



INSTITUTE FOR DEFENSE ANALYSES

**Institutional Capacity Building in Public
Financial Management and Defense**

**Examining Extra-Budgetary Methods to Close
Defense Resource Gaps
in Colombia**

**Prepared for the Biennial Meeting of the
Interuniversity Seminar on the
Armed Forces and Society**

**October 15-17, 2021
Reston, Virginia**

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September 2021
Approved for public release;
distribution is unlimited.
IDA Document NS D-22744
Log: H 21-000262



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About this Publication

The work was conducted by the Institute for Defense Analyses (IDA) under CRP C6594.

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Acknowledgments:

The authors wish to thank Dr. Pritha Ghosh for her thoughtful review and contributions to this publication.

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Executive Summary

In 2010, at the request of the United States Government, The Institute for Defense Analyses (IDA) began an effort to advise the Colombian Ministry of National Defense (MND) on how to improve the management of resources within the Colombian Defense Sector. The Colombian impetus for this request was the MND's *Spending Sustainability Initiative*.¹ The initial focus on spending shifted to force transformation, which brought capability planning and analysis to the forefront of the effort. However, the issues of affordability and cost remained prominent.

In 2020, the Colombian MND and the Colombian Directorate of Justice, Security, and Government (DJSG)² in the Department of National Planning (DNP) asked IDA to help examine methods to increase budget flexibility. This request aligned with IDA's ongoing support to the MND, focused on force planning, which is developing capable, affordable armed forces and national police. More specifically, DJSG asked IDA to work with them to research and analyze methods that generate revenue or cost savings for the defense sector outside of normal budget processes. The impetus for this request is an increasingly complex Colombian security situation combined with static, if not declining, defense budgets.

IDA worked with DJSG to develop a structured and repeatable methodology to examine defense resourcing methods. Researchers gathered data on how methods apply in other countries and then incorporated lessons learned from those perspectives to make recommendations for Colombia. A main takeaway from this effort is that how nations resource the defense sector is context dependent. This context includes laws on public

¹ For a history of the origins of IDA support to the Colombian Ministry of National Defense, as well as the scope of that support, please see Lina M. Gonzales, Aaron C Taliaferro, and Wade P. Hinkle, *The Colombian Ministry of National Defense's Transformation and Future Initiative. Retrospective on a 9-Year Cooperative Effort Between the United States Department of Defense and the Colombian Ministry of National Defense*, IDA paper NS P-8588, (Alexandria, VA: Institute for Defense Analyses, Oct 2017).

² DJSG coordinates, guides, and participates in the planning and development of policies, initiatives, studies, and investment priorities of the Colombian Defense, Security, Justice, Interior, and Foreign Affairs sectors and Congress of the Republic, National Civil Registry, and control entities. Across these sectors, DJSG formulates policy to guide the actions of the government. DJSG has three sub-directorates. The sub-directorate of Security and Defense (SSD) has the responsibility to coordinate the Security and Defense Sector's investment program and to provide studies and analysis that support the formulation, implementation, and monitoring of the policies of the Defense and Security Sector. On behalf of DNP, DJSG-SSD is the technical partner of Ministry of National Defense.

financial management and national and defense sector policies. The latitude the defense sector has to plan for and submit their own resource requests, and the perceived risks to national security by the public and elected political leaders, also determine how the defense sector is resourced.

Another innovation from this effort came in how IDA provided support to our Colombian partners. Historically, institutional capacity building projects relied on episodic in-country engagement conducted by a consistent team of subject matter experts (SMEs). These SMEs possess the required technical knowledge and skills to advise partner nation officials on how to design new processes or approaches appropriate for their context. The consistency allows trust to form between IDA SMEs and partner nation officials. The episodic approach incentivizes partner nation officials to lead their own reform process because IDA advisors do not embed themselves in foreign institutions.

Travel restrictions due to COVID-19 required adaptations to our capacity building approach. IDA made extensive use of video conferencing, text messaging, and regular email correspondence to maintain contact and answer research questions. The SME team was larger, the tasks for the SMEs were more widely distributed than normal for in-country engagement, and there was a broader group of people interfacing with our Colombian partners.³ Through completely remote means, IDA and DJSG scoped the research question and designed an approach to identify methods by which nations generate revenue or cost savings for their defense sector. The design suited Colombia's requirements, considering the nation's legal, political, and public financial management context.

The main outputs of the effort were:

- A common taxonomy was created that defined methods to generate revenue or reduce costs
- Five major categories of methods were defined and decomposed into 35 sub-methods.
- A decision-support tool was created to evaluate each sub-method for its applicability in the Colombian context.
- A pilot study completed analyses of four sub-methods: 1) lease-purchase agreements; 2) off-budget transactions; 3) sales of defense articles; and 4) technology transfer.
- Analytic skills and tools were transferred to the Colombian staff to help them prepare analyses and recommendations for Colombian officials.

³ Note: Though the IDA and DJSG team was larger, individuals who had formed relationships through the traditional in-country engagement anchored the team on both sides.

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1. Introduction

The Institute for Defense Analyses (IDA) has a long history as a United States Government (USG) partner, implementer, and policy advisor on Institutional Capacity Building (ICB) among USG defense partners and allies.

IDA's ICB effort in Colombia began in 2010. In 2020, the Colombian Ministry of National Defense (MND) and the Colombian Directorate of Justice, Security, and Government (DJSG)⁴ in the Department of National Planning (DNP) asked IDA to participate in a project to examine methods to increase budget flexibility. This request aligned with IDA's ongoing support to the MND, which is focused on planning and developing capable, affordable armed forces and national police. More specifically, DJSG asked IDA to work with them to research and analyze methods that generate revenue or cost savings for the defense sector outside of normal budget processes.

Historically, IDA's ICB projects rely upon episodic in-country engagement conducted by a consistent team of subject matter experts (SMEs) who possess the required technical knowledge and skills to advise partner nation officials on how to design new processes or approaches appropriate for their context. The consistent approach allows for trust to form between IDA SMEs and partner nation officials. The episodic approach incentivizes partner nation officials to actively lead their own reform process – IDA advisors are not embedded in foreign institutions.

COVID-19 brought travel restrictions that required innovative approaches to ICB. To adapt, IDA used video conferencing, text messaging, and regular email correspondence to maintain contact and answer research questions. Working with DJSG, the IDA team scoped the research question and then designed an approach to identify methods by which nations generate revenue or cost savings for their defense sector outside of normal budget processes. The research questions and the approach were designed to suit Colombia's

⁴ DJSG coordinates, guides, and participates in the planning and development of policies, initiatives, studies, and investment priorities of the Colombian Defense, Security, Justice, Interior, and Foreign Affairs sectors and Congress of the Republic, National Civil Registry, and control entities. Across these sectors, DJSG formulates policy to guide the actions of the government. DJSG has three sub-directorates. The sub-directorate of Security and Defense (SSD) has the responsibility to coordinate the Security and Defense Sector's investment program and to provide studies and analysis that support the formulation, implementation, and monitoring of the policies of the Defense and Security Sector. On behalf of DNP, DJSG-SSD is the technical partner of Ministry of National Defense.

requirements, considering the legal, political, and public financial management context within which Colombia's government resides.

IDA and DJSG agreed upon a common taxonomy of methods that either generated revenue or reduced costs. Five major categories of methods were agreed upon and then decomposed into 35 sub-methods. In partnership with DJSG, IDA created a decision-support tool to evaluate each sub-method for its applicability in the Colombian context.

The outputs of the project were recommendations on which sub-methods are most promising and under what conditions. Ultimately, based on a variety of factors, the research team focused its final analyses on four sub-methods: 1) lease-purchase agreements; 2) off-budget transactions; 3) sales of defense articles; and 4) technology transfer. This focus tended more toward cost-savings, rather than revenue generation. Some specific capability-building outputs were to teach and transfer analytic skills to the Colombian staff and to help them prepare analyses and recommendations for Colombian officials using decision-support tools.

This document describes how IDA worked with DJSG to answer a specific research question related to security sector budget practices and built DJSG's capacity through a collaborative effort. The document provides a literature review as the foundation for the discovery of cost-saving sub-methods and the development of an analytical framework. This document also describes our approach to working with DJSG to identify and select relevant cost-saving sub-methods and evaluate them for applicability to Colombia's defense sector. Finally, the document describes the merits and drawbacks of the specific sub-methods analyzed and concludes with recommendations for future activities.

Several appendices are included to assist practitioners with repeating our work, if desired. Appendix A contains terms of reference. Appendix B, Appendix C, and Appendix D contain specific non-Colombian case studies. Appendix E contains a copy of the decision support tool IDA created to evaluate cost-saving sub-methods, and Appendix G contains a bibliography.

As of the date of this publication, work continues with DJSG to analyze and evaluate other sub-methods. All of the sub methods are listed and defined in Appendix A.

2. Process and Approach

For this project, DJSG and IDA conducted the research and analyses in two phases.⁵

- Phase 1: DJSG and IDA (i.e., the research team) developed the research questions, agreed on a common taxonomy of terms that defined methods to generate revenue and save costs, determined the specific methods to research and analyze, and chose what methods to evaluate and what data to collect.
- Phase 2: The research team developed an analytic framework to organize and analyze data, tested the framework, and then applied the framework to the methods chosen during phase 1. At the conclusion of phase 2, the team had a set of recommendations, backed by its analysis, to inform Colombian Defense leaders.

During Phases 1 and 2, IDA contributed short, country-specific case studies⁶ to help DJSG staff understand how specific methods may work in specific contexts. These case studies helped to narrow the analytic focus of the work.

The phased approach allowed the research team to determine whether using open source information to conduct the research was a viable option, and to understand the level of effort required to collect data and create a useful product. Ultimately, the goal of this research was to achieve two outcomes:

1. Create a methodology that allows Colombian analysts to collect data about international methods for defense resourcing, and provide support for their recommendations to their leadership

⁵ The main purpose of the Directorate of Justice Security and Government is to coordinate and direct technical assistance for the formulation, evaluation and monitoring of policies, plans, programs, projects and studies, on issues related to transitional and ordinary justice, peace, coexistence, national security and defense, citizen security, foreign and immigration policy, Human Rights, reintegration of people and groups raised in arms, Comprehensive Action against Antipersonnel Mines (AICMA), protection of people and communities at risk, transparency and fight against corruption, democracy, citizen participation, social capital, citizen culture, social conflict and citizen initiatives for Development and Peace. Mission Statement of DJSG at: <https://www.dnp.gov.co/programas/Paginas/Direccion-Justicia-Seguridad-y-Gobierno.aspx>

⁶ All of the case studies are in the appendices; please refer to the table of contents.

2. Design an assessment framework that can be used repeatedly and that functions as a decision-support tool that allows analysts to provide logical, structured, and transparent recommendations to their leadership.

Both phases used spiral development to refine the research question and the approach to answering it. Phases 1 and 2 of this research followed the approach shown in Figure 1. IDA and DJSJG repeated steps until the desired results were obtained. Spiral development promotes capacity development because it helps build trust between advisors and host-nation officials through trial and error, which is an expected part of the process.

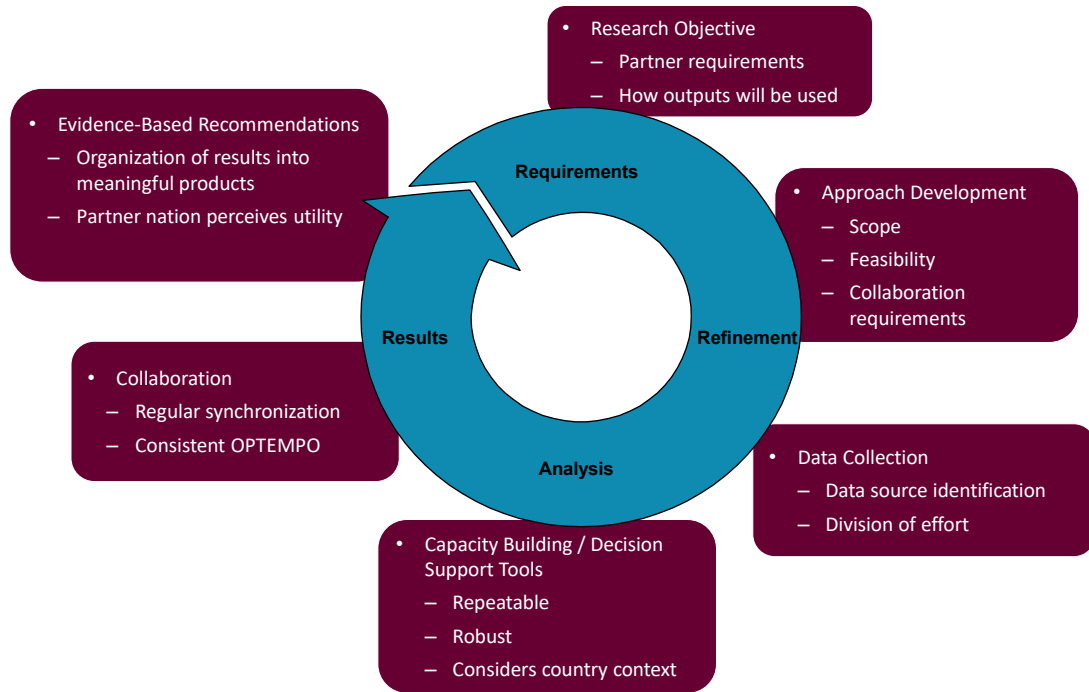


Figure 1. General Process and Approach

A. Research Question Refinement and Bounding

The initial question produced by the DJSJG-IDA team was, *what methods do other nations use to fund their defense sectors, and which methods are potentially beneficial for Colombia?* Following a preliminary examination of available open-source materials, the team tightened the scope of the research question to, *how do governments generate revenue or cost savings for their defense sectors outside of normal budget processes?* This served the DJSJG goal, which was to identify options to pay for the modernization, operations, and sustainment of Colombia's defense sector.

B. Phase 1: Case Study Approach and Selection

At first, the research team agreed to a country case study approach. Eleven countries were selected as the focus of analysis: Belgium, Brazil, Chile, France, Greece, India, Italy, Malaysia, Mexico, the Philippines, and Spain. Nations were chosen, in part, using a set of 12 criteria that scored candidates based on their similarity to Colombia.⁷ The criteria were:

- Is the nation a representative democracy?
- Does the nation's military include land, air, and maritime forces?
- Does the nation have a National Police Force funded by the national budget?
- Is there prior evidence of internal conflict?
- Is there evidence of state-owned defense or security industries?
- Is there evidence of fiscal responsibility laws that limit deficit spending?
- Does the nation have a centralized planning ministry or government department responsible for budget planning or managing capital investments?
- Is there evidence of subnational funding for defense or security?
- Is there evidence of exclusive and statutory off-budget sources of funding for military or law enforcement forces?
- Is the nation a member of the Organization for Economic Cooperation and Development (OECD)?
- Is the nation a North Atlantic Treaty Organization (NATO) or Partnership for Peace (PfP) member state?
- What is the nation's Gross Domestic Product compared to Colombia?

DJSG hoped to gain insight on practical applications and lessons learned about revenue generating and cost saving methods in countries with regional connections to Colombia, similar geopolitical concerns, and interesting structural innovations in their defense sectors. Those considerations formed the basis of the research that followed.

C. Phase 1 Data

Unclassified and open-source information were the primary data sources. This included government reports, papers generated by international defense and security organizations, and literature and commentary by academics. Second, IDA relied on its analysts' first-hand knowledge of methods used in the United States and abroad. This first-hand knowledge comes from IDA's experience in advising both the United States

⁷ Some nations were selected apart from the criteria based on the policy needs of DJSG.

Department of Defense and foreign defense sectors on their resource management practices. In the case of the Philippines, current IDA employees were once responsible for the defense resource management processes of the Philippine Department of National Defense (DND) and the Philippine Armed Forces (PAF). An extensive treatment of the sources of funding for the DND and PAF is included in Appendix C.

For the 11 nations, IDA documented how each generates revenue and cost savings. The information was organized by nation and by method (either revenue generating or cost saving) in an excel spreadsheet, and summaries were produced for each country. Each summary included analysis about the potential utility of each method.

IDA also used subject matter experts from its own research staff to produce additional case studies, which are in the appendices of this document. These cases helped the research team understand how specific sub-methods are implemented in specific national contexts.

D. Phase 1 Observations

The research team determined that a country-by-country analysis was not useful. Each nation's differences with regard to defense objectives, legal frameworks, and their ability to generate or manage resources was too varied for useful comparisons.

After discussing the findings of the country-specific analysis, the research approach was change to a method-level analysis. The change acknowledged the following:

- **Ambiguous terminology.** The terminology we found in unclassified and open sources to describe how nations generate revenue or save costs is not consistent.
- **Method combinations.** We found that nations use methods to generate revenue or save costs both independently and in combination with other methods.
- **Situational context.** Specific national context (political, economic, security, geopolitical, and so forth) and process (i.e., how something gets done) both influence defense resourcing decisions.

Given these factors, the research team switched to a method-level analysis with the intent of comparing methods to one another (rather than countries to one another).

E. Moving to Phase 2 and Changing the Unit of Analysis

At DJSG's request and to provide tangible context to the results of Phase 1, IDA wrote brief narratives about the use of revenue-generating and cost-saving methods in Chile, India, Italy, Malaysia, and the Philippines.⁸ However, due to the role country context plays in the implementation of these methods, it was difficult to draw any conclusions about

⁸ For these narrative summaries, see Appendix D.

which would be best suited to Colombia. The outputs of Phase 1 were useful anecdotes on implementation but not sufficient to support decision-making.

To be relevant to decision-makers, the DJSG-IDA team needed to compare cost-saving and revenue-generating methods across cases to capture what is possible. To start Phase 2, IDA organized the methods found during Phase 1 (for the 11 countries previously mentioned) into a Terms of Reference (see Appendix A). The Terms of Reference includes five categories of revenue-generating/cost-saving methods. These five methods further divide into 35 sub-methods. From these 35 sub-methods, DJSG selected four for analysis.⁹ The number was constrained by time and resources.

F. Decision Support Tool Development to Support Phase 2 Analysis

The next step was to create a framework with relevant criteria to organize a cross sub-method comparison. The framework was created using 14 criteria (see Table 1). These criteria evaluate the potential utility of the four sub-methods for Colombia. Each criterion is posed as a question or an imperative statement to which an analyst must respond. IDA and DJSG analysts divided the work of filling in the framework for each sub-method. DJSG answered those questions specific to the Colombian context. IDA was responsible for the rest. The assessment framework is housed in an excel spreadsheet, along with user instructions, so it can serve as a repeatable decision-support tool.¹⁰

Table 1. Criteria

Number	Criteria	Question or Imperative
1	Pros of Implementation	Describe the advantages of using the sub-method.
2	Cons of Implementation	Describe the disadvantages of using the sub-method.
3	History of Abuse/Corruption	Document whether and how the sub-method has been abused or corruptly applied
4	Precedent	Has the sub-method been used in Colombia before (either inside or outside the defense and security sector)?
5	Anticipated or Current Political Support	What evidence is there that the sub-method would be supported by the Colombian executive, the legislature or other relevant policy-makers?

⁹ Four was a limit imposed by IDA, given the time and resources allotted for this project. However, the framework is designed to be repeatable. Additional sub-methods can be evaluated. The four that were chosen were based on DJSG's analysis of their own needs.

¹⁰ Appendix E contains a blank version of the decision support tool referenced here. It is available in soft (i.e., electronic) copy upon request.

Number	Criteria	Question or Imperative
6	Immediately Implementable	Can the sub-method be implemented immediately given the existing authority of the Ministry of National Defense, or would other ministries or government policy makers outside of the Defense Ministry have to approve its use? Would it require specific legislation to authorize its use?
7	Decreases Total Acquisition Time	Is the sub-method expected to reduce the time required to make major defense acquisitions?
8	Increases Acquisition Cost	Will the use of the sub-method expand the number or scope of requirements for acquisition?
9	Increases Life Cycle Cost Estimate (LCCE) of Item(s) Acquired	Is the sub-method expected to decrease or keep stable the cost of the acquisition over the course of its lifecycle?
10	Increases Budgetary Flexibility	Is the sub-method expected to increase budgetary flexibility (for example: the method generates cost savings within the public forces and as a result more funds are available to pay for operations and sustainment)?
11	Compromises Priority Mission Areas	Will the sub-method result in a reduction in the capacity or capability to fulfill a priority mission area ¹¹ of the Ministry of National Defense?
12	Negatively Impacts Other Ministries	Assess and describe whether and how a sub-method employed by the Defense Ministry may negatively impact other ministries.
13	Requires Change to Law	Will the sub-method require a change to existing law or new legislation?
14	Requires Change to International Partnerships	Are current international partnership agreements affected or put at risk by the use of the sub-method?

To make analysts' judgments clearer, the research team assigned a red, green, or yellow color-coding scheme to each criterion. This color coding is not intended as a rating. Rather, it is intended to flag areas of concern for decision-makers prior to implementation. The color-coding indicates the following:

- Red = does not meet criteria;
- Green = meets criteria; and

¹¹ "Mission Area" is a term used by IDA in its explanation of Capability Based Planning (CBP). It was adopted by the Colombian Ministry of National Defense for its CBP process. A Mission Area is a grouping of inter-related activities that must be performed effectively to accomplish national level objectives. A nation's list of defense mission areas should include all that is expected of its armed forces. For a detailed treatment, please refer to Taliaferro et al, *Defense Governance and Management: Improving the Defense Management Capabilities of Foreign Defense Institutions – A Guide to Capability Based Planning (CBP)*, IDA document NS D-10369 (Alexandria, VA, February 2019).

- Yellow = may meet criteria if implemented in a specific way.

To test the framework and validate our instructions, the research team used it to evaluate a single sub-method (off-budget transactions). The test allowed us to observe how easy it was to use the framework. We also used the test to clarify framework instructions and review input. We then applied it to the three other sub-methods DJSG selected for analysis.

G. Limitations of the Decision Support Tool

The framework used in this analysis is weighted to highlight obstacles to implementation and the potential impact on defense modernization decisions and processes. There are two reasons for this bias:

1. DJSG is responsible for analyzing requests for investment resources by the Colombian defense sector. Investment requests are often to pay for new weapons systems or to replace worn-out systems. The framework uses defense acquisitions as a proxy metric for this, and;
2. The potential for failure exists for even the most promising sub-methods, owing to contextual challenges specific to the country using the sub-method.

These limitations underscore several issues. First, any decision-support tool has to account for partner-nation defense priorities. This means that decision-support tools may require adjusting if national priorities change or if what is being evaluated is governed by a different set of priorities. Second, context matters. A nation's strategic objectives and the inertia of its bureaucratic practices drive decisions about how defense resources are identified, allocated, and spent. This framework does not presume to answer questions about the *suitability* of defense resourcing decisions. Instead, it provides decision-makers with a way to structure their thinking about policy options. It flags concerns that may arise when implementing a specific sub-method. This equips decision-makers with the tools to anticipate obstacles to implementation early so they can be mitigated.

Finally, the framework is a decision-*support* tool, not a tool to make decisions with. It is intended to facilitate comparison and provide evidence in support of decisions. However, not all considerations are equally important and some factors will carry more weight than others in accordance with national priorities. Therefore, analysts should not use the framework to count "reds" and "greens." Criteria for a given sub-method may be mostly red, but that does not mean it is not suitable in a specific national context. Likewise, all green does not mean it is suitable.

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3. Phase 2 Sub-Method Analysis

A. Findings Overview

This section summarizes findings across the four sub-methods the research team evaluated. Figure 2 shows a general color coding for each criterion against which the sub-method was assessed. Sub-method fulfillment of criteria in the framework is varied across criteria and there is no clear winner, but identifying the best sub-method is not the purpose of this decision-support tool. Instead, it identifies the potential pitfalls and advantages of each sub-method. While it is appropriate to compare sub-methods across a single criterion, it is not analytically sound to “average” performance across all criteria.

Responsible Organization		IDA			DNP		IDA					DNP			
Methods	Sub-Methods	Pros of Implementation	Cons of Implementation	History of Abuse/Corrupt Application?	Colombia Context Considerations		Total Impact on Item(s) Being Acquired or Added Budgetary Flexibility to Absorb Large Expenditures					Tool Impact on MOD		Tool Impact on Whole of Government	
					Precedent	Anticipated or Current Political Support	Immediately Implementable	Decreases Total Acquisition Time	Increases Acquisition Cost	Increases Life Cycle Cost Estimate (LCCE) of Item(s) Acquired	Increases Budgetary Flexibility	Compromises Priority Mission Areas	Negatively Impacts Other Ministries	Requires Change to Law	Requires Change to International Partnerships
Offsets	Technology Transfer														
	Lease-Purchase														
Provision of Goods and Services	Off-Budget Military Transactions														
	Sales of Defense Articles or Services														

Figure 2. Summary of Sub-Method Findings

There is only one criterion for which each sub-method performs the same – history of abuse. Every sub-method has a documented history of abuse (i.e., corruption). This is not surprising, as any means of generating revenue outside normal budgetary processes is exempt from some of the oversight mechanisms within those processes. Two sub-methods have more pros than cons – Technology Transfer and Sales of Defense Articles/Services. However, Sales of Defense Articles/Services faces the fewest obstacles to implementation.

Sales of Defense Articles/Services can be implemented in ways that do not require Colombia to make changes to existing partnerships or compromise key missions or other ministries. Lease-Purchases also face fewer obstacles to implementation than Technology Transfer and Sales of Defense Articles/Services, but implementing Lease-Purchases

requires changes to Colombian law. Lease-Purchases may also risk the reliability of Armed Forces operations. Off-Budget Transactions and Technology Transfer require the most work (within the Colombian context) to make implementation work. They involve changes to laws and international partnerships, risk to Mission Areas, and adaptations to how Colombian ministries perform work.

Lease-Purchases appear to be a good short-term sub-method for Colombia to consider. They may be immediately implementable with fewer negative impacts across Colombia's government and partnerships. Sales of Defense Articles/Services may be an optimal long-term option, based on our decision-support tool. The following sections show a review of findings for each sub-method.

B. Lease/Lease-Purchase

Lease and lease-purchase agreements are a way to finance the acquisition of defense capabilities. A *lease* is a contract under which real estate, equipment, or facilities are provided for a specified term and a specified rent. Governments use leases to fill short-term capability gaps and gain access to needed equipment on short notice.¹² A *lease-purchase* is a lease in which part of the money paid for the lease is applied toward ownership. Lease purchases can be thought of as “rent-to-own” arrangements.¹³ These arrangements differ from regular leases because they transfer all the benefits and risks of ownership from the lease provider to the lessee.¹⁴

1. Advantages

Compared to a purchase, leasing allows the lessee to fund an asset over its useful life, rather than paying the full cost of the asset up front.¹⁵ This frees up cash flow for other expenditures. In addition, lessees are not responsible for “end of life costs,” like disposal, decommissioning, demilitarization, or storage. Generally, none of the risks of ownership are transferred to the lessee.¹⁶

¹² Expert Group on the Financial Toolbox, *Financing Models for the Acquisition of Defence Capabilities*, European Commission (European Commission, September 11 2018), <https://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupMeetingDoc&docid=18689>.

¹³ Christopher J. Koczur, “Leasing Versus Purchasing Lessons Learned from CINCPACFLT’s Lease of Dell Information Technology” (Naval Postgraduate School, 2003), 8, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a423649.pdf>.

¹⁴ Ibid.

¹⁵ Carlton L. Hensley and Archie L. Tinjum, “Lease vs. Purchase in Defense Acquisition” (Master’s of Science in Management Naval Postgraduate School, 2008), 19–20, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a493875.pdf>.

¹⁶ Koczur, “Leasing Versus Purchasing Lessons Learned from CINCPACFLT’s Lease of Dell Information Technology,” 8.

Lease-purchase agreements allow the lessee to spread the costs of payment over the term of the agreement. This reduces upfront cost and frees up cash flow for other expenditures. Second, a lease-purchase, just like any other purchase from a foreign vendor or an original equipment manufacturer, can reduce the government's research, development, test and evaluation (RDT&E) costs. For acquiring equipment, a lease-purchase can speed fielding time and decrease total acquisition time.

Cost-savings generated by lease-purchases depend on how contracts are negotiated and managed. Life cycle costs, like those associated with services, upgrades, and maintenance of military equipment, can be negotiated and covered in the lease price. If an acquisition is funded through a lease-purchase contract, the lessee can negotiate terms to ensure that life cycle costs are reduced or shared with the lease provider. Sometimes, lease-purchases can be negotiated so the asset leased can be modified by the lease provider to suit the changing operational requirements of the lessee without incurring additional fees.

2. Risks/Disadvantages

Lease-purchase agreement are usually subject to limits and oversight. For example, in the United States, this includes strict requirements for long-term lease-purchase contracts (greater than five years). Lessee are required to submit a justification for the lease-purchase decision to the relevant government agency for approval.¹⁷

Another disadvantage of lease-purchases is that control over and access to leased military equipment is determined by the terms of the lease agreement. For this reason, lease-purchases are not usually suitable for assets of strategic importance.¹⁸

Lease-purchases can also limit budget flexibility by committing the lessee to a long-term contract where payment is required whether or not the purchaser uses the equipment. Also, while acquiring assets through a lease-purchase may appear less costly than an outright purchase, they can obscure the government's real, long-term cost commitment. This can lead to suboptimal decision-making in the annual budget process.¹⁹ As a result, laws and regulations have been implemented that require a lessee to abide by scoring

¹⁷ Jacques Gansler, William Lucyshyn, and John Rigilano, *Rethinking the Buy vs. Lease Decision*, Center for Public Policy and Private Enterprise, University of Maryland School of Public Policy (University of Maryland, July 1 2014), v–vi.

¹⁸ Toolbox, *Financing Models for the Acquisition of Defence Capabilities*.

¹⁹ Dorothy Robyn, "Reforming Federal Property Procurement: The Case for Sensible Scoring," Brookings Institution (Washington, DC, April 24 2014).
<https://www.brookings.edu/blog/fixgov/2014/04/24/reforming-federal-property-procurement-the-case-for-sensible-scoring/>.

rules.²⁰ All anticipated costs that will be incurred over the duration of the lease, including interest, must be included in a budget request for a lease purchase.²¹

3. Lease/Lease-Purchase Agreements Case Study: Hungary

In the late 1990s, as Hungary was joining NATO, a modernization effort was underway to make the country's military equipment compatible with others in the alliance. For example, Hungary originally set out to modernize its MiG-29 fighter aircraft to extend their service life, but it was also open to other options. The bidding process ultimately led Hungary to lease the SAAB-BAE Gripen JAS-39.

The SAAB-BAE Gripen package was more attractive than competing offers due to the offsets involved, and the offer was sent to the Ministry of Economy for approval.²² The weight of offsets in criteria selection played a large role in why the Gripen was selected, despite the fighters' lack of specific NATO subsystems, such as precision-guided munitions and air refueling.²³ Critics anticipated modifications would be made to the agreement from the onset due to lack of these subsystems.

Additionally, it is worth noting that the lack of transparency around the Gripen selection led to suspicions of corruption. Observers raised allegations that agents for BAE systems committed bribery, although a key person involved in the investigations was acquitted in 2013 due to lack of evidence.²⁴

a. Sub-Method Execution

Hungary's government signed the initial lease agreement in December 2001. The agreement called for 14 NATO-compatible JAS-39 aircraft, training for 15 pilots, and several maintenance technicians. The agreement also provided a package of maintenance equipment, spare parts, and flight hours.²⁵ A modified agreement was signed in 2003

²⁰ Budget scoring or scorekeeping is a process for estimating budget authority, outlay, revenue and deficits that result from an appropriation or an expenditure.

²¹ Gansler, Lucyshyn, and Rigilano, *Rethinking the Buy vs. Lease Decision*, iv.

²² Lazar Zsolt, "The Hungarian Experience with the Gripen Fighter Aircraft," *Defense and Security Analysis* 34, no. 2 (2018): 163, <https://www.tandfonline.com/doi/citedby/10.1080/14751798.2018.1478180?scroll=top&needAccess=true>.

²³ *Ibid.*, 164.

²⁴ "Gripen Combat Aircraft Sales to the Czech Republic and Hungary," *Compendium of Arms Trade Corruption*, The Fletcher School, Tufts University, accessed November, 2020, <https://sites.tufts.edu/corruptarmsdeals/gripen-combat-aircraft-sales-to-the-czech-republic-and-hungary/>.

²⁵ Saab AB, "Agreement Between Hungary and Sweden Concerning the Lease of JAS 39 Gripen Now Finalized," news release, December 20, 2001, [http://www.defense-aerospace.com/articles-view/release/3/8042/hungary-signs-gripen-lease,-offsets-\(dec.-21\).html](http://www.defense-aerospace.com/articles-view/release/3/8042/hungary-signs-gripen-lease,-offsets-(dec.-21).html).

calling for a reduced leasing fee over a longer lease period. The modified agreement also specified a different configuration²⁶ tailored to meet NATO subsystem requirements.²⁷

In 2012, another set of adjustments to the lease agreement were made. These changes extended the agreement by 10 years, reduced the leasing fee, and added pilot training.²⁸ Following two crashes in 2015²⁹, another modification to the lease agreement was made. To account for the loss of the two aircraft, flight hours were increased, and upgrades to the aircraft's software were included. Finally, this new agreement included a purchase option to buy the aircraft following the end of the lease in 2026.³⁰

b. Key Takeaways

The Gripen case highlights several features of the lease and lease-purchase sub-method. First, the example illustrates a way to modernize military equipment to meet capability requirements during a time of financial constraint. In some ways the defense industry is a buyer's market. Arms-producing companies and their governments are willing to make concessions to facilitate large production contracts that benefit their own industrial base and provide high-paying jobs for skilled labor. In Hungary's case, Saab and BAE were willing to modify the terms of the agreement multiple times to enable the Hungarians to continue with the lease arrangement.

In addition to budgetary constraints, lease or lease-purchase illustrates a way to fund defense acquisitions in the face of uncertainty. Hungary's government changed hands multiple times after the lease agreement was first signed. The durability of the agreement demonstrates that the sub-method is adaptable to changing national priorities.

Sustainability can also be included in the lease. The provision to include maintenance training, pilot training, and spare parts ensures that aircraft remain operational for the full term of the lease.

Adaptability is seen in Saab and BAE's willingness to accommodate upgrades to the aircraft and to add a purchase option to the lease. As already mentioned, this is because the companies have an interest in sustaining their own industrial base and labor force.

The Gripen case is not without issues. A significant portion of the defense budget is committed to paying the leasing fee, at times reaching 10%. This does not include

²⁶ Ibid.

²⁷ Zsolt, "The Hungarian Experience with the Gripen Fighter Aircraft," 165.

²⁸ Although classified documents would reveal that the price was increased in the long run, according to members of the opposition government.

²⁹ Beth Stevenson, "Second Hungarian Gripen crashes at domestic air base," *FlightGlobal* (June 11 2015). <https://www.flightglobal.com/second-hungarian-gripen-crashes-at-domestic-air-base/117180.article>.

³⁰ Zsolt, "The Hungarian Experience with the Gripen Fighter Aircraft," 166.

additional operations and sustainment costs related to armaments and storage.³¹ Readiness has also been neglected, specifically in terms of weapons and fuel availability, and pilot training.³²

The high costs of maintaining the Gripen in accordance with the standards agreed to in the lease must be paid, regardless of the need for the capabilities the Gripen squadron provides. The squadron's costs consume a significant part of the defense budget. The government of Hungary has taken resources from other units to adhere to the terms of the lease. For example, the Hungarian attack helicopter fleet has not flown in years, and the weaponry for them was sold.³³ The defense forces battle tank inventory has also been reduced.³⁴ These examples illustrate the risk that other military capabilities may be compromised when committing to long-term leasing arrangements.

4. Colombian Context and Conclusions

In Colombia, the Air Force has used leasing arrangements—with no purchase option—to contract for administrative vehicles. Other cases have been explored (e.g., military housing), but there is a budget restriction that limits the use of lease agreements. Leasing requires authorization to use future year appropriations, but current Colombian Budget Law stipulates that future year appropriation commitments cannot exceed the term of the current government administration.³⁵

It would therefore be necessary to adjust Colombian Decree 111 of 1996 to allow future year appropriations to be used for lease agreements. However, there is little support among defense policy makers (at this time) in favor of long-term leasing arrangements.

The prevailing belief is that leasing generates cost overruns, corruption risks, and greater budget inflexibility when committing future-year appropriations over the long term. Furthermore, there is hesitancy among the armed forces to use lease agreements for any type of defense-sector equipment. The military services fear that using a lease for operational equipment means they could lose control over the equipment or its capabilities, given that such control would be in the hands of a third party.

The defense industry is a buyer's market. Foreign governments and manufacturers are usually willing to make concessions to sell weapons, keep manufacturing facilities

³¹ Ibid., 167–168.

³² Ibid., 169–171.

³³ Zsolt, "The Hungarian Experience with the Gripen Fighter Aircraft," 168.

³⁴ Ibid., 168.

³⁵ Colombia Ministry of Finance, Statutory Budget Decree 111 of 1996, art. 23: authorization for committing future year appropriations cannot stretch beyond the current government's term in office. Investment expenditure projects deemed to be of strategic importance by the CONPES are exempted.

open, and keep highly skilled labor employed. Therefore, a government may be able to extract considerable concessions from foreign vendors at a reduced cost.

To increase the effective use of lease or lease-purchases, it is recommended that the Colombian Government and Ministry of National Defense:

- Seek to amend the organic budget statute so lease or lease-purchase contracts can extend beyond the term of a President's administration. Some contract mechanisms, like Private Public Partnerships, already allow this.
- For any potential lease or lease-purchase agreement:
 - Estimate the amount of deferred investment costs
 - Estimate the amount of future-years budget obligation that the lease agreement consumes.
 - Estimate and compare the total life-cycle cost of purchase vs. a lease or lease-purchase.
 - Analyze whether the Public Forces' operational autonomy may be compromised.
- Develop a monitoring and control process to reduce corruption risk.

C. Off-Budget Transactions

Off-budget transactions refer to government expenditures using funds generated from outside the regular budget planning, allocation, and execution process. These funds may come from special taxes, revenues generated by government services or government-owned companies, or other sources. This funding mechanism can be flexible. It can be used to finance acquisitions or expenditures of any type subject to constraints of national law.

While off-budget transactions are considered expedient because they are subject to less oversight, they still require legal and structural frameworks to implement them. To be effective, policymakers must be transparent about off-budget transaction and their decisions need to be subject to appropriate oversight. Processes and mechanisms to account for off-budget revenues need to inform normal defense planning and budget processes.³⁶

³⁶ Defence Index, Transparency International, "Spain," 2015, accessed June 23, 2021, <http://government.defenceindex.org/countries/spain/>; Ben Magahy et al., *Building Integrity and Reducing Corruption Risk in Defence Establishments* (Transparency International, 2009), [https://reliefweb.int/sites/reliefweb.int/files/resources/DE39EE51A5934138492575ED00176EFC-transparency_international_\(uk\)_defence_corruption_in_ssa_evidence_paper.pdf](https://reliefweb.int/sites/reliefweb.int/files/resources/DE39EE51A5934138492575ED00176EFC-transparency_international_(uk)_defence_corruption_in_ssa_evidence_paper.pdf); D Hendrickson and N Ball, *Off-Budget Military Expenditure and Revenue: Issues and Policy Perspectives for Donors* (Conflict Security and Development Group, 2002), <https://gsdrc.org/document-library/off-budget-military-expenditure-and-revenue-issues-and-policy-perspectives-for-donors/>; The Defence Index Website, "Indonesia," <http://government.defenceindex.org/countries/indonesia/>; Greece: Report on Observance of Standards and Codes – Fiscal Transparency Module (Washington, DC: International Monetary Fund, 2006), <https://www.imf.org/external/pubs/ft/scr/2006/cr0649.pdf>; and, Diego Lopes da

1. Advantages

The flexibility of off-budget transactions is appealing. National budget processes can be frustrating. They are subject to influence from many stakeholders, which means a Minister's priorities don't necessarily get the funding needed to accomplish his or her objectives. Off-budget transactions can relieve budget shortfalls and they are typically subject to fewer bureaucratic constraints than on-budget funds.

In some nations, increased defense spending is either against the stated policy of the government or it is politically controversial. Off-budget transactions offer policymakers a way to buy time to change policy and create public support for defense spending. They can provide quick access to funds and fewer bureaucratic obstacles to impede direct control and decisions about defense expenditures.³⁷

2. Risks and Disadvantages

Corruption risk is the greatest concern for this sub-method because transactions occur outside normal budget processes and are usually subject to less oversight. This can incentivize corruption, which makes off-budget transactions a high-risk option for policymakers.³⁸ Off-budget transactions are also vulnerable to inefficiency.

Off-budget transactions can also disrupt years of planning and be contrary to defense and public security policy. National defense and public security budgets are complex. Decisions about spending should be governed by disciplined analyses and structured decision processes. Managers who administer and allocate off-budget funds may not be aware of national defense or security priorities. They may not understand how their spending decisions affect other parts of the defense and security sector or the government.

Money that flows from off-budget transactions may lead defense planners to believe they can expect funds from off-budget transactions in the future, which may not be true.

Silva and Nan Tian, "Ending Off-Budget Military Funding: Lessons from Chile," SIPRI, December 16, 2019, <https://www.sipri.org/commentary/topical-backgrounder/2019/ending-budget-military-funding-lessons-chile>.

³⁷ Defence Index, Transparency International, "Spain," 2015, accessed June 23, 2021, <http://government.defenceindex.org/countries/spain/>; Ben Magahy et al., *Building Integrity and Reducing Corruption Risk in Defence Establishments* (Transparency International, 2009), [https://reliefweb.int/sites/reliefweb.int/files/resources/DE39EE51A5934138492575ED00176EFC-transparency_international_\(uk\)_defence_corruption_in_ssa_evidence_paper.pdf](https://reliefweb.int/sites/reliefweb.int/files/resources/DE39EE51A5934138492575ED00176EFC-transparency_international_(uk)_defence_corruption_in_ssa_evidence_paper.pdf); and, *Federal Trust and Other Earmarked Funds: Answers to Frequently Asked Questions* (Washington, DC: U.S. Government Accountability Office, 2001), <https://www.gao.gov/assets/210/200562.pdf>.

³⁸ Defence Index, Transparency International, "Spain," 2015, accessed June 23, 2021, <http://government.defenceindex.org/countries/spain/>; and, Dirk-Jan Kraan, "Off-budget and Tax Expenditures," *OECD Journal on Budgeting – Volume 4 – No. 1* (2004) 124, <https://www.oecd.org/gov/budgeting/39515114.pdf>.

Funding from off-budget transactions is often volatile. This may result in inaccurate estimates for future defense budgets or program allocations.

Policymakers who use off-budget transactions as a quick-fix to budget shortfalls can create longer-term problems that force future spending corrections. If the budget for operations and sustainment is not increased to pay for acquisitions made with off-budget funds, then the readiness of the Armed Forces will suffer. This can reduce confidence in defense policy, and result in a net reduction of the defense budget.

3. Off-Budget Transactions Case Study: Nigeria

Lack of transparency is a common criticism of using off-budget transactions to fund government expenditures. Nigeria is presented as a case because of its history of off-budget funding for military expenditures. Nigeria possesses significant oil wealth and sometimes makes use of surplus funds from the Nigerian National Petroleum Corporation (NNPC) to fund arms purchases outside of the defense budget.³⁹ These revenues also help Nigeria fund other military expenditures.⁴⁰

a. Sub-Method Execution in Nigeria

The Nigerian federal government uses oil sales earmarked for its military and security forces to pay for some expenses of its forces. However, the percentage of total defense expenditure these off-budget funding streams account for is not publicly available and the accounts are not reported in public documents. One type of account definitively referred to in literature is “excess crude accounts,” which hold oil revenue that exceeded the NNPC’s projected earnings for the year. It is unclear if these are the sole account from which off-budget funds are pulled for security forces or if other accounts exist.⁴¹

It is not clear how money is transferred and allocated from excess crude accounts. We did not find evidence that Nigeria’s off-budget spending is codified in law. They are regulated by administrative precedent borrowed from previous governments. As a result, off-budget spending in Nigeria lacks clear and obvious rules on how funds are to be

³⁹ Dr. Diego Lopes da Silva and Dr. Nan Tian, “Ending Off-Budget Military Funding: Lessons from Chile,” *Backgrounder* (December 16 2019). <https://www.sipri.org/commentary/topical-backgrounder/2019/ending-budget-military-funding-lessons-chile>.

⁴⁰ International Crisis Group, *Nigeria: The Challenge of Military Reform*, International Crisis Group (Brussels, Belgium, June 6 2016), 10, <https://www.refworld.org/pdfid/5756664c4.pdf>.

⁴¹ Mariya Gorbanova and Leah Wawro, *The Transparency of National Defence Budgets*, Defence and Security Programme, Transparency International (UK) (Transparency International (UK), October 2011), 13, http://ti-defence.org/wp-content/uploads/2016/03/2011-10_Defence_Budgets_Transparency.pdf.

deposited into or withdrawn from the accounts.⁴² The President of Nigeria can control the flow of these funds through administrative directives, although it is unclear if he has formal authority to do so.⁴³ In addition, Nigeria's state authorities each have a "security vote," which functions as a mechanism through which they can influence the allocation of excess petroleum funds. These funds are typically funneled into operations costs, but can also be used to purchase arms.^{44,45}

b. Key Takeaways

Nigeria's ability to leverage off-budget transactions to bolster its defense spending is dependent upon sustained and predictable sales of oil. This is fine if prices for oil remain consistent. However, oil, like all natural resources, is subject to price volatility. If public security spending is dependent upon sales of natural resources, then spending patterns will be as volatile as the price of the natural resource. It also means that oil infrastructure is a point of vulnerability for the defense sector. Nigeria has experienced this with its oil industry in the past. Nigerian militants have attacked Nigerian pipelines.⁴⁶

Given state-level authorities' role in decision-making, the Nigeria case also shows how the use of off-budget transactions can be complicated by competing local, state, and federal agendas. This may dilute the impact of using this sub-method. In addition, the lack of clear rules and regulations—while making the transfer of funds far easier as a benefit—contributes to potential corruption. Conversely, omitting state or territorial influence from spending decisions may result in an unchecked, unequitable dispersion of funds that creates tension between the federal government and its states or territories.

Finally, in Nigeria's case, spending of surplus oil funds for defense and security lacks transparency. These funds are not subject to independent oversight. The lack of visibility makes it difficult to discover waste or abuse and determine how much funding military and public security forces are receiving in addition to their primary budgets.⁴⁷ This lack of transparency affects the rest of government, as well. An inability to determine the extent

⁴² Wuyi Omitoogun and Tunde Oduntan, "Nigeria," ed. Wuyi Omitoogun and Eboe Hutchful, *Budgeting for the Military Sector in Africa: The Processes and Mechanisms of Control* (New York: Oxford University Press, 2006), 176, <https://www.sipri.org/sites/default/files/files/books/SIPRI06OmHu/SIPRI06OmHu.pdf>.

⁴³ Group, *Nigeria: The Challenge of Military Reform*, 10.

⁴⁴ Ibid.

⁴⁵ Silva and Tian, "Ending Off-Budget Military Funding: Lessons from Chile."

⁴⁶ "Nigeria militants 'bomb' oil pipelines in Niger Delta," BBC News, updated November 16, 2016, accessed October, 2020, <https://www.bbc.com/news/world-africa-37999388>.

⁴⁷ Ibid.

of off-budget funding for security leads to waste and missed opportunities to utilize a normal budget for other ministries.⁴⁸

4. Colombian Context and Conclusions

Colombia already has several off-budget sources of revenue. A prominent one is the Citizen Security and Coexistence Territorial Fund (FONSET⁴⁹). This is a territorial⁵⁰ account funded with tariffs, surcharges, and a 5% contribution on all public work contracts. There is also a charge on the value of all contracts for the construction, maintenance, or operation of any method of transportation (i.e., road, waterway, airport, maritime port, river port).⁵¹ In addition, FONSET can be financed by fees collected by municipalities or departments, or contributions from guilds and legal entities.⁵²

FONSET resources are for security needs in the territory the fund covers. FONSET resources are administered by the territorial committee for public order. This committee is convened by the territorial authority (i.e., mayor or governor) with the participation of the security authorities in the area (i.e., military commander, police commander, director of the regional office of the prosecutor, and director of the regional office of Migración Colombia). The committee approves and monitors all programs and projects paid for by FONSET resources.

To enable monitoring, the Ministry of Interior was tasked to commission the design and use of an information system to track programs and projects funded by FONSET.⁵³ However, this has not occurred. There is some data in the records stored in the “Information System of the Single Territorial Format” (SISFUT) of the Department of National Planning (DNP). However, this system is only a repository of information where one can query general budget and financial information.

Furthermore, FONSET can pay for the needs of many different agencies, so it is far more than a fund exclusively for the needs of the military services or national police. Migración Colombia, Foreign Affairs, the Office of Technical Investigations, the Office of

⁴⁸ Dr. Sam Perlo-Freeman, “Transparency and accountability in military spending,” *Backgrounder* (August 3 2016). <https://www.sipri.org/commentary/topical-backgrounder/2016/transparency-and-accountability-military-spending>.

⁴⁹ FONSET was authorized by Colombian law 418 in 1997.

⁵⁰ Territory primarily refers to Colombia’s 32 Departments. Departments are similar to Canadian provinces or American states.

⁵¹ National Security and Coexistence Fund (Fonsecon), Royalties, cooperation agreements with private sector companies – support in kind, Fund “Special Programs for Peace” FondoPaz, donations and international cooperation resources.

⁵² Decree 399 of 2011 provided this authority.

⁵³ Article 9 of Decree 399 of 2011.

the Prosecutor General, the Ministry of Justice, the Colombian Institute of Family Well-being, and the Ministry of the Interior are some of the agencies that can apply for FONSET resources. This adds to the complexity of the fund and there are no centralized or systematized records of the funds assigned to each of these agencies.

To conclude, off-budget transactions may provide policy-makers with more revenue or fiscal flexibility for defense sector expenditures, especially for small-scale, short-term modernization and operations requirements. However, policymakers should create safeguards to deter corruption, mitigate the potential for financial mismanagement, and be alert to the emergence of systemic inefficiencies that lead to greater long-term risks in defense planning and budgeting.

To make better use of off-budget transactions, it is recommended that the Government of Colombia and the Ministry of National Defense:

- Design and implement rigorous monitoring processes at the central level to trace the allocation and use of off-budget resources in the different public sectors that benefit from them.
- Within the Ministry of National Defense, design and implement procedures to exercise control over the planning and allocation of resources from off-budget revenues.
 - Ensure that off-budget revenues finance unmet needs and complement the use of resources from other sources of funding
 - Ensure that the use of the resources does not generate future budget inflexibility.
- Starting with existing organizations and information systems that collect and store information about off-budget revenues, improve collection and data storage so the information available is more robust and useful for analysis.
 - Examples: FUT Technical Committee, SISFUT, Territorial SUIFP, FONSECON evaluation committee, Integrated Emergency and Security System (SIES) Committee, Gesproy.
- Establish audit procedures, both within the entities that allocate and execute the resources and those that benefit from off-budget resources.
- Tie audit procedures to information systems that contain data upon which monitoring (i.e., auditing) is based.

D. Sales of Defense Articles/Services

The sale of defense articles and services refers to the sale of property—moveable and immovable—and the provision of services by armed (military or police) forces to customers outside of their organizations. For this document, customers are defined as *domestic consumers* with the ability to purchase services from a government. Domestic customers may be private consumers or government agencies. These agencies can be federal, provincial, state, departmental, municipal, county or other subdivisions of

government. This sub-method does not discuss foreign military sales, which refers to the sale of defense articles or services to international consumers. For this analysis, “foreign military sales” is its own sub-method.⁵⁴

Which organization(s) in a nation sell surplus defense articles varies in practice. Some countries sell surplus defense articles—and surplus government property in general—through government owned and operated agencies or companies.^{55,56} In other cases, governments use private contractors to sell surplus articles on their behalf.⁵⁷ The choice of using government-run entities or contractors depends on whether the government has the capacity and resources to create and manage a system for selling excess defense articles on its own.⁵⁸ Regardless of what organization(s) are responsible, the sale and disposal of surplus defense articles should include some incentives to the organizations involved.

1. Advantages

Typically, articles sold or transferred by armed forces are surplus or excess equipment. When an organization disposes, transfers, or sells excess equipment, it no longer needs to spend money to store, maintain, and secure that property. This generates cost savings.⁵⁹ Transferring equipment between government agencies can reduce overall government costs. Transfers can also benefit the receiving organization if it helps them avoid a lengthy procurement process.⁶⁰

Sale of defense articles and services can also generate revenue. These revenues can be put back into the national treasury, or reinvested into the ministry or agency that sold the surplus articles.^{61,62} For example, defense ministry officials could decide to use revenue

⁵⁴ Refer to Appendix A – the Terms of Reference.

⁵⁵ “Index.”

⁵⁶ “About us,” Ministry of Finance of the Netherlands, accessed November 4, 2020, <https://www.domeinenr.nl/>.

⁵⁷ “Defence Equipment Sales Authority.”

⁵⁸ National Audit Office, *Disposal by Sale of Defence Surplus Equipment and Stores* (February 24 1993), 8-12, <https://www.nao.org.uk/pubsarchive/wp-content/uploads/sites/14/2018/11/Disposal-by-Sale-of-Defence-Surplus-Equipment-and-Store.pdf>.

⁵⁹ Defense Logistics Agency, “Reutilization, Transfer and Donation (R/T/D),” accessed October 28, 2020, <https://www.dla.mil/DispositionServices/Offers/Reutilization.aspx>.

⁶⁰ Agency, “Reutilization, Transfer and Donation (R/T/D).”

⁶¹ General Accounting Office, *Security Assistance: Need For Improved Reporting on Defense Excess Article Transfers* (1994), 34-35, <https://www.gao.gov/assets/160/153974.pdf>.

⁶² Ministry of Finance of the Netherlands, “Processing of surplus government goods,” accessed November 4, 2020, <https://www.domeinenr.nl/onderwerpen/verwerking-overtollige-rijksgoederen>.

generated from selling defense articles and services on new modernization programs or operational priorities.⁶³

Other benefits from the sale of defense articles and services are as follows:

- **Environmental benefits.** The sale and repurposing of surplus articles can reduce waste. Equipment that might otherwise sit and deteriorate or be destroyed and sent to a landfill can be used to make other useful items.⁶⁴
- **Building productive government partnerships.** The sale of defense articles and services can foster economic growth and improve relations with provincial and local authorities. Supplying surplus articles to provincial and local organizations that do not have strong procurement mechanisms to buy needed equipment can foster stronger links with national government and allow policymakers to achieve broader strategic and national defense and public security objectives.⁶⁵
- **Bolster private sector growth.** Sales of defense articles and services to private industry can energize industrial/economic development and job growth.⁶⁶

2. Risks/Disadvantages

The sale of defense articles can be a relatively quick and easy process. The customer purchases an article, and ownership is transferred to the customer by the government upon payment. In practice, additional requirements may impose time and financial costs on the organization disposing of the articles. For example, when selling immovable property like land, the law may require environmental cleanup at the expense of the government before it can be transferred to the end user, or there may be historical or environmental preservation laws that dictate how the land can be used.⁶⁷

In the case of moveable property, like vehicles or aircraft, the equipment may need to be demilitarized—meaning weapons and military technology must be removed before it is

⁶³ United States Department of Defense, *Volume 12, Chapter 14: Transferring, Disposing, and Leasing of Real Property and Personal Property* (June 2019), 14-6, https://comptroller.defense.gov/Portals/45/documents/fmr/current/12/12_14.pdf.

⁶⁴ GOV.UK, “Defence Equipment Sales Authority,” accessed November 5, 2020, <https://www.gov.uk/government/groups/defence-equipment-sales-authority>.

⁶⁵ DLA Disposition Services, “1033 Program FAQs,” accessed 2020, <https://www.dla.mil/dispositionservices/offers/reutilization/lawenforcement/programfaqs.aspx> (October 28).

⁶⁶ Leo Roth, Sean Lahman, and Steve Orr, “Seneca Army Depot buyer announced,” *Democrat & Chronicle*, June 16 2016, <https://www.democratandchronicle.com/story/news/2016/06/16/seneca-army-depot-buyer-unveiled/85975764>.

⁶⁷ Garrett Hatch et al., *Overview of Federal Real Property Disposal Requirements and Procedures* (December 10 2014), 10–12, <https://fas.org/sgp/crs/misc/R43818.pdf>.

sold— particularly if the equipment was designed and built for use in combat.⁶⁸ Other government costs associated with the sales or transfer of defense articles are end-use monitoring, transportation, and repair or refurbishment.

Some governments shift fiscal burdens associated with transportation, repair and refurbishment to the buyer, making it their responsibility after purchase.^{69,70} Policymakers can sidestep responsibility for demilitarization by choosing not to sell combat vehicles or equipment to domestic customers and instead restricting those items to foreign military sales only.⁷¹

In addition, these sales need to be regulated with clear accounting and oversight measures in place to prevent corruption (e.g., bribery or embezzlement^{72,73}) and ensure that the government achieves its revenue targets. Corruption risk can be mitigated through increased transparency and proactive, consistent oversight of disposal and sales.⁷⁴

If government policy is to send all revenue from sales of excess defense articles back to the national treasury, then ministry, provincial, and local agencies and organizations may have less incentive to be efficient about sales and disposal processes.⁷⁵ Policymakers must consider how to create transparent management processes for the disposal and sale of surplus and excess defense articles that provide incentives for efficiency.

3. Sales of Defense Articles/Services Case Study: Germany

Germany has a large, publicly visible system for selling surplus articles: the Federal Disposal Sales and Marketing Agency (VEBEG). VEBEG is wholly owned by the German government and has been in operation for nearly 70 years.⁷⁶ VEBEG disposes of moveable

⁶⁸ “1033 Program FAQs.”

⁶⁹ “1033 Program FAQs.”

⁷⁰ “Index,” accessed November 17, 2020, <https://www.vebeg.de/web/en/start/index.htm/>.

⁷¹ Ibid.

⁷² U.S. Attorney’s Office – Southern District of Ohio, “Former Columbus Police Officer Sentenced For Embezzling From Defense Department Surplus Program,” news release, August 15, 2014, <https://www.justice.gov/usao-sdoh/pr/former-columbus-police-officer-sentenced-embezzling-defense-department-surplus-program>.

⁷³ Todor Tagarev, “Utilisation of Surplus Equipment and Infrastructure,” ed. Todor Tagarev, *Building Integrity and Reducing Corruption in Defence: A Compendium of Best Practices* (Geneva: Procon Ltd., 2010), https://www.nato.int/nato_static/assets/pdf/pdf_topics/20120607_BI_Compendium_EN.pdf. 118-20.

⁷⁴ Mark Pyman and Tobias Bock, “A practitioner’s experience of facilitating corruption reform in national defence and security organisations” (ANTICORPP Conference, Berlin, July 8-11 2015).

⁷⁵ General Accounting Office, *Security Assistance: Need For Improved Reporting on Defense Excess Article Transfers*, 34-35.

⁷⁶ “Index.”

property, not only from the German Federal Defense Forces, but also from other public entities at all levels of government and from NATO militaries garrisoned in Germany.⁷⁷

a. Sub-Method Execution

VEBEG disposes of surplus property through two processes: tender sales and live auctions. Live auctions start at a known bid price, which increases in increments in accordance to the bid process. Live updates of the bidding are available on VEBEG's website. For tender sales,⁷⁸ bids and the bid status are not public. In either case, bidding is open to any user who has registered and activated an account on VEBEG's website.⁷⁹

All items sold through VEBEG are "as is." Buyers assume the risk of wear and tear and all costs for repair or maintenance. Potential buyers may contact VEBEG and schedule a time to visually inspect the property at its storage location prior to making a bid and are cautioned to do so by VEBEG.^{80,81}

b. Key Takeaways

VEBEG is a wholly owned trust company of the German federal government.⁸² It does not appear to use private contractors to execute its activities.

Under Germany's War Weapons Control Act, VEBEG is prohibited from selling tanks, fighter aircraft, warships, weapons or other designated items.⁸³ Even with these restrictions, VEBEG sells a large number and wide variety of surplus defense articles, such as non-combat vehicles; vehicle parts and equipment, including electronics, furniture, and other items; and scrap and raw materials.⁸⁴ Germany demonstrates a prudent approach to limiting the public's access to specialized military goods without restricting access to goods suitable for public sale. The case also shows that defense sales need not be limited to arms or real property.

⁷⁷ "Clients," accessed November 17, 2020, <https://www.vebeg.de/web/en/unternehmen/partner.htm>.

⁷⁸ Listing a property for sale by tender is a confidential process where buyers submit written offers to the agency before the specified end date.

⁷⁹ "The Difference between Tender Sales and Live Auctions," accessed November 17, 2020, <https://www.vebeg.de/web/en/others/infopop-ausaukdiff.htm?extwin=2>.

⁸⁰ "The Difference between Tender Sales and Live Auctions."

⁸¹ "Index."

⁸² "About us."

⁸³ "FAQ," accessed November 17, 2020, <https://www.vebeg.de/web/en/faq/index.htm>.

⁸⁴ "Index."

Finally, all VEBEG sales are conducted under the principle of *CAVEAT EMPTOR*⁸⁵. This saves money that might otherwise have to be used to inspect, certify, refurbish or repair vehicles prior to sales. A downside of this policy is that it may dissuade some customers from purchasing items. However, given the longevity of VEBEG, its list of clients and partners, and the large stock of items that it sells, this policy does not appear to have seriously impeded its operations. In addition, by not selling armaments, like combat vehicles, VEBEG saves on costs it would have to pay for demilitarization of items.

4. Colombian Context and Conclusions

Colombia is interested in formalizing government-to-government sales of land, real estate, and other assets controlled by the Defense Ministry to create an alternate source of funding for the defense sector (i.e. “real property” that is land and other assets permanently placed on or under the land).⁸⁶ Real property sales are challenging because most of the defense sector’s property is military housing that cannot be transferred and is not subject to seizure.⁸⁷

There are isolated examples where government land was sold or transferred to build roads. Some land sales are authorized. Law 1753, the “2014-2018 National Development Plan Law” allowed a recruiting center in Bogota to be sold to expand a municipal avenue.

The Constitution allows the Colombian Congress to authorize Government disposal of the government’s real property.⁸⁸ Using Congressional authorization, in 2003, the Colombian National Council for Social and Economic Policy (CONPES) established a program for the efficient management of government assets.⁸⁹

To date, the defense and security sector has not utilized the congressionally authorized exceptions. To do so, the following aspects must be considered: (i) the need to modify the use of land from institutional to commercial or residential use to market its real estate assets; (ii) determining what amendments to the local rules of territorial order may be

⁸⁵ The principle that the buyer alone is responsible for checking the quality and suitability of goods before a purchase is made.

⁸⁶ See U.S. definition for “Real Property” (RP) Federal Management Regulation 102-71.20 (41 CFR 102-71.20), “Any interest in land, together with the improvements, structures, and fixtures located thereon (including prefabricated movable structures, such as Butler-type storage warehouses and Quonset huts, and house trailers with or without undercarriages), and appurtenances thereto, under the control of any Federal agency...” See also: Bragg, Steven. "Real Property Definition." Accounting Tools, <https://www.accountingtools.com/articles/2017/8/4/real-property>.

⁸⁷ Article 63 of the Colombian Constitution stipulates that public goods (properties) cannot be disposed of (sold, transferred, or mortgaged).

⁸⁸ An example is Colombian decree 1778 of 2016 on the mobilization of assets, disposal plans, and sales of small shares.

⁸⁹ CONPES 3251.

required, given the autonomy to promote the order of its territory granted to municipalities through Law 388 of 1997; (iii) determining the operational impact of relocating military or police units that may result from real-property sales.

Defense Ministry control over disposal of real property differs from its control over defense assets. We distinguish *real property* from defense assets. Assets are tangible items used to produce, maintain, repair, provide services, etc.⁹⁰ The Ministry of National Defense (MND) does not have the authority to enter into any agreement supporting or endorsing the sale of goods manufactured by companies that are part of the Defense Ministry's social and business group (GSED).⁹¹

To use the sales of defense article and services to generate revenue, it is recommended that the Government of Colombia and the Ministry of National Defense take action in three areas:

1. Use of real property:

- Establish a permanent rule to enable more stable access to legal means for divesting real property.
- Identify and catalogue the status of real property in the Defense Sector in terms of land use, ownership, and availability of land, to have an inventory of possible assets that can be marketed.
- Within the defense and security sector, establish procedures and mechanisms for monitoring the status of the sector's real property.
- Develop plans for real property that is not useful (or has no potential use to the government).
 - Plans should include the potential market and the costs of divestment (i.e., decontamination, marketing and managing sales, answering legal claims against the property, responding to public concern).
 - Plans should take into account actions contemplated by municipal or departmental governments when considering the sale of real property.
 - Monitor Territorial Plans for their sales of real property.
 - Monitor land prices to be aware of increasing or decreasing value.
- Analyze the operational impact, according to defense and security strategic context, and estimate the cost of relocating military or police units that may result from real property sales. Establish a repeatable process for these purposes.

⁹⁰ See U.S. definition for "Equipment," Federal Management Regulation 52.245-1: "items that are typically used for production, maintenance, repair, and providing services." See also Bragg, Steven. "Asset Definition." AccountingTools, <https://www.accountingtools.com/articles/what-is-an-asset.html>.

⁹¹ GSED is an organization that is part of the Defense Ministry of Colombia. GSED is made up of separate entities that produce goods and services that support the Military Forces and National Defense. https://www.gsed.gov.co/irj/portal/GSED/contenido?NavigationTarget=navurl://4b5053d012fb3a8b3ae a254dd0a42a63&guest_user=Guest_GSED.

2. Defense assets:

- Establish a permanent legal and regulatory framework to allow the Government to sell, donate, or transfer ownership of defense and security sector assets, not in a transitory legislation.
- Establish procedures to monitor equipment life-cycles, taking into account factors such as the cost of operation and support, reliability, logistical support and, operational requirements.
- Establish and implement market analysis processes to identify potential markets or specific buyers for material and excess or obsolete equipment.

3. Commercialize the technological developments of the Forces and products of GSED companies:

- Develop legal and regulatory frameworks that allow the National Government and MND to sign agreements that support and encourage sales of products or services from companies that are part of the defense industry through government-to-government mechanisms.
- Assess the competitiveness of GSED companies and the quality of their products to have evidence to certify the suitability of goods or services for potential buyers.
- Form partnerships with financial institutions to support marketing operations of products or services to other nations.
- Promote the sale of products generated by GSED and the developments of the Military Forces through the actions of the Ministry of Foreign Affairs and other branches of government that promote Colombian commerce.
- Develop protocols and security measures for the exchange of information under government-to-government contracts.

To conclude, the sale of defense articles and services has potential for Colombia. However, changes must be made in several key areas. First, given the limitations of the regulatory framework, there is a need to formalize existing processes and procedures, and to establish a mechanism that assures that revenues from sales of real property and equipment will benefit the Public Forces. Second, the rationale for the design and location of many military units in Colombia is now decades old. Therefore, Colombia could benefit from implementing a process similar to the United States' Base Realignment and Closure process, which could convert real property into revenue for defense priorities.

There is considerable potential benefit in using this sub-method. The government can realize that potential by promoting development of Colombia's defense sector industries and creating legal frameworks that allow the capabilities of those industries to grow and innovate. Furthermore, the government can empower the Defense Ministry and the Public Forces to support and leverage resulting technological breakthroughs, and give the Defense Ministry and its Forces more control and flexibility over decisions about how to manage property and equipment disposal.

E. Technology Transfer

An offset is an arrangement in which the purchasing government of the importing country requires the supplying company of the exporting country to reinvest a portion of the contract in the importing country. Offsets are intended to provide industrial and commercial benefits to the importing nation. Technology transfer is a form of an offset. Tech transfer may be research and development conducted in the importing nation, technical assistance provided to an importing nation's subsidiary or joint venture, or other activities under a commercial arrangement between the selling contractor and an entity in the importing nation.⁹² Technology transfer offsets are usually not independent actions. They are bundled with other types of offsets (e.g., licensed production, co-development, co-production, and so forth⁹³) to realize the benefit of the technology transfer.

1. Advantages

In the context of defense trade, technology transfer is used for the following reasons:

- To develop the defense industrial base to reduce dependence on foreign manufacturing and material so money spent on acquisition for defense is reinvested into the domestic economy;
- To reduce the cost of developing new technology by offsetting the cost of research, development, test, and evaluation;
- To speed the pace of military modernization through acquired technology;
- To establish relationships between domestic industry and foreign suppliers with an intent that domestic industry becomes a supplier of components, subsystems, or services in future trade;
- To establish contractor/subcontractor relationships between firms in the buying and selling countries to pair the technology transfer agreement with a joint venture or co-development/co-production offset agreement; and
- To conduct trade through the exchange of goods.

Secondary benefits of technology transfer agreements may include reduced lifecycle costs, domestic technological innovation and development, and a stronger economy. Realizing these benefits is based on the importing nation's ability to absorb, utilize, and either improve the technology or manufacture components of subsystems more efficiently than foreign suppliers.

⁹² U.S. Department of Commerce, "Offsets in Defense Trade – Twentieth Study," Bureau of Industry and Security, March 2016, <https://www.bis.doc.gov/index.php/documents/pdfs/1449-final-20th-offsets-in-defense-trade-report-public-report/file>.

⁹³ See the Terms of Reference in Appendix A for a full list of offsets.

2. Risks/Disadvantages

Technology transfer does have short-term costs. Usually, the acquisition cost of weapon systems is more expensive when tied to a technology transfer agreement because competitive companies are unwilling to part with competitive advantages or future profits for free. Also, negotiating and managing offset agreements can entail significant administrative and legal costs due to the complexity of the agreements.

Generally, offset agreements distort trade. This is because systems meant to keep track of international trade fail to account for offset agreements.⁹⁴ This makes trade surpluses appear larger than they really are and they dilute transparency. Offset agreements can be equal to or greater than 100% of a contract's value.⁹⁵ This creates opportunities for kickbacks and other corrupt practices. The terms of a particular agreement may also be a weakness, as restrictions on the use of transferred technology may impede or prohibit domestic industry development. Agreements may also inadvertently establish inefficient subcontractor relationships that become costly dependencies.

In any offset, parties to an agreement may not fulfill the requirements according to the initial timeline. As a result, costly penalties can be imposed for underperformance. Offset obligations could be the fault of the buyer (being unable to meet production deadlines), or the seller (not providing the full range of technology that was originally promised). Either way, costly arbitration and contract renegotiation can result.

As a near-term cost-saving measure, technology transfer is not a good method to use. While technology transfer may save on research, development, test, and evaluation costs (compared to domestic industrial efforts funded by the buying government) the cost of negotiating and managing offset agreements will exceed the cost of a standard contract negotiation. Furthermore, as already noted, the acquisition cost will likely increase. So, money saved in development can be lost in acquisition.

Finally, the potential to realize long-term cost savings or to improve the domestic economy is dependent on domestic industry's capabilities. The full benefit of technology transfer agreements cannot be realized unless domestic firms are able to absorb, use, and adapt the technology transferred.

3. Offsets – Technology Transfer Case Study: India

Since the 1950s, India has acquired defense technology from foreign firms through co-production agreements utilizing the country's ordinance factories and defense public

⁹⁴ Mark J. Nackman, *A Critical Examination of Offsets in International Defense Procurements: Policy Options for the United States*. Public Contract Law Journal. Winter 2011, Volume 40, No. 2, pp. 511-529. Accessed at: <https://www.jstor.org/stable/pdf/23057949.pdf>.

⁹⁵ Ibid.

sector undertakings (DPSUs).⁹⁶ In 2005, Defense Procurement Procedures (DPP) were introduced, making offsets a matter of national policy. Except for medical equipment, the DPP covers all capital acquisitions undertaken by the Ministry of Defence, Defence Services, and the Indian Coast Guard, both from indigenous sources and imports.

Numerous amendments to the DPP have been made. The latest was November 2019.⁹⁷ Policymakers amended the DPP to include technology transfer imports in 2006. An intent of DPP is to achieve enhanced self-reliance in defense manufacturing and to leverage the economic opportunity present in developing the Indian defense industry.⁹⁸ Foreign vendors enter into these offset agreements via India's "Buy" or "Buy and Make" procurement processes for acquisitions, which are explained in the DPP. Technology transfers are utilized under "Buy and Make." "Buy and Make" refers to an initial procurement of equipment in a fully-formed state from a foreign vendor, followed by indigenous production through an Indian Production Agency, in a phased manner that involves transfer of technology. The purpose is to maximize indigenous production in each procurement case.⁹⁹

a. Sub-Method Execution

India is one of the world's largest defense importers.¹⁰⁰ Technology transfer¹⁰¹ serves as a mechanism to more rapidly acquire advanced defense technology and to maintain military advantage over competitors. India awards positive multipliers to foreign sales proposals based on the type of technology transferred or the restrictions placed upon the technology. A multiplier of 2.0 is provided for technology offered to the Indian armed forces without restriction on production, 2.5 for technology with both civil and military application without restriction on production, and 3.0 when technology is offered without any restrictions on future use (including export rights).¹⁰²

⁹⁶ Kevin A. Desouza, "Transfer of Defense Technology: Exploring the Avenues for India," *Journal of Defence Studies* 11, no. 3, July-September (2017): 69-98.
https://idsa.in/system/files/jds/jds_11_3_2017_transfer-of-defence-technology.pdf.

⁹⁷ Defense Procurement Procedure 2016 – Capital Procurement (Incorporating all amendments up to November 1, 2019), <https://www.mod.gov.in/sites/default/files/UVDP201611119.pdf>.

⁹⁸ *Ibid.*, ix, paragraph 2.

⁹⁹ *Ibid.*, 2, paragraph 9.

¹⁰⁰ Noor Muhammad, "Despite the Hype, the Defence Offset Policy Hasn't Really Worked for India," *The Wire* (August 2 2018). <https://thewire.in/security/despite-the-hype-the-defence-offset-policy-hasnt-really-worked-for-india>.

¹⁰¹ Also referred to in Indian documents as "Technology Acquisition" or "Transfer of Technology (ToT)."

¹⁰² Defense Procurement Procedure 2016 – Capital Procurement (Incorporating all amendments up to November 1, 2019), 71, paragraph 5.12,
<https://www.mod.gov.in/sites/default/files/UVDP201611119.pdf>.

The Indian Defense Research and Development Organization (DRDO) is responsible for most of the oversight related to technology transfer. The organization publicly maintains a list of technologies eligible for transfer, separated into categories: Category A (military exclusive technology) and Category B (dual-use technology), as well as licensing agreements available, and points of contact for industry.^{103,104} Templates for necessary legal agreements (confidentiality and non-disclosure agreements, materials transfer agreements, and licensing agreements) are also provided by the DRDO, and can be customized with approval. Technology transfer offices and universities can facilitate the transfer of research.¹⁰⁵

b. Key Takeaways

With each revision of the DPP, the intent was to make offsets more attractive to foreign vendors, balance private sector participation, and adjust the policy to protect domestic production.

Critics argue that the policy has not delivered the desired results and that DRDO and DPSUs have exaggerated achievements and ignored shortcomings.¹⁰⁶ Another criticism is that foreign vendors find technology transfer obligations difficult to discharge, since Indian manufacturers lack the capability to fully utilize transferred technology.

Some critics argue that the issue is with implementation of the agreements (regulations and production bottlenecks), not the policy itself.¹⁰⁷ In addition, the use of offsets is not the only way India attempted to bolster its defense industry. It also instituted policies like the negative imports list to reduce defense imports of certain products,¹⁰⁸ and it exempted import tariffs on other defense products needed for modernization.¹⁰⁹

¹⁰³ “Transfer of Technology,” accessed November 10, 2020, <https://www.drdo.gov.in/transfer-technology>.

¹⁰⁴ Defence Research & Development Organisation, *DRDO Guidelines for Transfer of Technology*, September 2, 2015, <https://www.drdo.gov.in/sites/default/files/inline-files/DRDO-guidelines-for-ToT.pdf>.

¹⁰⁵ Priyanka Rastogi, “Licensing And Technology Transfer: A Glance On Indian Scenario,” October 13, 2014, <https://www.mondaq.com/india/licensing-syndication/346256/licensing-and-technology-transfer-a-glance-on-indian-scenario>.

¹⁰⁶ Air Marshal Ail Chopra, “Defence Offsets and Transfer of Technology,” *Indian Defence Review* 30, no. 1, August 13 2015. <http://www.indiandefencereview.com/news/defence-offsets-and-transfer-of-technology/2>.

¹⁰⁷ Muhammad, “Despite the Hype, the Defence Offset Policy Hasn’t Really Worked for India.”

¹⁰⁸ Krishn Kaushik, “Explained: The negative imports list for defence announced by Rajnath Singh,” *The Indian Express*, August 11 2020, <https://indianexpress.com/article/explained/explained-what-is-the-negative-imports-list-for-defence-announced-by-rajnath-singh-6547318>.

¹⁰⁹ Manu Pubby, “Customs, GST relief to give Rs 60,000-cr boost to defence,” *The Economic Times*, November 2 2019, <https://economictimes.indiatimes.com/news/defence/customs-gst-relief-to-give-rs-60000-cr-boost-to-defence/articleshow/71861506.cms?from=mdr>.

India's success with technology transfer is more evident when it is combined with co-production or co-development agreements. The Brahmos missile with Russia, or the medium-range surface-to-air missile (MRSAM) with Israel¹¹⁰ are examples. While a significant portion of the production was indigenous to India, it is unclear what technical expertise was gained related to system design or product development.¹¹¹

Technology transfer offsets have failed to deliver the expected technical “know how” or material.¹¹² India's Comptroller and Auditor General (CAG) recently released a report that found Dassault Aviation, manufacturer of Rafale jets, did not even begin to satisfy technology transfer obligations, which were due in September of 2020.¹¹³ In fact, of the six technologies that were supposed to be transferred according to the 2016 agreement, the vendor argued that five are not within the vendor's core competence. The CAG report found that vendors make offset commitments to “qualify for the main supply contract”, but “were not earnest about fulfilling these commitments.”¹¹⁴ Unfulfilled offset obligations are not uncommon. From 2005 until 2018, only 59% of offsets were claimed to be discharged by vendors. Of that percentage, only 48% were accepted by the MoD/DRDO, with the remainder being rejected mostly due to non-compliance with contractual conditions.¹¹⁵

In addition to the potential for obligations to remain unfulfilled, technology transfer increased the price for items in certain production cases. For example, the localized production of T-90s tanks relied on the import of parts that could not be produced in India, so a large portion of each tank is still sourced from Russia. In addition, since lifecycle support is not included in the contracts, the service ends up paying “three times more than the original cost of the tank.”¹¹⁶

¹¹⁰ Richard A. Bitzinger, *Prospects for Future Indo-European Defence Industrial Cooperation*, Institute of Defence and Strategic Studies (IDSS) (Nanyang Technological University S. Rajaratnam School of International Studies (RSIS), August 2014, 4, https://www.files.ethz.ch/isn/184223/PR_140903_Future-Indo-Euro-Defence.pdf.

¹¹¹ Desouza, “Transfer of Defense Technology: Exploring the Avenues for India,” 73–74.

¹¹² Prahlada, “Leveraging Defence Offset Policy for Technology Acquisition,” *Journal of Defence Studies* 3, no. 1, January 2009. https://idsa.in/jds/3_1_2009_LeveragingDefenceOffsetPolicyforTechnologyAcquisition.

¹¹³ “New CAG report admits ‘technology transfer’ was shelved in Rafale offsets: Congress,” *The Tribune*, September 24 2020, <https://www.tribuneindia.com/news/nation/new-cag-report-admits-technology-transfer-was-shelved-in-rafale-offsets-congress-145978>.

¹¹⁴ Special Correspondent, “Rafale vendors yet to confirm technology transfer under offsets: CAG,” *The Hindu*, September 23 2020, <https://www.thehindu.com/news/national/rafale-vendors-yet-to-meet-offset-clause-cag/article32680091.ece>.

¹¹⁵ Correspondent, “Rafale vendors yet to confirm technology transfer under offsets: CAG.”

¹¹⁶ Vivek Raghuvanshi, “India pays Russia \$1.2 billion in technology transfer fees for T-90S tanks,” *DefenseNews*, November 26 2019, <https://www.defensenews.com/land/2019/11/26/india-pays-russia-12-billion-in-technology-transfer-fees-for-t-90s-tanks/>.

Despite these setbacks, India is still pursuing technology transfer agreements, as evident by from various joint ventures between Indian and Israeli firms,¹¹⁷ such as the Israel Aerospace Industries (IAI) agreement involving Heron drones (2015¹¹⁸). Whether technology transfer agreements specifically, or offset agreements generally, will yield more promising results or continue to experience the same challenges into the future is unknown. What is clear is that benefits from these agreements can only be observed over a period of many years, exceeding the acquisition contract of any single piece of equipment.¹¹⁹

4. Colombian Context and Conclusions

In Colombia, *Guidelines for Implementing Industrial and Social Cooperation Offset Agreements Related with National Defense Acquisitions*¹²⁰ is the current defense sector offset policy. Colombian policy defines an offset as compensation requested by the Ministry of Defense at the time of acquiring national defense and security goods and services exceeding one million U.S. dollars (USD). These offsets may be requested from foreign vendors or foreign subcontractors of domestic companies.

This policy and current legislation on offsets does not include a specific definition of “technology transfer.” However, the term is associated with the following uses:

- Technology transfer for the maintenance of the equipment acquired to reduce dependence on the foreign seller, increase domestic employment, and reduce outflow of foreign currencies from Colombia.¹²¹
- A focus on offsets whose purpose is to give companies the ability to produce goods and services having a high technological content. This is achieved through education, training, and job training, and transfer of technical documentation and information technology.¹²²

The most recent National Development Plan (NDP)¹²³ sets forth the need to update current offset policy with a goal to improve procedures, definitions, scope, negotiation

¹¹⁷ Seth J. Frantman, “New joint ventures hint at ‘burgeoning relationship’ between Israel and India,” *DefenseNews*, February 18 2020, <https://www.defensenews.com/industry/2020/02/18/new-joint-ventures-hint-at-burgeoning-relationship-between-israel-and-india/>.

¹¹⁸ Barbara Opall-Rome, “IAI Courts India with Offsets, Tech Transfer,” *DefenseNews*, March 16 2015, <https://www.defensenews.com/industry/2015/03/16/iai-courts-india-with-offsets-tech-transfer>.

¹¹⁹ Desouza, “Transfer of Defense Technology: Exploring the Avenues for India,” 93.

¹²⁰ CONPES 3522 of 2008.

¹²¹ *Ibid.*, 5–6.

¹²² *Ibid.*, 32.

¹²³ NDP 2018-2022, *Pacto por Colombia, Pacto por la equidad* (Pact for Colombia, Pact for Equity).

capacities, and to document lessons learned. To overcome some of these challenges, the defense sector is working on a new CONPES to replace CONPES 3522 of 2008.

To more fully utilize technology transfer, it is recommended that the Colombian Government and MND consider implementing the following suggestions:

- Update CONPES 3522 to extend the scope of the offset policy to allow local industry to actively participate in the production of goods or services in the supply chain or related subsystems, and incentivize more participation from the nation's research institutions.
 - An update to policy should also include specific and defined categories and sub-categories of offsets. India's Defense Procurement Procedures are an exhaustive example of robust offset regulations.
- Develop mechanisms to pair technology transfer agreements with co-production agreements, with the goal of a defense industrial base that is self-sufficient in aspects considered critical to national objectives.
- Develop an intellectual property strategy that allows national industries to create and benefit from new products or techniques derived from or acquired through technology transfer or other offsets.
- Strengthen the training of or hire defense and security sector analysts who know how to calculate the value of intangible assets.

The extensive Indian experience illustrates the difficulty of using offsets. When offsets are used specifically to generate revenue or cost savings for the defense sector in the short term, the research team cannot find evidence that offsets are a successful approach. While it is plausible that technology transfer could result in savings in internal development costs, the research team is skeptical that any total savings would be accrued. As noted already, technology transfer increases the acquisition (i.e., investment) cost, because contractors are not willing to part with technology for free.

4. Conclusion

This project analyzed several methods that nations use to fund their defense sector outside of normal budget processes. While the analysis is not a comprehensive review of all revenue generating or cost savings methods, it presents policymakers with four concepts: 1) a list of common, international methods used to increase cash flow available to the defense sector; 2) a flexible and repeatable methodology for evaluating these methods; 3) a list of advantages and risks for each of the four methods analyzed by this analysis; and 4) specific examples of how some of the methods were used.

The methodology and analytical framework in this document can be used to inform and shape intra- or inter-ministerial dialogues about which sub-methods to implement and how. However, policymakers should not treat the methodology as an exact science. Rather, the framework in this document is useful to explore, understand, and develop recommendations. Policymakers' consideration of the particular strengths or weaknesses of methods, individually or in combination, to generate revenue or cost savings outside normal budget processes will vary from nation to nation.

A. Summary of Findings

1. Lease-Purchase

Lease-purchase can be used to increase budget flexibility in the short-term, while decreasing acquisition time and life-cycle costs of defense capabilities. However, the ability to implement a lease-purchase depends on the quality of oversight. The cost-savings generated by a lease-purchase depend on how the contract is negotiated and managed.¹²⁴

Benefits of this option include the following:

- **Enhanced budget flexibility.** Lease-purchase can spread acquisition costs over the life of a lease agreement, rather than paying or financing the full cost of the acquisition upfront. By spreading out the acquisition costs over time, a lease-

¹²⁴ Jacques Gansler, William Lucyshyn, and John Rigilano, *Rethinking the Buy vs. Lease Decision*, Center for Public Policy and Private Enterprise, University of Maryland School of Public Policy (University of Maryland, July 1 2014), v-vi; and, IDA and DNP/DJDS, Workshop Series on Defense and Public Sector Cost Savings and Revenue Generation, June 2020 – March 2021.

purchase approach can create budget flexibility and create space in the defense budget for other acquisition priorities.¹²⁵

- **Research and development cost savings.** Lease-purchase agreements can generate cost-savings by allowing the lessee to avoid costs associated with RDT&E for defense systems and capabilities. Buying systems from a nation or commercial entity that has already invested in the RDT&E to develop a system allows the buyer to reap the benefits of that investment at a lower cost.¹²⁶
- **Reduced life-cycle costs.** Though it is unlikely, if a lease-purchase contract is used to acquire an item, the terms can be negotiated in a way that ensures life cycle costs, like maintenance and upgrades of military equipment, are reduced or shared with the lease provider.¹²⁷
- **Flexibility in timing for acquisitions.** Lease-purchase agreements allow a government to time its acquisitions without taking on the administrative, fiscal, and technological burdens of long term RDT&E programs. Also, by deciding in advance how long the government will field a system and linking that choice to the length of the lease-purchase agreement, the government can program the cost of the equipment leased into long-term budget forecasts.

Generally, lease and lease-purchase agreements will not result in cost savings over the long term for the lessee.

- Lease-purchases may commit lessees to long-term financial obligations or costly penalties for severing the lease if the leased equipment is no longer required.
- Acquiring assets through lease-purchase can hide the government's real, long-term cost commitment, leading to suboptimal decision-making in the annual budget process.

Colombia has experience with leasing that can be applied to a lease-purchase approach. However, it is important to keep in mind that, whether using lease or lease-

¹²⁵ Carlton L. Hensley and Archie L. Tinjum, "Lease vs. Purchase in Defense Acquisition" (Master's of Science in Management Naval Postgraduate School, 2008), 19-20, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a493875.pdf>; Christopher J. Koczur, "Leasing Versus Purchasing Lessons Learned from CINCPACFLT's Lease of Dell Information Technology," (Naval Postgraduate School, 2003), 8, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a423649.pdf>; and, IDA and DNP/DJDS, Workshop Series.

¹²⁶ Koczur, "Leasing Versus Purchasing Lessons Learned from CINCPACFLT's Lease of Dell Information Technology," 8; and, IDA and DNP/DJDS, Workshop Series.

¹²⁷ Jacques Gansler, William Lucyshyn, and John Rigilano, *Rethinking the Buy vs. Lease Decision*, Center for Public Policy and Private Enterprise, University of Maryland School of Public Policy (University of Maryland, July 1 2014), v-vi; Koczur, "Leasing Versus Purchasing Lessons Learned from CINCPACFLT's Lease of Dell Information Technology," 8; and, IDA and DNP/DJDS, Workshop Series.

purchase, long-term costs or restrictive contracts can create a structural lack of flexibility in future budget cycles and reduce options that can be considered in future rounds of capability planning.

To lease or lease-purchase new equipment or infrastructure, the Colombian Government needs to review current legislation, especially its budget laws. Changes in law may be required to authorize contracts that require the long-term allocation of resources (i.e., contracts that go beyond the term of an elected President).

2. Off-budget Transactions

Off-budget transactions refer to government expenditures using funds generated from outside the regular budget planning, allocation, and execution process. These funds may come from special taxes,¹²⁸ revenues generated by government services or government-owned companies, or other sources.

Benefits of this option include the following:

- **Fiscal flexibility.** Off-budget transactions can generate additional revenue for defense and public security sector expenditures, especially for small-scale and short-term modernization and operations requirements.
- **Fewer controls.** Revenues from off-budget transactions are typically subject to less control than funds appropriated for specific budget accounts.
- **Less public scrutiny.** Increased defense spending may either be against the stated policy of the government or politically controversial. Off-budget transactions may offer policymakers a way to deflect public attention and buy time to change policy and create public support for defense spending.

Three factors make the use of off-budget transactions risky: (1) the potential for corruption (2) negative impacts on defense planning, and (3) the potential for revenue to be rerouted to the national treasury, which may nullify potential benefits.¹²⁹

Off-budget transactions are conducted outside normal planning and budget processes and typically are subject to less oversight. In the worst case, this incentivizes corruption.¹³⁰

¹²⁸ Special tax revenues can be off-budget or on-budget. For example, a new wealth tax that went into effect in Jan 2019 is an on-budget special tax. (See [https://www.internationalinvestment.net/news/4000717/colombia-tax-comes-effect#:~:text=The%20new%20wealth%20\(equity\)%20tax,taxpayer%20is%20at%20least%20COP5](https://www.internationalinvestment.net/news/4000717/colombia-tax-comes-effect#:~:text=The%20new%20wealth%20(equity)%20tax,taxpayer%20is%20at%20least%20COP5))

¹²⁹ Colombia has a medium-term fiscal framework, which helps the Colombian Minister of Finance balance revenues and expenditures and to encourage fiscal discipline. Even if there are more resources, this does not mean the Minister of Finance will authorize more expenditure.

¹³⁰ Defence Index, Transparency International, “Spain,” 2015, accessed June 23, 2021, <http://government.defenceindex.org/countries/spain/>; and, Dirk-Jan Kraan, “Off-budget and Tax

At best, if these transactions are not accounted for during normal defense planning and budgeting processes, they may result in inefficient spending. Even worse, if off-budget revenues are paying for operations and sustainment costs and these are not transparent inputs to the force planning and budget process, planners may falsely believe that the normal budget is sufficient to sustain operations and maintain the readiness of the Armed Forces. Finally, off-budget transactions are usually considered expedient because they are subject to less oversight; however, to prevent corrupt practices, the oversight required to implement them may make them inexpedient.

Colombia's FONSET is not immune to these challenges. FONSET resources are allocated across multiple government organizations, but there is not a detailed and transparent system or database that forecasts or documents how FONSET resources are allocated across government agencies. FONSET also lacks reliable oversight (i.e., monitoring and evaluation). It is not possible to know whether funds are being spent effectively. For FONSET (or any off-budget mechanism) to be more useful to the Defense and Security Sector, Colombia should prioritize off-budget fund administration, monitoring, oversight, and transparency.

3. Sales of Defense Articles

Colombia could benefit from a nationwide system that allows the transfer or sale of excess articles (or property) to generate additional funds to resource requirements.

Some benefits of this option include the following:

- **Additional revenue.** This would be gained through direct sales to private or public sector customers or to foreign customers.
- **Cost savings.** Divestment decreases the expenses of storing, maintaining, and securing excess articles.
- **Process efficiencies.** Transfer of excess articles or property can be faster than complex acquisitions processes between government ministries or agencies and create process efficiencies that produce costs savings.

This sub-method need not be limited to the sale of excess defense articles. The government can choose to sell surplus articles (or surplus property) from other government agencies to generate revenue and fund requirements. If the Government of Colombia chooses to implement this practice, it needs to be accompanied by reliable estimates of potential revenue and cost savings and appropriate mechanisms to ensure traceability and accountability in sales processes. In addition, defense sector leaders may need to request

Expenditures,” OECD Journal on Budgeting – Volume 4 – No. 1 (2004) 124, accessed on July 21, 2020. <https://www.oecd.org/gov/budgeting/39515114.pdf>.

changes in law to facilitate these sales and consider what policies will govern the sale or transfer of surplus defense articles.

For example, military equipment: will the government require demilitarization of combat systems or disposal of hazardous material associated with the equipment before the equipment can be sold? What specific modifications to surplus defense articles should the government mandate? Who is responsible for modifications and disposal, the government, or the buyer? Policymakers may also want to assess whether a buyer can operate and maintain the system without additional assistance, or whether the buyer may use equipment in a way that creates political problems for the Government. Planning for these factors will increase the likelihood that Colombia receives expected benefits from a sale because they facilitate transparency, traceability, and accountability.

Some practices within this sub-method should be avoided or carefully navigated to mitigate potential risks. From a financial standpoint, it may be wise to avoid the sale of combat equipment, due to the cost and responsibility the government may assume in demilitarizing such equipment before transferring it to a domestic end user. There may also be foreign policy or public relations considerations that argue against the sale of certain types of military equipment.

Under current Colombian law, sales of defense articles and services are not typically permitted. There are some loopholes that permit the Public Forces to dispose of equipment, but these are not flexible enough to establish a robust practice of defense sales. Furthermore, the sale of the Public Forces' real property is restricted by local laws that establish land uses. Further, at this time, there is little precedent to support defense sales to other governments (i.e., Foreign Military Sales), though some regulatory frameworks have been developed and may be a foundation to expand the practice. Whether selling or transferring defense equipment or real property, to utilize this method, new laws and accompanying policies and procedures are required, and responsible organizations assigned to manage sales and transfers need to be appointed.

4. Technology Transfer

Technology transfer is a form of offset agreement that may provide a means to achieve cost savings if oriented toward long-term development or resource goals. If domestic defense industry and research institutions can absorb the acquired technology and firmly establish themselves in the supply chain for the acquired technology, or related subsystems, this sub-method may provide enduring cost-savings for future acquisitions.

Benefits of this option include the following:

- **Head start in systems development.** Technology transfer can provide a relative head start for the development of new systems by national agencies because it reduces time in RDT&E and engineering and manufacturing.

- **Reduced life-cycle costs for acquisition and increased capability.** Technology transfer may reduce the life-cycle cost of an acquisition if it allows or enables subsystems, components, or replacement parts to be sourced domestically. Future modernization costs may also be reduced if the technology transferred increases the capability of the national industrial base. Technology transfer may also provide immediate benefit to the Armed Forces if the technology fills a capability gap.
- **Strengthening the domestic defense industry.** Technology transfer agreements can be used in pursuit of broader national goals, such as developing the ability of the domestic defense industrial base to be self-sufficient. National research institutions or manufacturers could, over time, independently provide for their nation or their region. This is more likely if technology transfer agreements are combined with co-production agreements.

Technology transfer is not a good tool to achieve short-term objectives. Technology transfer agreements should not be pursued without considering whether the technology can be supported by national industry to derive long-term benefits for the nation.

Specific risks of technology transfer are as follows:

- Managing any type of offset agreement entails significant administrative and legal costs and time.
- Technology transfer offset agreements usually increase the acquisition costs of items purchased.
- Technology transfer agreements are often not fulfilled by the foreign firm in accordance with original timelines and it is difficult, if not impossible, to enforce the agreements. Negative outcomes like this can only be observed over a period of years, so there is also a risk of unfulfilled promises to a domestic constituency that was anticipating an outcome that never materialized.
- Domestic industry may never reach the level of expertise in engineering or manufacturing required to capitalize from the acquired technology.
- Offset agreements distort trade balances, introduce opportunities for corruption, and are difficult to monetize.¹³¹

Colombia has used technology transfer in the past, usually for goods or services in excess of \$1 million. Precedent has been to use technology transfer to develop Colombia's capacity to maintain equipment throughout its life cycle, and to develop more

¹³¹ Mark J. Nackman, *A Critical Examination of Offsets in International Defense Procurements: Policy Options for the United States*. Public Contract Law Journal. Winter 2011, Volume 40, No. 2, pp. 511-529, <https://www.jstor.org/stable/pdf/23057949.pdf>.

technologically advanced goods and services. Colombia should consider updating CONPES 3522¹³² to expand the scope of the existing offset policy.

B. Possible Sub-Method Combinations

Sub-methods can be combined to generate more revenue and savings. For example, two instances of lease or lease-purchase used simultaneously may provide an effective way to spend money without the need to generate new funds. It is feasible that any nation could lease a surplus defense asset to obtain funds to pay for or lease a needed asset. For example, the nation could lease land or facilities at a military installation and then use those funds to pay for supplies and/or lease equipment.

The following combinations are other ideas for combining sub-methods:

- **Sale of assets combined with lease-purchase agreements.** Finance a lease-purchase agreement through the sale of defense articles. This combination passes the cost of the acquisition to the buyer of the defense article. The complexity of timing sales and leases makes this an unreliable combination for long-term, consistent resource planning. However, this combination may be a useful way to generate resources for high-priority requirements.
- **Long-term lease-purchase agreement combined with technology transfer.** The purpose would be to enable components or subsystems of the leased equipment to be domestically manufactured once the lease period ends and the buyer is responsible for maintenance of the system it purchased.
- **Technology transfer combined with other offsets (e.g., co-production, licensing, or joint ventures).** By itself, technology transfer cannot improve a national defense industrial base or reduce the defense sector's long-term acquisition costs. But when combined with co-production, licensing, or joint ventures, such goals are possible. Using this combination of sub-methods requires a national strategy and corresponding laws and policies to promote public and private sector objectives.

C. Key Considerations

1. Success is Context Dependent

How any nation may apply any one of the 35 sub-methods listed in the terms of reference depends on the national context. Context derives from the following:

- A nation's form of government, law, history and geography,

¹³² CONPES 3522 of 2008.

- A nation's affiliation with international organizations, alliances, and partnerships;
- The national planning and budget processes, and how they shape and inform defense priorities,
- The politics of public support, and in some cases the individual priorities and personalities of national political figures and ministry-level leadership, and
- The policymaking and legislative processes of the government.

While it is possible to learn from the experiences of other countries, it is not necessarily true that those lessons are directly transferable from one country to another.

2. Decision Support Tools Help

This analysis produced a logical, transparent, and repeatable methodology. Its purpose is to support decision making and facilitate intra- and inter-ministerial dialogue and cooperation. The methodology allows policymakers to examine, compare, and contrast the advantages and disadvantages of various funding methods, and then to contextualize their observations to a specific nation. The methodology includes a framework that can help policy and planning staff to organize complex details, and convey information to national leaders clearly.

3. A Repeatable, Robust Methodology

This methodology has the following benefits:

- Contextualize and evaluate funding options for the defense sector through the lens of important decision-making considerations at the international, national, and institutional levels;
- Provide clear, logical, and traceable decision support to defense and political leaders; and
- Generate information in support of changes to policy or propose new or revised legislation to fund defense's modernization or operational requirement.

D. Other Considerations for Policymakers

The following list of considerations is useful, regardless of whether a specific sub-method is pursued, all are pursued simultaneously, or none are pursued.

- Develop a list of military assets suitable for sale or lease, as well as potential markets for those assets. Preparatory work may reveal that the market for the assets makes employing the method infeasible. Similarly, develop a list of military services that could generate revenue.

- Document the capabilities of the domestic defense industry now, projections for its future, and specific policy and economic goals for the domestic defense industry. Use the information to further shape national offset policy.
- To save money or to avoid the long-term costs of ownership, policymakers should consider all lease and purchase options and do a cost comparison before committing to lease, a lease-purchase, or an outright purchase. Furthermore, the government must consider and negotiate the availability of spare parts and supplies, maintenance costs, and the nature of the lease or lease-purchase contract. For example, are the contracts severable (i.e., can the government opt-out of the lease or lease-purchase)?
- A successful offset strategy requires a coordinated government and private-sector effort. The defense sector by itself cannot successfully employ an offset strategy.

E. What's Next?

This analysis is a proof of concept. Because it is such a small sample of available methods, it cannot be used to make sweeping generalizations about what may be most useful for Colombia or any other nation, nor can it be used to grade sub-methods against each other agnostic of the country context in which they will be implemented. There are 31 additional sub-methods that the research team identified but did not closely analyze. Future research could examine other sub-methods, explore the benefits of using sub-methods in combination, or examine which elements of the country context most impact the performance of a single sub-method.

Additional analyses should also focus on aligning any off-budget methods adopted to the government's defense policy objectives and the defense sector's planned budget allotment. Future studies could also be used to develop sub-method implementation models, explore opportunities and risks involved in those models, and develop metrics for success and failure.

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Appendix A.

Terms of Reference

Purpose

This appendix establishes terms of reference. This document does not assign value to the terms, assess the terms, or provide recommendations for their use.

- The terms are a list of methods to generate revenue, save or defer costs, or to improve management of existing revenue.
- These methods are for the defense or public security sectors.
- The terms are organized into categories of methods. Each method has sub-methods.
- The methods and sub-methods appear in alphabetical order. The order does not indicate value or priority.

Methods to Generate Revenue, Save or Defer Costs, or Improve Management

- **Barrier reduction:** Action taken to reduce bureaucratic barriers or other obstacles that constrain beneficial outcomes.
 - *Increased competitive bidding.* Increased competition in the bidding process encourages lower acquisition costs.
 - *Reduced barriers to loans.* Reduced bureaucratic barriers can make it easier to apply for a loan.
 - *Reduced import duties.* Reduced costs of import duties can lower acquisition costs.
 - *Special exemptions.* Exemptions created for barrier application makes critical partnerships less costly.
- **Cost-sharing.** Costs of a project or program are redistributed and shared by multiple parties.
 - *Consolidated contracting.* Contract requirements are consolidated to increase the size of the contract. This allows the purchasing nation to gain bargaining power and reduces the cost of the total contract to fill the requirements.

- *International agreement.* An agreement with one or more foreign governments or with an international organization. It includes any document identified as a memorandum of understanding or memorandum of agreement.¹³³
- *Joint procurement.* The use of two funding streams to split the cost of a defense item to reduce costs for each buyer.
- *Joint research and development.* The use of two funding streams to split the cost of Research and Development efforts, such as research into a new or improved capability, to reduce costs for each party.
- *Public-private partnership.* An agreement between the government and the private sector, working together towards effective and efficient delivery of public services
- **Improved management practices.** Actions taken to address inefficient management.
 - *Contract oversight.* Reduces delays and overspending.
 - *Cost accounting.* Recordkeeping and reporting on the costs of public security programs improves efficiency and planning processes.
 - *Defense budget reprogramming.* Moving defense funds from lower-priority to higher-priority items or needs
 - *Equipment disposal.* Disposing equipment to reduce spending on storage and maintenance.
 - *Life-cycle cost management.* Intended to improve budget efficiency. Total costs include research and development, testing, production, facilities, operations, maintenance, personnel, environmental compliance, and disposal.
 - *Reduced compulsory expenditures.* Reduced expenditures for mandatory programs to increase budget flexibility.
 - *Reduced overtime expenditures.* Reduced hours to reduce costs
 - *Reduced interest expenditures.* Reduced interests spent on leases and loans.

¹³³ The term “memorandum of understanding” refers to an agreement recognized by all partners as binding. The term “memorandum of agreement” refers to an agreement that establishes terms under which one party provides resources, including personnel, teams, facilities, equipment, and supplies, to another party.

- *Security tax*. Tax collected in a flat amount from registered businesses, corporations, and partnerships to generate revenue for public security.
- *Shared facilities*. Sharing facilities to pool resources and eliminate duplicated services.
- *Title rebalancing*. Budgetary allotments of titles are balanced to shift underutilized capital to areas where it is needed.
- **Offsets**. Arrangements in which the purchasing government of the importing country requires the supplying company of the exporting country to reinvest some proportion of the contract in the importing country. Offsets may provide industrial and commercial benefits as an inducement or a condition to purchase goods or services. There are two types of offsets: *direct* offsets are related to the article or service exported. *Indirect* offsets are not related to the article or service exported. There are many forms of offsets, such as:
 - *Co-production*. Transactions based on government-to-government agreements authorizing the transfer of technology. Co-production permits companies in the purchasing nation to manufacture all or part of defense articles sold by the producing nation. Co-production is always classified as a direct offset.
 - *Credit assistance*. Credit assistance includes direct and brokered loans, loan guarantees, assistance in achieving favorable payment terms, credit extensions, and lower interest rates. Credit assistance can be a direct or indirect offset.
 - *Foreign direct investment*. A category of cross-border investment. An investor in one economy establishes influence and lasting interest in an enterprise in another economy. Foreign direct investment can be a direct or indirect offset.
 - *Licensed production*. Overseas or domestic production based on direct commercial arrangements between contractors in producing and purchasing nations. License production involves a component for a defense system rather than a complete defense system. A license production transaction can be a direct or indirect offset.
 - *Purchase*. The acquisition of something by payment. A purchase is an indirect offset.
 - *Reduced costs sales*. Lowering the cost of articles or services to complete a sale (could be direct or indirect).

- *Subcontracting*. Overseas production of a part or component of an article. Subcontracting is usually a direct commercial arrangement between the defense prime contractor and a foreign producer. Subcontracting is a direct offset.
- *Technology transfer*. The transfer of technology includes research and development conducted abroad, technical assistance provided to the subsidiary or joint venture of overseas investment, or other activities under direct commercial arrangement between the defense prime contractor and a foreign entity. Technology transfer can be a direct or indirect offset.
- *Training*. Training support provided is related to the production or maintenance of the exported item. Training may also be required for unrelated areas such as computer training, foreign language skills, or engineering. Training can be a direct or indirect offset.
- **Provision of goods/services.** Services provided in exchange for cash.
 - *Foreign military sales*. A formal agreement between governments where the government of the producing nation assumes privity.¹³⁴
 - *Lease*. A contract that provides real estate, equipment, services, or facilities in exchange for payment. The lessee does not accrue ownership based on payment.
 - *Lease-purchase*. A lease in which the lessee accrues ownership through payment.
 - *Off-budget military transactions*.¹³⁵ The allocation of funds for defense functions from outside the regular state budget.¹³⁶
 - *Participation in peacekeeping missions*. Reimbursements for participation in United Nations peace operations.
 - *Sales of defense articles/services*. Sales of defense articles and services owned by the government generally or the armed force specifically to a public or private entity.

¹³⁴ Privity is when the government of the producing nation assumes responsibility to fulfill a contract. Privity refers to a connection between parties to a particular transaction.

¹³⁵ This is a general category. Lease, lease-purchase, and sales are more specific categories.

¹³⁶ This can include revenues from mineral extraction or from military business activities. For example, per SIPRI, the military in Ecuador has owned corporations in the oil industry since the 1970s; however, much of the profits supplement the military budget, subject to limited transparency or legislative review.

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Appendix B.

Country Case Studies for Specific Sub-Methods

The following four, short case studies—Ghana, Malaysia, United Kingdom, and Ukraine—were contributed by Dr. Laura Cleary. She resides in the United Kingdom and was the long-time director of the UK’s Defense Management Team based out of Cranfield University. She has first-hand knowledge of all four nations based on her lifetime of experience working as an advisor within foreign defense institutions.

While the methods described were not necessarily the focus of the research team’s more in-depth analysis, they are provided with this document as additional information and to provide ideas to DJSG about future analyses.

Ghana

Sub-Method: Provision of Goods and Services – Off-Budget Transactions (Reimbursement for Services)

Program: Fisheries Protection

Period of Use: 2002 to present

Use: With a Gross Domestic Product (GDP) per capita of \$2,202 USD (2019), Ghana is a lower middle-income country.¹³⁷

Since independence in 1957, successive governments have sought to modernize and diversify the economy; however, Ghana continues to rely heavily on the exports of agricultural and extractive industries. These exports include cocoa, coconuts, Brazil nuts, cashews, fish (tuna), palm oil, minerals (bauxite, aluminum, manganese ore), timber, diamonds, gold, and crude oil.

Ghana’s fisheries generate approximately \$1 billion (USD) each year, or 4.5% of GDP. Approximately 135,000 fishers are directly employed in the marine subsector, with the livelihoods of 2.2 million, or 10% of the population, indirectly supported by the sector.¹³⁸ Native fishers primarily engage in artisanal fishing using traditional canoes. Their livelihoods are at risk from the encroachment of foreign (primarily Chinese), industrial

¹³⁷ World Bank, <https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=GH>.

¹³⁸ Republic of Ghana Fisheries and Aquaculture Development Plan, 2011–2016, <http://rhody.crc.uri.edu/gfa/wp-content/uploads/sites/10/2018/04/Ghana-Fisheries-and-Aquaculture-Sector-Development-Plan-2011-2016.pdf>.

scale trawlers into territorial waters. There is increasing concern that “saiko” fishing, whereby trawlers target the staple catch of Ghanaian fishers and sell it back to local communities at a profit, is having a serious impact on revenue and fish stocks.¹³⁹

Currently, Ghana does not have a published National Security Strategy or Defense Policy. All ministries, including the Ministry of Fisheries and Aquaculture (MFA) and the Ministry of Defence (MOD), derive their direction from and must be seen to be meeting the objectives of Ghana’s Poverty Reduction Strategy (GPRS). Within that framework the MFA is expected to increase its contribution to GDP and Ghana’s Armed Forces (GAF) are expected to contribute to poverty reduction efforts. Historically, the GAF contributes to poverty reduction through contributions to Peace Keeping Operations. Since the passage of the 2002 Fisheries Act, another significant element has been their participation in the Fisheries Enforcement Unit (FEU).

Ghana earns international currency by charging foreign fishing boats hunting yellow finned tuna in Ghanaian waters. By monitoring the transponders fitted to licensed fishing craft, the Ghanaian Air Force and Navy enforce the requirement to pay for fishing rights. The Air Force finds unlicensed fishing boats and the Navy intercepts and enforces payment.

Performance: The participation of Ghana’s Navy and Air Force in the FEU is viewed as both virtuous and economically beneficial. As insecurity in the Gulf of Guinea has increased, both in terms of illegal fishing and piracy, Ghana has sought to modernize the Navy. This has been achieved either through the donation of vessels (from the United States, South Korea and China),¹⁴⁰ their purchase by corporate interests, or the provision of technical assistance from private partners.¹⁴¹ Donor non-financial assets have been valued at 125,811,400 Ghanaian cedi (GHS), or 21,480,593 USD.¹⁴²

¹³⁹ Kate Hodal, “Illegal Fishing by Foreign Trawlers Costs Ghana \$50 million a Year, Researchers Said,” *The Guardian*, 17 June 2019, <https://www.theguardian.com/environment/2019/jun/17/illegal-fishing-by-foreign-trawlers-costs-ghana-50-million-dollars-a-year-researchers-say>.

¹⁴⁰ Ghana Navy, <https://www.globalsecurity.org/military/world/africa/gh-navy.htm>.

¹⁴¹ UNODC, “UNODC Partnership with Ghana Navy and NGOs Helps Track Fishing Vessels and Fisheries Violations,” 12 October 2020, <https://www.unodc.org/westandcentralafrica/en/2020-10-12-ghana-maritime-crime-fisheries.html>.

¹⁴² Republic of Ghana Ministry of Defence, “Medium Term Expenditure Framework for 2020–2023,” <https://www.mofep.gov.gh/sites/default/files/pbb-estimates/2020/2020-PBB-MOD.pdf>.

Malaysia

Sub-Method: Offsets – Co-production

Program: Industrial Collaboration Policy

Period of Use: 1990s to present

Use: Offsets are a non-conventional policy tool tied to large international public procurement initiatives. They were initially promoted in the defense sector as a means of acquiring critical technologies that could not be bought off the shelf, or generating greater self-sufficiency in industrial, technological and military capability. They have also proven beneficial in developing capability in dual-use technologies that have greater potential to generate economies of scale.¹⁴³

Between 1957 and the 1980s, Malaysia's defense industrial base was limited and largely under the control of the Malaysian Armed Forces (MAF). In the 1980s, the government promoted heavy industrialization to modernize the sector, focusing on developing capabilities in aerospace, maritime, and ordinance.¹⁴⁴ The decision to embrace offsets in the 1990s was the next step in the modernization program. The government sought to develop the sector's composite technology capability, and enter the global supply chain through the production of composite parts and components for Boeing and Airbus aircrafts.

In 2005 Malaysia introduced its first written offset policy, the Defence Industry Blueprint. The aim of this policy was to improve through-life support and develop the skills of the MAF and industry staff. In the years that have followed, there have been several versions of the policy. The most recent is the Industrial Collaboration Policy (ICP), produced in 2018. The policy covers both defense and civil offsets and is implemented by six organizations, one of which is the Ministry of Defense.

Performance: Malaysia published its first Defense White Paper in 2020. In that document, the defense, science and technology industry are referred to as a "strategic component of Malaysia's defence ecosystem."¹⁴⁵ The government acknowledges that, while the defense industry has advanced significantly, there remain areas for improvement. The ambition remains to become self-sufficient and globally competitive, in line with the

¹⁴³ K Balakrishnan (2021), 'How to Generate Value Through Offsets in International Defence Procurement?' in L Cleary and R Darby (eds), *Managing Security: Concepts and Challenges*, Abingdon: Routledge.

¹⁴⁴ K Balakrishnan (2008), "Defence Industrialization in Malaysia: Development Challenges and the Revolution in Military Affairs," in *Security Challenges*, 4:4, 135–155.

¹⁴⁵ Ministry of Defence (2020), *Defence White Paper: A Secure, Sovereign and Prosperous Malaysia*. http://www.mod.gov.my/images/mindef/article/kpp/DWP%20English%203rd%20Edition%20Transformation%20Digital%20Version%2026102020_compressed.pdf.

principle of Aspired Self-Reliance.¹⁴⁶ The attainment of that goal will require continued investment and improvements in productivity, profitability, and sustainability. The challenge that the government faces is that the promotion of defense industrialization can compromise economic efficiency and effectiveness within the overall economy, at some cost to taxpayers.¹⁴⁷ To date, the use of offsets has resulted in a significant increase in the number of defense enterprises and allowed Malaysia to enter the global supply chain. Both government officials and analysts acknowledge, however, that outputs continue to be low tech and small scale, and that number of skilled workers remains too small to be truly competitive.¹⁴⁸ Further, in the past, the government has invested in significant infrastructural development to support high-profile projects, only to be faced with cost overruns, delayed production, and limited orders. Therefore, defense offsets need to be linked to wider industrial strategy and long-term business plans.¹⁴⁹

United Kingdom

Sub-Method: Public-Private Partnerships

Program: Name: Value for Money and New Public Management

Period of Use: 1980s to present

Use: The United Kingdom's commitment to Public Private Partnerships (PPP), or Private Finance Initiatives (PFI), has been variable. It embraced the mechanism at an early stage, fell out of love with it following the global financial crisis in 2008, and then recommitted in 2020. It remains to be seen what happens next.

In the United Kingdom public service delivery is constantly judged against whether it has achieved “value for money.”¹⁵⁰ This principle, alongside an adherence to New Public Management, fueled the UK's pursuit of PFIs in the 1990s. The United Kingdom now outsources the provision of goods and services more than any other advanced industrial country, with the Ministry of Defence at the vanguard of public sector procurement. Contractors can be found in Defence's educational, industrial, logistics, medical, and catering sectors, as well as front line services. Their inclusion in both operational and support roles reflects a belief that the risks and transaction costs of relying on external organizations are tolerable, and that the private sector is less costly and more efficient than

¹⁴⁶ Ibid., 79.

¹⁴⁷ Balakrishnan, 145.

¹⁴⁸ Ibid.

¹⁴⁹ K. Balakrishnan and R. Matthes, “The Role of Offsets in Malaysian Defence Industrialization,” *Defence Peace Economics* 20, no. 4 (2009): 341–358.

¹⁵⁰ Peter R. J. Trim, “Public Private Partnerships and the Defence Industry,” *European Business Review* 13, no. 4 (2001): 227–233.

government bodies.¹⁵¹ It has been argued that contractors can reduce costs by up to 30% through competitive tendering, lower staff costs, specialization, and revenue generation. The counter-argument is that these savings are context dependent. The general benefits of PFIs are said to include the following:

- Promotion of local economic development,
- Collaboration between the public and private sector,
- Value for money,
- Review and modernization of management practices,
- Knowledge development and transfer, and
- Promotion of innovative research.¹⁵²

Following the global financial crisis of 2008, UK's Ministry of Defence in particular, and the government writ large, sought to reduce PFI contractual obligations. In 2018, the Treasury announced that PFIs would be phased out.¹⁵³ However, there is evidence of mixed messaging. The important contribution to be made by the private sector to defense and security was recognized in the 2011 Levene Report, the 2015 National Security Strategy, and the 2018 Modernising Defence Programme. Each of these documents argued that the private sector would remain a strategic partner in the future.¹⁵⁴

Performance: During the first decade after their introduction, PFIs resulted in an estimated 20%–30% savings in annual operating costs.¹⁵⁵ As the rate of knowledge exchange between the private and public sector increased, however, the savings declined. Over time, the public sector has become more efficient.

There are a number of perceived drawbacks to PFIs, which include the following:

- Wasted money,
- Reduced flexibility and innovation,
- Lack of true competition (government contracts tend to go to a limited number of conglomerates),
- Transfer and ownership of risk,

¹⁵¹ Jay Edwards, *Contractorization of UK Defence: Developing a Defence Wide Contractorization Strategy and Improving Implementation* (London, UK: RUSI, 2018).

¹⁵² Trim, 228–229.

¹⁵³ HM Treasury (2018), 'Budget 2018: Private Finance Initiative and Private Finance,' 2.

¹⁵⁴ Edwards, 2.

¹⁵⁵ Institute for Government (2019), "Government Outsourcing: What Has Worked and What Needs Reform?" <https://www.instituteforgovernment.org.uk/publications/government-outsourcing-reform>.

- Lack of appropriate strategy, and
- Limited accountability.¹⁵⁶

Over the last five years a number of these have been publicly apparent. Questions have been raised over the cost overruns and the delayed delivery of major capital projects, such as the Queen Elizabeth class carriers, and over the financial management, or lack thereof, of key prime contractors. This has led to demands for greater due diligence and the development of a strategy for managing future public-private collaboration.

Ukraine

Sub-Method: Increased Competitive Bidding

Program: ProZorro Electronic Procurement System

Period of Use: 2015 to present

Use: In November 2013, demonstrators took to the streets of Ukraine's major cities protesting the regime of President Viktor Yanukovych. These protests would become known as Maidan, or the Revolution of Dignity. Those participating in the demonstrations did so for a variety of reasons, but their demands eventually coalesced around three issues: constitutional reforms, anti-corruption measures, and lustration for the crimes committed by officials of the Yanukovych and Soviet era governments.¹⁵⁷

Yanukovych fled the country on 22 February 2014. Following elections in May 2014, a new government was formed. Petro Poroshenko assumed the presidency and Arsenii Yatsenyuk became Prime Minister. The two campaigned on the basis that the demands of Maidan had been heard and would be acted upon. Thus, counter-corruption activities became a priority of the new government.¹⁵⁸ Although the government sought to respond to local demands, they also experienced significant pressure from the international community, who insisted that corruption be brought into check if financial support was to be given.

Ukraine has been consistently ranked as one of the most corrupt countries in Europe, second only to Russia.¹⁵⁹ As the war in Crimea and Eastern Ukraine progressed throughout 2014, the costs of corruption became more apparent. Front line troops were supplied with

¹⁵⁶ CIVITAS (2015), *Defence Acquisition for the Twenty-first Century*, <http://www.civitas.org.uk/pdf/DefenceAcquisition>. Edwards, 8.

¹⁵⁷ L. Cleary, 'Half Measures and Incomplete Reforms: the breeding ground for hybrid civil society in Ukraine', *Southeast and European Black Sea Studies* 16 (2016):17–24.

¹⁵⁸ L. Cleary (2016), 'Ukraine', Security Sector Horizon Scanning, 2016: Eastern Europe and Central Asia, Andover: British Army.

¹⁵⁹ Transparency International, *Corruption Perceptions Index, 2019*, <https://www.transparency.org/en/cpi#>.

substandard equipment and ordinance or none at all. Medical supplies regularly went missing and selling medical deferments to conscripts proved to be a lucrative business for medical officers. Tackling corruption became an issue of national security.

The government's response, driven, developed, and supported by citizens who had participated in Maidan, was the ProZorro (i.e., "*transparent*" in Ukrainian) e-procurement system. Launched in February 2015, ProZorro received support and funding for further development from a range of actors, including the European Bank for Reconstruction and Development, the International Monetary Fund (IMF), the U.S. Agency for International Development (USAID), the United Kingdom's Agency for International Development, Transparency International, and a range of NGOs and businesses.¹⁶⁰ Following passage of legislation in 2015, it became mandatory for all public procurement to be conducted via the platform.¹⁶¹ The system seeks to provide transparent and efficient spending of public funds and to prevent corruption through public control and a larger number of suppliers.¹⁶² Before 2015, only 12,000 firms were involved in public procurement. Since the launch of ProZorro, that number has grown to 150,000.¹⁶³ Businesses and the general public have visibility of the available tenders and the bids submitted. The system seeks to ensure consistency of procurement procedures, evaluation of the tender proposals, transparency, and openness of processes and information.

Performance: The ProZorro system has been lauded by the international community and won numerous awards. It is estimated that 600 billion Ukrainian hryvnia (UAH) (21.5 billion USD) is lost annually because of corruption and a lack of competition,¹⁶⁴ but the introduction of ProZorro has netted a 10% savings in public spending.¹⁶⁵ While this is a significant development, if corruption is to be rooted out, there needs to be a significant investment of political will, something that appears to be in short supply under the government of Volodymyr Zelensky. The e-procurement system needs to be underpinned by a judicial system committed to tackling corruption wherever and whenever it occurs.

¹⁶⁰ ProZorro, <https://prozorro.gov.ua/en/about>.

¹⁶¹ There were two laws in particular, the Law on Public Procurement and the Law on Peculiarities of Goods, Works and Services to Provide the Needs of Defence. See Adrian Offerman, "ProZorro Public Procurement System Spreads Its Wings," <https://joinup.ec.europa.eu/collection/eprocurement/document/prozorro-public-procurement-platform-spreads-its-wings-prozorro>.

¹⁶² Quintagroup, 'ProZorro', <https://quintagroup.com/cms/cases/prozorro>.

¹⁶³ Volker Ahlemeyer (2019), 'EBRD and partners boost transparency in Ukraine', <https://www.ebrd.com/news/2019/ebd-and-partners-boost-transparency-in-ukraine.html>.

¹⁶⁴ ProZorro, <https://prozorro.gov.ua/en/about>.

¹⁶⁵ Ibid.

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Appendix C.

Lessons Learned from Funding Sources for the Philippines' Department of National Defense and Armed Forces

This document was contributed by Admiral Severino David and Commander Erlyn Reyes, retired officers of the Philippine Navy. Admiral David served on the staff of the Department of National Defense. They both served on the Joint Staff of the Philippine Armed Forces and were responsible for managing and implementing force planning and budgeting processes on behalf of the Department of National Defense and the Armed Forces of the Philippines.

The document is presented in a question-and-answer format. Their answers come from their experience working within the Philippine defense sector, as well as their access to and knowledge of Philippine government law and policy.

Question 1: What sources of revenue or what sources of funds are used to finance expenses in the defense and security sector?

Answer: The primary source of funding to support the expenses of the DND and the Armed Forces of the Philippines (AFP) is through government appropriations. The other source is through non-appropriated funds. These funding sources are explained as follows:

1. **Regular appropriations.** The General Appropriations Act (GAA) is one of the most important legislations that Congress annually passes. It defines the annual expenditure program of the national government and all of its instrumentalities, including the armed forces. The appropriations include funding for Personal Services (PS) (this covers payroll and pension costs), Maintenance and Other Operating Expenses (MOOE), and Capital Outlays (CO).¹⁶⁶
 - a. PS covers funding for the salaries and allowances of military and civilian personnel of the DND and AFP. The requirement for the regular pension of

¹⁶⁶ See <https://www.dbm.gov.ph/wp-content/uploads/GAA/GAA2020/VolumeI/DND/DND.pdf> and <https://www.dbm.gov.ph/wp-content/uploads/GAA/GAA2020/VolumeII/DND/DND.pdf>.

retired military personnel is also included in a specific provision of the GAA and is lumped at the General Headquarters, Armed Forces of the Philippines and administered by the Pension and Gratuity Management Center of the AFP. It also includes retirement/separation benefits and terminal leave benefits.

- b. MOOE covers funding for current operations, including training and maintenance of equipment, weapon systems, and infrastructure.
 - c. CO covers capital expenditures for equipment and infrastructure not included in the AFP Modernization Program such disaster search and rescue equipment, admin vehicles, and other support and administrative equipment. CO also covers construction of facilities like barracks, family housing, admin buildings, and other support facilities.
2. **Pension and Gratuity Fund.** This is a lump sum item in the GAA for the payment of pension and retirement gratuity and terminal leave benefits, including separation benefits and/or incentives, of all national government employees (which include AFP military and civilian personnel).¹⁶⁷
 3. **AFP Modernization Act (RA 7898) and Revised AFP Modernization Act (RA 10349).** These are two laws providing for the modernization of the AFP, including the amounts necessary to support the funding requirements for all modernization projects approved by Congress.¹⁶⁸ The primary objective of these Acts is to develop the capability of the AFP to uphold the sovereignty and territorial integrity of the Republic and to secure the national territory.
 4. **National Disaster Risk Reduction and Management Fund.** This is a lump sum item in the GAA for aid, relief, and rehabilitation services to communities or areas affected by human-induced and natural calamities, and repair and reconstruction of permanent structures, including other capital expenditures for disaster operation, and rehabilitation activities.¹⁶⁹ Humanitarian Assistance and Disaster Response (HADR) operations, being one of the mission areas of the AFP, is funded by the Quick Response Funds under this line item. Chaired by the Secretary of National Defense (SND), the National Disaster Risk Reduction and Management Council (NDRRMC), use the fund to support AFP HADR operations. In addition to the DND, the Council is composed of the secretaries

¹⁶⁷ See <https://www.dbm.gov.ph/wp-content/uploads/GAA/GAA2020/TechGAA2020/PGF.pdf>.

¹⁶⁸ See https://www.gppb.gov.ph/laws/laws/RA_7898.pdf,
<https://www.officialgazette.gov.ph/2012/12/11/republic-act-no-10349/>, and
<https://dnd.gov.ph/pdf/IGRRP.pdf>.

¹⁶⁹ See <https://www.dbm.gov.ph/wp-content/uploads/GAA/GAA2020/TechGAA2020/PGF.pdf>.

of national government line departments and also local government representatives.

5. **AFP Modernization Act Trust Fund.** This fund is used exclusively for the AFP modernization program, including all necessary expenses to implement the procurement of equipment such as expenses for pre-selection and post-qualification stages, but not to include salaries and allowances, shall be funded out of the following:
 - a. **Appropriations** for the Revised AFP Modernization Program;
 - b. The proceeds from the **sale of military reservations**, as may be authorized by Congress, pursuant to the provisions of existing laws and regulations governing sales of government properties, including such immovable and other facilities as may be found therein, not otherwise covered by the Bases Conversion and Development Authority (BCDA), as provided for in RA 7227, as amended;
 - c. The proceeds from the **lease or joint development of military reservations**, as may be authorized by the President, pursuant to the provisions of existing laws and regulations governing lease or joint development of government properties, including such immovables and other facilities as may be found therein, not specifically enumerated under RA 7227, as amended;
 - d. Shares of the AFP from the proceeds of the **sale of military camps** provided for under RA 7227, as amended, and at least fifty percent (50%) of the proceeds, net of direct expenses authorized to be deducted from such proceeds from the lease and/or joint venture agreements and such other dispositions pertaining to the same camps in accordance with applicable and/or existing orders, rules, regulations and issuances;
 - e. The DND or the AFP may assign to the BCDA or designate it as disposition entity for the sale, lease or joint development of military reservations or portions thereof or facilities and immovables located therein not otherwise covered under RA 7227, as amended, subject to the parameters set by the DND or the AFP and applicable laws, rules, regulations and other related issuances;
 - f. The proceeds derived from **public-private partnerships** entered into by the DND or the AFP, as may be authorized by the President, pursuant to the provisions of existing laws and regulations;

- g. Proceeds from the **sale of the products of the Government Arsenal** and/or, in case of joint venture, all incomes earned from the equity share of the Government Arsenal from the joint venture;
 - h. The proceeds from the **disposal of excess and/or uneconomically repairable equipment** and other movable assets of the AFP and the Government Arsenal;
 - i. Funds from **budgetary surplus**, if any, as may be authorized by Congress subject to the provisions of Section 8 of RA 10349;
 - j. **Donations** coming from local and foreign sources, specifically earmarked to be used for the Revised AFP Modernization Program; and
 - k. All **interest income** of the trust fund.
6. **Comelec fund transfers.** These amounts are transferred by the Commission on Elections (Comelec) to the AFP to defray expenses incurred during the conduct of election-related operations. The Comelec usually deputizes the AFP for the purpose of ensuring free, orderly, honest, peaceful, and credible conduct of national and local elections.¹⁷⁰
7. **Trust receipts.** These are fees and charges collected by the AFP from the use of its equipment and facilities. These funds can be used to augment the AFP's fund deficiencies in MOOE and CO, and other unfunded requirements in accordance with Section 1 of E.O. No. 1002, s. 1985.¹⁷¹
- a. *Telecom Collocation Fund.* These fees are paid by commercial telecommunication companies for the lease of portions of military bases for co-locating their radio transmitter antennas with AFP communications facilities, such as cell sites and relay stations.¹⁷² These funds are considered Trust Receipts.
 - b. *AFP Housing Fund.* These are amounts deducted from the pay and allowances of military personnel staying in government quarters. The housing allowance of each personnel occupying government quarters goes directly to this fund. The fund is used for the maintenance and upkeep of military quarters.
 - c. *Hospital income.* All income generated from the operations of the AFP Medical Center and other military healthcare facilities can be used to

¹⁷⁰ See <https://www.comelec.gov.ph/?r=2019NLE/Resolutions/res10470>.

¹⁷¹ See <https://www.officialgazette.gov.ph/1985/01/25/executive-order-no-1002-s-1985/>.

¹⁷² See <https://www.pna.gov.ph/articles/1080506>.

augment their MOOE and Capital Outlay funds, subject to the following conditions:

- 1) At least 25% of said income shall be utilized to purchase and upgrade hospital equipment used directly in the delivery of health services.
 - 2) Income sourced from PhilHealth reimbursements of medical services shall be used exclusively by said hospitals for the improvement of its facilities, and the replenishment of drugs, medicines and vaccines, including medical and dental supplies used in military health care facilities.¹⁷³
 - 3) The hospital income cannot be used for the payment of salaries, allowances and other benefits.
- d. *Firearms license fees.* Thirty percent (30%) of the net proceeds of the firearms license fees collected by the Philippine National Police are transferred to the AFP. These funds are used to finance the scholarship privileges of surviving children of deceased or permanently incapacitated military personnel in accordance with RA 6963.¹⁷⁴
8. **U.S. foreign military financing.** Enables the Philippines to purchase U.S. defense articles, services, and training. The Philippines is among the largest recipient of FMF in Southeast Asia (about \$40 million in FY2020).
 9. **Other U.S. security assistance programs.**¹⁷⁵ Among these programs is the Global Peace Operations Initiative, a U.S. State Department-funded security assistance program focused on strengthening the international capacity and capabilities of partner nations to execute United Nations (UN) and regional peace operations.¹⁷⁶ Another program is Southeast Asia Maritime Security Initiative that funded \$50 million in Maritime Intelligence, Surveillance, and Reconnaissance (ISR) capability improvements and \$8.4 million in patrol vessel support and enhancement for the Philippine Navy in FY2018. In addition, the Global Train and Equip Program funded \$7.0 million to the Philippine Army's Light Reaction Regiment equipment enhancement and \$26 million in Anti-Terrorism Assistance Training in FY2018.

¹⁷³ See <https://www.officialgazette.gov.ph/downloads/2019/02feb/20190220-RA-11223-RRD.pdf>.

¹⁷⁴ See <https://www.officialgazette.gov.ph/1990/09/04/republic-act-no-6963/>.

¹⁷⁵ See https://explorer.usaid.gov/cd/PHL?fiscal_year=2018&measure=Obligations.

¹⁷⁶ See <https://ph.usembassy.gov/us-and-philippine-armed-forces-inaugurate-us-funded-peacekeeping-facility/> and <https://www.defense.gov/Newsroom/Releases/Release/Article/2020089/philippines-us-joint-defense-statement/>.

10. **UN reimbursements.** These are the amounts reimbursed by the UN for expenses (i.e., personnel and contingent owned equipment) incurred by the AFP as a result of its participation to UN Peacekeeping Operations.¹⁷⁷ Currently, the Philippines maintains 90 Military Observers and Peacekeeping Staff, 1 Force Headquarters Support Unit (composed of 180 personnel), and 1 Aeromedical Evacuation Team in several UN Peacekeeping Operations (PKO) missions.¹⁷⁸
11. **U.S. Title 10 reimbursements.** These are amounts reimbursed by the U.S. government for expenses incurred by the AFP during the conduct of joint and combined PH-U.S. exercises, such as Balikatan,¹⁷⁹ to improve the interoperability of our two militaries.¹⁸⁰ Annually, the Philippines and the United States usually conduct around 300 combined military exercises under the 1951 PH-U.S. Mutual Defense Treaty.¹⁸¹

12. Peace-process-related funding

- a. *Department of Public Works and Highways (DPWH) construction projects.* These are funds transferred by the DPHW to defray expenses incurred by the AFP Corps of Engineers in the implementation of public works construction projects in high security risk areas.¹⁸²
- b. *The Payapa at Masaganang PamayanAn (PAMANA) program.* This program was launched in 2011 as a priority program of the Government that supports the Peace Negotiation Track and contributes to the goal of attaining Just and Lasting Peace.¹⁸³ The PAMANA aims to contribute to (1) addressing issues of injustices and improve community access to socio-economic interventions, (2) improving governance by building the capacity of national government agencies and local government units for a conflict-sensitive, peace-promoting, culture-sensitive and gender-sensitive approach

¹⁷⁷ See <https://peacekeeping.un.org/en/deployment-and-reimbursement>.

¹⁷⁸ See <https://www.un.int/philippines/activities/philippine-defense-secretary-lorenza-announces-philippine-pledge-2019-un-peacekeeping>.

¹⁷⁹ See <https://www.pacom.mil/Media/News/News-Article-View/Article/1813587/armed-forces-of-the-philippines-us-forces-conclude-annual-balikatan-exercise/>.

¹⁸⁰ See <https://www.youtube.com/watch?v=kMLSf-Ocsg> and <https://www.youtube.com/watch?v=g-XpyChTh1A>.

¹⁸¹ See <https://www.officialgazette.gov.ph/1951/08/30/mutual-defense-treaty-between-the-republic-of-the-philippines-and-the-united-states-of-america-august-30-1951/>.

¹⁸² See <https://www.dbm.gov.ph/wp-content/uploads/NEP2020/DPWH/DPWH.pdf> and <https://www.gppb.gov.ph/issuances/Guidelines/Implementation%20of%20Infrastructure%20Projects%20by%20AFP%20Corps%20of%20Engineers.pdf>.

¹⁸³ See <https://peace.gov.ph/wp-content/uploads/2016/11/PAMANA-Manual-of-Operations-2017.pdf>.

to human rights promotion and development, and (3) empowering communities and strengthening their capacities to address issues of conflict and peace.¹⁸⁴ Many of the PAMANA projects funded in the GAA are implemented by the AFP, particularly those in high security risk areas.¹⁸⁵ As an overarching framework, the government recently launched a whole-of-nation approach to address this concern.¹⁸⁶

- c. *Former Moro-Islamic and Moro-National Liberation Front (MILF), MNLF, and Cordillera People's Liberation Army (CPLA) rebels integration programs.* Funded by the Office of the Presidential Adviser for Peace Process (OPAPP), the programs deal with the integration of qualified former rebels into the AFP as a result of the Peace Agreements with them.¹⁸⁷ The OPAPP transfers the necessary funds to the AFP during the implementation of the program.
- d. *Balik-Baril program.* The program is employed by the AFP to encourage insurgents to return to the fold of law by offering them cash rewards in exchange for their firearms upon their surrender.¹⁸⁸ “Balik-baril” are Filipino words which mean firearms return. The OPAPP transfers the necessary funds to the AFP during the implementation of the program.

13. Foreign military training programs

- a. *U.S. International Military Education and Training Program (IMET).* This program provides training and education on a grant basis to students from the AFP and DND. In addition to improving defense capabilities. A total of \$2.0 million has been requested for the Philippines for FY2021.¹⁸⁹
- b. *Australian Defense Cooperation Program (DCP).* The bilateral defense relationship between Australia and the Philippines is largely supported through reciprocal training funded under the DCP. This program sees both

¹⁸⁴ See <http://www.neda.gov.ph/wp-content/uploads/2018/10/PIP-2017-2022-17.pdf>.

¹⁸⁵ See <https://www.dbm.gov.ph/wp-content/uploads/GAA/GAA2020/VolumeI/PAMANA.pdf>.

¹⁸⁶ See <https://www.officialgazette.gov.ph/downloads/2018/12dec/20181204-EO-70-RRD.pdf>.

¹⁸⁷ See <https://www.officialgazette.gov.ph/downloads/2018/07jul/20180727-RA-11054-RRD.pdf>, <https://www.officialgazette.gov.ph/downloads/2019/04apr/20190524-EO-79-RRD.pdf>, <https://www.officialgazette.gov.ph/1996/10/07/administrative-order-no-295-s-1996/>, and <https://www.officialgazette.gov.ph/2001/08/31/administrative-order-no-18-s-2001/>.

¹⁸⁸ See <https://www.philstar.com/headlines/2006/10/22/364334/afp-gets-p100-million-145balik-baril146-program> and <https://dnd.gov.ph/PDF2018/DNDPASPhotoReleaseMay22018BalikBarilMaguindanao.pdf>.

¹⁸⁹ See <https://www.state.gov/wp-content/uploads/2020/02/FY-2021-CBJ-Final.pdf>.

Australian and Philippine Service personnel and Defense civilians undergoing training in both countries.¹⁹⁰

Question 2: Is there a difference between revenue or funds for capital expenses (for example, infrastructure and major weapon systems, ships, aircraft) versus operations, maintenance, payroll, and pension costs?

Answer: Yes, there is a difference. This is explained in Question 1, List Numbers 1, 2, 3, and 5.

Question 3: What sources are derived from official government sources (legally enacted, on the books)?

Answer: These are the moneys that are explained under Question 1, List Numbers 1, 2, 3, 4, 5a, 6, and 12.

Question 4: Are there unofficial or off-budget sources (sources that are not part of a deliberate government-wide budgetary process)?

Answer: These are the moneys in explained in Question 1, List Numbers 7, 8, 9, 10, 11, and 13.

Question 5: How are capital good purchases planned, budgeted and paid for? Does the RP and DND rely on loans, capital budget accounts, grants, donations, foreign assistance, all of the above?

Answer: Normally, the AFP finances acquisition projects through capital outlay appropriations enacted by Congress as explained under Question 1, List Numbers 1c, 3, and 5. Sometimes, the AFP gets its financing through loans. For example, Australian shipbuilder Austal's proposed \$600 million sale of patrol vessels to the Philippines.¹⁹¹ Australia, which has a visiting forces agreement with the Philippines, has been keen to fund the project. Many major equipment items are acquired thru U.S. Foreign Military Financing (or through the sale of U.S. Excess Defense Articles) and donations from other allied countries and private entities.

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https://www.gppb.gov.ph/laws/laws/RA_7898.pdf.

¹⁹⁰ See <https://www.defence.gov.au/operations/opauguryphilippines/>.

¹⁹¹ See <https://asia.nikkei.com/Business/Business-deals/Australia-shipbuilder-closes-in-on-600m-Philippine-defense-deal>.

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<https://www.officialgazette.gov.ph/downloads/2012/12dec/20121211-RA-10349-BSA.pdf>.

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<https://dnd.gov.ph/pdf/IGRRP.pdf>.

Annual Appropriation, GAA 2020_DND_AFP Modernization. <https://dbm.gov.ph/wp-content/uploads/GAA/GAA2020/TechGAA2020/DND/G4.pdf>.

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<https://www.dbm.gov.ph/wp-content/uploads/GAA/GAA2020/TechGAA2020/PGF.pdf>.

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<https://www.officialgazette.gov.ph/1985/01/25/executive-order-no-1002-s-1985/>.

RP-US Military Bases Agreement. <https://www.loc.gov/law/help/us-treaties/bevans/b-ph-ust000011-0055.pdf>.

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Appendix D.

Other Cases of Interest

Chile: Off-Budget Military Transactions

In accordance with the 1958 Restricted Law on Copper (i.e., “The Copper Law”), Chile’s state-owned National Copper Corporation has transferred revenues from copper exports—10% from 1973 onward—directly to the Chilean Armed Forces. The Armed Forces used funds from these revenues to pay to acquire weapons and also equipment maintenance. All of this occurs outside the confines of Chile’s state budget.¹⁹²

In September 2019, the Copper Law was repealed. However, the repeal is not immediate, but a deferred and gradual reduction. Starting in 2028, the 10% revenue share will decrease by 2.5% per year until it is phased out completely in 2032. Furthermore, between 2028 and 2032, copper revenues will not be provided exclusively to the military. All ministries of the Chilean government will be given access to these revenues until they are completely phased out and become part of the normal state budget process in 2032. In addition, the legislation that repealed the Copper Law created a new system for state budgeting that gives the Chilean National Congress authority to approve military investments and ends off-budget funding by the Armed Forces.¹⁹³

At its height, copper revenues accounted for approximately one quarter of Chile’s military spending. However, revenues from copper were provided to the Armed Forces via direct transfer and were not subject to congressional approval or other forms of independent oversight. The text of the law remained classified until 2015. Multiple cases of bribery and misallocation of funds have been reported in connection to copper revenues.¹⁹⁴ One example of this is the Milicogate Scandal. Between 2010 and 2014 a group of Chilean military officers embezzled approximately 11 million U.S. dollars (USD) through fake military procurement efforts.¹⁹⁵

As Chile has sought greater international economic and trading relationships in the years following the military dictatorship under General Augusto Pinochet, the copper law

¹⁹² Silva and Tian, “Ending Off-Budget Military Funding: Lessons from Chile.”

¹⁹³ Ibid.

¹⁹⁴ Ibid.

¹⁹⁵ “Chile’s Milicogate Scandal,” Compendium of Arms Trade Corruption, The Fletcher School, Tufts University, accessed September 9, 2020, <https://sites.tufts.edu/corruptarmsdeals/chiles-milicogate-scandal/>.

has been subject to both international and domestic criticism. In 2004, the Organization for Economic Cooperation and Development labeled the Copper Law “highly inappropriate from a budgetary point of view.”¹⁹⁶ Domestically, Chilean President Sebastian Pinera expressed his dissatisfaction with the Copper Law, stating that it was “absurd” that Chile’s defense spending should be vulnerable to fluctuations in the global price of copper.¹⁹⁷

Philippines: Participation in Peacekeeping Missions

Since 1963, the Philippines has participated in 21 UN peace operations, including both peacekeeping and police missions in Asia, Africa, the Middle East, and South America.¹⁹⁸ Executive Order 97, signed in April 2002, created a new framework to guide Philippine participation in UN peace operations.¹⁹⁹ The Government of the Philippines provides equipment, personnel, and support services to military or police contingents that participate in peacekeeping operations and is financially reimbursed by the United Nations for its efforts.^{200,201,202}

Decisions on whether to deploy Filipino peacekeepers are made by the executive branch of the Philippines government and do not require approval from the national legislature. The President decides on Filipino participation and is advised by the National Council for United Nations Peace Operations, which is comprised of the Secretaries of Foreign Affairs, National Defense, Interior, and Local Government. The Council is also

¹⁹⁶ Jón R. Blöndal and Teresa Curristine, “Budgeting in Chile,” *OECD Journal on Budgeting* 4, no. 2 (2004): 19, <https://www.oecd.org/chile/40139802.pdf>.

¹⁹⁷ “Chile Abolishes Law Requiring State-run Copper Miner to Finance Military,” VOA News, updated July 24, 2019, accessed September 1, 2020, <https://www.voanews.com/americas/chile-abolishes-law-requiring-state-run-copper-miner-finance-military>.

¹⁹⁸ Permanent Mission of the Republic of the Philippines to the United Nations, “Philippines reaffirms commitment to increase deployment of women peacekeepers,” (February 19 2020). <https://www.un.int/philippines/activities/philippines-reaffirms-commitment-increase-deployment-women-peacekeepers/>.

¹⁹⁹ Raphael S.C. Hermoso and Louie A. Belleza, “Philippine Participation in UN Peace Operations,” *FSI Insights* II, no. 2 (May 2015): 4, <https://www.fsi.gov.ph/wp-content/uploads/2019/08/2015-Special-Issue-No-2-May-FSI-Insights-UN-Peace-Operations.pdf>.

²⁰⁰ Peacekeeping soldiers are paid by their own Governments according to their own national rank and salary scale. Countries volunteering personnel to peacekeeping operations are reimbursed by the UN at a standard rate, approved by the General Assembly, of US \$1,428 per soldier per month as of 1 July 2019. Police and other civilian personnel are paid from the peacekeeping budgets established for each operation. The UN also reimburses Member States for providing equipment, personnel and support services to military or police contingents.

²⁰¹ Philippine Daily Inquirer, “In the know: Filipino peacekeepers,” (August 30 2014). <https://globalnation.inquirer.net/110218/in-the-know-filipino-peacekeepers>.

²⁰² “How We Are Funded,” What is Peacekeeping, United Nations Peacekeeping, accessed October 5, 2020, <https://peacekeeping.un.org/en/how-we-are-funded/>.

tasked with overseeing Philippine participation in UN peace operations and ensuring that UN reimbursements and payments are effectively managed.^{203,204}

Philippine military and police benefit from participation in UN peace operations in multiple ways. Specifically, the training and experience gained during UN peace operations translates into improved readiness for troop deployment, both at home and abroad. Filipino peacekeepers share best practices and gain valuable skills that are used to strengthen the armed forces and police. In addition, the Armed Forces of the Philippines use reimbursements to modernize its equipment, including for medical and transportation purposes.²⁰⁵

As of June 2020, the Philippines were contributing military forces and police to UN peacekeeping efforts in the Central African Republic, Yemen, Sudan, and India/Pakistan.²⁰⁶ The number of Philippine personnel contributed to UN peacekeeping has not been large enough to earn significant economic benefits. For example, for participating in PKO in Liberia and the Golan Heights, from January to April 2014, the UN reimbursed the Philippines 106 million Philippine Pesos (approximately 2 million USD).²⁰⁷ This is a relatively small amount compared to the Philippine's total defense budget of 3.10 billion USD for that same year.²⁰⁸

Malaysia: Technology Transfer

Since the early 1990s, the principal mechanism for promoting Malaysian defense industrialization has been offsets.²⁰⁹ Although there is no specific policy on technology transfer, the offset program was initiated in 1983 and later updated to require a mandatory technology transfer program in government procurement practices.²¹⁰ Today, Malaysia

²⁰³ "Peacekeeping Contributor Profile: The Philippines," Country Profiles, Providing for Peace, updated December 2013, 2013, accessed September, 2020, <http://www.providingforpeacekeeping.org/2014/04/03/contributor-profile-philippines/>.

²⁰⁴ Hermoso and Belleza, "Philippine Participation in UN Peace Operations," 4–6.

²⁰⁵ Ibid., 5–7.

²⁰⁶ "Summary of Troops Contributing Countries by Ranking: Police, UN Military Experts on Mission, Staff Officers and Troops," 2020, https://peacekeeping.un.org/sites/default/files/02_country_ranking_26.pdf.

²⁰⁷ Hermoso and Belleza, "Philippine Participation in UN Peace Operations," 6.

²⁰⁸ "Philippines Military Spending/Defense Budget 1960-2020," MacroTrends, updated 2018, accessed October 5, 2020, <https://www.macrotrends.net/countries/PHL/philippines/military-spending-defense-budget>.

²⁰⁹ Kogi Balakrishnan and Ron Matthews, "The Role of Offsets in Malaysian Defense Industrialisation," *Defence and Peace Economics* 20, no. 4 (2009): 341, <https://www.tandfonline.com/doi/pdf/10.1080/10242690802333117?needAccess=true>.

²¹⁰ Abdul Rahman Hamdan, Mohamad Syazli Fathi, and Zainai Mohamed Razak, "Evolution of Malaysia's technology transfer model facilitated by national policies," *International Journal of Engineering &*

uses technology transfers to enhance the participation of its local companies and to achieve defense-industrial self-reliance, among other objectives.²¹¹ However, historically, Malaysia's defense offset programs failed to provide significant technology transfers able to stimulate domestic Research and Development (R&D) activities.

From 2012 to 2017, Malaysia's defense exports were negligible.²¹² While technology transfers have advanced the pace and breadth of Malaysia's defense industrialization, the country's lack of qualified and skilled personnel is a constraint on their defense industry.²¹³ In addition, there exists little incentive for foreign defense contractors to engage in meaningful technology transfer when local production runs are low and tooling costs are high.²¹⁴

According to a 2018 report, the Malaysian government revised its policy and set up the Putra Science Park (PSP) within the center for innovation management or technology transfer office at Universiti Putra Malaysia. PSP moves potential technologies and research from the laboratory to the market, helping to attract high-level foreign investment and develop Malaysian companies' potential for exports. PSP has facilitated the commercialization of 166 technologies to local and international companies with a gross sale of more than RM 61 million (approximately 14 million USD). PSP also pioneered a commercialization approach, the Innohub Program, which has been instrumental in developing 57 start-up companies with a total capitalization of approximately 2 million USD.²¹⁵

Italy: Co-Production

Italian shipbuilding firm Fincantieri is one of the largest state-owned defense firms. According to its website, 71.32% of Fincantieri's shares are owned by CDP Industria S.p.A, which is owned by another entity. The Italian Ministry of Economy and Finance owns 82% of that controlling entity, giving it a controlling interest in Fincantieri.²¹⁶ In

Technology 7, no. 2.29 (2018): 198–199,
<https://www.sciencepubco.com/index.php/ijet/article/view/13317/5298/>.

²¹¹ "Malaysia- Defense," Malaysia Country Commercial Guide, Privacy Shield Framework, accessed October 5, 2020, <https://www.privacyshield.gov/article?id=Malaysia-Defense>.

²¹² Ibid.

²¹³ "Technology transfer as a recognized profession in Malaysia," *Malay Mail*, December 4, 2017, <https://www.malaymail.com/news/tech-gadgets/2017/12/04/technology-transfer-as-a-recognised-profession-in-malaysia/1524853>.

²¹⁴ Balakrishnan and Matthews, "The Role of Offsets in Malaysian Defense Industrialisation," 350–351.

²¹⁵ Rozana Sani, "Managing Technology Transfer," *New Straits Times* (October 18 2018).
<https://www.nst.com.my/education/2018/10/422013/managing-technology-transfer>.

²¹⁶ "Shareholders," Ethics and Governance, Fincantieri, updated September 22, 2020, 2020, accessed November, 2020, <https://www.fincantieri.com/en/governance/shareholders/>.

2018, Fincantieri announced a 50-50 joint venture with France's Naval Group to design naval warships. This is part of a larger effort to create an industrial alliance between the two companies. The purpose is to leverage economies of scale in supplier interactions and to share research and testing facilities. There are two expected benefits: first, lower supply and production costs; second, strengthen the Italian, French, and European defense industrial base.²¹⁷

French and Italian groups have coordinated before for projects, such as the Horizon class anti-air frigate²¹⁸ in 2000, and multi-mission frigates in 2012.²¹⁹ One of the main projects in the new joint venture is the Navaris. Announced in November 2019, Navaris' objective is to develop and manufacture the next generation European Patrol Corvette.²²⁰ This venture falls under a European Union (EU) umbrella organization known as the Permanent Structured Cooperation Projects (PESCO). There are 47 PESCO projects. PESCO projects seek to strengthen the EU defense industrial market, which has been consolidating. Other EU countries can join projects in this common framework.²²¹

As of the publication date of this analysis, it is too early to judge the performance of the Italian/French co-production agreement.

However, the European Commission for Competition has monitored the activities of Fincantieri recently in regards to the firms attempted purchase of Chantiers de l'Atlantique. While the consolidation is in line with the EU's defense industrial strategy, the monopoly of the shipbuilding market may be at odds with other EU regulations.²²² In response, Fincantieri's CEO Giuseppe Bono stressed the need to consolidate Europe's naval defense industry if it is to remain competitive with those of the United States and China.²²³

²¹⁷ Reuters Staff, "French, Italian firms seal naval co-operation venture," (October 23 2018). <https://www.reuters.com/article/us-france-italy-naval/french-italian-firms-seal-naval-co-operation-venture-idUSKCN1MX32D/>.

²¹⁸ Naval-Technology, "Horizon Class." <https://www.naval-technology.com/projects/horizon2/>.

²¹⁹ "FREMM - Multi mission Frigates," Programmes, Organisation Conjointe de Coopération en matière d'Armement/Organisation for Joint Armament Co-operation, accessed October 5, 2020, <http://www.occar.int/programmes/fremm/>.

²²⁰ Defense-World, "Naval Group, Fincantieri, 50:50 Joint Venture is Named 'NAVARIS'," (November 1 2019). https://www.defenseworld.net/news/25755/Naval_Group_Fincantieri_50_50_Joint_Venture_is_Named_NAVARIS#.X1kWw-hKhPY/.

²²¹ About PESCO," PESCO, accessed October 5, 2020, <https://pesco.europa.eu/>.

²²² Antonio Calcara, "This Franco-Italian Naval Deal is a Litmus Test for European Strategic Autonomy," *War on the Rocks* (April 29 2020). <https://warontherocks.com/2020/04/this-franco-italian-naval-deal-is-a-litmus-test-for-european-strategic-autonomy/>.

²²³ Tom Kington, "Fincantieri CEO on winning the US Navy's frigate competition," *DefenseNews* (May 4 2020). <https://www.defensenews.com/global/europe/2020/05/04/interview-fincantieri-ceo-bono-on-winning-the-us-navys-frigate-competition>.

India: Reduced Import Duties

In September 2019, India's Ministry of Finance announced that defense related imports would be exempt from customs import duties and the Goods and Services Tax (GST) for the next five years.²²⁴ These exemptions went into effect on October 1, 2020.²²⁵

Originally, India imposed a customs duty and the GST to promote its own national industry and production. However, these measures increased the cost of defense and impeded military modernization efforts—especially for items that India lacked the capability to produce locally. Over the next five years, government projections are that the customs duty relief will save the defense budget approximately 3.4 billion USD. Eliminating the defense sector's requirement to pay the GST will also save approximately 4.7 billion USD.²²⁶ According to India's Defence Secretary Ajay Kumar, military readiness has increased thanks to the savings realized from this initiative. Furthermore, the savings are also expected to increase funds available for acquiring capital equipment.²²⁷

²²⁴ "Chapter Six: Asia," *The Military Balance* 120, 1 (2020): 321, <https://www.tandfonline.com/doi/abs/10.1080/04597222.2020.1707967>.

²²⁵ Pubby, "Customs, GST relief to give Rs 60,000-cr boost to defence."

²²⁶ Ibid.

²²⁷ "GST exemption on defence goods will enhance defence preparedness: Defence Secretary," *The Economic Times* (September 21 2019). <https://government.economictimes.indiatimes.com/news/secure-india/gst-exemption-on-defence-goods-will-enhance-defence-preparedness-defence-secretary/71232275>.

Appendix E.

Cost-Savings Sub-Method Decision Support Tool

This appendix contains a blank copy of the decision support tool IDA created for this work, as well as a set of field definitions for each.

Responsible Organization		Implementer			Partner Nation		Implementer					Partner Nation			
Methods	Sub-Methods	Pros of Implementation	Cons of Implementation	History of Abuse/Corrupt Application?	Colombia Context Considerations		Total Impact on Item(s) Being Acquired or Added Budgetary Flexibility to Absorb Large Expenditures					Tool Impact on MOD	Tool Impact on Whole of Government		
					Precedent	Anticipated or Current Political Support	Immediately Implementable	Decreases Total Acquisition Time	Increases Acquisition Cost	Increases Life Cycle Cost Estimate (LCCE) of Item(s) Acquired	Increases Budgetary Flexibility		Compromises Priority Mission Areas	Negatively Impacts Other Ministries	Requires Change to Law
Field Definition: Method. An approach to generate revenue or realize cost savings and apply them to the Defense sector.	Field Definition: Sub-Method. The way in which a method, or approach, may be implemented.	Field Definition: Input the general advantages of implementing the relevant sub-method.	Field Definition: Insert the general disadvantages of using the relevant sub-method.	Field Definition: State whether or not the relevant sub-method has been abused or increased corruption in the past, inside or outside Colombia, and provide the most egregious example.	Field Definition: Insert "Yes" if the sub-method has been used in Colombia before (even if for another purpose or ministry). Add an example. Insert "No" if the sub-method has never been applied in Colombia.	Field Definition: Insert "Yes" if there is evidence the sub-method would be supported by the Colombian legislature or priorities in other ministries. Or, if the sub-method is already in use, please state if currently enjoys political support. Give an example. Insert "No" if not.	Field Definition: Insert "Yes" if the sub-method can be immediately put into place with minimal delays needed to make it functional. Insert "No" if not. Provide supporting evidence. If not applicable, enter NA. If there have been mixed results, enter Maybe.	Field Definition: Insert "Yes" if the sub-method is expected to reduce the time required to acquire a large defense item. Insert "No" if not. Provide evidence. If not applicable, enter NA. If there have been mixed results, enter Maybe.	Field Definition: Insert "No" if the use of a sub-method is not expected to expand the number or scope of requirements the acquisition must fulfill. Insert "Yes" if so. Provide evidence. If not applicable, enter NA. If there have been mixed results, enter Maybe.	Field Definition: Insert "No" if the sub-method is expected to decrease or keep stable the cost of the acquisition over the course of its life. Insert "Yes" if the LCCE is expected to rise. Provide evidence. If not applicable, enter NA. If there have been mixed results, enter Maybe.	Field Definition: Insert "Yes" if the sub-method is expected to increase budgetary flexibility. The ability of the public forces to pay for modernization and to maintain the readiness of the current force. Insert "No" if it will not add flexibility. If not applicable, enter NA. If there have been mixed results, enter Maybe.	Field Definition: Insert "Yes" if the sub-method would result in a reduction in the capacity or capability to fulfill at least one priority mission area. Insert "Yes" if it would. Provide evidence. If not applicable, enter NA. If there have been mixed results, enter Maybe.	Field Definition: Insert "No" if the sub-method is not expected to compromise other ministries' ability to carry out key missions. Insert "Yes" if at least one ministry might be negatively impacted. Provide evidence. If not applicable, enter NA. If there have been mixed results, enter Maybe.	Field Definition: Insert "No" if the sub-method would not require any change to an existing law or the addition of new laws. Insert "Yes" if legal changes would be required to make the sub-method effective. Provide evidence. If not applicable, enter NA. If there have been mixed results, enter Maybe.	Field Definition: Insert "No" if current international partnerships would be unencumbered by the use of the sub-method. Insert "Yes" if the sub-method would require a change in such partnerships, even if you consider such a change to be positive. Provide evidence. If not applicable, enter NA. If there have been mixed results, enter Maybe.
Method 1	Sub-Method 1														
	Sub-Method 2														
Method 2	Sub-Method 1														
	Sub-Method 2														
Method 3	Sub-Method 1														
	Sub-Method 2														

Figure E-1. Decision Support Tool Blank Template

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Appendix F. Abbreviations

AFP	Armed Forces of the Philippines
AICMA	Comprehensive Action against Antipersonnel Mines
BCDA	Bases Conversion and Development Authority
CAG	Comptroller and Auditor General
CBP	Capability-Based Planning
CO	Capital Outlays
CONPES	Colombian National Council for Social and Economic Policy
CPLA	Cordillera People's Liberation Army
DCP	Defense Cooperation Program
DJSG	Directorate of Justice, Security and Government
DND	Department of National Defense
DNP	Department of National Planning
DPP	Defense Procurement Procedures
DPSU	Defense Public Sector Undertakings
DPWH	Department of Public Works and Highways
DRDO	Defense Research and Development Organization
EU	European Union
FMF	Foreign Military Financing
FONSET	Citizen Security and Coexistence Territorial Fund
GAA	General Appropriations Act
GSED	Defense Ministry's Social and Business Group
GST	Goods+1:B62 and Services Tax
HADR	Humanitarian Assistance and Disaster Response
IAI	Israel Aerospace Industries
ICB	Institutional Capacity Building

IDA	Institute for Defense Analyses
IMET	International Military Education and Training Program
IMF	International Monetary Fund
ISR	Intelligence Surveillance & Reconnaissance
LCCE	Life Cycle Cost Estimate
MILF	Moro-Islamic Liberation Front
MND	Ministry of National Defense
MNLF	Moro-National Liberation Front
MOOE	Maintenance and Other Operating Expenses
MRSAM	medium-range surface-to-air missile
NATO	North Atlantic Treaty Organization
NDP	National Development Plan
NDRRMC	National Disaster Risk Reduction and Management Council
NNPC	Nigerian National Petroleum Corporation
OECD	Organization for Economic Cooperation and Development
OPAPP	Office of the Presidential Adviser for Peace Process
PAF	Philippine Armed Forces
PAMANA	PAYapa at MASaganang PamayaNAn
PESCO	Permanent Structured Cooperation Projects
PFI	Private Finance Initiatives
PKO	Peacekeeping Operations
PPP	Public Private Partnerships
PS	Personnel Services
RDT&E	research, development, test and evaluation
SIES	Integrated Emergency and Security System
SISFUT	Information System of the Single Territorial Format
SND	Secretary of National Defense
SSD	sub-directorate of Security and Defense
UAH	Ukrainian hryvnia
UN	United Nations
USAID	U.S. Agency for International Development
USD	U.S. Dollars

USG	United States Government
VEBEG	Federal Disposal Sales and Marketing Agency

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Appendix G.

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Appendix H. Illustrations

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REPORT DOCUMENTATION PAGE				Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.					
1. REPORT DATE (DD-MM-YY) XX-09-2021		2. REPORT TYPE Final		3. DATES COVERED (From - To)	
4. TITLE AND SUBTITLE <i>Institutional Capacity Building in the Fields of Public Financial Management and Defense Examining Extra-Budgetary Methods to Close Defense Resource Gaps in Colombia Prepared for the biennial meeting of the Interuniversity Seminar on the Armed Forces and Society, October 15-17, 2021, Reston, Virginia</i>				5a. CONTRACT NO.	
				5b. GRANT NO.	
				5c. PROGRAM ELEMENT NO(S).	
6. AUTHOR(S) Tony L. Johnson Margaret D.M. Barber Aaron C. Taliaferro Miriam Roday Patrick Savage Cameron Swann Laura Cleary David Severino Erlyn Reyes Jorge L. Baquero				5d. PROJECT NO.	
				5e. TASK NO. C6594	
				5f. WORK UNIT NO.	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Institute for Defense Analyses 4850 Mark Center Drive Alexandria, VA 22311-1882				8. PERFORMING ORGANIZATION REPORT NO. IDA Document NS D-22744 Log: H 21-000262	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) Institute for Defense Analyses 4850 Mark Center Drive Alexandria, VA 22311-1882				10. SPONSOR'S / MONITOR'S ACRONYM(S)	
				11. SPONSOR'S / MONITOR'S REPORT NO(S).	
12. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT Since 2010, with sponsorship provided by the U.S Department of Defense, the Institute for Defense Analyses (IDA) has worked with Colombia to build the institutional capacity of the Colombian defense sector to govern, manage, resource, and sustain its security forces. At the request of the Colombian Ministry of National Defense and the Department of National Planning (DNP), IDA analyzed and proposed methods to provide resources for the defense sector outside of normal budget processes. The impetus for this work is an increasingly complex security situation combined with static if not declining defense budgets. IDA worked with the Colombian Directorate of Justice, Security, and Government within DNP to develop a structured and repeatable methodology to examine defense resourcing methods. We gathered data on how methods apply in other countries and then incorporated lessons learned from those perspectives to make recommendations for Colombia. A main takeaway from this effort is that how nations resource the defense sector is context dependent. How the defense sector is resourced is determined by laws on public financial management, national and defense sector policies on the latitude the defense sector has to plan for and submit their own resource requests, and the perceived risks to national security by the public and their elected leaders.					
15. SUBJECT TERMS Colombia, Public Financial Management, Defense Resources, Security Cooperation, Institutional Capacity Building, Budget Planning, Building Partner Capacity, Defense Institution Building					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT U	18. NO. OF PAGES 104	19a. NAME OF RESPONSIBLE PERSON Mr. Aaron C. Taliaferro
a. REPORT U	b. ABSTRACT U	c. THIS PAGE U			19b. TELEPHONE NUMBER (Include Area Code) 703-845-4381

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