a wide range of mission requirements. In the context of the GPN and the intended locations of GPN sites, it may not be feasible to implement a robust plan and maintain a large labor less established countries in the pacific. The OCS plan in MCPP-N has

significant physical and logistical requirements and is designed as a static, permanent solution to provide support and sustain equipment in Norway. Furthermore, the bilateral agreements between the United States and the Kingdom of Norway have a well-established framework, particularly with the LBA which grants authorization for Norwegian forces to assist in contract support.

> CM2. Unweighted Grade: 3 – What LOM are contracted out field and organizational maintenance?

The Marine Corps Maintenance Contractor, as outlined in the Performance Work Statement (M67004-18-R0014, p. 47), is responsible for conducting limited technical inspections, preventative maintenance, corrective maintenance, operational checks, and reprocessing of major end items, modifications, and COSIS surveillance. This maintenance contract includes organic field LOM. However, for secondary repairable or intermediate LOM, it is necessary to float items to depot level maintenance off-site. The decision to contract out these maintenance levels is based on program readiness and the labor contracting regulations under the FAR. By contracting out selected maintenance tasks, the program can ensure the availability of skilled mechanics to support field level and intermediate maintenance tasks. This approach enhances program readiness by efficiently allocating resources and expertise to support maintenance actions, rather than relying solely on rotating operational forces.

This maintenance contract method could be implemented in many GPN sites, but it would rely on the bilateral agreements and MOU between HN and the United States. MCPP-N contracts both U.S. and Norwegian citizens to conduct maintenance due to our deep ties with NATO and similar ground equipment systems between the two countries. This bilateral relationship may not be feasible or available in future GPN sites. As per the grading criteria for CM2, it did not meet the standards to render intermediate field LOM via contracted means, so it earned a grade of "3" or "Maintenance Contract is available, includes organizational field LOM."

> CM3. Unweighted Grade: 3 – Does the HN lease land and infrastructure and on what terms, to include cost sharing?

As per the MOU, the Kingdom of Norway "shall provide prepositioning facilities and operating air bases, with all land owned by Norway and provided at no cost to the U.S" (Memorandum of Understanding, 2005). Norway also assumes responsibility for general maintenance of prepositioned equipment and supplies, with cost-sharing arrangements agreed upon. In the event of reinforcement, Norway will support the program with various resources and capabilities. Furthermore, the ownership of buildings, structures, and assemblies on the land is outlined in the MOU, with those affixed to the land remaining the property of Norway and those constructed by U.S. Forces becoming the property of Norway once constructed.

The land and infrastructure contract in Norway sets the golden standard for future GPN site. The MOU and Defense Cooperation Agreement ensure that logistics support is provided by the HN, with the possibility of fair charges if support cannot be fully provided by the Norwegian Armed Forces. Overall, these arrangements and agreements guarantee the provision of necessary facilities, resources, and logistical support for the program while respecting property ownership and cost-sharing considerations, rendering a grade of "3" or "HN Owned, lend land and infrastructure as per Bilateral Agreement."

This approach to land and infrastructure would be highly desirable for future GPN sites due to its incorporation of cost sharing, the HN's management, and facilitation of all maintenance on the property, and the nation's active involvement in sustainment efforts. The program effectively leverages significant resources from the HN by implementing strategic governmental policies that establish clear roles and responsibilities between the two nations. To achieve a level of support like MCPP-N, a GPN site would require the active involvement of the HN government to agree on the roles and responsibilities between the two parties.

> CM4. Unweighted Grade: 3 – What Quality Assurance Surveillance Plan is integrated to the contracts to ensure proper oversight of each program?

In contract M67004-18-R-0014 PWS states 1.C.3.c that the Marine Corps Maintenance Contractor is obligated to provide an on-site Program Manager who will assume responsibility for the overall management and coordination of the contract. This information reflects the perspective of the contractor. Furthermore, in accordance with

CM4, contract oversight in M67004-18-R-0014 incorporates robust quality assurance surveillance measures, as outlined in 1.E.2. The Marine Corps Maintenance Contractor is mandated to use the Government-provided Enterprise Quality Management Support System to monitor, evaluate, and track performance internally and externally. In case of any inconsistencies, discrepancies should be promptly reported to either the KO or the COR. This comprehensive integration of quality assurance measures within the contract ensures diligent oversight and adherence to the performance standards outlined in the agreement, rendering a grade of "3" or "Quality Assurance Measure Plan with COR directly."

GPN sites necessitate a QASP that emulates and resembles the structure of MCPP-N, encompassing a program manager solely dedicated to the task along with multiple delegates to ensure thorough supervision and seamless integration of contract performance. Given the intricacies of the operations and the urgency associated with crisis response, it is imperative that surveillance and assurance personnel possess the capacity to verify the contractor's ability to fulfill the requirements within the scope of the contractual agreement, even under stringent time constraints.

Documents reviewed for Contracting Method, Norway:

- MOU Governing Prestockage and Reinforcement of Norway
- Technical Manual 4790–14/1H – Logistics Support for Marine Corps Prepositioning Program – Norway
- Acquisition and Cross-Servicing Agreement (USA-NOR-02) between The Government of the United States of America and the Government of the Kingdom of Norway
- Solicitation No: M67004-18-R-0014 & M67004-19-D-0001

2. MAP-K

Overall Contracting Method Weighted Grade: 2.9

The assessment of MAP-Ks contracting methods resulted in an overall weighted grade of 2.9, which is determined by the cumulative scores of its subcategories. The subsequent section provides specific details and rationale for each subcategory, offering a comprehensive analysis of the grading outcome.

CM1. Unweighted Grade: 5 – What Operational Contract Structure supports the preposition program to enable six functions of logistics and fair labor between the U.S. and HN?

The contract method grade (CM1) for MAP-K rendered a "5" or "OCS includes a LOGCAP contract, Full Support" for the same reasons as described in MCPP-N, CM1. Contract M67004-18-R-0014 supported MAP-K, MPF, and MCPP-N. Please see CM1 for further details and justification for this grade.

CM2. Unweighted Grade: 4 – What LOM are contracted out field and organizational maintenance?

Maintenance activities are contracted under M67004-18-R-0014 and up to the Field level are required to be conducted by the contractor as outlined in the Performance Work Statement. This includes preventative maintenance, corrective maintenance, calibration, and modifications, as well as the implementation of COSIS procedures to monitor the condition of assets and maintain them in Full Mission Capable condition. Any maintenance actions that cannot be performed locally will be reported to the army materiel command. The utilization of contract by negotiation, as specified in FAR Part 15, necessitates a comprehensive statement of work from the Government. From the contracts reviewed, each statement outlines the scope and requirements and solicits proposals to ensure fair and open competition. The contracts also consider the nature and risk associated with the labor force's ability to deploy forward and provide sustainment and maintenance support. Since the contract provides maintenance support for both organic and intermediate LOM, MAP-K graded a "4" or "Maintenance Contract is available, includes both operational and intermediate field LOM."

This program operated outside of the weapons engagement zone, yet the contract still considered the nature and risk associated with the labor force's capability to deploy forward and provide crucial sustainment and maintenance support, which are fundamental to the characteristics of GPN. Depending on the site's location, certain GPN sites may be situated in areas that, in the event of conflict, would be considered within the weapon engagement zone. This aspect must be specified in the contract to consider the labor force's involvement.

CM3. Unweighted Grade: 0 – Does the HN lease land and infrastructure and on what terms, to include cost sharing?

Based on the analysis, MAP-K program manager contracted with Kuwait and Gulf Link Transport Company (KGL) via the U.S. Army Corps of Engineers (USACE) to lease warehouses and land in Kuwait. The lease agreements were conducted annually under a Firm-Fixed Price (FFP) contract. The lease agreement covered all facility services and utilities, including electricity, sewerage, communal area and system maintenance, and ventilation and A/C systems. The ownership of the land and infrastructure was privately owned by KGL.

Despite receiving a score of 0 in the grading for GPN, it is noteworthy to consider the potential benefits based on the bilateral relationships between future GPN sites and their respective HNs. In such cases, referencing the acquisition process utilized by MAP-K to obtain land and facilities for the program could prove advantageous. If a future GPN site is intended to be situated in a country where bilateral agreements are underdeveloped or not well-established, the implementation of a bilateral agreement, such as Trade and Investment Framework Agreement (TIFA), would provide the freedom to negotiate with local vendors and secure adequate facilities to establish and sustain the GPN site.

CM4. Unweighted Grade: 3 – What Quality Assurance Surveillance Plan is integrated to the contracts to ensure proper oversight of each program?

The Quality Assurance Surveillance Plan grade (CM4) for MAP-K rendered a "3" or "Quality Assurance Measure Plan with COR directly assigned" for the same reasons as described in MCPP-N, CM4. Contract M67004-18-R-0014 supported MAP-K, MPF, and MCPP-N. Please see MCPP-N, CM4 for further details and justification for this grade.

In addition to the details above, Kuwait had its own QASP document, which was regularly updated with new versions. During our review of Version 1.0 dated 10/14/2014, we examined the purpose of the QASP and its integration into the contract. The document outlined the specific roles and responsibilities of key personnel, including the Program Manager, Project Manager, and KO.

Kuwait had an overarching QASP plan policy in place, supported by dedicated personnel responsible for auditing and validating contract performance. Multiple CORs

were involved in managing contract performance. This information is based on the QASP for Ashore Based Prepositioning Programs from 2014. This approach should be implemented as a standard practice for upcoming GPN sites to guarantee sufficient contractual assistance in a contingency response, thereby ensuring the provisions of necessary support in such situations.

Documents reviewed for Contract Method, MAP-K:

- MAP-K Performance Requirement Summary (PRS)
- MAP-K Performance Work Statement (PWS)
- MAP-K WH Lease1
- MAP-K WH Lease2
- Solicitation No: M67004-18-R-0014 & M67004-19-D-0001
- M9497620MPLEASE-0001
- QASP Ashore Based Prepositioning Programs Version 1.0

3. MRF-D

Overall Contract Method Weighted Grade: 1.9

The assessment of MRF-D's contracting methods resulted in an overall weighted grade of 1.9, which is determined by the cumulative scores of its subcategories. The subsequent section provides specific details and rationale for each subcategory, offering a comprehensive analysis of the grading outcome.

CM1. Unweighted Grade: 3 – What Operational Contract supports the preposition program to enable six functions of logistics and fair labor between the U.S. and HN?

MRF-D does not have a well-established operational contract support plan nested into the program. Based on the available information, the OCS plan for MRF-D enables limited range in logistical support. For example, one of the four contracts analyzed included an Aeromedical Evacuation Service (AME) in support of MRF-Darwin training areas. The requirement was solicited on an independent contract, utilizing contract by negotiation, FAR part 15. The service, AME, is intended for exercise support, contracted under a firm fixed price contract with a mobilization Contract Line Item Number (CLIN) and stand-by CLIN for two exercise sites (M2900019PA001, 2019). Similarly, another contract was signed to source vehicle transportation services under a firm fixed price. The

contract had a single CLIN for a year of transportation service throughout Australia, along with a Sub-Clin for maintenance/claims for the fleet of vehicles with a four-year option (N62742-19-P-6578, 2019). Another example of an independently sourced requirement to support logistical functions for MRF-D as opposed to a contract plan with pre-identified sources based on anticipated requirements.

While the operational contract structure promotes fair and equal competition, it requires a high volume of contract personnel to consistently process requirements for routine and predetermined logistical needs. Furthermore, the ability to surge resources is limited due to the lack of a pre-identified Blanket Purchase Agreement or LOGCAP contract. Due to the limitations of OCS plan renders MRF-D a "3" or "OCS in AOR, Some Contract Support."

CM2. Unweighted Grade: 1- What LOM are contracted out field and organizational maintenance?

According to a draft MRF-Darwin Logistics Handbook Smart-pack (2023), maintenance support is not outsourced but rather managed and carried out by the rotational ground element. Organic maintenance is organized and conducted based on the dry and wet seasons. During the dry season, field-level maintenance is prescribed by the logistics command element (CE), which can also provide intermediate maintenance support for all commodities. In the wet season, the Ground Equipment Staging Program (GESP) conducts intermediate-level maintenance. Depot-level maintenance is coordinated with the appropriate supporting establishment, although the specific establishment is not specified. The rotational force CE is responsible for maintenance management, overseen by the Maintenance Management Officer.

The GESP is comprised of maintainers and supply specialists from the 1st Marine Logistics Group. During the wet season, the GESP Officer in Charge is designated as the MRF-D equipment accountable officer. The GESP is based at Matilda Lines, Robertson Barracks. It serves as a unit responsible for intermediate-level maintenance and is staffed by personnel with expertise in equipment maintenance and supply operations 1st Marine Logistics Group.

As per the CM2 grading criteria, MRF-D contract maintenance support renders a grade of "0." This is because the rotational forces maintain the equipment sets that are in remain behind equipment status, as well as the deployed organic equipment. The ability to increase maintenance actions depends on the maintenance capability of the operational forces in Australia.

CM3. Unweighted Grade: 2 – Does the HN lease land and infrastructure and on what terms, to include cost sharing?

In accordance with the US-AU Force Posture Agreement (FPA), Article I, the two parties have established Agreed Facilities and areas for the use of U.S. Forces. Most of these facilities are owned by Australia, with a few privately owned industrial compounds. Both Australian-owned and privately owned land are leased under a FFP contract, with options for renewal. Cost sharing is determined based on the extent of joint utilization of the facility or area by both nations, as stated in Article X of the FPA. An example of a contract (N62742-19-00022, 2019) involves the lease of a storage facility for one year, with a fixed cost paid to a private Australian owner. The warehouse is climate controlled to store rations, individual equipment, and medical supplies (MRF-D, personnel communication, 15 October, 2023).

Australia provides both privately owned and HN-owned land, with leases being contracted to the respective owners. Cost sharing is available when the facility or area is utilized or proportioned to be shared with the Australian Forces. In such cases, the two parties will determine an equitable amount to share in costs, as outlined in the US-AU Force Posture Agreement. Due to the hybrid approach of both HN and Privately owned land and infrastructure and availability of cost sharing, renders a grade of "2" or "HN Owned, Contract."

CM4. Unweighted Grade: 1 – What Quality Assurance Surveillance Plan is integrated to the contracts to ensure proper oversight of each program?

Out of the four contracts reviewed in 2022, only one contract had a defined quality assurance plan. Specifically, Contract M29000-19-A-A001, which pertains to Aeromedical evacuation services, outlined in paragraph 1.3.2, includes provisions for the Contract Officer or Quality Assurance to conduct random checks. These checks are

aimed at ensuring that the contractor and contractor's personnel possess the necessary licenses and certifications. Furthermore, this contract also specifies a performance work quality table that outlines incentives and consequences in cases where quality and contract performance standards are not met. However, the other three contracts, which involve a fleet of vehicles lease and two land lease agreements, respectively, do not incorporate any form of quality assurance plan.

The inconsistency in the presence of a QASP across these contracts can be attributed to the lack of mutual support between the contracts. Requirements are worked on a case-by-case basis, without an overarching plan to establish uniformity and ensure consistent quality assurance practices. Due to the lack of structure and uniformity in quality assurance, MRF-D earned a score of "1" or "Some Quality Assurance Plan in place."

Documents reviewed for Contract Method, MRF-D:

- ACSA Implementing Arrangement (PC-AU-FPA-01) between the United States Department of Defense and the Australian Department of Defense
- Implementing arrangement on Cost Sharing
- Force Posture Agreement between Australia and the US
- Contracts: M29000-19-P-A001, N62742-19-P-6578, N62742-19-RP-00022

4. MPF

Overall Contract Method Weighted Grade: 3.5

The assessment of MPF's contracting methods resulted in an overall weighted grade of 3.5, which is determined by the cumulative scores of its subcategories. The subsequent section provides specific details and rationale for each subcategory, offering a comprehensive analysis of the grading outcome.

CM1. Unweighted Grade: 5 – What Operational Contract Structure supports the preposition program to enable six functions of logistics and fair labor between the U.S. and HN?

The CM1 for MPF rendered a "5" or "OCS includes a LOGCAP contract, Full Support" for the same reasons as described in MCPP-N, CM1. Contract M67004-18-R-

0014 supported MAP-K, MPF, and MCPP-N. Please see MCPP-N, CM1 for further details and justification for this grade.

CM2. Unweighted Grade: 4 – What LOM are contracted out field and organizational maintenance?

The information reviewed in M67004-18-R-0014 reveals that the maintenance guidance for drydock periods and aboard deployed MPS incorporates various maintenance actions, including those conducted ashore during exercises and contingencies. Due to the unpredictable nature of the timing, quantities, and performance delivery of corrective maintenance and contingency support, an IDIQ contract has been deemed appropriate for this purpose (M67004-18-0014, p. 48).

Regarding the CM objective, paragraph 1.D.2.b of the contract details the requirements for program complexity. It specifies that while a MPS is in drydock, the contractor is responsible for thoroughly refurbishing Marine Corps and Navy ground tactical military equipment. This involves performing preventative and corrective maintenance, implementing modifications, recalibrating TMDE, inventorying and replacing collateral equipment, and replacing obsolete equipment with newly fielded assets. Based on the grading criteria and the specific details to support contract maintenance, MPF renders a grade of "4" or "Maintenance Contract is available, includes both operational and intermediate field LOM."

CM3. Unweighted Grade: 2 – Does the HN lease land and infrastructure and on what terms, to include cost sharing?

The MPF ships, owned and funded by the U.S. Navy through DoD appropriations, utilize global resources for husbanding services. NAVSUP oversees a Husbanding Service Providers Global Multiple Award Contract with 32 companies, providing numerous services such as charter, utilities, force protection, communications, and land transportation in support of maritime forces (Defense Government Contract, October 1, 2020).

Given the nature of the program, MPF ships, being afloat assets, do not require leasing or infrastructure. However, they rely on contracted support from HN owned ports.

According to CM guidance, this arrangement is classified as "2" or "HN owned but contracted support."

CM4. Unweighted Grade: 3 – What Quality Assurance Surveillance Plan is integrated to the contracts to ensure proper oversight of each program?

The Quality Assurance Surveillance Plan grade (CM4) for MPF rendered a "3" or "Quality Assurance Measure Plan with COR directly assigned" for the same reasons as described in MCPP-N, CM4. Contract M67004-18-R-0014 supported MAP-K, MPF, and MCPP-N. Please see MCPP-N, CM4 for further details and justification for this grade.

Documents reviewed for Contract Method, MPF:

- Solicitation No: M67004-18-R-0014 & M67004-19-D-0001
- Husbanding Service Providers Contract Award

5. ESD

Overall Contract Method Weighted Grade: 2.9

The assessment of ESD's contracting methods resulted in an overall weighted grade of 2.9, which is determined by the cumulative scores of its subcategories. The subsequent section provides specific details and rationale for each subcategory, offering a comprehensive analysis of the grading outcome.

CM1. Unweighted Grade: 5 – What Operational Contract Structure supports the preposition program to enable six functions of logistics and fair labor between the U.S. and HN?

The ESD and the Exercise Logistics Coordination Center work together to provide comprehensive logistics support to exercise forces training at MCAGCC. These organizations employ a hybrid mix of Active-Duty Personnel and Civilian Contracted employees to organically deliver all six functions of supply, including billeting, Class II, III, and IV support. Although not operating in a contingent environment, ESD receives full contract support from the Regional Contracting Office and has service provided contracts for fuel and energy. This operational contract structure enables the seamless coordination of operations and logistical support, ensuring efficient and effective training exercises. Due to the full Contract Support Plan, this would be classified as "OCS includes a comprehensive contract plan, Full Support" or "5."

CM2. Unweighted Grade: 4 – What LOM are contracted out field and organizational maintenance?

ESD conducts maintenance at all levels, utilizing both Active-Duty personnel and Civilian contractors. They are responsible for managing a wide range of repairable parts, specifically class IX parts, as well as handling their own secondary repairable items. To ensure equipment readiness and minimize equipment degradation, ESD employs permanent maintenance contractors classified as Wage Grade and General Schedule employees. This comprehensive approach to maintenance allows ESD to effectively manage and address maintenance needs across various levels, ensuring optimal equipment performance and functionality, rendering a grade of "4" or "Maintenance Contract is available, includes both operational and intermediate field LOM."

CM3. Unweighted Grade: 0 – Does the HN lease land and infrastructure and on what terms, to include cost sharing?

The ESD, stationed at MCAGCC in Twentynine Palms, California, does not lease land as it operates on U.S. soil. Therefore, the issue of whether the HN leases land and infrastructure, as well as the terms and cost-sharing arrangements, does not apply to CM3. The ESD's location and operations within the United States exempt it from these considerations.

CM4. Unweighted Grade: 3 – What Quality Assurance Surveillance Plan is integrated to the contracts to ensure proper oversight of each program?

In 2022, three contracts were reviewed, including a repair and service contract, a service contract, and a single purchase contract for a principle end item. Among these contracts, the repair and service contract stood out with its comprehensive quality assurance plan, which included a QASP clause and involvement of a KO and COR in the verification of performance quality. The service contract also had a quality assurance plan in place, utilizing a Performance Requirement Summary chart for regular validation and inspection. Additionally, a COR was assigned to maintain inventory records.

Considering the CM4 criteria, all three contracts met the highest standards for quality assurance, with the inclusion of a COR in oversight and audit management, rending a grade of "3" or "Quality Assurance Measure Plan with COR directly assigned."

The contract numbers for these reviewed contracts are: M6739923Q000121, M6739922Q002117, and M6739923P003715.

Documents reviewed for Contract Method, ESD:

- Contracts: M6739923P0007, M6739923D0001, M6739923P0037
- Brief for MARFORPAC ISSO equipment set creation ppt.
- ESD Smartpack

6. Contracting Method Analysis Summary

This section has addressed the evaluation of the weighted subcategory grading for all five programs. Table 8 presents the weighted subcategory grades for these programs; however, it has not been compared against the theme weights. Based on the weighted subcategory grades, the ranking is as follows: MCPP-N ranks first, MPF ranks second, MAP-K and ESD are tied for third place, and MRF-D ranks fourth. Further elaboration and analysis of these rankings will be provided in subsequent sections of this chapter.

Table 9. Contracting Methods Subcategory Aggregated Grades.

Theme	Subcategory	MCPP-N	MAP-K	MRF-D	MPF	ESD
Contracting Methods	CM1	1.5	1.5	0.9	1.5	1.5
	CM2	0.6	0.8	0.2	0.8	0.8
	CM3	0.9	0	0.6	0.6	0
	CM4	0.6	0.6	0.2	0.6	0.6
	Total	**3.6**	**2.9**	**1.9**	**3.5**	**2.9**

C. STRATEGIC CAPABILITY

The analysis of strategic capability involved indexing and charting data received for each of the five programs. The following section provides detailed information on the grades, justification, and application to GPN of the four subcategories as defined in Chapter IV. Each section begins with a weighted grade specifically for the given program in relation to strategic capability. The weighted grade is determined by multiplying the individual question grade by the weight assigned to that question. Overall grade is simply the summation of all four weighted grades. A consolidated table at the end of the section presents the individual sub-category grades and weighted grades for each program.

1. MCPP-N

Overall Strategic Capability Weighted Grade: 2.4

Based off the summation of the following subcategories, MCPP-N receives an overall weighted grade of 2.4. The subsequent sections provide greater clarity discussing the rationale for the grade and details involved during the analysis of the program.

SC1. Unweighted Grade: 3 – What capabilities does the equipment set provide to the MAGTF?

MCPP-N provides the MAGTF with a well-rounded equipment set with thecapabilities necessary to respond across a wide ROMO. There are four principal components to the allocation of equipment within MCPP-N and provide the flexibility and scalability needed to augment a rapid response force (HQMC, 2015). The first component includes the primary MAGTF equipment set built around an infantry battalion and supporting logistics and aviation elements. The next component breaks out the equipment to an even smaller degree supporting up to three company-sized (reinforced) Special Purpose MAGTFs (SP-MAGTFs) capable of conducting tactical-level Theater Security Cooperation (TSC) activities. The third component to the MCPP-N equipment set comes in the form of Adaptive Force Equipment Sets which enable various additional capabilities to enhance either of the previous two. This includes equipment sets designated for habitability, Chemical, Biological, Radiological, and Nuclear (CBRN) response, arrival and assembly operations, water production, bridging, fuel storage and refueling, electrical distribution, cold weather and mountaineering, force protection, and route reconnaissance and clearance operations. The final component of MCPP-N lies with the MEB augmentation equipment set which would require support from the MPF to fully meet the equipment requirements for a MEB formation.

The MCPP-N equipment set is housed within six caves and two storage facilities in Central Norway. Major end-items prepositioned within the caves include armored combat systems such as up-armored High Mobility Multipurpose Wheeled Vehicle, AAVs, Light Armored Vehicle (LAVs), M1A1 Abrams Tanks, and M777 Howitzers. Additional major end-items categories consist of mobile communications, material handling equipment, mobile electrical power, earth moving equipment, bulk fuel and water storage, and motor transportation assets. In addition to prepositioned equipment,

MCPP-N also maintains ground and aviation munition depots stored within the caves. MCPP-N's demonstration of combat power projection integrated with crisis response capabilities illustrates the strategic significance a prepositioning program affords to the Marine Corps writ large.

> SC2. Unweighted Grade: 2 – Does the prepositioning program's geographical presence add value to the Marine Corps' ability to conduct global operations supporting strategic objectives?

MCPP-N significantly impacts the Marine Corps' ability to respond to contingency and crisis, especially as the only preposition program located within the European theater for strategic and operational requirements. The strategic positioning of MCPP-N enables a response force with the means to operate under EUCOM and has even demonstrated its ability to augment MAGTF forces operating under other CCDRs in theaters such as U.S. Africa Command and CENTCOM. One of the focal points for the establishment of the MCPP-N program is to support the reinforcement of Norway and enabling an expeditionary crisis response capability. The Russia-Ukraine conflict validates the relevance and necessity for MCPP-N as it provides the EUCOM CCDR with various employment options for the MAGTF in the event of containing the outbreak of the war into countries under the NATO alliance. In addition, a Marine Corps prepositioning site located in Norway provides a credible U.S. presence near our NATO allies ensuring our commitment to evolving partnership and interoperability alongside our partners as well as enhancing deterrence efforts within the region, both of which are elements that would be further discussed in the following analysis for SC3.

> SC3. Unweighted Grade: 2 – Does the prepositioning program lend itself to interoperability with partners and allies and pose as a credible deterrence to adversaries in the region?

The United States and Norway have an extensive history of partnership and defense cooperation dating back to the signing of the Mutual Defense Assistance Agreement in 1950 (HQMC, 2013). Since then, MCPP-N has served as the foundational ashore-based prepositioning program for the Marine Corps committed to strengthening the security of NATO countries and enhancing operational responsiveness within EUCOM. MCPP-N demonstrates the significant military combat power devoted to

reinforcing Norway in the event of conflict, contingency, or crisis and is a key contributor to the deterrence of hostile aggression and activity, especially from state actors with influence in the region such as Russia and China.

One of the key strengths identified previously within the policy thematical analysis is the diplomatic actions that have enabled the success of MCPP-N through the various agreements, policies, and measures. Stemming from the political and diplomatic agreements between the two nations comes annual rotational deployments into the region such as the Marine Rotational Force–Europe (MRF-E) that add to the credibility of the partnership and validity for MCPP-N. MRF-E expands upon the U.S. commitment to interoperability conducting joint training and exercises alongside forces from Norway, United Kingdom, and the Netherlands thereby enhancing regional partnership and deterrence efforts through our partner-forces.

SC4. Unweighted Grade: 2 – What LOM activity is organic to the prepositioning program that enables the support of operations?

MCPP-N possesses a well-detailed LBA pertaining to the logistics and maintenance support of prepositioned equipment. Maintenance of equipment is conducted through the NDLO and MEB personnel and authorized up to the field LOM incorporating organizational and intermediate maintenance activities. When MCPP-N equipment is utilized, the LBA authorizes the support of Norway's HN Support Battalion (HNSB) capable of providing additional logistics and engineering support to the MAGTF. The LBA provides a very thorough description of NDLO/MEB maintenance responsibilities and institutes a monthly surveillance program to ensure adherence to Marine Corps orders, directives, and LBA references.

Documents reviewed for Strategic Capability, MCPP-N:

- Marine Corps Order (MCO) 3000.17 Marine Corps Prepositioning Program
- Marine Corps Prepositioning Programs Handbook 3rd Edition.
- Technical Manual (TM) 4790–14/1H Logistics Support for Marine Corps Prepositioning Program – Norway
- MCPP-N Memorandum of Understanding Governing Pre-stockage and Reinforcement of Norway

- Local Bilateral Agreement Between Blount Island Command and Regional Logistics Group – Mid Norway (RLG-M) for Logistics Support of Marine Corps Prepositioning Program – Norway

2. MAP-K

Overall Strategic Capability Weighted Grade: 1.1

Based off the summation of the following subcategories, MAP-K receives an overall weighted grade of 1.1. The subsequent sections provide greater clarity discussing the rationale for the grade and details involved during the analysis of the program.

SC1. Unweighted Grade: 1 – What capabilities does the equipment set provide to the MAGTF?

MAP-K provides the MAGTF with a limited capability set by augmenting the force with theater-specific equipment in the CENTCOM theater of operations. MAP-K was established to close the logistics gap by prepositioning protected armored vehicles in Kuwait as opposed to embarkation aboard naval vessels sacrificing onboard weight capacity and cargo space availability. The equipment set primarily consists of major armored combat systems such as the up-armored Medium Tactical Vehicle Replacement (MTVR), Logistics Vehicle System Replacement (LVSR), and Mine Resistant Ambush Protected (MRAP) vehicle that provides greater protection and survivability against improvised explosive devices that were commonly encountered during combat operations in the GWOT.

MAP-K is unique in comparison to the other prepositioning programs in that it was established in 2010 as a reactionary solution during the GWOT era to support combat operations and subsequently deactivated by the end of the war in 2021 as the U.S. shifted efforts regarding the NDS (BIC, n.d.). During MAP-K's tenure, it augmented mainly the Ground Combat Element (GCE) and LCE with a limited capability in the form of protected armored assets to conduct operations within the theater.

SC2. Unweighted Grade: 1 – Does the geographical presence of the prepositioning program add value to the Marine Corps' ability to conduct global operations in support of strategic objectives?

MAP-K positively impacted the Marine Corps' ability to respond to operations within CENTCOM by providing a staging facility out of Camp Arifjan, Kuwait. Camp Arifjan is a U.S. Army-owned installation in which the Marine Corps negotiated a 43-acre lot aboard the base to establish the groundwork of what would be known as MAP-K. Through this acquisition, the Marine Corps was provided with an organized staging area in Kuwait for the MAGTF to draw necessary theater-specific equipment such as MTVRs and MRAPs.

A grade of 1 is awarded to MAP-K due to the heavy saturation of U.S. bases throughout CENTCOM in which the Marine Corps can conduct operations through. Camp Arifjan and MAP-K are one of the many installations that enable the war effort and sustain operations, success in CENTCOM is not solely dependent on this prepositioning program and can more than likely source equipment elsewhere. In Kuwait alone, various U.S. military basing locations include Ali Al Salem Air Base, Ahmed Al Jaber Air Base, Camp Buehring, Camp Doha, Camp Commando, and Camp Patriot (Global Security, n.d.). External to Kuwait exists further basing locations in nearby countries such as Bahrain, Djibouti, Egypt, Iraq, Israel, Jordan, Oman, Qatar, Saudi Arabia, Turkey, and the United Arab Emirates.

> SC3. Unweighted Grade: 1 – Does the prepositioning program lend itself to interoperability with partners and allies and pose as a credible deterrence to adversaries in the region?

MAP-K demonstrated the ability for the Marine Corps to conduct interoperability missions with Coalition forces during conflict in the Middle East and served as a credible Marine Corps deterrence force contributing to the larger U.S. Army footprint at Camp Arifjan, Kuwait. Through the equipment set prepositioned at MAP-K, MAGTF units supported numerous operations and contingencies within CENTCOM, most notably Operation Iraqi Freedom II, Operation Enduring Freedom, Operation Inherent Resolve, and SP-MAGTF- Crisis Response – Central Command (BIC, n.d.).

> SC4. Unweighted Grade: 2 – What LOM activity is organic to the prepositioning program that enables the support of operations?

MAP-K personnel possess the organic capabilities necessary to conduct field LOM incorporating organizational and intermediate maintenance activities. Civilian

contractors are the main source of personnel to maintain and operate MAP-K and include the commodity staff on hand to conduct maintenance, maintenance management, and supply accountability. The staff performs the functions necessary to issue equipment to the MAGTF, recover assets upon completion of mission operations, ensure equipment serviceability, and perform field LOM actions (BIC, n.d.). MAP-K comes equipped with 16 Large Area Maintenance Shelters and 20 bays within an Indoor Storage Facility to facilitate preventative and corrective maintenance actions by maintainers and technicians. If maintenance actions are required outside of MAP-K's scope and capabilities, coordination with the Army Material Command is appropriate enabling the support of certain depot-level maintenance tasks of the complete rebuild of MRAPs and other up-armored assets.

Documents reviewed for Strategic Capability, MAP-K:

- MAP-K History slide brief
- MAP-K brief dtd 28 Feb 2017

3. MRF-D

Overall Strategic Capability Weighted Grade: 2

Based off the summation of the following subcategories, MRF-D receives an overall weighted grade of 2. The subsequent sections provide greater clarity discussing the rationale for the grade and details involved during the analysis of the program.

SC1. Unweighted Grade: 2 – What capabilities does the equipment set provide to the MAGTF?

MRF-D provides the necessary equipment to compose a MAGTF with credible crisis response capabilities operating within the Indo-Pacific theater and enables the rotational deployment of Marine Forces into the region annually. The prepositioned equipment primarily supports the CE, GCE, and LCE with the assets necessary to execute the MRF-D deployment meanwhile the ACE operates its own organic aircraft flown in from its original home station to support the MAGTF for the duration of the deployment.

Equipment and capabilities provided to support the CE include command and control systems augmented by a detachment from a Marine Air Control Group enabling low-altitude air defense capabilities and facilitating Marine aviation support assets to the

MAGTF (I Marine Expeditionary Force [MEF], 2023). These include assets such as the AN/TPS-80 Ground/Air Task Oriented Radar and Networking-on-the-Move (NOTM) equipped tactical vehicles. The equipment set designated to augment the GCE consists primarily of a fleet of up-armored light and medium tactical vehicles, highly mobile Utility Task Vehicles, M777 Howitzers, and an assortment of tactical vehicle trailers and engineering assets. The LCE is equipped with robust ground transportation capabilities in the form of LVSRs and MTVRs to enable combat service support operations to the MAGTF. While the MRF-D equipment set enables the MAGTF to conduct operations in the INDOPACOM AOR, it could be strengthened if additional armored combat vehicle systems were implemented into the prepositioned EDL enabling the MAGTF to conduct amphibious operations through AAVs and ACVs as well as a mechanized maneuver assets such as the Light Armored Vehicle – 25 (LAV-25).

> SC2. Unweighted Grade: 2 – Does the prepositioning program's geographical presence add value to the Marine Corps' ability to conduct global operations supporting strategic objectives?

MRF-D significantly extends the Marine Corps' operational reach into the Indo-Pacific theater and has become increasingly more relevant given the shift in national strategy in the region. Located in Darwin, Australia, MRF-D integrates itself into the web of distributed Marine Corps presence within INDOPACOM with the likes of Okinawa, Guam, and South Korea. Through policy agreements such as the United States Force Posture Initiative (USFPI), MRF-D enables the annual rotation of a MAGTF into the theater with a robust demonstration of allied capabilities and regional partnership enhancing stability and security (KPMG, 2019). More specifically, the equipment set at MRF-D enables the MAGTF to establish a combat credible force conducting operationally focused training enhancing Marine Corps and ADF interoperability and strengthening alliances and partnerships (I MEF, 2023).

> SC3. Unweighted Grade: 2 – Does the prepositioning program lend itself to interoperability with partners and allies and pose as a credible deterrence to adversaries in the region?

The MRF-D equipment set that augments the rotational MAGTF deployment significantly demonstrates the Marine Corps' interoperability efforts alongside the ADF

and regional partners and allies and displays a unified deterrence force within INDOPACOM. MRF-D's origins date back to 2011 in which the Australian government authorized the rotational deployment of Marines to Darwin, Australia to integrate with the ADF strengthening bilateral cooperation and interoperability through combined training and exercises (KPMG, 2019). The strategic implications identified through the USFPI center around the force posture of Marine Corps forces for crisis and contingency response demonstrating the strength of the U.S. and Australian alliance, interoperability between the two nations, and enabling regional engagement with nearby partners and allies in INDOPACOM promoting security cooperation, capacity building, and regional interoperability. The MRF-D deployment is structured around objectives laid out within the USFPI and achieves a forward deployed, partnered, and combat credible MAGTF capable of providing rapid response capabilities throughout INDOPACOM.

SC4. Unweighted Grade: 2 – What LOM activity is organic to the prepositioning program that enables the support of operations?

MRF-D possesses the necessary facilities aboard Matilda Lines to conduct up to intermediate field LOM actions with the capabilities afforded through the Ground Equipment Staging Program (GESP) during the wet season and the Combat Logistics Battalion (CLB) component during the dry season. Leased facilities through the ADF include field maintenance shops, armory, climate-controlled communication and electronics maintenance shops, and an integrated logistics overhaul and outfitting warehouse (Banks, n.d.). Any major external support within the host-nation is afforded through the Joint Logistics Unit – North providing an integrated military logistics capability within Australia's Northern Territory (I MEF, 2023).

A significant consideration when it comes to maintaining the MRF-D equipment set is regarding the weather impacts. During the off-cycle for the MRF-D deployment, the GESP is responsible for the maintenance and operations however this period occurs during Australia's wet season in which large amounts of rainfall in conjunction with the lack of overhead cover for the larger principal end items contribute to the degradation of equipment that remain exposed to the elements and could cause issues in readiness.

Documents reviewed for Strategic Capability, MRF-D:

- The Force Posture Agreement Between the Government of the United States of America and The Government of Australia
- United States Force Posture Initiative – Impact Report
- MRF-D Logistics SOP [DRAFT]
- Marine Rotational Force – Darwin D-30 Brief
- Global Positioning Network (GPN) Australia "MRF-D plus" Brief
- Afloat and Ashore Posture Initiatives I MEF G4

4. MPF

Overall Strategic Capability Weighted Grade: 2.2

Based off the summation of the following subcategories, MPF receives an overall weighted grade of 2.2. The subsequent sections provide greater clarity discussing the rationale for the grade and details involved during the analysis of the program.

SC1. Unweighted Grade: 3 – What capabilities does the equipment set provide to the MAGTF?

MPF enables a global rapid response capability through its unique structure afloat two MPSRONs. The equipment and capabilities brought forward display the Marine Corps' ability to remain flexible and scalable while being lean enough to only embark the capabilities necessary in anticipation to execute missions along the ROMO. The various Crisis Response Force Packages (CRFP) contained within each MPSRON provides the CCDRs with predesignated equipment sets to execute various missions along ROMO and at the furthest extent, the capability to conduct combat operations at the MEB level.

Individual ships within a MPSRON can support the embarkation of a CRFP enabling a light and medium capability for the MAGTF to conduct crisis response operations below the MEB level. The CRFP Light capability equips a MAGTF of 3,000-3,900 personnel enabling a GCE force consisting of an Infantry battalion (reinforced) supported with LAVs, AAVs, artillery, and tanks. The CRFP Light also equips a task-organized CLB to provide logistics support to the GCE and on-call aviation rotary wing support through the ACE (HQMC, 2015).

The next equipment composition tier comes in the form of CRFP Medium, equipped with the assets and equipment to augment a MAGTF of 7,500 personnel supporting up to two Infantry battalions (reinforced) with LAVs, AAVs, artillery, and tanks. Logistics capabilities are enabled through the full composition of a CLB with rotary wing support assets on-call via the ACE (HQMC, 2015). Both the CRFP Light and Medium packages include various capability sets such as fuel distribution systems, water storage and production, field messing, habitability, and billeting, medical, and security and force protection assets. These additional capabilities enhance the CRFP Light and Medium to augment the MAGTF to respond to missions including HA/DR, Defense Support of Civil Authorities, Noncombatant Evacuation Operations, Defense, and Security.

The final equipment composition tier is the CRFP Heavy, which incorporates all elements of the MPF to support a MEB-sized force consisting of 15,000-18,000 personnel. The CRFP Heavy equips a GCE force centered around an Infantry regiment with supporting LCE and ACE capabilities. The capability sets include those of the CRFP Light and Medium with the addition of CBRN support, aircraft rescue, firefighting, expeditionary medical facilities, expeditionary airfields, and the full assortment of naval Seabee capabilities. The full strength of the MPF coupled with the CRFP Heavy enable the MAGTF to respond across the full ROMO.

> SC2. Unweighted Grade: 2 – Does the prepositioning program's geographical presence add value to the Marine Corps' ability to conduct global operations supporting strategic objectives?

MPF enables a significant response capability for the MAGTF to respond to operations globally due to its conceptual design as an afloat equipment prepositioning program. What makes the MPF unique and highly versatile is its ability to integrate the capacity and endurance of sealift coupled with the speed of airlift via the Fly in Echelon (FIE) to culminate in the forward prepositioning of supplies and equipment to enable the MAGTF a rapid response capability.

MPF is broken down into two MPSRONs, with MPSRON-2 based out of Diego Garcia and MPSRON-3 based out of Guam and Saipan (HQMC, 2015). The location of the MPSRONs home ports are subject to change based on service and operational

requirements. Through the strategic positioning of two MPSRONs located in the Indian and Pacific Ocean, the CCDRs maintains a significant advantage in force mobilization by directing the movement of the MPF to a specified location in which a FIE component of the MAGTF will marry with the MPF to conduct offload of the equipment.

MPF possesses a variety of offload employment options depending on host-nation support capabilities and urgency of need. The quickest and most efficient option is via pier side offload which would require access to a port, pier, and nearby airfield for the FIE. The next option is an in-stream offload in which ship cranes maneuver cargo and equipment onto surface connectors and ferries which then transit equipment towards the beach for landing. A hybrid offload option exists combining methods of offloading techniques (HQMC, 2013).

As an afloat prepositioning program, MPF provides rapid response access to various continental locations including Asia, Africa, Australia, Europe, and Antarctica along with equipment and capabilities necessary to employ the MAGTF across the full ROMO.

> SC3. Unweighted Grade: 2 – Does the prepositioning program lend itself to interoperability with partners and allies and pose as a credible deterrence to adversaries in the region?

MPF significantly demonstrates the Marine Corps' ability to maintain a flexible and agile force via MAGTF augmentation through the MPF program. MPF sites based in the Indian and Pacific Oceans enable the projection of sea control and combat power as these capabilities serve as a significant deterrence to adversaries and facilitate TSC activities alongside partners and allies. To maintain its status as a credible prepositioning program, each MEF commander is directed to conduct at least one annual exercise utilizing the MPF capabilities and should be aligned with existing joint and service-level exercises to reinforce MAGTF skills, interoperability, and cooperation with regional partner forces (HQMC, 2015).

> SC4. Unweighted Grade: 0 – What LOM activity is organic to the prepositioning program that enables the support of operations?

A forward-deployed, mobile, afloat prepositioning program presents its disadvantages when embarked aboard the MPSRON due to the difficulties of executing maintenance activities when underway. The preponderance of maintenance is conducted during the MPF Maintenance Cycle (MMC) phase for up to 18 months in which the equipment is offloaded at BIC and maintenance services performed. During the 30-month afloat phase in which equipment and supplies are embarked, access to equipment is significantly restricted due to the embarkation and cargo load planning of containerized assets. However, when the MPF is undergoing the MMC phase, the maintenance support and capabilities afforded through contracted personnel at BIC would result in a grade of 3 for this subcategory as BIC coordinates the support for offsite depot-level maintenance on equipment that require such maintenance overhaul.

Documents reviewed for Strategic Capability, MPF:

- Marine Corps Order (MCO) 3000.17 Marine Corps Prepositioning Program
- Marine Corps Prepositioning Programs Handbook 3rd Edition
- MPF Maintenance Cycle and Op Loading

5. ESD

Overall Strategic Capability Weighted Grade: 1.4

Based off the summation of the following subcategories, ESD receives an overall weighted grade of 1.4. The subsequent sections provide greater clarity discussing the rationale for the grade and details involved during the analysis of the program.

SC1. Unweighted Grade: 3 – What capabilities does the equipment set provide to the MAGTF?

The equipment set prepositioned at ESD sufficiently augments the MAGTFs ability to conduct operational training and exercises that would translate to rapid response capabilities for military operations. ESD provides substantial logistical support to MAGTF exercising forces during SLTE replicating a Forward Operating Base withing the MCAGCC training area. MCAGCC serves as the premier training grounds for MAGTF forces to validate unit-level mission essential tasks prior to deployment. The equipment maintained and issued to the exercising forces can be utilized by various elements of the MAGTF to meet training objectives during SLTE that translate to

functions performed under ROMO. The prepositioned equipment set maintained at ESD would prove to be a significant display of military capabilities and combat power if ESD were a legitimate forward-deployed prepositioning program overseas vice a training-oriented equipment program.

Equipment and assets managed by ESD include over 13,000 principal end items to facilitate MAGTF exercises and training events through the EEAP with technical experts supporting equipment commodities to include communications and electronics, heavy equipment, utilities, bulk fuel and water, motor transportation, AAVs. LAVs, and artillery assets. (ESD, 2021). ESD possesses the capability to equip some of the following unit-level baselines to include Infantry regiment headquarters, Infantry battalion, AAV platoon, AAV company reduced, Artillery battery, Artillery battalion, Combat Engineer platoon, LAR platoon, LAR company, Marine Wing Support Squadron, and a Combat Logistics Battalion.

> SC2. Unweighted Grade: 0 – Does the prepositioning program's geographical presence add value to the Marine Corps' ability to conduct global operations supporting strategic objectives?

ESD is located aboard MCAGCC based in Twentynine Palms, California. ESD is unique in comparison to the other prepositioning programs in that it is a training-oriented equipment set for Marine Corps forces to utilize during the conduct of service-level MAGTF training exercises enhancing and validating combat lethality and proficiency. The equipment housed at ESD is for training and exercise purposes and intended to preserve a unit's organic material readiness and ease the logistical burden of transporting gear and equipment to MCAGCC. Due to ESD's mission and role as a training-oriented equipment set enabler, it does not provide any operational value to the CCDR to respond to military operations CONUS or overseas.

> SC3. Unweighted Grade: 0 – Does the prepositioning program lend itself to interoperability with partners and allies and pose as a credible deterrence to adversaries in the region?

As a CONUS-based, training-oriented equipment storage program, ESD does not extend the Marine Corps' reach to engage with partners and allies nor contribute to deterrence efforts. What ESD excels in is providing the MAGTF with the ability to train

and execute missions and operations within a controlled training environment so that these capabilities can be applied to an operational setting outside of the U.S.

SC4. Unweighted Grade: 2 – What LOM activity is organic to the prepositioning program that enables the support of operations?

ESD possesses the capabilities to conduct field LOM consisting of organizational and intermediate maintenance activities. ESD is staffed with civilian contractors and Marine Corps servicemembers to manage and maintain the equipment set, primarily with maintainers and technicians for communications, engineering, motor transportation, and ordnance assets. The staff at ESD primarily serve in the capacity to maintain and issue equipment to exercising forces aboard MCAGCC as well as providing maintenance support to MCAGCC when required.

ESD is fortunate in that it is located aboard a Marine Corps installation on MCAGCC and has the service support necessary to coordinate further logistics support requests, aspects which may be more difficult when compared to the other prepositioning programs as coordination with the host-nation and supporting entities may be more complex. ESD also makes use of MCAGCC's available infrastructure with the main equipment storage and maintenance operations occurring primarily on "main side" MCAGCC, a designated garrison area aboard the installation where the various MCAGCC-based units are located and operate out of. Aboard the main side of MCAGCC, ESD possesses 28 maintenance bays and 20 overhead cover shelters to facilitate maintenance operations and equipment preservation, especially given the harsh climate within Twentynine Palms, California (ESD, 2021). A forward-positioned component of ESD known as "ESD Forward" is located further into the training area where exercises and operations occur, providing limited maintenance services and life support functions to the exercising forces.

Documents reviewed for Strategic Capability, ESD:

- Smart Pack Exercise Support Division MCAGCC G-3/5/7 2022
- Exercise Support Division Tactical Standing Operating Procedures
- Brief for MARFORPAC ISO Equipment Set Creation

6. Strategic Capability Analysis Summary

This section has assessed the weighted subcategories across the five prepositioning programs. Table 9 depicts the weighted subcategory grades for the programs followed by the total weighted theme grade which has been bolded. Based off the weighted grading, the analysis indicates that MCPP-N presents the greatest overall strategic capability value and ranked first, followed closely by MPF in second, MRF-D ranking third, ESD in fourth, and ultimately MAP-K coming in last.

Table 10. Strategic Capability Subcategory Aggregated Grades.

Theme	Subcategory	MCPP-N	MAP-K	MRF-D	MPF	ESD
Strategic Capability	SC_1	1.2	0.4	0.8	1.2	1.2
	SC_2	0.5	0.25	0.5	0.5	0
	SC_3	0.5	0.25	0.5	0.5	0
	SC_4	0.2	0.2	0.2	0	0.2
	Total	**2.4**	**1.1**	**2**	**2.2**	**1.4**

D. ANALYSIS CONCLUSION

Based on the preceding grading conducted for each theme and their respective subcategories, the following are the overall grades for each program which have been aggregated from each subcategory grade, their weight, and the weight of each theme.

1. Unweighted Theme Grade

The following table depicts the unweighted grades as described in the previous sections of Chapter V. Listed below each of the five programs is the weighted grade for each subcategory and the overall unweighted grade for each of the three themes.

Table 11. GPN Grading Chart. Source: Authors.

GPN Grading Chart						
Theme	**Sub category**	**MCPP-N**	**MAP-K**	**MRF-D**	**MPF**	**ESD**
Policy 30%	P1	0.5	0.5	0.3	0.0	0.0
	P2	0.5	0.0	0.3	0.3	0.0
	P3	0.4	0.2	0.4	0.0	0.0
	P4	0.6	0.4	0.4	0.6	0.6
Unweighted Total		**2.0**	**1.1**	**1.3**	**0.9**	**0.6**
Contract Method 30%	CM1	1.5	1.5	0.9	1.5	1.5
	CM2	0.6	0.8	0.2	0.8	0.8
	CM3	0.9	0.0	0.6	0.6	0.0
	CM4	0.6	0.6	0.2	0.6	0.6
Unweighted Total		**3.6**	**2.9**	**1.9**	**3.5**	**2.9**
Strategic Capability 40%	SC1	1.2	0.4	0.8	1.2	1.2
	SC2	0.5	0.3	0.5	0.5	0.0
	SC3	0.5	0.3	0.5	0.5	0.0
	SC4	0.2	0.2	0.2	0.0	0.2
Unweighted Total		**2.4**	**1.1**	**2.0**	**2.2**	**1.4**

Based on the data provided, the following is the ranking of the five programs by theme from their total weighted subcategory grades followed by commentary to clarify

said ranking. The following is a commentary on the ranking of the five programs by theme.

Policy

MCPP-N received the highest grade for each of the subcategories. The subcategory variables have denoted that the policy aspects of MCPP-N are highly advantageous to the future of GPN. A few key elements of these advantages which MCPP-N contains are the cost sharing of the program and the resources allocated to the Marine Corps from the GON.

MRF-D received the second highest grade of the five programs. The highest grade received was P3, which is the relationship strength between the U.S. and Australia. The lowest rating for MRF-D were both P1 and P2 which denote the agreements between the U.S. and Australian government as well as the resources provided by the Australian government. These questions are closely tied to one another and, although lower than MCPP-N, demonstrate that to be effective the country does not have to fully invest in the program but be invested in the mission which it is tied to.

Receiving the highest grades possible for one subcategory and the lowest for another, MAP-K ranked third. MAP-K received top marks for P1, which analyzes the government agreements used to establish and sustain the program. As MAP-K was developed on an established U.S. military base in Kuwait, the agreements were joint as the Marine Corps leveraged assets and land from the USACE. This is a key element of MAP-K which should be leveraged once again for future GPN if investment of funding is an issue. The joint enterprise will be required for GPN success in the future. Finally, the lowest ranking was from P2 which analyzes the resources provided by the HN. MAP-K did not receive nor rely on HN resources and therefore received a zero for this subcategory.

MPF ranked fourth as it received the lowest grade possible for two subcategories, P1 and P2, and the highest grade possible for P4. The zero grades were given due to the limiting factor of their applicability to MPF which does not rely on HN support nor have agreements tied to its operational effectiveness. This should not be considered limiting to

the effectiveness of MPF, however, this is a critical consideration for GPN as this concept will rely on HN alignment. MPF received the highest grade possible for P4 due to the robust nature of the policies which surround its operations. These are tied directly to the policies which dictate the operations of MCPP-N which also received the highest possible grade for P4.

ESD, although ranked fifth, remains a valuable source of applicable practices for GPN. Due to ESD being a support unit primarily operated by Marine Corps personnel aboard a Marine Corps installation in the CONUS, it received zeros for P1, P2, and P3. Each of these subcategories are associated with HN or non-Marine Corps government agencies. ESD did receive the highest grade possible for P4 due to the robust nature of its established business practices which support over 90 units per fiscal year that rotate through MCAGCC. The METs, internal SOPs, and external user SOPs that ESD has developed are key elements which would lead to success for a GPN site's internal business and external support processes.

Contracting Methods

MCPP-N achieved the highest grade in the analysis of contracting methods across the five programs. The Marine Corps' strong operational contract structure in Norway, which includes a comprehensive maintenance contract and effective oversight, contributed to this result. The agreements with the Kingdom of Norway and the United States allow for land and infrastructure at little to no cost, or with well-defined cost-sharing agreements depending on the integration with the Norwegian Ministry of Defense.

MPF received the second highest grade in contracting methods analysis due to its strong operational contract structure, maintenance contract, and robust QASP. However, there was a limitation related to land and lease agreements, as the nature of MPF requires the ships to be underway globally. Nevertheless, the program's adaptive approach in establishing service agreements globally improved its score. The agile approach to fill gaps and provide replenishments globally should be recognized when assessing future GPN sites. MPF has developed a scalable network of vendors to provide support, which can be adjusted based on MPF's port visits.

MAP-K tied for third place due to their strong operational contract structures, maintenance contracts, and QASPs. However, for CM3 which is the land and lease agreement question, MAP-K received a score of "0" due to the lack of HN support in providing designated sites for U.S. operations without cost sharing. On the other hand, the HN had a bilateral agreement allowing U.S. forces to enter into contractual agreements with local vendors. It is important to note that future GPN HNs may not have the capacity to share land for U.S forces. The ability to enter into contractual agreements with local vendors is a minimum requirement for establishing a GPN site.

ESD is also tied for third place due to its strong operational contract support and maintenance contract is well established considering the program operates on a Marine Corps installation. ESD did score higher than other preposition programs, like MRF-D, only because the questions and grading heavily favored a well-structured program with well-established contractual agreements and maintenance capabilities. Given that ESD is operating on a Marine Corps installation operating year-round to support several exercises and dozens of units, it demands strong contractual agreements and maintenance capabilities rendering a high score for two out of the four questions. However, due to the non-existent land and lease agreements and limited quality assurance plans in the contracts reviewed, it did not perform well across the other programs. Overall, ESD did not offer any insights into the suitability of GPN in relation to contracting methods.

MRF-D ranked last in contracting methods due to the lack of an operational contract support, absence of a maintenance contract, and limited quality assurance. The grade for land and lease agreements was average based on the grading criteria for CM3. Our analysis revealed that a hybrid approach, which involves both HN support for land and infrastructure, as well as the Marine Corps leasing property from private owners, would be most suitable for future GPN sites. However, we did not consider this hybrid approach when creating the grading criteria for CM3. If the grading criteria were structured differently, the hybrid approach would be preferred for GPN suitability as it combines HN support with cost sharing efforts and allows the DoD to enter into contractual agreements with local vendors.

Strategic Capability

MCPP-N achieves the highest grade regarding strategic capabilities compared across the five programs. The prepositioning of a well-rounded equipment set to support all components of the MAGTF is a critical factor to MCPP-N's versatility and credibility to equip a combat-credible force. MCPP-N is strategically located within the EUCOM AOR providing the CCDR with a rapid response capability to support contingency and crisis missions while also displaying the U.S. commitment to partners and allies across Europe and a deterrence force to Russian aggression. The maintenance capabilities organic to MCPP-N are suitable to preserve and repair the prepositioned equipment, however, could benefit by the addition of depot-level maintenance assets that would mitigate the need to transport equipment out of theater for repairs.

MPF ranks second across the programs regarding the strategic capabilities, however, falls short primarily due to the lack of onboard maintenance when underway and afloat. MPF provides the MAGTF with a full assortment of equipment and assets necessary to conduct a wide ROMO and can deliver this capability while afloat. This significantly enables the U.S. ability to globally project combat power and ensure a rapid response force to all CCDRs in support of national objectives, allied reassurance, and deterrence. MPF's ability to provide a forward-deployed prepositioning program afloat is met with challenges in maintaining the equipment set during this period as maintenance operations become limited once equipment is embarked and containerized.

MRF-D ranks third across the assessment of the five programs, receiving many of the same positive grading aspects of MCPP-N however does not provide nearly the amount of prepositioned, versatile equipment to carry out military operations. There is immense value in MRF-D's strategic positioning located within the Indo-Pacific and will continue to be a relevant component in strategic-level planning efforts due to the proximity of key partners and allies within the region as well as a major deterrence force against PRC aggression. Maintenance capabilities are suitable to support and maintain the equipment set but could also greatly benefit with the addition of depot-level assets to strengthen the sustainment web within the Indo-Pacific, especially as there are none located within the theater.

ESD ranks fourth amongst strategic capabilities across the programs due to the non-applicability of two sub-category questions, SC2 and SC3, regarding the strategic presence of the program and its impact regarding interoperability and deterrence. As discussed earlier, ESD is a CONUS-based, exercise-oriented equipment allowance pool designated to facilitate the training evolutions of Marine Corps forces therefore it is not a true prepositioning program like the others. ESD maintains relevancy due to the well-rounded availability of MAGTF assets and the operations conducted that enable such a program to exist that would be beneficial in a future GPN site.

MAP-K achieves the lowest grade regarding strategic capabilities when assessed from a wholistic standpoint within the theme's evaluation criteria. The prepositioned equipment set is catered towards a narrow range of capabilities, primarily through the use of up-armored protected vehicles such as the MRAPs that were more survivable towards the adversary threat encountered throughout combat operations in Iraq and Afghanistan. The strategic basing of MAP-K provided value to the MAGTF though it did not create the substantial impact when compared to the other programs considering the already heavily saturated dispersion of U.S. bases across CENTCOM. The maintenance capabilities were suitable to maintain the assets on hand but similar to the other programs, MAP-K would have greatly benefitted with the addition of depot-level maintenance assets to tighten the logistics and maintenance chain especially within an active combat theater.

2. Weighted Theme Grade

Table 11 presents the weighted grading of the five programs across the three themes: policy, contracting method, and strategic capability. The primary focus of this table is the overall index grade and ranking. As mentioned in Chapter III, the overall index is calculated by summing the theme grades after multiplying them by their respective weights.

Table 12. GPN Index Chart. Source: Authors

GPN Index Chart					
Ranking	Preposition Programs	Overall Index	Policy	Contracting Method	Strategic Capability
			30%	30%	40%
1	MCPP-N	2.64	2	3.6	2.4
4	MAP-K	1.64	1.1	2.9	1.1
3	MRF-D	1.76	1.3	1.9	2
2	MPF	2.185	0.85	3.5	2.2
5	ESD	1.61	0.6	2.9	1.4

Upon conducting a thorough analysis and calculation of the index score, we have determined that there have been no significant alterations to the program rankings. It is important to note that if the percentages had exhibited any variations, there could have potentially been an impact on the overall ranking.

E. APPLICATION OF THE GPN FRAMEWORK ANALYSIS

The analysis of the five programs has identified several key elements which would apply directly to GPN. As we have described in Chapter III, the GPN is defined as an integrated "afloat and ashore capability to enable day-to-day campaigning, rapid response to crises and contingencies, and deterrence" (I&L 2030). Having analyzed the five programs through indexing and charting them with the themes of policy, contracting method, and strategic capabilities, we have identified aspects which would be valuable for the future of GPN. This section demonstrates the application of these key elements to a region of interest utilizing the Philippines as an example.

To do so effectively, we conducted an indexing and charting process for the Philippines which mirrors the process used for the five programs. We first describe the criticality of each theme when considering their application to the Philippines. Following this, we apply each subcategory to the Philippines which is the mirrored process of comparison used for the five programs as described in Chapter III. Due to the Philippines lacking a fully established physical program, data is derived from either training exercises, Marine Corps unit initiatives, or current DoD policies used for Marine Corps units operating within the Philippines.

Finally, we evaluated and graded the Philippines based on the criteria for each subcategory as described in Chapter IV, as depicted in Table 12. While doing so, we also connect the best practices and key elements of the five programs to either recommend courses of action for implementation or enhancement of current practices.

Table 13. GPN Framework Philippines Weighted Grades. Source: Authors

GPN Framework - Philippines		
Theme	Sub-Category Theme	Philippines
Policy	P1	0.25
	P2	0.25
	P3	0.2
	P4	0.3
	Total	**1**
Contracting Method	CM1	1.2
	CM2	0.8
	CM3	0
	CM4	0.6
	Total	**2.6**
Strategic Capability	SC1	0
	SC2	0.5
	SC3	0.5
	SC4	0
	Total	**1**

1. Policy

Policy is a critical element to consider when applying this framework to the Philippines as the levels of policy, from tactical to strategic, have considerable impact to the operational effectiveness of a GPN site in the Philippines. The following list denotes the subcategories of policy and their application to the Philippines and associates the best

practices of the five programs which should be considered or to enhance the application of the categories.

- P1 – What government agreements were and/or are established that impact program execution?

Current government policies within the Philippines range from intergovernmental to interagency. Those within the spectrum of intergovernmental elaborate on the relationship between the U.S. and the Philippines. These documents discuss the Philippines agreements to allow military personnel to conduct operations within the Philippine's borders and to stage certain equipment and supplies at designated agreed upon facilities and support areas. The interagency agreements that exist are primarily joint, but for the purpose of this application we focused on the agreement between MARFORPAC and the Army's Pacific command better known as U.S. Army Pacific (USARPAC). This agreement is the subleasing of facilities by MARFORPAC in their endeavors to establish a proof of principle (POP) for prepositioning in the Philippines.

The intergovernmental agreements mirror several aspects that we have discussed from the programs of MCPP-N and MRF-D. The Philippines has provided several areas and facilities for the U.S. to operate within and to rotate forces for interoperability opportunities between U.S. and Philippines armed services (Department of State [DOS], 2014). The Philippines also provides the U.S. authority to preposition equipment and supplies for humanitarian assistance and disaster relief at the agreed locations (DOS, 2014). Although not specifically adding the prepositioning of deterrence related equipment or supplies, this agreement only excludes the prepositioning of nuclear arms. A key highlight of the intergovernmental agreements is the ability to contract for material and supplies "in the territory of the Philippines without restriction" (DOS, 2014).

Lastly, the U.S. DoD and the Philippine's Department of National Defense have a mutual logistics support agreement (MLSA) which ensures that the two country's armed forces can utilize support from one another in a seamless manner. There is a trade of mutual support for either reimbursement or through "replacement-in-kind" which is providing similar support in the future to the supporting party. This element is key in the future of GPN as the we will need interoperability and reimbursement vehicles in the development and sustainment of a GPN site in the Philippines.

The interagency agreement between MARFORPAC and USARPAC is straight forward and brief. The premise for this agreement is to allow Marines and civilian contractors from MARFORPAC to "be assigned a portion of the Army leased facility on a fair share cost basis to evaluate potential long-term use of warehouse and storage space to forward position equipment in support of humanitarian assistance/disaster relief…" (MOA MARFORPAC and USARPAC, personal communication, 2023). A critical element of this agreement is the history of the site which USARPAC is leasing to MARFORPAC. Having been originally purchased by a private organization, these facilities have been subleased by the Army for their prepositioning initiatives. This element is key in understanding GPN's future development as the Marine Corps may begin establishing multiple locations for power projection, survivability, and redundancy in the face of combat attrition of sites.

Additionally, this agreement describes what is provided to both parties and what is due to both parties in a fair share of the spaces. Specifically, MARFORPAC is given 100,000 square feet to utilize and operate their POP with the agreement that they provide the funding for said space and share responsibility for the areas which they use. Although in a development phase, these policies and procedures are key in delivering success in GPN's development in the future both within the Philippines and within other regions or countries of interest.

The intergovernmental agreements stacked with the interagency agreements provide the Philippines a grade of "1" or "Provide positive impact" for P1. These agreements are positive in nature in the development of initial steps for GPN. However, the intergovernmental agreements do not necessarily provide the robust agreements required for a GPN focused on deterrence and survivability. Expanding upon the prepositioning material that the Philippines allows is essential to ensure the full buy-in of the Filipino government for prepositioning of assets outside the scope of HA/DR.

- P2 – What assets were/are made available that impact program execution? (labor, infrastructure, etc.)

As mentioned above, the Philippines has agreed to open specific sites within their country for U.S. forces to operate and stage equipment. Much like other governmental agreements, they have "agreed facilities and areas" which they have authorized for use by

U.S. forces which spans from prepositioning of certain equipment to conducting construction for facility updating. Additionally, they have agreed to provide mutual logistics support which is support provided for either the transfer of like support in the future or for reimbursement. With that, the Philippines receives a grade of "1" or "positive impact" for P2 due to the resources provided and the limited investment into the U.S. defense mission. In the future, the Marine Corps will require the HN to be more involved and invested into the mission of GPN for the concept to be fully developed in the region. However, to augment the lack of investment from the HN, the Marine Corps should focus on leveraging the joint force in furthering the reach of GPN within the region of the Philippines.

- P3 – What is the relationship between the United States and the HN government? Will it or does it impact program execution?

This question is of critical importance when considering the health of the future of GPN within the Philippines. In early 2020, it was published in many major new articles that "Philippine President Rodrigo Duterte warned the United States on Thursday he would repeal an agreement on deployment of troops" which stemmed from a Duterte ally, Renaldo dela Rosa, being denied a visa and entry into the U.S (Reuters Staff, 2020). This pact was the visiting forces agreement which provides the agreements for U.S. forces to operate within the country of the Philippines and to conduct bilateral operations with their defense forces. Later in 2021, at the surprise of his defense chief, Duterte restored the pact after discussion with the newly elected Biden administration.

Recent elections in the Philippines saw a new administration under Ferdinand Marcos Jr. come to take over the reins from President Duterte. Marcos is a known politician and businessman hailing from the Northern islands of the Philippines and is the son of the previous Filipino dictator Ferdinand Marcos Sr. There is commentary within the media that discusses which country Marcos prefers for the Philippines, China or the U.S., and most points toward stronger ties to the U.S. as Marcos wishes to maintain his country's sovereign lands and seas. Additionally, Marcos opened dialogue with Japan and "agreed to strengthen defense ties, and there is now talk of a new trilateral agreement between the two countries and the US" (Walker, 2023).

As mentioned in Chapter II, the U.S. and Philippines have developed a considerable amount of EDCA sites within the last two years. Bilateral training between the U.S. and the Philippines has also increased within the last year as tensions between the U.S. and China have increased. As recently as October 2023, the U.S. and the Philippines have conducted "Maritime Training Activity Sama Sama 2023 [which] is the seventh and largest iteration of the drills as participants from Australia, Canada, France, Japan, the United Kingdom and Malaysia join the U.S. and the Philippines, according to a U.S. Navy press release" (Lendon, 2023).

Based on this information, and the realm of subcategory P3, this question would receive a grade of "1" or "positive impact" as the relationship between the U.S. and the Philippines is positive. However, the relationship remains fragile as was the case within the last two years as it shows that the leadership of both the U.S. and the Philippines can cause significant rifts in future interoperability between the two nations.

None of the five programs were developed with a nation that had relational issues with the United States. Therefore, learning from the key elements derived during our analysis, the relationship between the U.S. and the Philippines must grow with a direct alliance between the two countries much like NATO or the trilateral security partnership between the U.S., United Kingdom, and Australia. Japan is a likely ally that can be leveraged for this critical necessity for reducing risk to the future of a Philippines based GPN site.

- P4 – What processes/regulations were enacted for program executions?

MARFORPAC has established a proof of principle (POP) for establishing forward prepositioned provisions within the Philippines as the initial steps to GPN. This POP has procedures in place, which are in draft status but valid for daily operations, which control their processes. These procedures are in their infancy however, the contents are detailed adequately given the scope of the POP. Specifically, the SOP is written in the typical Marine Corps fashion with mission and intent defining the initiative's purpose. The SOP, in its status, resembles that of MAP-K in that the program is owned by MARFORPAC and operated by contracted personnel with a command sponsor COR as the lead at the physical location.

The implementation plan is derived from the mission and tasks which begin broad in the approach for the subordinate commands which operate oversight of the program. This provides flexibility in execution as the POP is experimental in nature. Later, in the body of the SOP, the procedures begin to be detailed with responsibilities and authorities of individuals like the program manager, COR, and supported units. Again, this program is much like MAP-K in that the approval has begun with the MARFORPAC staff.

The impact of this program is seen in the actions of I MEF, III MEF, and the MARFORPAC staff. Each of these commands establishes the requirements for the equipment to be stored within the POP site and continue to develop their understanding of the situation.

Based on our analysis, the POP mostly resembles the MAP-K program. Much like MAP-K, this POP begins as an initiative driven by a single Marine Corps geographic operational command (i.e., MARFORPAC). Additionally, HQMC has published a Feasibility of Support (FOS) to fully develop a GPN site within the Philippines. This action ties directly with the transition documentation of MAP-K from the Marine Forces Central Command's relief of control of MAP-K by HQMC. As this program continues to be developed the criticality of learning from the past is critical in its future success.

This POP has the foundations necessary to become a GPN site worthy of supporting the concepts EABO and SIF. Our analysis of the five programs and the definition of GPN have illustrated several takeaways that the POP will require to transition to a fully developed GPN site. First, it cannot simply augment the units which deploy to the region. Based on our analysis of the definition of GPN, the POP should transition to a site focused on deterrence and begin to establish policy for survivability. Although very relatable to MAP-K, this site is operating within our adversaries WEZ which dictates a greater investment in force protection, power projection, and readiness. Second, the program will require processes from the tactical to the strategic level developed for future success. These processes will includer being connected to or developing similar processes like to the prepositioning objective development process, a technical manual or smart pack for tactical level users, and institutional publications for GPN capabilities, processes, and regional dependent standardization of application.

Based on this information, and the realm of subcategory P4, this question would receive a grade of "1" or "positive impact" as the policies and procedures are generally controlled, goals and objectives are still in development but are on course to be achieved, and their impact is yet to be determined fully due to ongoing experimentation.

2. Contract Method

Contracting methods play a crucial role in the application of this framework to the Philippines. They are intricately connected to the establishment of mechanisms that enable sustainability and readiness. The subcategories of contracting methods and their application to the Philippines are outlined in the following list. Additionally, it associates the best practices of the five programs that should be considered to enhance the application of these categories, thus highlighting their significance in the framework's implementation.

- CM1 – What Operational Contract Support supports the preposition program to enable six functions of logistics and fair labor between the U.S. and the Philippines?

The MLSA was signed in November 2007, enabling U.S. forces to acquire logistic support, supplies, and services in exchange for reimbursement (Mutual Logistics Support Agreement, 2007). The EDCA allows U.S. forces to contract for any material, supplies, equipment, and services in the Philippines without restrictions on choice of contractor or supplier (EDCA, 2014). Contracts are solicited, awarded, and administered according to U.S. laws and regulations. These agreements provide flexibility and freedom for U.S. forces to enter into contractual agreements with both the HN and private corporations and vendors in the country. This enhances the six functions of logistics, supply stock levels for humanitarian aid/disaster relief, and labor considerations.

The bilateral agreements that enable both HN support and freedom to enter into contractual private party agreements that closely resemble Marine Rotational Force – Darwin. In contrast, MRF-D did not have an operational contract support in place. Each requirement was routed to the ADF, and U.S. forces contract the requirements upon notification of inability to support. This approach proved cumbersome for the end-user, contractor, and vendor. However, the Army and Marine Corps have been developing a

LOGCAP to support a non-EDCA site as a proof of principle for prepositioned equipment in the Philippines.

According to a draft Agila Equipment Staging Program (AESP) standard operating procedures, the Marine Corps forces have collaborated with the U.S. Army Pacific and 8th Theater Support Command's Joint Theater Distribution Center to establish a LOGCAP contract awarded to Vectrus, a U.S. based corporation (MARFORPAC, personal 2communication, March 18, 2023). The scope of work involves providing field level maintenance, supply support, and other services for the AESP. The stated objective is to support the posture expansion strategy in Southeast Asia, including prepositioning equipment and supplies to strengthen the relationship with the HN, enhance partner capacity, and aid in humanitarian assistance and disaster relief efforts in the region (PCO, 2023). These activities directly and indirectly support the resources needed for rapid deployment, sustainment, and redeployment in the dynamic Southeast Asia region. Although we cannot verify the contract's performance, the implementation of a LOGCAP in this environment is crucial to support mission-specific equipment, the six functions of logistics, and the operational readiness of GPN-Philippines. The vendor is well-prepared to handle a wide range of requirements, even in a contingency situation. The proof of principle for establishing a LOGCAP contract to provide support for the port of Agila results in a score of "4" or "OCS includes a LOGCAP contract, limited support." However, considering the size of the Agila equipment program, which is comparable to a reduced infantry company, it is uncertain whether the scalability of the LOGCAP contract can be validated to fully meet the demands of a GPN site.

- CM2 – What LOM are contracted out field and organizational maintenance?

A Logistics Augmentation Program contract was awarded to Vectrus Systems Corporation in 2021 by the Army Contracting Command – Rock Island (MARFORPAC, personal communication, March 18, 2023). The contract states that Vectrus will provide all labor, subcontract support and services, equipment, tools, supplies, materiel, and logistical support required for the maintenance support services at Agila Port. According to the performance work statement, the contractor will be responsible for field level maintenance and repair services for the equipment assigned to Agila Port, following the

technical manuals provided by the manufacturer. The contractor will handle operator and crew preventive and corrective measures as required by technical publications, and address equipment failures and service schedule. Additionally, the contractor will handle non-governmental transactions in the AIS Global Combat Support System – Marine Corps. The maintenance support section of the contract outlines detailed tasks for organizational maintenance, including preventative maintenance, corrective maintenance, and quality control mechanisms.

This comprehensive maintenance contract for Agila Port includes both organizational and intermediate level maintenance tasks for a specialized gear set, rending it a score of "4" or "Maintenance Contract is available, includes both operational and intermediate field LOM." The contract was awarded as an IDIQ, FFP contract, which allows flexibility to accommodate maintenance needs. The implementation of this LOGCAP contract for Agila Port closely aligns with MAP-K, leveraging the Army's contracting capabilities and incorporating the Marine Corps' requirements to establish a contractual relationship and plan for supporting maintenance actions for the prepositioned humanitarian aid/disaster relief equipment at Agila Port.

- CM3 –Does the Philippines have land to lease or would land and infrastructure be privately leased? Would the Philippines share cost for either option?

The EDCA between the United States Government and the Republic of the Philippines provides specific authorization for the use of land and infrastructure. The purpose of the EDCA is to establish provisions and authorizations regarding designated locations referred to as "Agreed Locations." These are facilities and areas provided by the Government of the Philippines through the Armed Forces of the Philippines, granting United States forces, contractors, and other agreed parties access and usage rights (EDCA, 2014). At the time of signing the original EDCA, the Philippines has agreed to provide five locations to United States forces without rental or similar costs. The agreement allows U.S. forces to conduct construction activities, make alterations and improvements at these locations. However, all buildings, structures, and assemblies affixed to the land within Agreed Locations remain the property of the Philippines once the U.S. forces have completed their requirements for operation and training.

In addition to the EDCA, the Philippines and the United States signed a Partnership for Growth in 2011, aiming to sustain economic growth in the Philippines (USAID, n.d.). This partnership promotes investment, trade, and private sector growth by facilitating trade and investment activities (USAID, n.d.). An example of this is the recent acquisition of a bankrupted shipyard in Subic Bay by U.S. private equity firm Cerberus Capital Management in 2022 (Presidential communication office, 2023). Cerberus plans to invest capital to restore the shipyard's operational state and lease parts of the facility to other businesses (Morales, 2023). The U.S. Navy and Army have already expressed interest in leasing a portion of the shipyard due to its strategic location and access to the SCS (Morales, 2023). The Philippines has not explicitly indicated whether they would participate in a cost-sharing arrangement in privately leased contracts between the United States and a private party.

The EDCA, which allows U.S. forces to utilize Agreed Locations at no cost, aligns closely with land and leasing agreements in the Marine Corps Prepositioning Program – Norway. However, the ability to rent and lease facilities from private vendors is more in line with agreements in the Marine Rotational Force – Darwin. Based on the analysis, the grading would result in a score of "0" or "Privately Owned, No Cost Sharing." However, considering the analysis of these two programs and their implementation in the Philippines, a hybrid approach that combines elements of both may be suitable to enhance the physical presence of the GPN, dispersion efforts, and overall infrastructure composition.

- CM4 – What level of Quality Assurance Surveillance Plan is required in the Philippines?

The performance work statement clearly outlines the expectations and requirements for the contractor to closely collaborate with the COR (MARFORPAC, personal communication, March 18, 2023). For instance, the contractor is responsible for conducting weekly equipment status reconciliations with the COR, conducting joint monthly inventories of parts and equipment, and coordinating equipment issuance and receipt for rotational forces.

Vectrus, the vendor providing the service, has stated that the Regional Project Director will provide effective management oversight and leadership throughout the contract's duration. The project director will ensure integrated quality control and quality assurance through the program management office. Within this office, Vectrus will assign a dedicated project planner to handle planning, scheduling, technical risk assessment, and alternative analysis for subcontract requirements.

The contractor has developed a well-coordinated strategy to seamlessly incorporate a COR into the LOGCAP contract. This strategy encompasses overseeing maintenance activities, managing inventory controls, and coordinating efforts for rotational forces. Vectrus, the vendor, has also devised a comprehensive plan that includes redundancy and overlapping coverage to ensure all requirements receive adequate supervision in accordance with the contractor's specifications. Due to the superb quality assurance measures, Philippines renders a grade of "3" or "Quality Assurance Measure Plan with COR directly assigned."

The limitations inherent in this analysis pertain to the fact that Vectrus is a U.S.-based corporation predominantly employing U.S. citizens in its operations and support endeavors at the Port of Agila. However, the analysis did not include contracts with local vendors in the Philippines to assess the extent of the program manager's involvement in ensuring and verifying contract performance. It is impor2tant to replicate and maintain the level of involvement outlined in the performance work statement for contracts with local vendors. Additionally, cultural differences and interpretations of the requirements may necessitate increased involvement to ensure the vendor's support and compliance with the specified requirements.

3. Strategic Capability

A GPN-Philippines program would constitute a significant strategic capability for the United States to posture itself appropriately within the Indo Pacific. As mentioned within the NDS, the PRC continues to be the pacing threat which would require an integrated deterrence effort across the DoD including the multiple warfighting domains, operational theaters, instruments of U.S. national power, and the network of alliances and

partnerships to build an enduring advantage within the region (National Defense Strategy, 2022). The following subcategories synthesize the best practices of the five prepositioning programs reviewed throughout the course of this paper and provide an informed assumption of what strategic capabilities would be feasible and appropriate for a GPN-Philippines program.

- SC1 – What capabilities does the equipment set provide to the MAGTF?

With the GPN-Philippines initiative still under review, a determination on a solidified EDL is currently within the development phase until approved by the Marine Corps' Deputy Commandant, Plans, Policies and Operations (DC, PP&O). However, assumptions and recommendations can be made on a proposed equipment set that would enable a MAGTF to respond to likely military operations within the region and be of strategic value to the CCDR.

The Marine Corps Force Design 2030 (FD2030) initiative gave rise to a new warfighting unit known as the MLR. The proposed mission statement of the MLR is to serve as part of the SIF capable of disrupting an adversary in a contested littoral environment through reconnaissance, counter-reconnaissance, and sea denial operations to support the maritime campaign (Brady, 2022). A GPN-Philippines program would likely augment the MLR with the assets and capabilities required to conduct littoral operations while still enabling the capacity to support HA/DR and crisis response operations within the Indo-Pacific. The organizational structure and equipment employed by the MLR is vastly different from the legacy construct of a regimental-sized MAGTF which requires a level of innovation and creativity in the forward-positioning of equipment and associated sustainment options to adapt in a changing operational environment within the Indo-Pacific. The assessment conducted on the five prepositioning programs can provide some possible employment options for augmenting an MLR within a GPN-Philippines program.

Aspects of MCPP-N's equipment composition and organization can be modified and incorporated to fit the mission of a GPN-Philippines. MCPP-N excels in its ability to organize equipment packages with consideration to the various task-organization of MAGTF units offering a degree of scalability and flexibility to the CCDR. This includes

the ability to equip a battalion-sized MAGTF with supporting logistics and aviation elements and the ability to also equip up to three company-sized SP-MAGTFs with associated supporting aviation and logistics components. Adaptive Force Equipment Sets further supplement the MAGTFs ability to provide additional capabilities within theater. Designated equipment sets for various-sized units and mission types greatly enhance the responsiveness for a MAGTF to utilize a specific equipment set and immediately conduct operations, bypassing the logistical planning and friction that would be induced through a redesignation of equipment composition to respond to crisis or contingencies.

This aspect of MCPP-N employment can serve as a viable model for the equipment distribution within GPN-Philippines, scaling down to the lowest level of organizational employment for the MLR, especially considering the central idea of the SIF. If adopted, a GPN-Philippines program would be sufficient in offering the scalability and flexibility required to equip a small but lethal, low signature, mobile, and relatively simple to maintain force designed to operate across the competition continuum complimented with additional capabilities afforded through Adaptive Force Equipment sets. (HQMC, 2021).

Similarly, GPN-Philippines could choose to organize the equipment set utilizing an MPF-like model in which equipment and capabilities are organized into the various CRFP consisting of a light, medium, and heavy MAGTF capability. This enables the responsive, flexible, and scalable capabilities desired into predesignated equipment sets tailored to the various operations.

The most recent GPN-Philippines distribution message released in August 2023 consists of the FOS requirements intended to synchronize Marine Corps efforts to ensure the potential implementation of the program aligns with service level objectives and strategies (A. Maldonado, email to author, 8 August 2023). The FOS analysis continues into November 2023 in which possible EDLs are validated against service requirements and evaluated on the feasibility of being properly sourced to develop the ground equipment storage program. If applying the framework analysis to GPN-Philippines in its current state, it would receive a grade of "0" indicating that the prepositioned equipment does not provide any capability to the MAGTF.

For a GPN-Philippines program to maintain any relevancy in the future operating environment, it should maintain at a minimum, the prepositioning of assets necessary to an MLR and the capabilities that would facilitate logistics support across the competition continuum. This may include equipment capable of supporting the employment of infantry forces, lethal and non-lethal fires, command and control, ground-based air defense systems, and the six functions of logistics across the littoral environment.

- SC2 – Does the prepositioning program's geographical presence add value to the Marine Corps' ability to conduct global operations supporting strategic objectives?

The NDS highlights the rapid expansion of the PRC's military power coupled with the aggression and coercive acts within the Indo-Pacific region to reshape international order in the PRC's favor. The PRC's intent on reclaiming Taiwan and destabilizing the region is cause for major concern for the United States and DoD. FD2030 is the Marine Corps' response to combat the changing operational environment and realign Marine Corps capabilities with the needs identified within the NDS, specifically with a greater emphasis on the Indo-Pacific and maritime littoral operations.

A GPN-Philippines program would have a significant and profound impact on enabling a rapid response MAGTF to serve as the SIF deterring PRC aggression while simultaneously acting in the capacity to respond to contingency and HA/DR missions that are typical within the region as demonstrated by the effects of super typhoons such as Typhoon Haiyan in 2013 and Typhoon Rai in 2021. The EDCA sites negotiated between the United States and the Philippines establish the initial groundwork for which the Marine Corps can establish a possible GPN-Philippines site with suitable access to airfields and ports, infrastructure nodes that would be crucial to facilitating logistics throughput for any operation or exercise.

During the strategic capability analysis for MPF, it was noted that a pier side offload of MPF assets in conjunction with the strategic airlift of MAGTF personnel and organic assets is the quickest and most efficient option for MPF employment. Through the authorized EDCA sites, Philippines enables the potential ability for the Marine Corps to rapidly mass forces utilizing MPF prepositioned gear equipping up to a MEB-sized force in conjunction with a GPN-Philippines gear set to augment an undetermined

MAGTF-sized force to conduct operations within INDOPACOM. Within the Northern Luzon region of the Philippines, airfield access authorized through the EDCA include Lal-lo Airport and Basa Air Base with port access afforded through Naval Base Camilo Osias and ongoing discussions of re-opening the former Naval Base Subic Bay.

A GPN-Philippines would also add significant value in reinforcing the supply and logistics networks within the Indo-Pacific, integrating itself into the sustainment web alongside III MEF in Okinawa, Japan, MRF-D in Darwin, Australia, MPSRON-2 based in Diego Garcia, and MPSRON-3 based in Guam. Continued developments within the Indo-Pacific are crucial to bolster theater-level supply chains capable of supporting a rapid transition from competition to conflict and the addition of a GPN-Philippines would greatly support that line of effort.

Using the framework analysis approach to a GPN-Philippines program, a grade of "2" would be awarded indicating that the strategic positioning of the program would enable a significantly positive impact on the Marine Corps' ability to rapidly respond within INDOPACOM.

- SC3 – Does the prepositioning program lend itself to interoperability with partners and allies and pose as a credible deterrence to adversaries in the region?

The establishment of a GPN-Philippines program would be a significant commitment to the U.S. focus on interoperability within the region and be of significant value to deterring PRC actions along the FIC. Numerous joint bilateral exercises occur annually between the U.S. Armed Forces and the Armed Forces of the Philippines, most notably Exercise Balikatan and Exercise Kamandag. Additionally, a rotational deployment has just recently been implemented into the Marine Corps' operational planning to further bolster U.S. presence within the Indo-Pacific, labeled as the "Marine Rotational Force – Southeast Asia (MRF-SEA)" (Marine Corps, 2023). According to the MRF-SEA 23 Commanding Officer, "MRF-SEA serves as a flexible deployment option for joint force commanders to advance maritime security objectives in close partnership with regional allies and partners. As a task-organized force, it can be adjusted to fit the specific needs of the theater, including changes in composition, size, and duration. As a forward-positioned force, it is optimized to conduct security cooperation engagements

with allies and partners in Southeast Asia while also standing ready to support crisis or contingency response in the region" (Marine Corps, 2023).

MRF-SEA uses intra-theater transportation assets to facilitate the logistics throughput of organic equipment from Camp Pendleton, California to support the deployment. Exercises Kamandag and Balikatan significantly rely upon the embarked organic equipment drawn from the Amphibious Readiness Group. Based off the analysis conducted within SC1, GPN-Philippines could tighten the logistics gap by prepositioning the anticipated equipment set for an MLR, MRF-SEA, or a component of the MAGTF thereby providing an immediate access capability for the Marine Corps to support and reinforce partners and allies as well as deterring PRC aggression.

As indicated within SC2, a GPN-Philippines program would not only reinforce the logistics and sustainment nodes throughout the Indo-Pacific but also assist in strengthening the alliances and partnerships within the region to include the Philippines, Japan, Australia, Malaysia, Indonesia, and South Korea. This program would also serve as an additional prepositioning platform to complement MRF-D's ability to equip MAGTF forces within the region and further enable the Marine Corps to engage in interoperability and deterrence efforts. The addition of a GPN-Philippines would greatly impact the U.S. ability to project a combat credible force posture engaged in interoperability alongside allies and partners, aspects that are identical to the impact MRF-D affords to the CCDR. A GPN-Philippines program would be of significant value to better support and enable the SIF, reduce strategic airlift requirements, expedite force closure, and expand the reach and endurance of forward deployed Marine Corps forces operating within the FIC.

Applying the framework analysis to GPN-Philippines would yield a grade of "2" indicating that the program significantly demonstrates the Marine Corps' commitment to interoperability alongside partners and allies while also serving as a major deterrence force within the region.

- SC4 – What LOM activity is organic to the prepositioning program that enables the support of operations?

No EDL has officially been determined for the GPN-Philippines program at the time of writing however we can assume some of the basic elements that would facilitate a successful maintenance program that would be feasible in the future operating environment. Until these EDL requirements have been identified and supporting maintenance and logistics capabilities have been officially implemented, a grade of "0" is awarded to GPN-Philippines.

Unique planning considerations must be given to GPN-Philippines due to its strategic positioning off the coast of Taiwan and within the FIC, an area considered to be within the WEZ of the PRC. Should actions become kinetic between any of the parties, the logistics and sustainment web become significantly vulnerable as naval vessels and aircraft may not have safe passage to support GPN-Philippines operations.

Throughout the analysis of the five programs, none could conduct depot-level maintenance. This is an identified gap and poses a risk to the operational readiness of equipment and strains the logistics system even further due to the required coordination of transporting assets back to the United States to either MCLB Barstow or MCLB Albany for repairs. Considering GPN-Philippines proximity within an unstable FIC, depot-level maintenance capabilities may also not be ideal as it becomes a critical vulnerability by being placed directly within the WEZ. Rather, a depot-level maintenance facility should be established a considerable distance from the WEZ and into protected friendly territory, however remaining close enough within the Indo-Pacific to remain relevant and valuable to the Marine Corps. GPN-Philippines would find greater value by establishing facilities capable of at least intermediate field-level maintenance capabilities distributed across the various EDCA sites. This would ensure a resilient and distributed logistics network within the Philippines and maximize the gain from having multiple U.S. installations across the island.

A GPN-Philippines program must also be survivable if it intends on remaining true to the inherent elements of GPN. Within the scope of maintenance, maintenance activities and adequate facilities will be instrumental in ensuring a survivable prepositioning program against the elements, otherwise the equipment and assets would rapidly deteriorate against the tropical conditions native to the Philippines.

During the assessment of the various prepositioning programs, there have been actions taken to address the survivability of the equipment with respect to the conditions experienced within its geographic location. MAP-K and ESD have experienced arid, desert conditions requiring overhead shelters and indoor facilities to mitigate the effects of the weather. MCPP-N is based within the underground cave networks to mitigate exposure to the cold, harsh environment of Norway. MPF assets are containerized to maximize cargo space while afloat and to also shelter against saltwater corrosion and degradation. Conditions native to the Philippines would be like those experienced within MRF-D in Darwin, Australia. Excessive rainfall and gusty winds characterize the rainy season from June-November which could impose critical equipment maintenance shortfalls and vulnerability if not properly sheltered. There must be considerable planning to the availability of facilities to house GPN-Philippines equipment from the elements otherwise it would incur significant maintenance repercussions in the form of corrosion, expedited wear and tear, rapid deterioration, additional costs, and most importantly, a loss in operational readiness and capability.

4. Application Summary

A comprehensive analysis was conducted on the five programs encompassing all three main themes and their respective subcategories. Grades were calculated to assess their performance. Subsequently, the same framework was utilized to evaluate the feasibility of establishing a GPN site in the Philippines, to validate the framework and identify both the strengths and limitations of implementing a GPN site in the Philippines.

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VI. CONCLUSION AND RECOMMENDATIONS

> The characteristics of the future operating environment, combined with the imperative to maintain a globally employable force at the speed required to maintain the initiative, requires a holistic examination of our afloat and ashore prepositioning construct.
>
> —Force Design 2030

A. OVERVIEW

Within the Marine Corps' logistics enterprise, the prepositioning programs stand as pivotal enablers which provide vital equipment and supplies to advanced deployment zones. However, in recent years, the viability of these programs has been questioned given the proliferation of technologically advanced weapons amongst near-peer competitors such as China and Russia. If conflict emerges within the Indo-Pacific region, the operating environment is expected to be contested and non-permissive which would deny equipment from current prepositioning programs to enter the region thereby limiting sustainment and force closure capabilities. Thus, DC I&L has been tasked with modernizing the prepositioning program by establishing a GPN, which integrates afloat and ashore capabilities for day-to-day campaigning, rapid crisis response, and deterrence operations (Marine Corps, 2023). To ensure the highest level of readiness, the Marine Corps intends to establish multiple GPN sites within the Indo-Pacific region by September 2025. The goal of this thesis is to aid DC, I&L in establishing this GPN by examining past and present programs related to prepositioning and extracting successful critical elements for application to the development of future GPN sites.

To accomplish this goal, we addressed the following three research questions:

1. What are the key elements of the different Marine Corps prepositioning programs that can be extracted to effectively develop a suitable GPN ashore site?

To address this question, we established a definition of GPN and the anticipated functional requirements. We elucidated our definition and provided sub-definitions to ensure a clear understanding of the assumptions made when analyzing aspects of the prepositioning programs that would be relevant and applicable to GPN. This is described

in Chapter III, which outlines the initial specifications for GPN as described by the CMC in *Force Design 2030* and provides comprehensive details of the sub-definitions therein.

Subsequently, a framework methodology was formulated to aggregate data, identify commonalities, establish categorizations for these commonalities, and synthesize grading criteria to extract the pivotal components of the programs under examination. This was achieved through the integration of the Framework Analysis and the Mercer Index methods. These methods provided evaluations for the overarching themes and their respective subcategories, facilitating the identification of the crucial elements within the selected programs. The rationales provided in the justifications expound upon the grading process conducted for each subcategory, as it pertained to each individual program.

2. Of the key elements identified as optimal for GPN, which are applicable to the Philippines?

In addressing this question, we employed the identical subcategories formulated in Chapter III and utilized them to reassess the feasibility of implementing GPN in the Philippines. This approach yielded foundational knowledge regarding which components can be directly applied to the Philippines and which may require modification or future development. The response to this inquiry is presented in Chapter V, where we furnish a comprehensive table of evaluations for the Philippines' status and provide commentary on the subcategories as they pertain to the country.

3. Can an applicable framework be developed that evaluates the compatibility of GPN sites and their application into other geographical areas?

Our response to this question constitutes the comprehensive body of work presented in this thesis. As previously mentioned in relation to Question 1, we have devised a robust framework capable of analyzing past and present programs to extract their fundamental elements and assess their applicability to GPN. This framework also facilitates the evaluation of a given region's suitability for establishing a GPN, as outlined in Chapter III. Consequently, upon completing these steps, our framework enables the implementation of the identified key elements from selected programs in the target region. This implementation can take the form of direct application or serve as a basis for decision-making processes in accordance with the specific requirements of the GPN site in that region.

B. FINDINGS AND RECOMMENDATIONS

The identified findings from the analysis represent key elements that we have determined to be applicable to both the future of GPN and sites within the Philippines. These findings have significant implications for the development and implementation of GPN, as well as for the specific context of the Philippines.

Finding #1 Philippines GPN suitability is viable.

We analyzed documentation from the current operations within the Philippines based on our framework approach detailed in Chapter III. Through this analysis, we found several elements of the five programs which apply to the Philippines. Additionally, we found that several factors must be modified before these key elements can be applied if deemed required. Below are the recommendations for said modification or direct application of the key elements from the five programs to the future GPN site within the Philippines.

Recommendation 1A – Based on our framework analysis applied to the Philippines, we find the Philippines GPN site suitable under the conditions and recommendations below.

Policy: Based on the four subcategories within the policy analysis, the Philippines is viable for a GPN site but policies and agreements require further refinement. The political agreements and the political relationships between the U.S. and the Philippines are positive but are not robust nor strong enough to be relied upon for the longevity and effectiveness of a full operational GPN site. The Marine Corps must advocate for the U.S. government to establish a strong political alliance with the Philippines. This action ensures that the Philippines is invested in the Marine Corps' mission and enable interoperability between the two nations which will be required to support SIF in future contested environments.

Additionally, the mission, objectives, and goals of a GPN site within the Philippines needs to be developed and ties to the strategic objectives for the GPN as a whole. The GPN concept is anticipated to act like a web where each site enables the whole mission of the network. This is not to say that each site needs to be identical which

leads to the recommendation that the Philippines GPN site requires these detailed missions and goals to ensure it is relevant to enabling the whole network.

Contracting Method: Based on the four sub-categorial themes within the contracting method analysis, Philippines demonstrates commendable performance with room for improvement. The LOGCAP contract in place to support Agila, is an ideal OCS contract for the existing small-scale operations. However, its inability scale hinders its application to support a GPN site. Additionally, as seen in MRF-D, the operational importance of having an OCS plan, along with pre-identified local vendors for essential supplies, is crucial for establishing and maintaining a GPN throughout the spectrum of conflict.

Considering our recommendation to establish a GPN site in the Philippines, it's imperative to scale the OCS contract to accommodate the equipment set required of a GPN. This includes preparing contracts during peacetime that identify local vendors, with formal agreements to surge materials when the environment becomes non-permissible. We recommend bolstering the OCS plan by pre-identifying local vendors for each critical class of supply and establishing formal agreements such as a blanket purchase agreement or an IDIQ contract.

Lastly, there should be an improvement of the quality assurance control mechanism for local contracts to validate contract performance. Just as the OCS plan has the COR nested in the plan, the same level of involvement should be integrated with local contracts. This may require staffing above the table of organization personnel to augment the need to ensure sufficient contract oversight.

Strategic Capability: A GPN-Philippines program would prove to be a significant step forward for the Marine Corps' vision in establishing a modernized prepositioning program capable of supporting aspects of Force Design 2030 to include a viable solution in sustaining the SIF and the MLR within the WEZ. The various EDCA sites lay the groundwork for a distributed logistics network within the Philippines that enable a scalable and flexible organization of prepositioned stocks and equipment. What still remains is the determination on the equipment composition that is approved by PP&O that would determine the full capabilities brought forward within theater.

Additionally, the establishment of a GPN-Philippines program satisfies the strategic objectives of improving the U.S. force posture within the increasingly competitive Indo-Pacific region, greatly extending the Marine Corps' operational reach within the FIC. Through a dedicated prepositioning program within the FIC, the SIF are able to rapidly augment equipment and assets within close proximity to an EAB thereby mitigating the risk to naval vessels that would be targeted while operating in the littorals. If executed appropriately, GPN Philippines would prove to be a very capable addition to the logistics revolution necessary to support the expeditionary forces within a contested littoral environment.

Finding #2 GPN requires further defining.

While the definition of GPN provided within the 2022 Force Design update serves as a starting point, our research suggests that it is not a sufficient definition. GPN needs to be thoroughly defined with identified requirements and a concept of employment. This ensures that appropriate planning requirements are projected across the Marine Corps ensuring a unity of effort in developing the program, expected contract requirements are appropriately communicated to industry, and most importantly, that limited resources and budgeting costs are responsibly managed to develop such a resource-intensive program in a fiscally constrained environment.

Recommendation 2A – Utilize the GPN definition and the characteristics derived from this thesis.

GPN is a concept in development and requires greater clarity. We established the working definition of GPN based on the Marine Corps' Force Design publications to develop the framework and analyze the policy, contracting methods, and strategic capabilities of prepositioning programs. The process of developing the definition was conducted with several assumptions as to the future expectations of GPN sites based on the *Concept for SIF*, *Tentative Manual for EABO*, and *I&L 2030* publications. Therefore, the Marine Corps must thoroughly describe GPN using mission statements, goals, and objectives. We found that those programs with clear mission statements, objectives, and implementation plans are those that flourish in the operating environment. Most of the five programs have METs which drive their daily operations and define the purpose

behind the program's existence. Many of these METs are derived from the Marine Corps Tasks (MCTs) listed on the Marine Corps Tasks List (MCTL) which is developed and maintained by DC, CD&I.

A possible solution is utilizing the MCTL to establish tasks which relate to the requirements and missions that GPN sites will be expected to carry out. Tasks included in the MCTL that we believe are applicable to GPN, based on the development of the definition discussed in Chapter III, are as follows:

- MCT 1.2 Move Forces, and subordinate MCTs within the 1.2 section.
- MCT 4.11 Plan and Direct Logistics.
- MCT 4.1.2 Conduct Ground Supply Operations.
- MCT 4.2.2 Conduct Ground Equipment Maintenance.
- MCT 4.13 Conduct Operational Contract Support.
- MCT 5.5 Conduct Joint and Combined Operations and subordinate MCTs within the 5.5 section.
- MCT 6.1.3 Provide Force Protection in Support of Marine Corps Prepositioning Operations.

Recommendation 2B – Scalable Global Prepositioning Network.

Upon assessing the characteristics of GPN, we suggest that GPN should be scalable and integrated into a larger network of sustainment webs with GPN sites designated for various operations support. These various scalable GPN nodes would facilitate a diverse distribution of equipment and assets to support mission requirements and support the redundant sourcing of logistics within the region.

For instance, a tactical-level GPN node would possess the equipment and capabilities suitable for campaigning, competition, and crisis response within the region and tailored towards an MLR and the SIF. An operational-level GPN node would consist of a network of GPN sites within the theater with the combined equipment and capabilities to augment a larger force structure such as a MEB to conduct operations requiring a larger military involvement. Finally, the strategic-level GPN node would encompass the entire network of GPN sites that would integrate into the Joint Logistics Enterprise enabling a significant Marine Corps presence operating from competition to conflict or in response to catastrophic humanitarian assistance or disaster relief rapid response operations.

The significance of establishing GPN in a scalable manner lies in the interoperability of support agreements between GPN nodes allowing for mutual reinforcement of capabilities. For example, a centralized depot maintenance facility could provide support to an operational node comprising various GPN sites.

Finding #3 – Future GPN development.

We found that the Marine Corps currently does not have a process in place that fully maps out the establishment of GPN sites across the operational theaters. This may potentially be linked to the program still in its infancy stage as it continues to work through and identify objectives for the program. Breaking down GPN into its core roots, it is a global network of prepositioning programs as clearly stated within its name. Therefore, the future development of GPN must continue to expand globally and not just stay regionalized or otherwise it loses value in its overall goal of being a "global network." This was the basis for our research and a driving factor for utilization of the Framework Analysis method.

Recommendation 2A – Utilize and expand upon this framework for the future development of GPN.

Planners should adopt the framework that we developed for continued use and expand upon these concepts for future GPN development, research, and requirements generation. We believe that the themes and their subcategories are critical considerations in analyzing the current and past processes for programs across the Marine Corps and applying their key elements to future projects. There is a great amount of value in utilizing this framework for the Marine Corps as it continues to both develop GPN and future force design initiatives.

This value is both in the versatility in application of the framework and the thorough process of evaluating courses of action. The framework is versatile in that it can be modified based on the factors important to the supported concept(s), programs and/or processes being analyzed, and evaluation criteria importance. This framework evaluates courses of action specifically in the final step of the framework analysis where grades are established, and programs are evaluated based on application to developed questions

(subcategories) developed. These factors provide future users considerations for courses of action in developing concepts, plans, and so on.

Finding #4 – Diplomatic alliances and relationship building.

Based on our analysis, the programs established overseas were done so with nations which the U.S. maintained positive and healthy relationships with. Those relationships with the closest ties, like Norway and Australia, have the greatest influence on joint and service level operational and strategic objectives. Additionally, these programs are subjected to less risk when considering their longevity and permanence within the host nation.

Recommendation 4A – Advocate for U.S. to establish strategic alliance with region or country of interest beyond GPN.

The longevity and sustainability of a GPN site within a region or country of interest is greatly impacted by the diplomatic alliances between the U.S. and the host nation. GPN will be a considerable investment in labor, funding, and equipment sourcing for the Marine Corps. This cost will inevitably be a limiting factor in the Marine Corps' ability to establish a web of regionally connected GPN sites which should be a desired end state of the program. This limiting factor becomes a risk to GPN's effectiveness in supporting EABO, the SIF, and other developing operational concepts meant to extend the U.S. operational reach and deter adversaries from committing hostile and coercive acts within a region.

Advocating for a strong geopolitical alliance better ensures that a host nation is invested in U.S. military initiatives and receptive towards military buildup and development, specifically GPN. This is evident in the practices first used by MCPP-N where the Government of Norway is greatly invested both financially and physically with the program and staffs the personnel with their own contracted citizens, equipment usage, and financial aid and support. The same applies to MRF-D where the Government of Australia provides the facilities and contracted personnel in an agreement enhancing interoperability with the U.S. These two programs contain bilateral processes with host nation contractors and military personnel which combines U.S. and host nation efforts resulting in greater mission effectiveness. We believe this combined effort is critical for

GPN in bolstering alliance and relationship building, enhancing deterrence, and maintaining a rapid response Marine Corps presence capable of equipping forces for contingency and crisis operations.

Finally, if the Marine Corps continues to pursue the establishment of a GPN site within the Philippines, it must act in advocating for a strong government alliance through the Secretary of State via the Secretary of Defense. As mentioned previously, there is communication between the Philippines and Japan in terms of developing a stronger economic alliance. The U.S. has an incredibly positive relationship with Japan which could be advantageous in initiating and establishing a partnership much like NATO or AUKUS between the United States, Japan, and the Philippines.

Recommendation 4B – Local contracting must be authorized by the host nation.

The future GPN host nations must authorize contractual agreements with local vendors to enhance the operational contract support plan. To enhance GPN's ability to source requirements within the host nation, it is crucial to establish written bilateral economic agreements. An example of this is seen in Kuwait, where the host nation does not offer any land or lease agreements, but instead authorizes the U.S. to enter contractual agreements under the TIFA.

When analyzing potential future GPN sites, it is important to ensure that bilateral agreements or memorandums of understanding are in place. This will facilitate the process of setting up and establishing new sites to an operational setting. Moreover, by having the ability to contract locally, GPN can identify vendors that can provide unique logistics and maintenance support, such as transportation, disposition, calibration, and medical supplies. This enables the GPN to identify and fulfill self-sustaining requirements which may otherwise be unfeasible in the event of a crisis.

Finding #5 – Lack of Joint Force integration.

The programs which successfully scaled quickly leverage joint force capabilities to rapidly identify and source capabilities. MAP-K leveraged resources from the Army Corps of Engineers to quickly source climate-controlled facilities with a pre-existing

contract. On the other hand, MRF-D took several years to develop and build contractual relationships to set conditions for the program to function properly.

Recommendation 5A – Advocate for joint involvement and integration.

In developing GPN sites, the Marine Corps should focus on what assets the joint force has either established or process of establishing for prepositioning. GPN will likely need to be directly linked to operating with the joint force and there may be a more efficient use of our resources by having a satellite command within an Army, Navy, or Air Force command to leverage their prepositioned stocks or to have a small set of Marine Corps resources there like they have in the Philippines today. Another course of action is tailoring each GPN site's mission and capabilities based on the alliances we have within the region. For instance, careful speculation is necessary in the Philippines due to the possible relations that private companies have with China and how uncertain the U.S. – Philippines relationship is. The U.S. would likely heavily rely on private companies to provide contracted support for a variety of different necessities when establishing and sustaining GPN. Therefore, a site formatted after MAP-K may provide the capabilities and operational security required for regions where vendor reliance produces too much risk to the mission.

C. CALL TO ACTION

The success and effectiveness of the GPN program is of utmost importance, demanding immediate action from the highest levels of leadership within the Marine Corps. The significance of this program cannot be overstated, as it directly impacts the Marine Corps' ability to operate in contested and non-permissive environments. Without prompt integration of our findings and recommendations, the Marine Corps risks compromising its sustainment and force closure capabilities in the event of conflict within the Indo-Pacific region.

1. GPN as a program of record

To solidify the importance of the GPN and ensure its continued support and resources, it is crucial to obtain congressional endorsement and establish it as a formal program of record. By taking this decisive step, the Marine Corps will not only enhance

its readiness and rapid crisis response capabilities but also demonstrate its commitment to effectively addressing the evolving challenges posed by near-peer competitors.

Time is of the essence. The Marine Corps must act swiftly and resolutely to secure the future of its logistics enterprise. By fully embracing the GPN program, the Marine Corps will strengthen its ability to provide vital equipment and supplies to advanced deployment zones, bolster its operational resilience, and maintain its readiness to face any potential conflict. This program not only enhances the Marine Corps' mission success but also plays a crucial role in enhancing the joint services' ability to defend national interests. The significance and severity of this program cannot be understated, and its successful implementation is paramount to the Marine Corps' mission success and the defense of national interests.

2. Bolster Relationships with Future Host Nations

Marine Corps senior officials must recognize the crucial importance of enhancing coalition and building strong alliances with future host nations of GPN. The longevity, sustainability, and effectiveness of GPN sites rely heavily on diplomatic alliances and shared commitments. Therefore, it is imperative that these leaders advocate for and prioritize the establishment of strong government alliances with potential host nations. By fostering these partnerships, the Marine Corps can ensure mutual investment, shared resources, and enhanced interoperability, ultimately bolstering deterrence and maintaining a rapid response capability for contingency and crisis operations. Leaders must act by engaging the Secretary of State and the Secretary of Defense to advocate for the importance of strengthening U.S. alliances and building a robust coalition among partners and allies, future host nations, and existing partner nations. With host nation support, the Marine Corps can create a network of GPN sites that would extend the operational reach, deter adversaries, and safeguard regional stability.

D. FUTURE RESEARCH

1. Future Regions of Interest

Based on our approach, this framework can be applied and/or modified based on the future conceptual development and the multitude of regions of interest for GPN sites.

If the definition of GPN evolves, as is a likely outcome, then the framework will likely need to be tailored for future use so that the subcategory questions and evaluation criteria adapt to the requirements for GPN. Also, once requirements are further developed and elaborated, more applicable data can be extracted from each of the five programs that address such concerns or it can lend itself to the development of even more themes if required.

2. Preposition Sites among Adjacent Services

Sister services like the Army and the Air Force maintain prepositioning sites across the globe that enable operations. Likewise, the Navy has a system of acquiring critical services and support functions known as Husbanding Service Providers that support the logistics requirements when ported. An analysis and comparison of such programs could prove beneficial to the development of GPN that could aid in the management and oversight through means such as reviewing the lessons learned or the efficiency of implemented internal program policies that guide the execution of the program. This future research may also explore and inform the feasibility of implementing a joint prepositioning program within the various operational theaters alongside our sister services.

3. Conducting a Cost Benefit Analysis of Each GPN Site

GPN is still in its infancy stages and the determination on the number of sites is contingent upon the strategic capabilities enabled to the CCDR. Conducting a Cost Benefit Analysis would prove beneficial to better inform the resource requirements allocated to individual sites compared to the output provided through the strategic capabilities prepositioned for the operating forces.

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